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2016 ANNUAL REPORT

FORMER GIANT BLOOMFIELD REFINERY BLOOMFIELD, NEW MEXICO DISCHARGE PERMIT GW-040

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MARCH 2017

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WESTERN REFINING SOUTHWEST, INC. Bloomfield, New Mexico



2016 ANNUAL REPORT

FORMER GIANT BLOOMFIELD REFINERY BLOOMFIELD, NEW MEXICO DISCHARGE PERMIT GW-040

MARCH 2017

Prepared for:

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EXECUTIVE SUMMARY

This 2016 Annual Report summarizes work completed from January 2016 through January 2017 at the former Giant Bloomfield Refinery (Site) in Bloomfield, New Mexico. The scope of work for this project was continued monitoring of petroleum hydrocarbon impacts to groundwater, which were identified upon cessation of refinery operations. The Site is operated by Western Refining Southwest, Inc. (Western) and regulated by the New Mexico Oil Conservation Division (NMOCD) through Discharge Permit GW-040 that was originally issued for a groundwater recovery and remediation system consisting of groundwater recovery wells, a carbon filtration unit, and a treated water infiltration trench. Prior to August 2015, the groundwater recovery system had been in operation for approximately 27 years and had significantly improved groundwater conditions over that time. As noted in previous annual reports, sampling of the influent to the treatment system had not detected the presence of volatile organic compounds (VOCs) in 15 years. Because of these observed conditions, in 2015 Western implemented more intensive monitoring of the groundwater conditions to evaluate background water quality and the effectiveness of the recovery system. To facilitate the evaluation, compliance samples were analyzed for additional parameters and additional groundwater samples were collected. The recovery system was shut off in August 2015 and Western monitored groundwater elevations, water quality and phaseseparated hydrocarbon (PSH) accumulation for a 5-month period. Preliminary observations indicated no measurable change in groundwater conditions after ceasing the recovery operations. Based on the favorable observations in 2015, Western did not resume pumping operations, but continued groundwater monitoring in 2016 to confirm equilibrium conditions and better characterize residual impact.

Annual Compliance Monitoring

Annual groundwater monitoring was conducted in January 2017. Samples were collected from 13 groundwater monitoring wells (GRW-3, GRW-6, GBR-17, GBR-24D, GBR-30, GBR-31, GBR-32, GBR-48, GBR-49, GBR-50, GBR-51, GBR-52, and SHS-8) located within and south of the Site as specified in Discharge Permit GW-040. Groundwater samples were analyzed for the same parameters as the wells as specified by Discharge Permit GW-040. Laboratory analytical results indicated VOCs and polycyclic aromatic hydrocarbons (PAHs) were not detected in exceedance of the New Mexico Water Quality Control Commission (NMWQCC) standards in groundwater samples collected from monitoring and recovery wells.

Enhanced Monitoring

An expanded analysis of water quality was voluntarily implemented in an effort to further understand background or naturally occurring conditions as well as potential influence from the historical upgradient landfill release. Groundwater samples collected from the monitoring wells GRW-3, GRW-6, GBR-17, GBR-24D, GBR-30, GBR-31, GBR-32, GBR-48, GBR-49, GBR-50, GBR-51, and GBR-52 were analyzed for general water chemistry (GWC) parameters including pH by EPA Standard Method 4500, EC by EPA Method 2510B, total dissolved solids (TDS) by EPA Standard Method 2540C, alkalinity by EPA Standard Method 2320B, hardness by EPA Standard Method 2340B, anions (bromide, chloride, sulfate, fluoride, nitrite, nitrate, and phosphorus) by EPA Method 300.0, and cations (calcium, iron, magnesium, potassium, and sodium) by EPA Method 200.7. Additional analysis included groundwater samples collected from monitoring wells GBR-32, GBR-48, GBR-49 and, GBR-50 for total metals according to EPA Method 200.7 and 200.8 and mercury according to EPA Method 245.1. PAHs by EPA Method 8270C were analyzed in groundwater samples from GRW-3, GRW-6, GBR-30, and GBR-31. The results are used to evaluate the trend of natural background groundwater quality within the vicinity of the facility.

Voluntary Monitoring of Static Groundwater Conditions

Sampling activities as part of voluntary monitoring of static groundwater conditions was conducted in March, July, and October 2016. Monitoring wells GBR-8, GBR-11, GBR-20, GBR-21D, GBR-22, GBR-25, GBR-26, GBR-34, SHS-2, SHS-8, and SHS-9 were sampled to match wells sampled in August 2015 prior to the shutdown of the remediation system. Samples from these monitoring wells were collected and analyzed for chloride by United States Environmental Protection Agency (EPA) Method 300.0, benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260B, total petroleum hydrocarbon (TPH)-gasoline range organics (GRO) by EPA Method 8015D, and TPH-diesel range organics (DRO) by EPA Method 8015M/D. Laboratory analytical results indicated chloride concentrations exceeded NMWQCC standards in 5 of the 11 wells sampled, BTEX was not detected in exceedance of NMWQCC standards, and all 11 wells sampled contained concentrations of DRO and GRO. Sample results have indicated no significant changes in concentrations of contaminants from sampling conducted prior to shut down of the remediation system to results from sampling conducted after remediation system shutdown.

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1.0 INTRODUCTION

The 2016 Annual Report summarizes groundwater monitoring activities completed between January 2016 and January 2017 at the former Giant Bloomfield Refinery (Site) in San Juan County, New Mexico. The Site is operated by Western Refining Southwest, Inc. (Western) and currently regulated by the New Mexico Oil Conservation Division (NMOCD) under a discharge permit (GW-040).

1.1 SITE DESCRIPTION

The Site is located on the northeast corner of United States (U.S.) Highway 64 and County Road 3500, approximately five miles west of Bloomfield, New Mexico, in the southwest quarter of Section 22 and the northwest quarter of Section 27, Township 29 North, Range 12 West in San Juan County, New Mexico (Figure 1). The remediation system includes a control building, two carbon filtration tanks, an infiltration trench, groundwater monitoring wells, and groundwater recovery wells.

1.2 SITE HISTORY

The former refinery, under ownership of Giant Industries, Arizona (Giant), produced leaded and unleaded gasoline, diesel, kerosene, and other refined petroleum products from 1974 to 1982 and is presently inactive. The refining operations and subsequent truck loading and unloading activities impacted groundwater, which was identified and investigated as part of the site closure requirements prescribed by the New Mexico Oil Conservation Division (NMOCD) in 1986. Details of a subsurface investigation and initial remediation efforts are contained in a 1987 report entitled, *Soil and Groundwater Investigations and Remedial Action Plan, Giant Industries, Inc. Bloomfield Refinery, Bloomfield, New Mexico*. The investigation identified three source areas (Figure 2):

- Northern Area (Diesel Spill Area): 10,000 to 15,000 gallons of diesel were released from a pipeline in 1985;
- Central Area (Truck Fueling Area): 15,000 gallons of diesel were released from a pipeline in 1986; and
- Southern Area: Historical releases from a former firefighting drill area east and up-gradient of the Site that may have collected in a former seep and a stormwater catchment area.

Concurrent with refinery operations, the former Lee Acres Landfill located up-gradient of the Site operated as a San Juan County landfill from 1962 to 1986 (Figure 1). Landfill operations included solid waste disposal in trenches and a series of lagoons used for disposal of a variety of liquid wastes. The NMOCD sampled the lagoons in 1985 and demonstrated that the liquids in the impoundments contained a variety of chlorinated solvents, petroleum hydrocarbon constituents, heavy metals, and salts. In April 1985, a breach in the dike retaining the lagoons released liquid wastes into an arroyo west of the Site. The arroyo drains south toward the Lee Acres Subdivision, where the NMOCD and the New Mexico Environment Department (NMED) identified impacted groundwater in domestic water wells in 1988. In response, the NMOCD required Giant to investigate petroleum hydrocarbon impacts to groundwater downgradient of the refinery in the Lee Acres Subdivision, and the NMED conducted a separate investigation to identify potential impacts from the landfill. The results of the subsurface investigation conducted by Giant south of the refinery are contained in three volumes of the 1992

report, *Remedial Investigation Report for Lee Acres Landfill*. The NMED, in conjunction with the Bureau of Land Management (BLM) and the United States Geological Survey (USGS), published their results in three reports referenced in Section 5.0 of this report.

The investigations identified two separate plumes of impacted groundwater that commingled across the refinery and flowed downgradient into the Lee Acres Subdivision. Groundwater contaminants detected in the refinery plume included phase-separated hydrocarbons (PSH) and dissolved-phase petroleum hydrocarbons. The dissolved-phase constituents included benzene, toluene, ethylbenzene, and total xylenes (BTEX), naphthalene, and 1,2 dichloroethane (EDC). The landfill contaminant plume contained total dissolved solids (TDS), chloride, sulfate, manganese, metals, BTEX, naphthalene, 1,1 dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, tetrachloroethene (PCE), 1,1,1-trichloroethane, and trichloroethene.

Beginning in 1988, Giant installed a groundwater recovery, treatment, and disposal system in stages to restrict migration of contaminants and to remediate groundwater impacts caused by Giant's former operations. A total of 45 monitoring wells were initially installed and designated GBR wells (Figure 2). Of these 45 monitoring wells, 11 were converted to recovery wells and re-named with GRW designations. An additional 17 monitoring wells were installed in the Lee Acres Subdivision and designated as SHS wells. Four SHS wells initially operated as recovery wells. Giant pumped groundwater from the recovery wells into storage tanks, then treated the groundwater with an air stripper and carbon filtration and re-injected treated groundwater into the subsurface through two infiltration galleries. Western Refining Southwest, Inc. (Western) acquired the Site from Giant in June 2007.

As groundwater quality improved over time, the remediation system was gradually simplified once product accumulation declined which included the elimination of the air stripper and storage of recovered water in aboveground storage tanks in the 1980s. Following initial contaminant reduction, the groundwater remediation system operated in an operation and maintenance mode. Concentrations of contaminates within the remediation influent and effluent systems were below laboratory detection limits for 13 years. In 2008, Western conducted a supplemental evaluation of the remedial operations, which included shutting down the remediation system and sampling groundwater wells under static conditions in an effort to redefine the area of impact and assess effectiveness of the remediation system. Existing equipment was inspected and modified to optimize performance. Results from the sampling event were included in the *2008 Annual Report* submitted to the NMOCD. Pumping and treating operations were resumed in February 2009 and continued through 2014. By 2015, the system consisted of only 9 active groundwater recovery wells that pumped groundwater directly into the carbon filtration tanks. The water then passed through the treated water infiltration trench.

Following 13 years of influent and effluent sampling without the detection of volatile organic compounds (VOCs), Western conducted another assessment of site groundwater conditions in 2015. Western sampled and monitored select wells to characterize groundwater under active pumping conditions, then shut down the recovery system to allow groundwater to equilibrate. In August 2015, the groundwater recovery system was turned off and a second sampling and monitoring event was conducted on the same groundwater monitoring wells to compare active groundwater recovery to static conditions. Results of the baseline assessment and notification of the system shutdown were included in the *2015 Annual Report*. Assessment results suggested the remediation system had successfully remediated the groundwater impact it was originally designed to address, but was no longer an efficient

method for remediating residual impact at the Site. As such, the recovery system has remained shut down since August 2015, Western has since implemented additional voluntary monitoring activities in addition to the compliance monitoring required under the Facility Discharge Permit to better characterize the residual impact and qualify up-gradient groundwater quality.

1.3 SITE HYDROLOGY

The Site is located on weathered outcrops of the Nacimiento Formation, which is comprised of shales, sandstones, and siltstones of Cretaceous-Tertiary age. The San Juan River is approximately 2,000 feet south of the Site. Immediately west is a large unnamed arroyo, which is underlain by 30 feet to 60 feet of Quaternary alluvial sediments. Older Quaternary terrace deposits of cobbles and boulders were observed on the interfluvial ridges adjacent to the arroyo. These terrace deposits may have been utilized as fill on the Site. The outcropping surfaces of the Nacimiento Formation have been eroded to form a paleo channel that appears to be similar in morphology to the existing surface arroyo located to the west of the Site. The bedrock is overlain by recent alluvial deposits (gravel, sand, silt, and clay), which thicken toward the south-southwest as illustrated on the cross section on Figure 3 and Figure 4.

The subsurface geology is a controlling feature for groundwater flow direction and potential contaminant migration. Shallow groundwater is generally unconfined with some local areas potentially under semi-confined conditions. There are two aquifers of concern that are in direct hydraulic communication: a shallow aquifer composed of recent alluvial materials and a bedrock aquifer that exists in the underlying Nacimiento Formation (Figures 3 and 4, respectively). The alluvial aquifer generally has the higher permeability of the two aquifers, and recovery wells completed within this aquifer have higher yields with larger radii of influence.

1.4 SCOPE OF WORK

Pursuant to the sampling requirements outlined in the facility discharged permit (GW-040), this Report provides a summary of activities performed and results of groundwater samples collected as specified wells. In addition, this report includes the results of additional voluntary monitoring activities conducted to monitor the background water quality as well as to monitor the static groundwater conditions following the shutdown of the remediation system in August 2015. A summary of field activities, results, and conclusions related to annual discharge permit compliance and monitoring results are presented in the subsequent sections of this report.

2.0 METHODOLOGY

2.1 ANNUAL COMPLIANCE MONITORING

Following the shutdown of the groundwater recovery system in August 2015, annual compliance monitoring activities included the collection of groundwater samples and field quality information from selected monitoring wells specified in the Discharge Permit GW-040.

2.1.1 GROUNDWATER MONITORING

Quarterly groundwater monitoring included measurements of depth-to-groundwater and depth-toproduct at all monitoring and recovery wells using a Keck oil-water interface probe. The interface probe was decontaminated with Alconox[™] soap and rinsed with de-ionized water before each measurement. Field measurements were used to calculate quarterly groundwater elevations at the Site to determine direction of groundwater flow. The recovery pumps were removed from the previously active recovery wells in August 2015 following the shutdown of the remediation system; therefore calculated groundwater elevations represent static conditions.

Annual groundwater samples were inadvertently not collected in 2016; however, the required annual samples were collected in January 2017 and are included in this report. Samples were collected from 13 groundwater monitoring wells (GRW-3, GRW-6, GBR-17, GBR-24D, GBR-30, GBR-31, GBR-32, GBR-48, GBR-49, GBR-50, GBR-51, GBR-52, and SHS-8) located within and south of the Site as specified in Discharge Permit GW-040. Figure 5 show the approximate location of each monitoring well. The volume of groundwater in the wells was calculated and a minimum of three well casing volumes of groundwater was purged from each well using a disposable bailer. As groundwater was extracted, pH, electrical conductivity (EC), and temperature were monitored. Wells were purged until these properties stabilized or the well was bailed dry, indicating the purge water was representative of aquifer conditions. Stabilization was defined as three consecutive stable readings for each water property (plus or minus (±) 0.4 units for pH, ±10 percent for EC, and ±2 degrees Celsius for temperature). Once each well was properly purged, groundwater samples were collected in bottles or vials and shipped to Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico. Groundwater samples were analyzed for VOCs according to United States Environmental Protection Agency (EPA) Method 8260B. The groundwater sample collected from GBR-24D was also analyzed for polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270C.

2.2 ENHANCED MONITORING

Additional groundwater samples were collected from selected wells as part of an enhanced voluntary monitoring effort to further understand background or naturally occurring conditions as well as potential influence from the historical up-gradient landfill release. Additional groundwater samples were collected from monitoring well GRW-3, GRW-6, GBR-17, GBR-24D, GBR-30, GBR-31, GBR-32, GBR-48, GBR-49, GBR-50, GBR-51, and GBR-52. The samples were analyzed for general water chemistry (GWC) parameters including pH by EPA Standard Method 4500, EC by EPA Method 2510B, total dissolved solids (TDS) by EPA Standard Method 2540C, alkalinity by EPA Standard Method 2320B, hardness by EPA Standard Method 2340B, anions (bromide, chloride, sulfate, fluoride, nitrite, nitrate, and phosphorus) by EPA Method 300.0, and cations (calcium, iron, magnesium, potassium, and sodium)

by EPA Method 200.7. Additional analysis included groundwater samples collected from monitoring wells GBR-32, GBR-48, GBR-49 and, GBR-50 for total metals according to EPA Method 200.7 and 200.8 and mercury according to EPA Method 245.1. PAHs by EPA Method 8270C were analyzed in groundwater samples from GRW-3, GRW-6, GBR-30, and GBR-31. Figure 5 shows the approximate location of each sample location.

2.3 VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS

Following the shutdown of the remediation system in August 2015, additional monitoring efforts were voluntarily implemented in 2016 to monitor the effect of the system shutdown and long-term static conditions within the site.

2.3.1 GROUNDWATER SAMPLING

Historical documentation was reviewed to determine which wells had the most potential to contain impacted groundwater or to exhibit a change in water quality following the shutdown of the groundwater recovery system. Monitoring wells GBR-8, GBR-11, GBR-20, GBR-21D, GBR-22, GBR-25, GBR-26, GBR-34, SHS-2, SHS-8, and SHS-9 were selected due to radius of influence of actively pumping recovery wells and/or historical documentation of PSH measured in the monitoring wells (Figure 5).

Prior to collecting groundwater samples, depth-to-groundwater measurements were collected with a Keck oil-water interface probe. The interface probe was decontaminated with Alconox[™] soap and rinsed with de-ionized water before each measurement. The volume of groundwater in the monitoring wells was calculated and a minimum of three well casing volumes of groundwater was purged from each well using a disposable bailer. As groundwater was extracted, pH, EC, and temperature were monitored. Monitoring wells were purged until these properties stabilized or the well was bailed dry, indicating the purge water was representative of aquifer conditions.

Groundwater samples were collected in March, July, and October of 2016 and analyzed for chloride by EPA Method 300.0, BTEX by EPA Method 8260B, total petroleum hydrocarbon (TPH)-gasoline range organics (GRO) by EPA Method 8015D, and TPH-diesel range organics (DRO) by EPA Method 8015M/D. Groundwater samples were collected in appropriate pre-cleaned and pre-preserved (when applicable) sample bottles or glass vials and immediately placed on ice. The samples were shipped on ice under strict chain-of-custody protocol to HEAL within designated holding times. Samples were labeled with the date and time of collection, sample designation, project name, collector's name, and parameters to be analyzed.

2.3.2 FIELD OBSERVATIONS AND MONITORING

In 2016, field parameters were collected monthly from wells located within the facility boundary and within the easement south of Highway 64. This did not include up-gradient monitoring wells, cross-gradient wells, previously active recovery wells, nor wells located south of monitoring well SHS-19 (Figure 5). The field parameters collected included depth-to-water, depth-to-product, and field headspace measurement. Headspace measurements were collected using a calibrated Photo Ionization Detector (PID) from the well top of casing. Field observations such as the observed presence of sheen and odor were documented during bailing of a well.

3.0 RESULTS

3.1 ANNUAL COMPLIANCE

Results of compliance groundwater monitoring are presented in the following sections.

3.1.1 GROUNDWATER MONITORING

Groundwater elevations measured in groundwater monitoring wells are presented in Table 1, and quarterly potentiometric surface maps are depicted on Figures 6 through 9. Groundwater flow direction was consistently toward the southwest throughout the year.

Laboratory analytical results from annual groundwater compliance sampling are presented in Table 2, and the complete laboratory analytical reports are presented in Appendix A. Isopach maps and geologic cross sections illustrating the distribution of analytes are not included because the sampling events do not include wells from all of the current source areas. Such a presentation of results would not be indicative of actual conditions at the Site. Laboratory analytical results as compared to New Mexico Water Quality Control Commission (NMWQCC) standards are summarized below:

- VOCs were detected in the annual groundwater samples, but only in trace concentrations that did not exceed NMWQCC standards;
 - EDC was detected in groundwater from monitoring well GBR-24D at 1.1 ug/L;
 - PCE was detected in groundwater from monitoring wells GBR-32 and GBR-49 at 1.3 ug/L; and
 - Ethylbenzene was detected in groundwater from monitoring well SHS-8 at 1.1 ug/L.
- PAHs were not detected above the respective laboratory detection limit for samples collected at GBR-24D.

3.2 ENHANCED MONITORING

As part of a voluntary enhanced monitoring effort, additional groundwater samples were collected from selected wells to monitor the naturally occurring groundwater conditions. A summary of the analytical results is provided in Table 4. The samples were compared to respective NMWQCC standards. The results are used to evaluate the trend of natural background groundwater quality within the vicinity and up-gradient of the facility.

3.3 VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS

Results of the monitoring and sampling conducted in 2016 to confirm equilibrium groundwater conditions include analytical results, depth-to-water, depth-to-product, headspace, and field observations of sheen and odor.

3.3.1 GROUNDWATER SAMPLING

Laboratory analytical results from voluntary groundwater sampling are presented in Table 4, and the complete laboratory analytical reports are presented in Appendix A. The initial baseline sampling results

from activities performed in August 2015 are included in Table 4 for reference. Laboratory analytical results from the voluntary monitoring sampling events are summarized below:

- Chloride concentrations exceeded NMWQCC standards in 5 of the 11 monitoring wells sampled;
- BTEX was detected in the groundwater samples, but only in concentrations that did not exceed NMWQCC standards;
- All monitoring wells sampled contained concentrations of DRO and GRO;
- With the exception of GBR-8, GBR-22, and GBR-34, sample results indicated no significant change in concentrations of contaminants from sampling conducted prior to shut down of the groundwater recovery system to results from sampling conducted after the recovery system was shut down.
- Sample results from GBR-8, GBR-22, and GBR-34 indicated an increase in DRO concentrations
 from sampling conducted prior to the shutdown of the remediation system to results from
 sampling conducted after remediation system shutdown. These monitoring wells have been
 documented as historically impacted wells that have displayed fluctuating levels of PSH in the
 past. Observations of DRO concentrations in these monitoring wells likely indicate continuing
 fluctuations that have been observed historically rather than an indication of migrating
 dissolved phase contaminants that have been influenced by the shutdown of the groundwater
 recovery system.

3.3.2 FIELD OBSERVATIONS AND MONITORING

Groundwater elevations, PSH measurements, and water quality observations documented from groundwater monitoring and recovery wells are presented in Table 5. The groundwater elevation data was used to develop monthly potentiometric surface maps (Figures 10 through 20). PSH was observed in monitoring wells GBR-5, GBR-7, GBR-20, GBR-23, GBR-34, and GBR-41. Results indicate no significant change in the direction or gradient of groundwater flow across the site when compared to historical results, with the exception of the areas immediately adjacent to previous active recovery wells. The depression of groundwater around previously active groundwater recovery wells no longer exist since the wells are no longer pumping.

4.0 CONCLUSIONS

By 2015, Western had documented over 15 years of pumping and treating groundwater that does not contain detectable concentrations of VOCs. Western shut down the pump and treat system in August 2015 to evaluate its effectiveness at addressing residual impact remaining at the Site. Continued monitoring and sampling conducted under equilibrium conditions in 2016 suggest the remediation system was no longer efficiently influencing the remediation activities at the Site. Conclusions from the continued monitoring of static groundwater conditions at the Site include:

- PSH accumulation did not change significantly from that during pumping conditions:
 - Although measurable PSH was observed in monitoring wells GBR-5, GBR-7, GBR-20, GBR-23, GBR-34, and GBR-41, these wells have historically contained PSH;
 - There was no PSH migration into monitoring wells where PSH had not previously been observed.
- Groundwater impacted by hydrocarbons is characterized by presence of PSH and little to no dissolved-phase hydrocarbons regulated by the NMWQCC.
- Field observations and laboratory analytical results indicate impacted areas are consistent with previously identified source areas and do not appear to have been affected by the cessation of pump and treat remediation efforts.

It is apparent that the remediation system successfully remediated hydrocarbon impact it was originally designed to address. Following reduction in hydrocarbon concentrations, the remediation system's primary purpose was to provide hydraulic control and restrict migration of potential contaminants off site. By shutting down the system to re-establish equilibrium conditions, Western has documented that the remediation system has no effect on existing hydrocarbon groundwater impacts. These impacts consist of PSH accumulations, which based on thicknesses measured and locations consistent with original source areas, are likely adsorbed to soil in the three original source areas. With no active source, the residual contaminants are not likely to migrate with or without the hydraulic barrier introduced by the remediation system.

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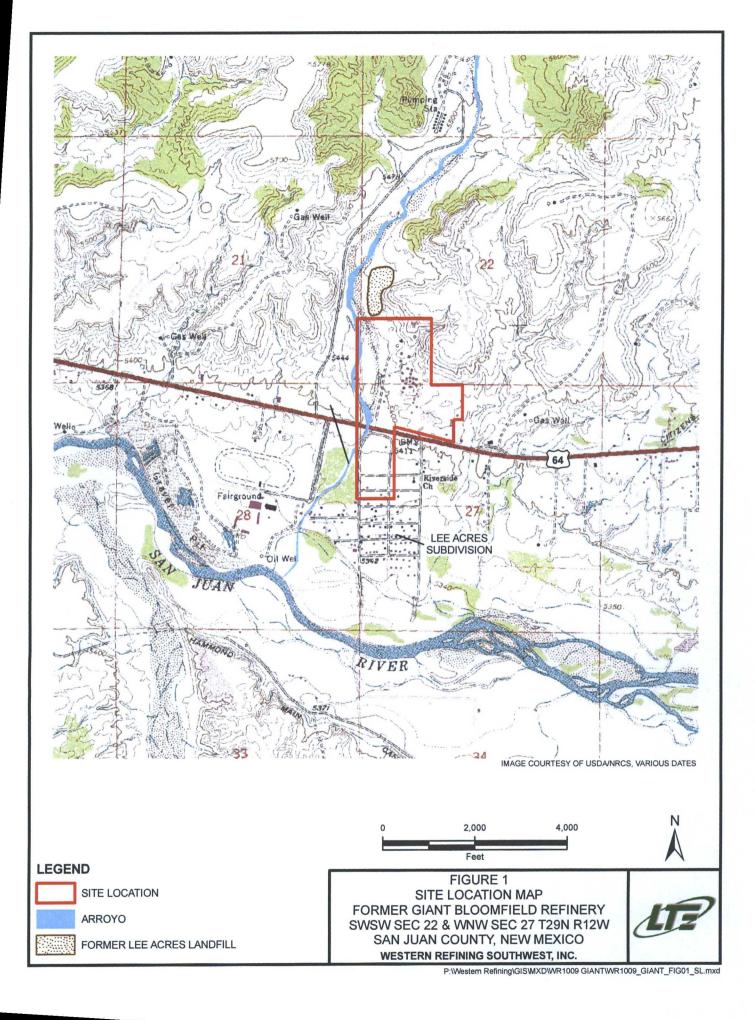


TABLE 2 2016 ANNUAL COMPLIANCE - GROUNDWATER LABORATORY ANALYTICAL RESULTS

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FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTRY, NEW MEXICO WESTERN REFINING PIPELINE, LLC.

Analyte	NMWQCC	Unit	GRW-3	GRW-6	GBR-17	GBR-24D	GBR-30	GBR-31	GBR-32	GBR-48	GBR-49	GBR-50	GBR-51	GBR-52	SHS-8
USEPA Method 8260B - Volatiles	Standard		13-Jan	16-Jan	12-Jan	13-Jan	18-Jan	13-Jan	12-Jan	12-Jan	12-Jan	12-Jan	11-Jan	11-Jan	13-Jan
benzene	10	μg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
toluene	750	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
ethylbenzene	750	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1
methyl tert-butyl ether (MTBE)	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-trimethylbenzene	620	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-trimethylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichloroethane (EDC)	10	µg/L	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dibromoethane (EDB)	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
naphthalene	NE	µg/L	<2.0 <4.0	<2.0 <4.0	<2.0 <4.0	<2.0 <4.0	<2.0	<2.0 <4.0	<2.0 <4.0	<2.0	<2.0 <4.0	<2.0 <4.0	<2.0	<2.0 <4.0	<2.0 <4.0
1-methylnaphthalene 2-methylnaphthalene	NE NE	μg/L μg/L	<4.0	<4.0	<4.0	<4.0	<4.0 <4.0	<4.0	<4.0	<4.0 <4.0	<4.0	<4.0	<4.0 <4.0	<4.0	<4.0
acetone	NE	μg/L μg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
bromobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromodichloromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromoform	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromomethane	NE	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
2-butanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
carbon disulfide	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
carbon tetrachloride	10	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
chlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
chloroethane chloroform	NE 100	µg/L	<2.0 <1.0	<2.0 <1.0	<2.0 <1.0	<2.0 <1.0	<2.0	<2.0 <1.0	<2.0 <1.0	<2.0 <1.0	<2.0	<2.0 <1.0	<2.0	<2.0 <1.0	<2.0
chloroform	100 NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0 <3.0	<1.0	<1.0	<1.0	<1.0 <3.0	<1.0	<1.0 <3.0	<1.0	<1.0 <3.0
2-chlorotoluene	NE	µg/L µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-chlorotoluene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-DCE	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dibromo-3-chloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
dibromochloromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
dibromomethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
dichlorodifluoromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-dichloroethane	25	μg/L μg/L	<1.0 <1.0												
1,2-dichloropropane	NE	μg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-dichloropropane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,2-dichloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
hexachlorobutadiene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-hexanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1.0
isopropylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-isopropytoluene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-methyl-2-pentanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
methylene chloride n-butylbenzene	100 NE	µg/L	<3.0 <3.0												
n-putytbenzene n-propytbenzene	NE	μg/L μg/L	<1.0	<1.0	<1.0	<3.0	<1.0	<3.0	<1.0	<3.0	<3.0	<1.0	<3.0	<3.0	<3.0
sec-butylbenzene	NE	μg/L μg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
styrene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-butylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1,2-tetrachloroethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-tetrachloroethane	10	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
tetrachloroethene (PCE)	20	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	1.3	<1.0	<1.0	<1.0	<1.0
trans-1,2-DCE	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-trichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-trichlorobenzene 1,1,1-trichloroethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 <1.0
1,1,1-trichloroethane 1,1,2-trichloroethane	60 10	µg/L µg/L	<1.0 <1.0	<1.0											
trichloroethene (TCE)	100	μg/L μg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trichlorofluoromethane	NE	μg/L μg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-trichloropropane	NE	μg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
vinyl chloride	1	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
xylenes, total	620	µg/L	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
		P.B.S.													



TABLE 2

2016 ANNUAL COMPLIANCE - GROUNDWATER LABORATORY ANALYTICAL RESULTS

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTRY, NEW MEXICO WESTERN REFINING PIPELINE, LLC.

1.11	NMWQCC	** **	GRW-3	GRW-6	GBR-17	GBR-24D	GBR-30	GBR-31	GBR-32	GBR-48	GBR-49	GBR-50	GBR-51	GBR-52	SHS-8
Analyte	Standard	Unit	13-Jan	16-Jan	12-Jan	13-Jan	18-Jan	13-Jan	12-Jan	12-Jan	12-Jan	12-Jan	11-Jan	11-Jan	13-Jan
USEPA Method 8270C: Polycylic Aromatic Hydrocarbons		1000		No.		1000		1.00		1.00					2.24
naphthalene	30	µg/L	NT	NT	NT	<0.50	NT								
1-methylnaphthalene	NE	µg/L	NT	NT	NT	< 0.50	NT								
2-methyinaphthalene	NE	µg/L	NT	NT	NT	< 0.50	NT								
acenaphthylene	NE	µg/L	NT	NT	NT	< 0.50	NT								
acenaphthene	NE	µg/L	NT	NT	NT	< 0.50	NT	NΓ	NT						
fluorene	NE	µg/L	NT	NT	NT	< 0.50	NT								
phenanthrene	NE	µg/L	NT	NT	NT	<0.50	NT								
anthracene	NE	µg/L	NT	NT	NT	< 0.50	NT								
fluoranthene	NE	µg/L	NT	NT	NT	< 0.50	NT								
pyrene	NE	µg/L	NT	NT	NT	< 0.50	NT								
benz(a)anthracene	NE	µg/L	NT	NT	NT	< 0.50	NT								
chrysene	NE	µg/L	NT	NT	NT	< 0.50	NT								
benzo(b)fluoranthene	NE	µg/L	NT	NT	NT	< 0.50	NT								
benzo(k)fluoranthene	NE	µg/L	NT	NT	NT	<0.50	NT								
benzo(a)pyrene	0.7	µg/L	NT	NT	NT	< 0.50	NT								
dibenz(a,b)anthracene	NE	µg/L	NT	NT	NT	< 0.50	NT								
benzo(g,h,l)perylene	NE	µg/L	NT	NT	NT	<0.50	NT								
indeno(1,2,3-cd)pyrene	NE	µg/L	NT	NT	NT	< 0.50	NT								

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Notes: NE - not established NMWQCC - New Mexico Water Quality Control Commission NT - not tested USEPA - United States Environmental Protection Agency µg/L - micrograms per liter



TABLE 3 2016 ENHANCED MONITORING DATA - GROUNDWATER LABORATORY ANALYTICAL RESULTS

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTRY, NEW MEXICO WESTERN REFINING PIPELINE, LLC.

	NMWQCC		GRW-3	GRW-6	GBR-17	GBR-24D	GBR-30	GBR-31	GBR-32	GBR-48	GBR-49	GBR-50	GBR-51	GBR-52	SHS-8
Analyte	Standard	Unit	13-Jan	16-Jan	12-Jan	13-Jan	18-Jan	13-Jan	12-Jan	12-Jan	12-Jan	12-Jan	11-Jan	11-Jan	13-Jan
USEPA Method 8270C: Polycylic Aromatic Hydrocarbons															Assessor 1
naphthalene	30	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	NT	NT	NT	NT	NT	NT
1-methylnaphthalene	NE	µg/L	< 0.50	< 0.50	< 0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
2-methylnaphthalene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
acenaphthylene	NE	µg/L	<0.50	<0.50	< 0.50	< 0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
acenaphthene	NE	µg/L	0.72	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
fluorene	NE	µg/L	3.4	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
phenanthrene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
anthracene	NE	μg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
fluoranthene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
pyrene	NE	μg/L	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
benz(a)anthracene	NE	μg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
chrysene	NE	μg/L	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50	NT	NT	NT	NT	NT	NT	NT
benzo(b)fluoranthene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50	NT	NT	NT	NT	NT	NT	NT
benzo(k)fluoranthene	NE	μg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NT	NT	NT	NT	NT	NT	NT
benzo(a)pyrene	0.7	μg/L	< 0.50	<0.50	<0.50	< 0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
dibenz(a,h)anthracene	NE	μg/L μg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
benzo(g,h,l)perylene	NE	µg/L µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
indeno(1,2,3-cd)pyrene	NE	μg/L μg/L	< 0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
USEPA Method 300.0: Anions		1 -5-5		5.00	5.00	2100									
bromide	NE	mg/L	0.54	0.34	0.26	0.61	3.6	0.33	1.5	0.99	0.98	0.24	0.22	0.32	0.94
chloride	250	mg/L	74	89	46	130	220	84	320	340	210	59	45	58	100
sulfate	600	mg/L	1,200	1,500	1,100	1,900	1,400	1,700	2,000	2,000	1,900	1,500	990	1,400	720
fluoride	1.6	mg/L	< 0.50	1.1	0.65	1.6	0.52	0.98	0.83	0.87	0.99	1.1	0.79	0.78	0.76
nitrate + nitrite as N	NE	mg/L	<1.0	<0.10	5.4	<1.0	5.6	4.2	1.0	3.2	1.9	2.4	8.1	7.3	<1.0
phosphorus, orthophosphate (As P)	NE	mg/L	<2.5	<0.50	<10	<10	<2.5	<10	<10	<0.50	<10	<0.50	<10	<10	<0.50
USEPA Method 200.7: Total Metals	THE .	mg/L	-4.0	40.50	-10	-10	-4.0	-10	-10	40.00	-10	40.00	-10	-10	40.50
barium	NE	mg/L	NT	NT	NT	NT	NT	NT	0.092	0.52	0.10	0.063	NT	NT	NT
			NT	NT	NT	NT	NT	NT	< 0.0020	0.0065	<0.0020	< 0.003	NT	NT	NT
beryllium	NE 0.01	mg/L	NT	NT	NT	NT	NT	NT	<0.0020	< 0.0020	<0.0020	<0.0020	NT	NT	NT
cadmium		mg/L	250	340	280	430	430	430	430	650	410	400	300	430	260
calcium chromium	NE 0.05	mg/L	NT	NT NT	NT	A30 NT	430 NT	NT	0.33	0.42	0.20	0.36	NT	NT	NT
		mg/L	150	11	15	14	64	1.9	11	89	11	6.8	9.1	18	66
iron	1.0 NE	mg/L	58	57	28	41	45	38	46	66	43	31	25	36	35
magnesium		mg/L					43			200			0.47	0.46	3.0
manganese	0.2	mg/L	2.9	17	0.35	1.8		0.18 NT	1.2 0.33	4.8 0.24	1.1 0.20	1.3 0.17	NT	0.40 NT	NT
nickel	0.2	mg/L	NT	NT	NT	NT	NT		1000		2.5				
potassium	NE	mg/L	1.4	2.3	1.6	9.9	8.6	2.6	2.6	13	2010	1.8	1.4	3.1	7.4
silver	0.05	mg/L	NT	NT	NT	NT	NT	NT	< 0.0050	< 0.0050	< 0.0050	< 0.0050	NT 250	NT 290	NT
sodium	NE	mg/L	550	390	220	550	380	420	560	460	430	340			520
zinc	10	mg/L	NT	NT	NT	NT	NT	NT	0.023	0.20	0.036	0.020	NT	NT	NT
USEPA Method 200.8: Total Metals															
antimony	NE	mg/L	NT	NT	NT	NT	NT	NT	< 0.0010	< 0.0010	< 0.0010	< 0.0010	NT	NT	NT
arsenic	0.1	mg/L	NT	NT	NT	NT	NT	NT	< 0.0050	0.010	0.0042	0.0043	NT	NT	NT
copper	1.0	mg/L	NT	NT	NT	NT	NT	NT	0.017	0.12	0.013	0.011	NT	NT	NT
lead	0.05	mg/L	NT	NT	NT	NT	NT	NT	0.0048	0.066	0.0072	0.0032	NT	NT	NT
selenium	0.05	mg/L	NT	NT	NT	NT	NT	NT	0.0099	0.014	0.0081	0.0081	NT	NT	NT
thallium	NE	mg/L	NT	NT	NT	NT	NT	NT	< 0.00050	0.0014	< 0.00050	< 0.00050	NT	NT	NT
USEPA Method 245.1: Mercury	The states	the second						1. 5. 1					JE BY	1.1.1	1.1.1
mercury	0.002	mg/L	NT	NT	NT	NT	NT	NT	<0.00020	< 0.00020	< 0.00020	<0.00020	NT	NT	NT
SM 2340B: Hardness	12 22 2 22				123 100									100 C 100	
hardness (as CaCO3)	NE	mg/L	850	1,100	820	1,300	1,300	1,200	1,300	1,900	1,200	1,100	850	1,200	800
Alkalinity	14214 12-01														
alkalinity, total (As CaCO3)	NE	mg/L CaCO3	758.3	364.3	213.2	242.1	217.9	214.8	246.5	276.8	260.7	273.0	208.8	208.5	984.3
carbonate	NE	mg/L CaCO	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000
bicarbonate	NE	mg/L CaCO3	758.3	364.3	213.2	242.1	217.9	214.8	246.5	276.8	260.7	273.0	208.8	208.5	984.3
Specific Conductance	PLUE ANTER	OLI BUSE	S S YEL			1	ALC: N	000	-					CALCULATION OF THE	1.53.51
specific conductance	NE	µmhos/cm	3,500	3,100	2,300	4,000	3,300	3,400	4,100	4,300	3,800	3,000	2,500	2,900	3,000
USEPA Method SM4500-H+B: pH			-,	-,	-,	.,	- ,	-,	.,						
pH	6-9	pH units	7.39	7.00	7.32	7.62	7.27	7.38	7.01	7.26	7.31	7.35	7.43	7.40	7.62
USEPA Method SM2540C Modified: To			1.57	7.00	1.54	1.02	1.4.1	1.50	7.01	1.20	1.51	1.00	1.10	7.10	1.04
total dissolved solids	1,000	mg/L	2,730	2,580	1,890	3,390	2,580	2,970	3,500	3,360	3,160	2,580	2,080	2,540	2,210
	1,000	I MUL	4,130	4,000	1,000	3,390	2,300	2,910	5,500	3,300	5,100	4,000	2,000	4,040	4,410

Notes:

mg/L - milligrams per liter

NE - not established NMWQCC - New Mexico Water Quality Control Commission

NT - not tested

USEPA - United States Environmental Protection Agency

µg/L - micrograms per liter BOLD - indicates concentration exceeds the NMWQCC standard

TABLE 4 VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS -**GROUNDWATER ANALYTICAL RESULTS**

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

	alyte	GRO	DRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chloride
	WQCC ndard	NE	NE	10	750	750	620	250
U	nit	mg/L	mg/L	μg/L	μg/L	μg/L	μg/L	mg/L
GBR-8	8/6/2015	< 0.20	16	<5.0	<5.0	<5.0	<7.5	86
	3/31/2016	< 0.25	58	<5.0	<5.0	<5.0	<10	85
	7/26/2016	0.45	280	<5.0	<5.0	<5.0	<10	97
	10/20/2016	< 0.25	190	<5.0	<5.0	<5.0	<10	95
GBR-11	8/6/2015	< 0.20	1.9	1.7	<1.0	1.1	<1.5	95
	3/31/2016	0.28	5.0	<5.0	<5.0	<5.0	<10	97
	7/26/2016	< 0.25	5.3	<5.0	<5.0	<5.0	<10	93
	10/21/2016	< 0.25	2.6	<5.0	<5.0	<5.0	<10	92
GBR-20	8/6/2015	0.39	56	<2.0	<2.0	<2.0	<3.0	96
	3/31/2016	0.33	6.9	<5.0	<5.0	17	<10	82
	7/26/2016 ^{#*}							
	10/20/2016	< 0.25	22	5.7	<5.0	24	<10	72
GBR-21D	8/7/2015	<1.0	350	<2.0	<2.0	<2.0	<3.0	330
	3/30/2016	0.059	22	<1.0	<1.0	<1.0	<2.0	380
	7/25/2016	< 0.25	21	<5.0	<5.0	<5.0	<10	340
	10/20/2016	< 0.25	11	<5.0	<5.0	<5.0	<10	390
GBR-22	8/7/2015	0.34	110	1.7	<2.0	16	6.3	470
	3/30/2016	0.32	140	<5.0	<5.0	23	<10	420
	7/25/2016	0.90	4,800	<5.0	<5.0	41	16	330
	10/20/2016	0.44	260	<5.0	<5.0	15	<10	400
GBR-25	8/7/2015	0.98	92	<5.0	<5.0	15	<7.5	520
	3/30/2016	0.60	250	<5.0	<5.0	16	<10	640
	7/25/2016	1.1	190	<5.0	<5.0	16	<10	450
	10/20/2016	0.73	96	<5.0	<5.0	11	<10	630
GBR-26	8/7/2015	< 0.20	1.8	<2.0	<2.0	<2.0	<3.0	170
	3/30/2016	0.053	13	<1.0	<1.0	<1.0	<2.0	140
	7/25/2016#							
	10/20/2016	< 0.25	1.4	<5.0	<5.0	<5.0	<10	67
GBR-34	8/7/2015	13	400	5.2	<5.0	51	49	280
0.01101	3/31/2016	1.9	560	<5.0	<5.0	130	48	220
	7/26/2016	1.7	1,400	<5.0	<5.0	34	43	180
	10/20/2016	2.0	2,700	<5.0	<5.0	160	60	180
SHS-2	8/10/2015	<1.0	19	<5.0	<5.0	<5.0	<7.5	280
	3/30/2016	<0.25	18	<5.0	<5.0	<5.0	<10	270
	7/26/2016	0.36	47	<5.0	<5.0	<5.0	<10	250
	10/21/2016	< 0.25	15	<5.0	<5.0	<5.0	<10	280
SHS-8	8/7/2015	0.18	23	<1.0	<1.0	14	<1.5	120
	3/30/2016	0.060	6.0	<1.0	<1.0	14	<2.0	97
	7/26/2016	0.46	92	<5.0	<5.0	<5.0	<10	120
	10/21/2016	<0.25	2.2	<5.0	<5.0	<5.0	<10	110
SHS-9	8/7/2015	<0.20	29	<5.0	<5.0	21	<7.5	96
	3/30/2016	0.2	32	<1.0	<1.0	24	<2.0	92
	7/26/2016*							
	10/21/2016*							

NOTES:

NE - not established

NMWQCC - New Mexico Water Quality Control Commission

µg/L - micrograms per liter

mg/L - milligrams per liter

-- - no sample collected

- no sample collected due to insufficient groundwater in well

* - no sample collected due to well obstruction

< - indicates result is less than the laboratory quantitation limit BOLD - indicates concentration exceeds the NMWQCC standard

Results from August 2015 sampling events represent conditions pre-system shutdown



TABLE 5	
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS	

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FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,395.07	5,355.84	39.23		-	No	No	2.6	Clear
	3/22/2016	5,395.07	5,355.60	39.47			No	No	2.8	Clear
	4/21/2016	5,395.07	5,355.37	39.70			No	Yes	7.4	Clear
	5/26/2016	5,395.07	5,355.37	39.70			No	No	56.2	Clear
	6/27/2016	5,395.07	5,354.57	40.50			No	No	72.9	Clear
GBR-5	7/25/2016	5,395.07	5,355.18	39.89			Yes	Yes	38.9	Clear
	8/25/2016	5,395.07	5,355.08	39.99			No	No	1.6	Clear
	9/26/2016	5,395.07	5,354.89	40.18			No	Yes	5.5	Clear
	10/17/2016	5,395.07	5,355.09	39.98			No	No	4.3	Clear
	11/30/2016	5,395.07	5,355.09	39.98			Yes	Yes	134	Clear, PSH droplets observed
	12/30/2016	5,395.07	5,354.91	40.16	40.15	0.01	Yes	Yes	798.8	PSH Observed

TABLE 5	
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS -	MONTHLY GROUNDWATER OBSERVATIONS

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,395.85	5,357.56	38.29	38.17	0.12	Yes	Yes	2.8	Black on top with golden brown below (two distinct layers), PSH observed
	3/22/2016	5,395.85	5,356.33	39.52	39.28	0.24	Yes	Yes	219.0	Black PSH on top, brown below
	4/21/2016	5,396.85	5,356.55	40.30	39.95	0.35	Yes	Yes	248	Brown/black PSH observed
	5/26/2016	5,396.85	5,356.05	40.80	40.36	0.44	Yes	Yes	69.2	Brown/black PSH observed
	6/27/2016	5,396.85	5,355.50	41.35	40.98	0.37	Yes	Yes	84.3	Yellow, PSH observed
GBR-7	7/25/2016	5,396.85	5,355.35	41.50	41.08	0.42	Yes	Yes	89.6	Yellow, PSH observed
	8/25/2016	5,396.85	5,355.15	41.70	41.29	0.41	Yes	Yes	104	Black on top with golden brown below (two distinct layers), PSH observed
	9/26/2016	5,396.85	5,355.00	41.85	41.55	0.30	Yes	Yes	103.5	Black on top with golden brown below (two distinct layers), PSH observed
	10/17/2016	5,396.85	5,355.27	41.58	41.40	0.18	Yes	Yes	95.9	PSH observed
	11/30/2016	5,396.85	5,355.26	41.59	41.36	0.23	Yes	Yes	219	Black on top with golden brown below (two distinct layers), PSH observed
	12/30/2016	5,396.85	5,355.24	41.61	41.45	0.16	Yes	Yes	740.0	Black on top with golden brown below (two distinct layers), PSH observed



 TABLE 5

 VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

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FORMER GIANT BLOOMFIEL	D REFINERY
SAN JUAN COUNTY, NEW	MEXICO
WESTERN REFINING SOUTH	IWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,390.50	5,348.68	41.82			No	No	0.0	Light brown
	3/22/2016	5,390.50	5,348.78	41.72			No	No	0.0	Light brown
	4/21/2016	5,391.50	5,349.71	41.79			No	No	0.0	Clear
	5/26/2016	5,391.50	5,349.75	41.75			No	No	10.0	Clear
	6/27/2016	5,391.50	5,349.60	41.90			No	No	6.0	Clear
GBR-8	7/25/2016	5,391.50	5,349.54	41.96		-	No	No	4.2	Clear
	8/25/2016	5,391.50	5,349.49	42.01			No	No	0.0	Clear
	9/26/2016	5,391.50	5,349.31	42.19			No	No	4.5	Dark grey/black
	10/17/2016	5,391.50	5,349.37	42.13			No	No	6.7	Dark grey
	11/30/2016	5,391.50	5,349.35	42.15			No	No	5.3	Clear with black/grey hue
	12/30/2016	5,391.50	5,349.52	41.98			No	No	4.4	Clear with black/grey hue
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TABLE 5 VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,389.43	5,348.45	40.98			No	No	0.0	Clear
	3/22/2016	5,389.43	5,348.51	40.92			No	No	0.0	Light brown
	4/21/2016	5,390.43	5,349.48	40.95			No	No	0.0	Clear
	5/26/2016	5,390.43	5,349.46	40.97			No	No	0.0	Light brown
	6/27/2016	5,390.43	5,349.26	41.17			No	No	0.0	Brown
GBR-11	7/25/2016	5,390.43	5,349.33	41.10			No	No	0.0	Brown
	8/25/2016	5,390.43	5,349.29	41.14			No	No	0.0	Brown
	9/26/2016	5,390.43	5,349.13	41.30			No	No	0.0	Dark grey/ black
	10/17/2016	5,390.43	5,349.19	41.24			No	No	0.0	Black
	11/30/2016	5,390.43	5,349.10	41.33			No	No	0.0	Clear
	12/30/2016	5,390.43	5,349.39	41.04	-		No	No	0.0	Clear

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TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

FORMER	GIANT BLOOMFIELD REFINERY
SAN	JUAN COUNTY, NEW MEXICO
WESTE	RN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,393.04	5,352.25	40.79		-	No	No	0.0	Pale brown
	3/22/2016	5,393.04	5,352.42	40.62		-	No	No	0.0	Clear
	4/21/2016	5,394.04	5,353.29	40.75			No	No	0.0	Clear
	5/26/2016	5,394.04	5,353.31	40.73			No	No	0.0	Clear
	6/27/2016	5,394.04	5,353.11	40.93		-	No	No	0.0	Clear
GBR-13	7/25/2016	5,394.04	5,353.09	40.95	-		No	No	0.0	Clear
	8/25/2016	5,394.04	5,353.14	40.90			No	No	0.0	Clear
	9/26/2016	5,394.04	5,353.02	41.02			No	No	0.0	Clear
	10/17/2016	5,394.04	5,353.07	40.97			No	No	0.0	Clear
	11/30/2016	5,394.04	5,353.07	40.97	-		No	No	0.0	Clear
	12/30/2016	5,394.04	5,354.29	39.75		-	No	No	0.0	Clear

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TABLE 5	
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - M	MONTHLY GROUNDWATER OBSERVATIONS

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,397.99	5,364.04	33.95	-	-	No	No	0.0	Clear
	3/22/2016	5,397.99	5,364.29	33.70		-	No	No	0.0	Clear
	4/21/2016	5,398.99	5,365.10	33.89			No	No	0.0	Clear
	5/26/2016	5,398.99	5,365.07	33.92		-	No	No	0.0	Clear
	6/27/2016	5,398.99	5,364.83	34.16		-	No	No	0.0	Clear
GBR-15	7/25/2016	5,398.99	5,364.87	34.12			No	No	0.0	Clear
	8/25/2016	5,398.99	5,365.03	33.96		-	No	No	0.0	Clear
	9/26/2016	5,398.99	5,364.83	34.16	-	-	No	No	0.0	Clear
	10/17/2016	5,398.99	5,365.05	33.94	-	-	No	No	0.0	Clear
	11/30/2016	5,398.99	5,365.03	33.96		-	No	No	0.0	Clear
	12/30/2016	5,398.99	5,365.29	33.70	-		No	No	0.0	Clear

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TABLE 5	
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS	

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,393.47	5,353.26	40.21			No	Yes	59.7	Clear,4 droplets of PSH
	3/22/2016	5,393.47	5,353.16	40.31		-	No	Yes	161.2	Clear
	4/21/2016	5,394.47	5,354.02	40.45			No	No	191	Clear
	5/26/2016	5,394.47	5,353.99	40.48			No	Yes	209	Clear
	6/27/2016	5,394.47	5,353.94	40.53	-	-	No	Yes	86.1	Clear
GBR-20	7/25/2016	5,394.47	5,353.71	40.76			No	Yes	106.4	Clear
	8/25/2016	5,394.47	5,353.73	40.74		-	No	No	126	Clear
	9/26/2016	5,394.47	5,353.42	41.05			Yes	Yes	288.6	Clear on top, black on bottom, PSH observed
	10/17/2016	5,394.47	5,353.56	40.91			Yes	Yes	325.7	Clear on top, black on bottom, PSH observed
	11/30/2016	5,394.47	5,353.45	41.02			No	Yes	245	Clear on top, black on bottom, PSH observed
	12/30/2016	5,394.47	5,353.68	40.79	40.77	0.02	Yes	Yes	278.2	PSH observed
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TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,400.65	DRY	DRY		-	NM	NM	0.0	Dry
	3/22/2016	5,400.65	DRY	DRY		-	NM	NM	0.0	Dry
	4/21/2016	5,401.65	DRY	DRY			NM	NM	0.0	Dry
	5/26/2016	5,401.65	DRY	DRY			NM	NM	0.0	Dry
	6/27/2016	5,401.65	DRY	DRY		-	NM	NM	0.0	Dry
GBR-21S	7/25/2016	5,401.65	DRY	DRY			NM	NM	0.0	Dry
	8/25/2016	5,401.65	DRY	DRY		-	NM	NM	0.0	Dry
	9/26/2016	5,401.65	DRY	DRY		-	NM	NM	0.0	Dry
	10/17/2016	5,401.65	DRY	DRY	-		NM	NM	0.0	Dry
	11/30/2016	5,401.65	DRY	DRY			NM	NM	0.0	Dry
	12/30/2016	5,401.65	DRY	DRY	-		NM	NM	0.0	Dry

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TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

J	FORMER GIANT BLOOMFIELD REFINERY
	SAN JUAN COUNTY, NEW MEXICO
	WESTERN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,400.19	5,364.14	36.05			No	No	9.6	Clear
	3/22/2016	5,400.19	5,364.16	36.03			No	No	8.7	Clear
	4/21/2016	5,401.19	5,365.09	36.10			No	No	0.0	Clear
	5/26/2016	5,402.19	5,366.14	36.05		-	No	No	0.0	Clear
	6/27/2016	5,402.19	5,365.94	36.25		-	No	No	0.0	Clear
GBR-21D	7/25/2016	5,402.19	5,366.08	36.11			No	No	0.0	Clear
	8/25/2016	5,402.19	5,366.09	36.10			No	No	0.0	Clear
	9/26/2016	5,402.19	5,365.95	36.24			No	No	0.0	Clear
	10/17/2016	5,402.19	5,366.19	36.00			No	No	0.0	Clear
	11/30/2016	5,402.19	5,366.23	35.96		-	No	No	0.0	Clear
	12/30/2016	5,402.19	5,366.20	35.99			No	No	8.6	Clear
										No. Louis Carles

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TABLE 5 VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5395.91	5,360.18	35.73	-		No	Yes	0.0	Light brown
	3/22/2016	5395.91	5,360.47	35.44	-	-	No	Yes	0.0	Light gray
	4/21/2016	5396.91	5,361.25	35.66	-	-	Yes	Yes	0.0	Light brown
	5/26/2016	5396.91	5,361.26	35.65		-	Yes	Yes	0.0	Brown cloudy
	6/27/2016	5396.91	5,361.09	35.82	-	-	Yes	Yes	0.0	Brown
GBR-22	7/25/2016	5396.91	5,360.26	36.65		-	Yes	Yes	0.0	Brown
	8/25/2016	5396.91	5,359.50	37.41		-	No	No	0.0	Brown
	9/26/2016	5396.91	5,360.95	35.96			Yes	Yes	0.3	Light brown, PSH observed
	10/17/2016	5396.91	5,361.01	35.90		-	No	No	0.0	Light brown
	11/30/2016	5396.91	5,361.08	35.83		-	No	No	0.0	Light brown
1 100 - 1 - 1 - 1 -	12/30/2016	5396.91	5,359.82	37.09	-		No	No	0.6	Light brown

TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

FORMER GIANT BLOOMFIELD REFINERY	
SAN JUAN COUNTY, NEW MEXICO	
WESTERN REFINING SOUTHWEST, INC.	

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,404.72	NM	NM			NM	NM	0.0	Bent casing, unable to retrieve groundwater for observation
	3/22/2016	5,404.72	NM	NM			NM	NM	0.0	Bent casing, unable to retrieve groundwater for observation
	4/21/2016	5,405.72	NM	NM			NM	NM	0.0	Bent casing, unable to retrieve groundwater for observation
	5/26/2016	5,405.72	NM	NM			NM	NM	0.0	Bent casing, unable to retrieve groundwater for observation
	6/27/2016	5,405.72	NM	NM		-	NM	NM	0.0	Bent casing, unable to retrieve groundwater for observation
GBR-23	7/25/2016	5,405.72	NM	NM		· · · · · · · · · · · ·	NM	NM	0.0	Bent casing, unable to retrieve groundwater for observation
	8/25/2016	5,405.72	5,369.82	35.90	35.87	0.03	NM	NM	0.0	Bent casing, unable to retrieve groundwater for observation
	9/26/2016	5,405.72	NM	NM			NM	NM	0.0	Bent casing, unable to retrieve groundwater for observation
	10/17/2016	5,405.72	NM	NM			NM	NM	0.0	Bent casing, unable to retrieve groundwater for observation
	11/30/2016	5,405.72	NM	NM			NM	NM	0.0	Bent casing, unable to retrieve groundwater for observation
	12/30/2016	5,405.72	34.55	34.53	0.62	0.02	NM	NM	0.0	Bent casing, unable to retrieve groundwater for observation

TABLE 5
TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS
Contract Month of the Should with the Conditions - Monther Should with the Observations

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,396.08	5,365.51	30.57		-	No	No	0.0	Clear
	3/22/2016	5,396.08	5,365.80	30.28	-	-	No	No	0.0	Light gray
	4/21/2016	5,397.08	5,366.78	30.30	-	-	No	No	0.0	Clear
	5/26/2016	5,397.08	5,366.96	30.12			No	No	0.0	Clear
	6/27/2016	5,397.08	5,366.63	30.45			No	No	0.0	Clear
GBR-24S	7/25/2016	5,397.08	5,365.73	31.35	-		No	No	0.0	Clear
	8/25/2016	5,397.08	5,366.81	30.27			No	No	0.0	Clear
	9/26/2016	5,397.08	5,366.63	30.45	-		No	No	0.0	Clear
	10/17/2016	5,397.08	5,366.81	30.27			No	No	0.0	Clear
	11/30/2016	5,397.08	5,366.79	30.29	-	-	No	No	0.0	Clear
	12/30/2016	5,397.08	5,367.04	30.04			No	No	0.0	Clear



TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

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FORMER GIANT BLOOMFIELD REFINERY
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,397.46	5,365.95	31.51		-	No	No	0.0	Clear
	3/22/2016	5,397.46	5,366.15	31.31			No	No	0.0	Clear
	4/21/2016	5,398.46	5,367.23	31.23		-	No	No	0.1	Clear
	5/26/2016	5,398.46	5,367.41	31.05			No	No	0.0	Clear
	6/27/2016	5,398.46	5,367.18	31.28		_	No	No	0.0	Clear
GBR-24D	7/25/2016	5,398.46	5,367.06	31.40			No	No	0.0	Clear
	8/25/2016	5,398.46	5,367.14	31.32			No	No	0.0	Clear
	9/26/2016	5,398.46	5,367.02	31.44			No	No	0.0	Clear
	10/17/2016	5,398.46	5,367.18	31.28			No	No	0.0	Clear
	11/30/2016	5,398.46	5,367.21	31.25	-		No	No	0.0	Clear
	12/30/2016	5,398.46	5,367.41	31.05			No	No	0.0	Clear
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TABLE 5 VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,397.03	5,362.43	34.60			Yes	Yes	36.3	Brown, some PSH observed
	3/22/2016	5,397.03	5,362.60	34.43			Yes	Yes	42.7	Dark gray
	4/21/2016	5,398.03	5,363.53	34.50		-	No	Yes	101	Light brown
	5/26/2016	5,398.03	5,363.55	34.48			No	No	25.6	Light brown
	6/27/2016	5,398.03	5,363.02	35.01			No	No	55.6	Brown
GBR-25	7/25/2016	5,398.03	5,363.23	34.80			No	No	32.6	Brown
	8/25/2016	5,398.03	5,363.46	34.57			No	No	20.0	Brown
	9/26/2016	5,398.03	5,363.39	34.64			No	Yes	25.0	Light brown
	10/17/2016	5,398.03	5,363.56	34.47	-		Yes	Yes	0.0	Brown
	11/30/2016	5,398.03	5,363.53	34.50	-		No	Yes	0.0	Light grey
	12/30/2016	5,398.03	5,363.57	34.46	-		No	Yes	4.6	Light grey

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TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,396.72	5,364.76	31.96		-		-	0.0	Bent casing unable to retrieve groundwater for observation
	3/22/2016	5,396.72	5,364.81	31.91					0.0	Bent casing unable to retrieve groundwater for observation
	4/21/2016	5,397.72	5,363.97	33.75				-	0.0	Bent casing unable to retrieve groundwater for observation
	5/26/2016	5,397.72	5,365.59	32.13					0.0	Bent casing unable to retrieve groundwater for observation
	6/27/2016	5,397.72	5,364.47	33.25					0.0	Bent casing unable to retrieve groundwater for observation
GBR-26	7/25/2016	5,397.72	5,364.27	33.45	-				0.0	Bent casing unable to retrieve groundwater for observation
	8/25/2016	5,397.72	5,364.31	33.41					0.0	Bent casing unable to retrieve groundwater for observation
	9/26/2016	5,397.72	5,365.39	32.33	-				0.0	Bent casing unable to retrieve groundwater for observation
	10/17/2016	5,397.72	5,365.53	32.19	-			-	0.0	Bent casing unable to retrieve groundwater for observation
	11/30/2016	5,397.72	5,365.52	32.20	-				0.0	Bent casing unable to retrieve groundwater for observation
	12/30/2016	5,397.72	5,365.62	32.10		135-28	-		0.0	Bent casing unable to retrieve groundwater for observation

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FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

roundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,395.59	5,363.04	32.55		-	No	No	0.0	Clear
	3/22/2016	5,395.59	5,363.15	32.44	-		No	No	0.0	Clear
	4/21/2016	5,396.59	5,364.09	32.50		-	No	No	0.0	Clear
	5/26/2016	5,396.59	5,364.11	32.48		-	No	No	0.0	Clear
	6/27/2016	5,396.59	5,363.94	32.65		-	No	No	0.0	Clear
GBR-30	7/25/2016	5,396.59	5,363.94	32.65		_	No	No	0.0	Clear
	8/25/2016	5,396.59	5,363.93	32.66	-	-	No	No	0.0	Clear
	9/26/2016	5,396.59	5,363.81	32.78	-	-,	No	No	0.0	Clear
	10/17/2016	5,396.59	5,363.94	32.65	-	- 1	No	No	0.0	Clear
	11/30/2016	5,396.59	5,363.99	32.60			No	No	0.0	Clear
	12/30/2016	5,396.59	5,364.10	32.49			No	No	0.0	Clear

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TABLE 5	
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS	

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I	FORMER GIANT BLOOMFIELD REFINERY
	SAN JUAN COUNTY, NEW MEXICO
	WESTERN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,396.58	5,364.00	32.58			No	No	0.0	Clear
	3/22/2016	5,396.58	5,361.81	34.77			No	No	0.0	Clear
	4/21/2016	5,397.58	5,365.01	32.57			No	No	0.0	Clear
	5/26/2016	5,397.58	5,364.98	32.60		-	No	No	0.0	Clear
	6/27/2016	5,397.58	5,364.78	32.80			No	No	0.0	Clear
GBR-31	7/25/2016	5,397.58	5,364.88	32.70			No	No	0.0	Clear
	8/25/2016	5,397.58	5,362.61	34.97	-		No	No	0.0	Clear
	9/26/2016	5,397.58	5,364.81	32.77			No	No	0.0	Clear
	10/17/2016	5,397.58	5,364.89	32.69			No	No	0.0	Clear
	11/30/2016	5,397.58	5,364.90	32.68		-	No	No	0.0	Clear
	12/30/2016	5,397.58	5,365.09	32.49			No	No	0.0	Clear

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FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

roundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,396.28	DRY	DRY	-	-	NM	NM	0.0	Dry
	3/22/2016	5,396.28	DRY	DRY		-	NM	NM	0.0	Dry
	4/21/2016	5,397.28	DRY	DRY	-	-	NM	NM	0.0	Dry
	5/26/2016	5,397.28	DRY	DRY		-	NM	NM	0.0	Dry
	6/27/2016	5,397.28	DRY	DRY	-	-	NM	NM	0.0	Dry
GBR-33	7/25/2016	5,397.28	DRY	DRY	-	-	NM	NM	0.0	Dry
	8/25/2016	5,397.28	DRY	DRY	-		NM	NM	0.0	Dry
	9/26/2016	5,397.28	DRY	DRY	-	-	NM	NM	0.0	Dry
	10/17/2016	5,397.28	DRY	DRY	-	-	NM	NM	0.0	Dry
	11/30/2016	5,397.28	DRY	DRY			NM	NM	0.0	Dry
	12/30/2016	5,397.28	DRY	DRY			NM	NM	0.0	Dry



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TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,394.00	5,359.80	34.20		-	No	No	0.0	Dark grey
	3/22/2016	5,394.00	5,360.01	33.99			No	No	0.0	Dark brown
	4/21/2016	5,395.00	5,360.87	34.13			Yes	Yes	0.0	Light Brown, PSH observed
	5/26/2016	5,395.00	5,360.92	34.08	34.07	0.01	Yes	Yes	0.0	Light Brown, PSH observed
	6/27/2016	5,395.00	5,360.78	34.22			Yes	Yes	0.0	Gray, PSH observed
GBR-34	7/25/2016	5,395.00	5,360.75	34.25			Yes	Yes	0.0	Gray, PSH observed
GDR-34	8/25/2016	5,395.00	5,360.70	34.30			Yes	Yes	0.0	Light Brown
	9/26/2016	5,395.00	5,360.59	34.41		-	Yes	Yes	0.0	Light Brown
	10/172016	5,395.00	5,360.72	34.28		-	No	No	0.0	Clear
	11/30/2016	5,395.00	5,360.72	34.28			Yes	Yes	0.0	Grey PSH observed
	12/30/2016	5,395.00	5,360.98	34.02			Yes	Yes	0.2	Light Brown

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

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TABLE 5	
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - 1	MONTHLY GROUNDWATER OBSERVATIONS

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,393.66	5,359.36	34.30			No	No	0.0	Brown
	3/22/2016	5,393.66	5,359.55	34.11			No	No	0.0	Light brown
	4/21/2016	5,394.66	5,360.43	34.23	-		No	No	2.1	Clear
	5/26/2016	5,394.66	5,360.46	34.20			No	No	0.0	Light brown
	6/27/2016	5,394.66	5,360.33	34.33			No	No	0.0	Brown
GBR-35	7/25/2016	5,394.66	5,360.31	34.35			No	No	0.0	Brown
	8/25/2016	5,394.66	5,360.25	34.41	-		No	No	0.0	Clear
	9/26/2016	5,394.66	5,360.06	34.60	-	-	No	No	0.0	Clear
	10/17/2016	5,394.66	5,360.26	34.40	-		No	No	0.0	Clear
	11/30/2016	5,394.66	5,360.24	34.42	-	-	No	No	0.0	Clear
	12/30/2016	5,394.66	5,360.47	34.19		-	No	No	0.8	Clear

TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

	WESTERN REFINING SOUTHWEST, INC.													
Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments				
	2/23/2016	5,397.55	5,363.99	33.56	-	-	No	No	0.0	Clear				
	3/22/2016	5,397.55	5,364.09	33.46		-	No	No	0.0	Clear				
	4/21/2016	5,398.55	5,365.02	33.53		-	No	No	2.4	Clear				
	5/26/2016	5,398.55	5,365.03	33.52			No	No	0.0	Clear				
	6/27/2016	5,398.55	5,364.70	33.85		-	No	No	0.0	Clear				
GBR-39	7/25/2016	5,398.55	5,364.63	33.92	_		No	No	0.0	Clear				
	8/25/2016	5,398.55	5,364.88	33.67		-	No	No	0.0	Clear				
	9/26/2016	5,398.55	5,364.80	33.75			No	No	0.0	Clear				
	10/17/2016	5,398.55	5,364.95	33.60			No	No	0.0	Clear				
	11/30/2016	5,398.55	5,364.97	33.58		-	No	No	0.0	Clear				
N. S. Dorie M	12/30/2016	5,398.55	5,365.09	33.46			No	No	0.0	Clear				



FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,400.76	DRY	DRY			NM	NM	0.0	Dry
	3/22/2016	5,400.76	DRY	DRY			NM	NM	0.0	Dry
	4/21/2016	5,401.76	DRY	DRY	-		NM	NM	0.0	Dry
	5/26/2016	5,401.76	DRY	DRY			NM	NM	0.0	Dry
6/2	6/27/2016	5,401.76	DRY	DRY			NM	NM	0.0	Dry
GBR-40	7/25/2016	5,401.76	DRY	DRY		-	NM	NM	0.0	Dry
	8/25/2016	5,401.76	DRY	DRY			NM	NM	0.0	Dry
	9/26/2016	5,401.76	DRY	DRY			NM	NM	0.0	Dry
	10/17/2016	5,401.76	DRY	DRY	-	-	NM	NM	0.0	Dry
	11/30/2016	5,401.76	DRY	DRY			NM	NM	0.0	Dry
	12/30/2016	5,401.76	DRY	DRY	-		NM	NM	0.0	Dry



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TABLE 5	
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS -	MONTHLY GROUNDWATER OBSERVATIONS

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FORMER GIANT BLOOMFIELD REFINERY
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,396.35	5,362.11	34.24	34.16	0.08	Yes	Yes	141	No water recovered but bailer stained light brown
	3/22/2016	5,396.35	5,362.12	34.23	34.16	0.07	Yes	Yes	357.2	No water recovered, strong smell on bailer, and bailer yellow
	4/21/2016	5,397.35		DRY			NM	NM	341	Dry
	5/26/2016	5,397.35		DRY			NM	NM	85.3	Dry
	6/27/2016	5,397.35		DRY			NM	NM	105.3	Dry
GBR-41	7/25/2016	5,397.35		DRY			NM	NM	44.5	Dry
	8/25/2016	5,397.35		DRY			NM	NM	181	Dry
	9/26/2016	5,397.35	5,363.06	34.29	34.19	0.10	NM	NM	82.7	Golden brown, PSH observed on probe
	10/17/2016	5,397.35	5,363.06	34.29	34.27	0.02	NM	NM	82.7	PSH observed on probe
	11/30/2016	5,397.35	5,363.06	34.29	34.21	0.08	NM	NM	94.5	No water recovered bailer stained with PSH
	12/30/2016	5,397.35	5,363.10	34.25	34.22	0.03	NM	NM	563.8	No water recovered bailer stained with PSH
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roundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,394.30	5,352.45	41.85		-	No	No	0.0	Clear
	3/22/2016	5,394.30	5,352.37	41.93	-		No	No	0.0	Clear
	4/21/2016	5,395.30	5,353.19	42.11	-	-	No	No	0.0	Clear
	5/26/2016	5,395.30	5,353.12	42.18		-	No	No	0.0	Clear
6/27/201	6/27/2016	5,395.30	5,353.01	42.29	-	-	No	No	0.0	Clear
GRW-1	7/25/2016	5,395.30	5,352.92	42.38	-	-	No	No	0.0	Clear
	8/25/2016	5,395.30	5,352.05	43.25	-	-	No	No	0.0	Clear
9/26/2016 10/17/2016 11/30/2016 12/30/2016	9/26/2016	5,395.30	5,351.60	43.70	-	-	No	No	0.0	Clear
	10/17/2016	5,395.30	5,351.79	43.51	-		No	No	0.0	Clear
	11/30/2016	5,395.30	5,351.50	43.80	-	-	No	No	0.0	Clear
	12/30/2016	5,395.30	5,351.85	43.45	-		No	No	0.0	Clear

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.



		TABLE 5		
VOLUNTAR	Y MONITORING OF STATIC	GROUNDWATER CONDITIONS -	- MONTHLY GROUNDWATER O	BSERVATIONS

FORMER GIANT BLOOMFIELD REFINERY	
SAN JUAN COUNTY, NEW MEXICO	
WESTERN REFINING SOUTHWEST, INC.	

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,391.28	5,348.11	43.17			No	No	0.0	Light brown
	3/22/2016	5,391.28	5,348.12	43.16			No	No	0.0	Light brown
	4/21/2016	5,392.28	5,349.03	43.25			No	No	0.0	Clear
	5/26/2016	5,392.28	5,349.00	43.28			No	No	0.0	Clear
	6/27/2016	5,392.28	5,348.71	43.57			No	No	0.0	Clear
GRW-2	7/25/2016	5,392.28	5,348.78	43.50			No	No	0.0	Clear
	8/25/2016	5,392.28	5,348.72	43.56			No	No	0.0	Clear
	9/26/2016	5,392.28	5,348.53	43.75			No	No	0.0	Clear
	10/17/2016	5,392.28	5,348.50	43.78			No	No	0.0	Clear
	11/30/2016	5,392.28	5,348.45	43.83			No	No	0.0	Clear
	12/30/2016	5,392.28	5,348.65	43.63		8.52.00	No	No	0.0	Clear
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Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,388.77	5,345.75	43.02			No	No	0.0	Clear
	3/22/2016	5,388.77	5,346.01	42.76	-		No	No	0.0	Clear, white debris on bailer
	4/21/2016	5,389.77	5,346.82	42.95		-	No	No	0.0	Clear, white debris on bailer
	5/26/2016	5,390.77	5,347.87	42.90			No	No	0.0	Clear, white debris on bailer
	6/27/2016	5,390.77	5,347.37	43.40			No	No	0.0	Clear, white debris on bailer
GRW-3	7/25/2016	5,390.77	5,347.66	43.11		-	No	No	0.0	Clear, white debris on bailer
	8/25/2016	5,390.77	5,347.23	43.54			No	No	0.0	Clear, white debris on bailer
	9/26/2016	5,390.77	5,346.90	43.87			Yes	Yes	0.0	Mostly clear, white debris stuck on bailer, PSH droplets observed
	10/17/2016	5,390.77	5,346.99	43.78		-	Yes	Yes	0.0	Mostly clear, white debris stuck on bailer, PSH droplets observed
	11/30/2016	5,390.77	5,347.23	43.54		-	Yes	Yes	0.0	Mostly clear, white debris stuck on bailer, PSH droplets observed
	12/30/2016	5,390.77	5,347.61	43.16		-	Yes	Yes	0.0	Mostly clear, white debris stuck on bailer, PSH droplets observed

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.



TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

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Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,390.02	5,348.18	41.84	-		Yes	Yes	0.0	Dark grey, some PSH observed
	3/22/2016	5,390.02	5,348.28	41.74			No	No	0.0	Light gray
	4/21/2016	5,391.02	5,349.20	41.82	-		No	No	0.0	Clear
	5/26/2016	5,391.02	5,349.22	41.80	-		No	No	0.0	Clear
	6/27/2016	5,391.02	5,348.96	42.06	-	-	No	No	0.0	Clear
GRW-4	7/25/2016	5,391.02	5,349.03	41.99	-	-	No	No	0.0	Clear
	8/25/2016	5,391.02	5,349.00	42.02	· · · ·		No	No	0.0	Clear
	9/26/2016	5,391.02	5,348.84	42.18	-	-	No	No	0.0	Clear
10/	10/17/2016	5,391.02	5,348.91	42.11	-	-	No	No	0.0	Clear
	11/30/2016	5,391.02	5,348.90	42.12	-	-	No	No	0.0	Clear
	12/30/2016	5,391.02	5,349.07	41.95			No	No	0.0	Clear

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.



roundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,391.56	5,349.48	42.08			No	No	0.0	Clear
	3/22/2016	5,391.56	5,349.63	41.93			No	No	0.0	Clear
	4/21/2016	5,392.56	5,350.56	42.00			No	No	0.0	Clear
-	5/26/2016	5,392.56	5,350.56	42.00			No	No	0.0	Clear
	6/27/2016	5,392.56	5,350.20	.42.36			No	No	0.0	Clear
GRW-5	7/25/2016	5,392.56	5,350.44	42.12			No	No	0.0	Clear
	8/25/2016	5,392.56	5,350.36	42.20			No	No	0.0	Clear
	9/26/2016	5,392.56	5,350.21	42.35			No	No	0.0	Clear
1	10/17/2016	5,392.56	5,350.28	42.28			No	No	0.0	Clear
	11/30/2016	5,392.56	5,351.27	41.29	-		No	No	0.0	Clear
	12/30/2016	5,392.56	5,350.50	42.06			No	No	0.0	Clear

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

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VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS
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Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,391.81	5,350.57	41.24	-	-	No	No	0.0	clear
	3/22/2016	5,391.81	5,350.73	41.08			No	No	0.0	Clear
	4/21/2016	5,392.81	5,351.66	41.15			No	No	0.0	Clear
	5/26/2016	5,392.81	5,351.68	41.13	-		No	No	0.0	Clear
	6/27/2016	5,392.81	5,351.59	41.22	-		No	No	0.0	Clear
GRW-6	7/25/2016	5,392.81	5, <mark>3</mark> 51.58	41.23			No	No	0.0	Clear
	8/25/2016	5,392.81	5,351.43	41.38	-	-	No	No	0.0	Clear
	9/26/2016	5,392.81	5,351.33	41.48	-		No	No	0.0	Clear
	10/17/2016	5,392.81	5,351.38	41.43	-		No	No	0.0	Clear
	11/30/2016	5,392.81	5,351.43	41.38	-		No	No	0.0	Clear
	12/30/2016	5,392.81	5,351.60	41.21	1101-111		No	No	0.0	Clear



roundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,395.70	5,355.73	39.97	-	-	No	No	0.7	Clear
	3/22/2016	5,395.70	5,355.65	40.05	-	-	No	No	0.9	Clear
	4/21/2016	5,396.70	5,356.30	40.40	-		No	No	1.0	Clear
	5/26/2016	5,396.70	5,356.35	40.35	-	-	No	Yes	0.0	Clear
	6/27/2016	5,396.70	5,355.92	40.78	-	-	No	Yes	0.0	Clear
GRW-9	7/25/2016	5,396.70	5,356.30	40.40	-	-	No	Yes	0.0	Clear
	8/25/2016	5,396.70	5,355.98	40.72			No	Yes	0.0	Clear
	9/26/2016	5,396.70	5,355.74	40.96		-	No	Yes	0.0	Clear
1	10/17/2016	5,396.70	5,355.99	40.71		-	No	Yes	0.0	Clear
	11/30/2016	5,396.70	5,355.85	40.85		-	No	Yes	0.0	Clear
	12/30/2016	5,396.70	5,355.95	40.75	-		No	No	190.4	Clear

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

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VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

roundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,395.02	5,358.97	36.05	-	-	No	No	0.0	Light brown
	3/22/2016	5,395.02	5,359.13	35.89			No	No	0.0	Clear
	4/21/2016	5,396.02	5,360.10	35.92			No	No	0.0	Clear
	5/26/2016	5,396.02	5,360.12	35.90			No	No	0.0	Clear
	6/27/2016	5,396.02	5,359.68	36.34			No	No	0.0	Clear
GRW-10	7/25/2016	5,396.02	5,359.86	36.16		-	No	No	0.0	Clear
	8/25/2016	5,396.02	5,359.87	36.15			No	No	0.0	Clear
	9/26/2016	5,396.02	5,359.77	36.25			No	No	0.0	Clear
	10/17/2016	5,396.02	5,359.92	36.10			No	No	0.0	Clear
	11/30/2016	5,396.02	5,359.92	36.10			No	No	0.0	Clear
	12/30/2016	5,396.02	5,360.09	35.93			No	No	0.0	Clear

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.



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TABLE 5	
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS	MONTHLY GROUNDWATER OBSERVATIONS

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,397.85	5,365.09	32.76			No	No	0.0	Clear
	3/22/2016	5,397.85	5,365.16	32.69	-		No	No	0.0	Clear
	4/21/2016	5,398.85	5,366.00	32.85			No	No	0.0	Clear
	5/26/2016	5,398.85	5,366.07	32.78	-		No	No	0.0	Clear
	6/27/2016	5,398.85	5,365.77	33.08			No	No	0.0	Clear
GRW-11	7/25/2016	5,398.85	5,366.03	32.82			No	No	0.0	Clear
	8/25/2016	5,398.85	5,365.83	33.02			No	No	0.0	Clear
	9/26/2016	5,398.85	5,365.62	33.23			No	No	0.0	Clear
	10/17/2016	5,398.85	5,366.60	32.25			No	No	0.0	Clear
	11/30/2016	5,398.85	5,365.93	32.92		-	No	No	0.0	Clear
10 10000	12/30/2016	5,398.85	5,366.00	32.85		-	No	No	0.0	Clear

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FORMER GIANT BLOOMFIELD REFINERY	
SAN JUAN COUNTY, NEW MEXICO	
WESTERN REFINING SOUTHWEST, INC.	

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Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,397.24	5,362.57	34.67		-	No	No	0.0	Light brown
	3/22/2016	5,397.24	5,362.33	34.91			No	No	0.0	Yellow
	4/21/2016	5,398.24	5,363.62	34.62			No	No	5.1	Clear
	5/26/2016	5,398.24	5,363.30	34.94			No	No	0.0	Light brown
	6/27/2016	5,398.24	5,362.78	35.46		-	No	No	0.0	Clear
GRW-12	7/25/2016	5,398.24	5,362.99	35.25		-	No	No	0.0	Clear
	8/25/2016	5,399.24	5,364.95	34.29			No	No	0.0	Clear
	9/26/2016	5,399.24	5,364.36	34.88			No	No	0.0	Clear
	10/17/2016	5,399.24	5,364.43	34.81			No	No	0.0	Clear
	11/30/2016	5,399.24	5,364.10	35.14			No	No	0.0	Clear
	12/30/2016	5,399.24	5,364.66	34.58			No	No	0.0	Clear

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,396.90	5,363.82	33.08		-	No	No	0.0	Clear
	3/22/2016	5,396.90	5,363.92	32.98			No	No	0.0	Clear
	4/21/2016	5,397.90	5,364.85	33.05		-	No	No	0.0	Clear
	5/26/2016	5,397.90	5,364.86	33.04			No	No	0.0	Clear
	6/27/2016	5,397.90	5,364.45	33.45			No	No	0.0	Clear
GRW-13	7/25/2016	5,397.90	5,364.54	33.36			No	No	0.0	Clear
	8/25/2016	5,397.90	5,364.72	33.18			No	No	0.0	Clear
	9/26/2016	5,397.90	5,364.60	33.30			No	No	0.0	Clear
	10/17/2016	5,397.90	5,364.77	33.13		-	No	No	0.0	Clear
	11/30/2016	5,397.90	5,364.77	33.13		-	No	No	0.0	Clear
	12/30/2016	5,397.90	5,364.92	32.98			No	No	0.0	Clear

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

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TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,383.54	5,345.20	38.34		-	No	No	0.0	Clear
	3/22/2016	5,383.54	5,345.28	38.26	-		No	No	0.0	Clear
	4/21/2016	5,384.54	5,346.24	38.30			No	No	0.0	Clear
	5/26/2016	5,384.54		NM			NM	NM	0.0	Well has been buried
	6/27/2016	5,384.54		NM			NM	NM	0.0	Well has been buried
SHS-1	7/25/2016	5,384.54		NM	-		NM	NM	0.0	Well has been buried
	8/25/2016	5,384.54		NM	-		NM	NM	0.0	Well has been buried
	9/26/2016	5,384.54		NM	-		NM	NM	0.0	Well has been buried
	10/17/2016	5,384.54	-	NM	-		NM	NM	0.0	Well has been buried
11/30	11/30/2016	5,384.54		NM			NM	NM	0.0	Well has been buried
	12/30/2016	5,384.54		NM	-		NM	NM	0.0	Well has been buried



Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,381.66	5,341.43	40.23		· · ·	No	No	0.0	Light brown
	3/22/2016	5,381.66	5,341.47	40.19			No	Yes	0.0	Yellow
	4/21/2016	5,382.66	5,342.39	40.27			No	No	0.0	Clear
	5/26/2016	5,382.66	5,342.38	40.28			No	No	0.0	Slight brown tint
	6/27/2016	5,382.66	5,342.38	40.28			No	No	0.0	Clear
SHS-2	7/25/2016	5,382.66	5,342.13	40.53			No	No	0.0	Clear
	8/25/2016	5,382.66	5,342.11	40.55		-	No	No	0.0	Clear
	9/26/2016	5,382.66	5,342.02	40.64		-	No	No	0.0	Clear
	10/17/2016	5,382.66	5,342.06	40.60	-		No	No	0.0	Clear
	11/30/2016	5,382.66	5,342.06	40.60		-	No	No	0.0	Clear
	12/30/2016	5,382.66	5,342.17	40.49			No	No	0.0	Clear

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.



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TABLE 5
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS

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roundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,378.36	5,340.38	37.98	-	-	No	No	0.0	Clear
	3/22/2016	5,378.36	5,340.45	37.91			No	No	0.0	Clear
	4/21/2016	5,379.36	5,341.44	37.92			No	No	0.0	Clear
	5/26/2016	5,379.36	5,341.44	37.92			No	No	0.0	Clear
	6/27/2016	5,379.36	5,341.15	38.21	-		No	No	0.0	Clear
SHS-5	7/25/2016	5,379.36	5,341.48	37.88	-		No	No	0.0	Clear
	8/25/2016	5,379.36	5,341.09	38.27	-		No	No	0.0	Clear
	9/26/2016	5,379.36	5,340.91	38.45	-		No	No	0.0	Clear
	10/17/2016	5,379.36	5,341.01	38.35	-	-	No	No	0.0	Clear
	11/30/2016	5,379.36	5,341.09	38.27	-	-	No	No	0.0	Clear
	12/30/2016	5,379.36	5,341.24	38.12	-		No	No	0.0	Clear

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,378.36	5,340.55	37.81		-	No	No	0.0	Clear
	3/22/2016	5,378.36	5,340.64	37.72			No	No	0.0	Clear
	4/21/2016	5,379.36	5,341.57	37.79			No	No	0.0	Clear
	5/26/2016	5,379.36	5,341.54	37.82			No	No	0.0	Clear
	6/27/2016	5,379.36	5,341.35	38.01			No	No	0.0	Clear
SHS-6	7/25/2016	5,379.36	5,342.19	37.17			No	No	0.0	Clear
	8/25/2016	5,379.36	5,341.23	38.13		-	No	No	0.0	Clear
	9/26/2016	5,379.36	5,341.10	38.26		-	No	No	0.0	Clear
	10/17/2016	5,379.36	5,341.22	38.14	-		No	No	0.0	Clear
	11/30/2016	5,379.36	5,341.32	38.04		-	No	No	0.0	Clear
	12/30/2016	5,379.36	5,341.42	37.94	-	-	No	No	0.0	Clear



TABLE 5	
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS -	MONTHLY GROUNDWATER OBSERVATIONS

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,380.25	5,342.04	38.21			No	Yes	0.2	Clear
	3/22/2016	5,380.25	5,342.14	38.11			No	Yes	0.2	Clear
	4/21/2016	5,381.25	5,343.05	38.20			No	No	0.0	Clear
	5/26/2016	5,381.25	5,343.05	38.20			No	No	0.0	Clear
	6/27/2016	5,381.25	5,342.72	38.53			No	No	0.0	Clear
SHS-8	7/25/2016	5,381.25	5,342.76	38.49	-		No	No	0.0	Clear
	8/25/2016	5,381.25	5,342.67	38.58	-		No	No	0.0	Clear
	9/26/2016	5,381.25	5,342.55	38.70		-	No	No	0.0	Light brown
	10/17/2016	5,381.25	5,342.77	38.48			No	No	0.0	Light brown
	11/30/2016	5,381.25	5,342.76	38.49			No	No	0.0	Clear
	12/30/2016	5,381.25	5,342.88	38.37			No	No	0.0	Clear



FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,380.79	5,343.13	37.66			No	No	0.1	Clear
	3/22/2016	5,380.79	5,343.42	37.37	-		No	No	0.1	Clear
	4/21/2016	5,381.79	5,344.36	37.43		-	No	No	0.9	Clear
	5/26/2016	5,381.79	5,344.32	37.47			No	No	0.0	Clear
	6/27/2016	5,381.79	5,344.10	37.69			No	No	0.0	Clear
SHS-9	7/25/2016	5,381.79	-	NM	-	-	NM	NM	0.0	Obstruction in well
	8/25/2016	5,381.79		NM		-	NM	NM	0.0	Obstruction in well
	9/26/2016	5,381.79		NM	-	-	NM	NM	0.0	Obstruction in well
	10/17/2016	5,381.79	-	NM	-	-	NM	NM	0.0	Obstruction in well
Ī	11/30/2016	5,381.79		NM	-	-	NM	NM	0.0	Obstruction in well
	12/30/2016	5,381.79	5,344.18	37.61	-		NM	NM	0.0	Obstruction in well

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TABLE 5	
VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS - MONTHLY GROUNDWATER OBSERVATIONS	

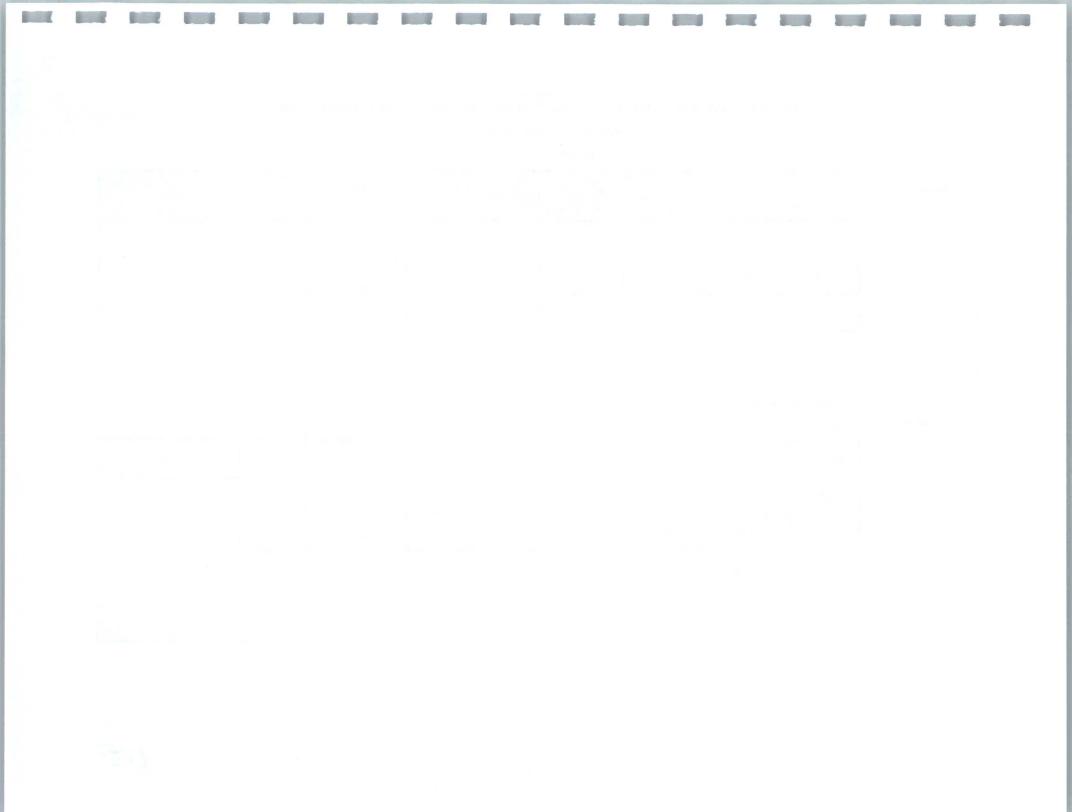
Groundwater Monitoring Wells	Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)		Hydrocarbon Odor	Headspace (ppm)	Comments
	2/23/2016	5,378.89	5,341.13	37.76			No	No	0.0	Clear
	3/22/2016	5,378.89	5,341.22	37.67			No	No	0.0	Clear
	4/21/2016	5,378.89	5,341.19	37.70			No	No	0.0	Clear
	5/26/2016	5,378.89	5,341.19	37.70			No	No	0.0	Clear
	6/27/2016	5,378.89	5,340.74	38.15		-	No	No	0.0	Clear
SHS-19	7/25/2016	5,378.89	5,341.04	37.85			No	No	0.0	Clear
	8/25/2016	5,378.89	5,340.84	38.05			No	No	0.0	Clear
	9/26/2016	5,378.89	5,340.84	38.05		-	No	No	0	Clear
	10/17/2016	5,378.89	5,340.87	38.02			No	No	0	Clear
	11/30/2016	5,378.89	5,340.87	38.02			No	No	0	Clear
	12/30/2016	5,378.89	5,341.00	37.89			No	No	0	Clear

NOTES:

--- not applicable BTOC - below top of casing

NM - not measured

ppm - parts per million PSH - phase-separated hydrocarbons





Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

January 31, 2017

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: FAX

RE: GBR Annual Sampling

OrderNo.: 1701600

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 5 sample(s) on 1/14/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project:GBR Annual SamplingLab ID:1701600-001

Client Sample ID: GRW-3 Collection Date: 1/13/2017 4:00:00 PM Received Date: 1/14/2017 9:00:00 AM

Analyses	Result	PQL 0	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst	MED
Hardness (As CaCO3)	850	6.6		mg/L	1	1/27/2017	R40343
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	ND	0.50		mg/L	5	1/23/2017 6:06:07 PM	R40231
Chloride	74	2.5		mg/L	5	1/23/2017 6:06:07 PM	R40231
Bromide	0.54	0.50		mg/L	5	1/23/2017 6:06:07 PM	R40231
Phosphorus, Orthophosphate (As P)	ND	2.5	Н	mg/L	5	1/23/2017 6:06:07 PM	R40231
Sulfate	1200	25	*	mg/L	50	1/24/2017 7:29:20 PM	R40255
Nitrate+Nitrite as N	ND	1.0		mg/L	5	1/23/2017 8:10:12 PM	R40231
SM2510B: SPECIFIC CONDUCTANCE	E					Analyst	JRR
Conductivity	3500	1.0		µmhos/cm	1	1/16/2017 6:41:19 PM	R40056
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	758.3	20.00		mg/L CaCO3	1	1/16/2017 6:41:19 PM	R40056
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/16/2017 6:41:19 PM	R40056
Total Alkalinity (as CaCO3)	758.3	20.00		mg/L CaCO3	1	1/16/2017 6:41:19 PM	R40056
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	KS
Total Dissolved Solids	2730	200	*D	mg/L	1	1/18/2017 4:23:00 PM	29736
SM4500-H+B: PH						Analyst	JRR
рН	7.39	1.68	н	pH units	1	1/16/2017 6:41:19 PM	R40056
EPA METHOD 200.7: METALS						Analyst	MED
Calcium	250	5.0		mg/L	5	1/27/2017 11:31:14 AM	29915
Iron	150	10	*	mg/L	500	1/30/2017 3:13:47 PM	29915
Magnesium	58	1.0		mg/L	1	1/27/2017 11:29:30 AM	29915
Manganese	2.9	0.010	*	mg/L	5	1/27/2017 11:31:14 AM	29915
Potassium	1.4	1.0		mg/L	1	1/27/2017 11:29:30 AM	29915
Sodium	550	10		mg/L	10	1/30/2017 3:12:02 PM	29915
EPA METHOD 8270C: PAHS						Analyst	DAM
Naphthalene	ND	0.50		µg/L	1	1/19/2017 3:10:08 PM	29754
1-Methylnaphthalene	ND	0.50		µg/L	1	1/19/2017 3:10:08 PM	29754
2-Methylnaphthalene	ND	0.50		µg/L	1	1/19/2017 3:10:08 PM	29754
Acenaphthylene	ND	0.50		µg/L	1	1/19/2017 3:10:08 PM	29754
Acenaphthene	0.72	0.50		µg/L	1	1/19/2017 3:10:08 PM	29754
Fluorene	3.4	0.50		µg/L	1	1/19/2017 3:10:08 PM	29754
Phenanthrene	ND	0.50		µg/L	1	1/19/2017 3:10:08 PM	29754
Anthracene	ND	0.50		µg/L	1	1/19/2017 3:10:08 PM	29754
Fluoranthene	ND	0.50		µg/L	1	1/19/2017 3:10:08 PM	29754
Pyrene	ND	0.50		µg/L	1	1/19/2017 3:10:08 PM	29754

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab	Order	1701	600
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Date Reported: 1/31/2017

CLIENT:	Western Refining Southwest,	Inc.		Client Samp	le ID: GI	RW-3	
Project:	GBR Annual Sampling			Collection	Date: 1/1	13/2017 4:00:00 PM	
Lab ID:	1701600-001	Matrix:	AQUEOUS	Received	Date: 1/1	14/2017 9:00:00 AM	
Analyses		Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	THOD 8270C: PAHS					Analyst	DAM
Benz(a)a	anthracene	ND	0.50	µg/L	1	1/19/2017 3:10:08 PM	29754
Chrysen	e	ND	0.50	µg/L	1	1/19/2017 3:10:08 PM	29754
Benzo(b)fluoranthene	ND	0.50	µg/L	1	1/19/2017 3:10:08 PM	29754
Benzo(k))fluoranthene	ND	0.50	µg/L	1	1/19/2017 3:10:08 PM	29754
Benzo(a)pyrene	ND	0.50	µg/L	1	1/19/2017 3:10:08 PM	29754
Dibenz(a	a,h)anthracene	ND	0.50	µg/L	1	1/19/2017 3:10:08 PM	29754
Benzo(g	,h,i)perylene	ND	0.50	µg/L	1	1/19/2017 3:10:08 PM	29754
Indeno(1	1,2,3-cd)pyrene	ND	0.50	µg/L	1	1/19/2017 3:10:08 PM	29754
Surr: I	N-hexadecane	54.2	15-176	%Rec	1	1/19/2017 3:10:08 PM	29754
Surr: I	Benzo(e)pyrene	54.7	1 <mark>5</mark> -198	%Rec	1	1/19/2017 3:10:08 PM	29754
EPA MET	THOD 8260B: VOLATILES					Analyst	BCN
Benzene	9	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Toluene		ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Ethylben	izene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Methyl te	ert-butyl ether (MTBE)	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,2,4-Tri	methylbenzene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,3,5-Tri	methylbenzene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,2-Dich	loroethane (EDC)	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,2-Dibro	omoethane (EDB)	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Naphtha	lene	ND	2.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1-Methyl	naphthalene	ND	4.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
2-Methyl	naphthalene	ND	4.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Acetone		ND	10	µg/L	1	1/17/2017 3:09:00 AM	B4004
Bromobe	enzene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Bromodi	chloromethane	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Bromofo	rm	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Bromom	ethane	ND	3.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
2-Butanc	one	ND	10	µg/L	1	1/17/2017 3:09:00 AM	B4004
Carbon o	disulfide	ND	10	µg/L	1	1/17/2017 3:09:00 AM	B4004
Carbon 7	Tetrachloride	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Chlorobe	enzene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Chloroet	hane	ND	2.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Chlorofo	rm	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Chlorom	ethane	ND	3.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
2-Chloro	toluene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
4-Chloro	toluene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
cis-1,2-D	DCE	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
cis-1,3-D	Dichloropropene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,2-Dibro	omo-3-chloropropane	ND	2.0	µg/L	1	1/17/2017 3:09:00 AM	B4004

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

1701600-001

Lab ID:

Client Sample ID: GRW-3 Collection Date: 1/13/2017 4:00:00 PM

Received Date: 1/14/2017 9:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
Dibromochloromethane	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B40048
Dibromomethane	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B40048
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B40048
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B40048
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B40048
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,1-Dichloroethane	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,1-Dichloroethene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,2-Dichloropropane	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,3-Dichloropropane	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
2,2-Dichloropropane	ND	2.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,1-Dichloropropene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Hexachlorobutadiene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
2-Hexanone	ND	10	µg/L	1	1/17/2017 3:09:00 AM	B4004
Isopropylbenzene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
4-Isopropyltoluene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
4-Methyl-2-pentanone	ND	10	µg/L	1	1/17/2017 3:09:00 AM	B4004
Methylene Chloride	ND	3.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
n-Butylbenzene	ND	3.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
n-Propylbenzene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
sec-Butylbenzene	1.1	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Styrene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
tert-Butylbenzene	2.7	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
trans-1,2-DCE	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Trichlorofluoromethane	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Vinyl chloride	ND	1.0	µg/L	1	1/17/2017 3:09:00 AM	B4004
Xylenes, Total	ND	1.5	µg/L	1	1/17/2017 3:09:00 AM	B4004
Surr: 1,2-Dichloroethane-d4	95.5	70-130	%Rec	1	1/17/2017 3:09:00 AM	B4004
Surr: 4-Bromofluorobenzene	98.2	70-130	%Rec	1	1/17/2017 3:09:00 AM	B4004

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	d J Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical	Report
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Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Western Refining Southwest,	Inc.	Client Sample ID: GRW-3						
Project:	GBR Annual Sampling			Collection	Date: 1/13/2	017 4:00:00 PM			
Lab ID:	1701600-001	Matrix:	AQUEOUS	Received	Date: 1/14/2	017 9:00:00 AM			
Analyses		Result	PQL Qual	Units	DF Da	te Analyzed	Batch		
EPA MET	THOD 8260B: VOLATILES					Analyst	BCN		
Surr: [Dibromofluoromethane	94.5	70-130	%Rec	1 1/1	17/2017 3:09:00 AM	B40048		
Surr: 7	Toluene-d8	96.2	70-130	%Rec	1 1/1	17/2017 3:09:00 AM	B40048		

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank	
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 26	
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

Lab ID: 1701600-002

Client Sample ID: GBR-24D Collection Date: 1/13/2017 12:45:00 PM Received Date: 1/14/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst	MED
Hardness (As CaCO3)	1300	6.6		mg/L	1	1/27/2017	R4034
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	1.6	0.10		mg/L	1	1/23/2017 6:30:56 PM	R4023
Chloride	130	10		mg/L	20	1/23/2017 6:43:20 PM	R4023
Bromide	0.61	0.10		mg/L	1	1/23/2017 6:30:56 PM	R4023
Phosphorus, Orthophosphate (As P)	ND	10	Н	mg/L	20	1/23/2017 6:43:20 PM	R4023
Sulfate	1900	50	*	mg/L	100	1/24/2017 7:41:45 PM	R4025
Nitrate+Nitrite as N	ND	1.0		mg/L	5	1/23/2017 8:22:36 PM	R4023
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	4000	1.0		µmhos/cm	1	1/16/2017 7:09:18 PM	R4005
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	242.1	20.00		mg/L CaCO3	1	1/16/2017 7:09:18 PM	R4005
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/16/2017 7:09:18 PM	R4005
Total Alkalinity (as CaCO3)	242.1	20.00		mg/L CaCO3	1	1/16/2017 7:09:18 PM	R4005
SM2540C MOD: TOTAL DISSOLVED SC	LIDS					Analyst	KS
Total Dissolved Solids	3390	200	*D	mg/L	1	1/18/2017 4:23:00 PM	29736
SM4500-H+B: PH						Analyst	JRR
pH	7.62	1.68	н	pH units	1	1/16/2017 7:09:18 PM	R4005
EPA METHOD 200.7: METALS						Analyst	MED
Calcium	430	5.0		mg/L	5	1/27/2017 11:34:43 AM	29915
Iron	14	1.0	*	mg/L	50	1/30/2017 3:26:49 PM	29915
Magnesium	41	1.0		mg/L	1	1/27/2017 11:33:03 AM	29915
Manganese	1.8	0.010	*	mg/L	5	1/27/2017 11:34:43 AM	29915
Potassium	9.9	1.0		mg/L	1	1/27/2017 11:33:03 AM	29915
Sodium	550	10		mg/L	10	1/30/2017 3:15:44 PM	29915
EPA METHOD 8270C: PAHS						Analyst	DAM
Naphthalene	ND	0.50		µg/L	1	1/19/2017 3:34:19 PM	29754
1-Methylnaphthalene	ND	0.50		µg/L	1	1/19/2017 3:34:19 PM	29754
2-Methylnaphthalene	ND	0.50		µg/L	1	1/19/2017 3:34:19 PM	29754
Acenaphthylene	ND	0.50		µg/L	1	1/19/2017 3:34:19 PM	29754
Acenaphthene	ND	0.50		µg/L	1	1/19/2017 3:34:19 PM	29754
Fluorene	ND	0.50		µg/L	1	1/19/2017 3:34:19 PM	29754
Phenanthrene	ND	0.50		µg/L	1	1/19/2017 3:34:19 PM	29754
Anthracene	ND	0.50		µg/L	1	1/19/2017 3:34:19 PM	29754
Fluoranthene	ND	0.50		µg/L	1	1/19/2017 3:34:19 PM	29754
Pyrene	ND	0.50		µg/L	1	1/19/2017 3:34:19 PM	29754

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701600

Date Reported: 1/31/2017

CLIENT: Western Refining Southwest, Inc.			Client Sample ID: GBR-24D				
Project: GBR Annual Sampling Lab ID: 1701600-002	Collection Date: 1/13/2017 12:45:00 P Matrix: AQUEOUS Received Date: 1/14/2017 9:00:00 AN						
Lab ID: 1701600-002	Matrix:	AQUEUUS	Keceived	Date: 1/1	4/2017 9:00:00 AM		
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch	
EPA METHOD 8270C: PAHS					Analyst	DAM	
Benz(a)anthracene	ND	0.50	µg/L	1	1/19/2017 3:34:19 PM	29754	
Chrysene	ND	0.50	µg/L	1	1/19/2017 3:34:19 PM	29754	
Benzo(b)fluoranthene	ND	0.50	µg/L	1	1/19/2017 3:34:19 PM	29754	
Benzo(k)fluoranthene	ND	0.50	µg/L	1	1/19/2017 3:34:19 PM	29754	
Benzo(a)pyrene	ND	0.50	µg/L	1	1/19/2017 3:34:19 PM	29754	
Dibenz(a,h)anthracene	ND	0.50	µg/L	1	1/19/2017 3:34:19 PM	29754	
Benzo(g,h,i)perylene	ND	0.50	µg/L	1	1/19/2017 3:34:19 PM	29754	
Indeno(1,2,3-cd)pyrene	ND	0.50	µg/L	1	1/19/2017 3:34:19 PM	29754	
Surr: N-hexadecane	53.7	15-176	%Rec	1	1/19/2017 3:34:19 PM	29754	
Surr: Benzo(e)pyrene	53.6	15-198	%Rec	1	1/19/2017 3:34:19 PM	29754	
EPA METHOD 8260B: VOLATILES					Analyst	BCN	
Benzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Toluene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Ethylbenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
1,2-Dichloroethane (EDC)	1.1	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Naphthalene	ND	2.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
1-Methylnaphthalene	ND	4.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
2-Methylnaphthalene	ND	4.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Acetone	ND	10	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Bromobenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Bromodichloromethane	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Bromoform	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Bromomethane	ND	3.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
2-Butanone	ND	10	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Carbon disulfide	ND	10	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Carbon Tetrachloride	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Chlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Chloroethane	ND	2.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Chloroform	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
Chloromethane	ND	3.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
2-Chlorotoluene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
4-Chlorotoluene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	
cis-1,2-DCE	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B4004	

Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

1.0

2.0

µg/L

µg/L

ND

ND

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded		Analyte detected below quantitation limits Page 6 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range

RPD outside accepted recovery limits R

cis-1,3-Dichloropropene

1,2-Dibromo-3-chloropropane

- S % Recovery outside of range due to dilution or matrix

1

1

RL Reporting Detection Limit

Sample container temperature is out of limit as specified W

1/17/2017 3:33:00 AM

1/17/2017 3:33:00 AM

B40048

B40048

Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

1701600-002

Lab ID:

Client Sample ID: GBR-24D Collection Date: 1/13/2017 12:45:00 PM Received Date: 1/14/2017 9:00:00 AM

Analyses	Result	PQL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
Dibromochloromethane	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
Dibromomethane	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,1-Dichloroethane	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,1-Dichloroethene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,2-Dichloropropane	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,3-Dichloropropane	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
2,2-Dichloropropane	ND	2.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,1-Dichloropropene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
Hexachlorobutadiene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
2-Hexanone	ND	10	µg/L	1	1/17/2017 3:33:00 AM	B40048
Isopropylbenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
4-Isopropyltoluene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
4-Methyl-2-pentanone	ND	10	µg/L	1	1/17/2017 3:33:00 AM	B40048
Methylene Chloride	ND	3.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
n-Butylbenzene	ND	3.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
n-Propylbenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
sec-Butylbenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
Styrene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
tert-Butylbenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
trans-1,2-DCE	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
Trichlorofluoromethane	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
Vinyl chloride	ND	1.0	µg/L	1	1/17/2017 3:33:00 AM	B40048
Xylenes, Total	ND	1.5	µg/L	1	1/17/2017 3:33:00 AM	B40048
Surr: 1,2-Dichloroethane-d4	93.9	70-130	%Rec	1	1/17/2017 3:33:00 AM	B40048
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	1/17/2017 3:33:00 AM	B40048

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 7 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order 1701600

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/31/2017

CLIENT:	Western Refining Southwest, Inc	o.	C	lient Sample II): GE	3R-24D	
Project:	GBR Annual Sampling			Collection Date	e: 1/1	3/2017 12:45:00 PM	
Lab ID:	1701600-002	Matrix:	AQUEOUS	Received Date	e: 1/1	4/2017 9:00:00 AM	
Analyses		Result	PQL Qual	Units	DF	Date Analyzed	Batch
the second s		the second s	the second se	the same and the second se		And in case of the second of the second s	
EPA MET	HOD 8260B: VOLATILES					Analyst	BCN
	HOD 8260B: VOLATILES	93.9	70-130	%Rec	1	Analyst 1/17/2017 3:33:00 AM	BCN B40048

			0.	0
Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	A
	D	Sample Diluted Due to Matrix	E	V
	Н	Holding times for preparation or analysis exceeded	J	A
	ND	Not Detected at the Reporting Limit	Р	S

- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 8 of 26
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

Lab ID: 1701600-003

Client Sample ID: GBR-31 Collection Date: 1/13/2017 11:45:00 AM Received Date: 1/14/2017 9:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS					13.07	Analyst:	MED
Hardness (As CaCO3)	1200	6.6		mg/L	1	1/27/2017	R40343
EPA METHOD 300.0: ANIONS						Analyst:	LGT
Fluoride	0.98	0.10		mg/L	1	1/23/2017 6:55:44 PM	R40231
Chloride	84	10		mg/L	20	1/23/2017 7:08:09 PM	R40231
Bromide	0.33	0.10		mg/L	1	1/23/2017 6:55:44 PM	R4023
Phosphorus, Orthophosphate (As P)	ND	10	Н	mg/L	20	1/23/2017 7:08:09 PM	R4023
Sulfate	1700	50	*	mg/L	100	1/24/2017 7:54:10 PM	R4025
Nitrate+Nitrite as N	4.2	1.0		mg/L	5	1/23/2017 8:35:01 PM	R4023
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	3400	1.0		µmhos/cm	1	1/16/2017 7:22:08 PM	R40056
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	214.8	20.00		mg/L CaCO3	1	1/16/2017 7:22:08 PM	R40056
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/16/2017 7:22:08 PM	R40056
Total Alkalinity (as CaCO3)	214.8	20.00		mg/L CaCO3	1	1/16/2017 7:22:08 PM	R40056
SM2540C MOD: TOTAL DISSOLVED SC	LIDS					Analyst:	KS
Total Dissolved Solids	2970	20.0	*	mg/L	1	1/18/2017 4:23:00 PM	29736
SM4500-H+B: PH						Analyst:	JRR
pH	7.38	1.68	н	pH units	1	1/16/2017 7:22:08 PM	R40056
EPA METHOD 200.7: METALS						Analyst:	MED
Calcium	430	5.0		mg/L	5	1/27/2017 11:38:17 AM	29915
Iron	1.9	0.10	*	mg/L	5	1/27/2017 11:38:17 AM	29915
Magnesium	38	1.0		mg/L	1	1/27/2017 11:36:34 AM	29915
Manganese	0.18	0.0020	*	mg/L	1	1/27/2017 11:36:34 AM	29915
Potassium	2.6	1.0		mg/L	1	1/27/2017 11:36:34 AM	29915
Sodium	420	5.0		mg/L	5	1/27/2017 11:38:17 AM	29915
EPA METHOD 8270C: PAHS						Analyst:	DAM
Naphthalene	ND	0.50		µg/L	1	1/19/2017 3:58:29 PM	29754
1-Methylnaphthalene	ND	0.50		µg/L	1	1/19/2017 3:58:29 PM	29754
2-Methylnaphthalene	ND	0.50		µg/L	1	1/19/2017 3:58:29 PM	29754
Acenaphthylene	ND	0.50		µg/L	1	1/19/2017 3:58:29 PM	29754
Acenaphthene	ND	0.50		µg/L	1	1/19/2017 3:58:29 PM	29754
Fluorene	ND	0.50		µg/L	1	1/19/2017 3:58:29 PM	29754
Phenanthrene	ND	0.50		µg/L	1	1/19/2017 3:58:29 PM	29754
Anthracene	ND	0.50		µg/L	1	1/19/2017 3:58:29 PM	29754
Fluoranthene	ND	0.50		µg/L	1	1/19/2017 3:58:29 PM	29754
Pyrene	ND	0.50		µg/L	1	1/19/2017 3:58:29 PM	29754

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 9 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701600

Date Reported: 1/31/2017

	2		.,				~ .
CLIENT:	: Western Refining Southwest,	Inc.		Client Sampl			
Project:	GBR Annual Sampling			Collection	Date: 1/1	3/2017 11:45:00 AM	
Lab ID:	1701600-003	Matrix:	AQUEOUS	Received 1	Date: 1/1	4/2017 9:00:00 AM	
Analyses		Result	PQL Q	Qual Units	DF	Date Analyzed	Batch
EPA ME	THOD 8270C: PAHS					Analysi	DAM
Benz(a)a	anthracene	ND	0.50	µg/L	1	1/19/2017 3:58:29 PM	29754
Chrysen	e	ND	0.50	µg/L	1	1/19/2017 3:58:29 PM	29754
Benzo(b)fluoranthene	ND	0.50	µg/L	1	1/19/2017 3:58:29 PM	29754
Benzo(k	fluoranthene	ND	0.50	µg/L	1	1/19/2017 3:58:29 PM	29754
Benzo(a)pyrene	ND	0.50	µg/L	1	1/19/2017 3:58:29 PM	29754
Dibenz(a	a,h)anthracene	ND	0.50	µg/L	1	1/19/2017 3:58:29 PM	29754
Benzo(g	ı,h,i)perylene	ND	0.50	µg/L	1	1/19/2017 3:58:29 PM	29754
Indeno(1	1,2,3-cd)pyrene	ND	0.50	µg/L	1	1/19/2017 3:58:29 PM	29754
Surr:	N-hexadecane	64.7	15-176	%Rec	1	1/19/2017 3:58:29 PM	29754
Surr:	Benzo(e)pyrene	61.3	15-198	%Rec	1	1/19/2017 3:58:29 PM	29754
EPA MET	THOD 8260B: VOLATILES					Analyst	BCN
Benzene	9	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Toluene		ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Ethylber	nzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Methyl te	ert-butyl ether (MTBE)	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,2,4-Tri	imethylbenzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,3,5-Tri	imethylbenzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,2-Dich	loroethane (EDC)	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,2-Dibro	omoethane (EDB)	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Naphtha	lene	ND	2.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1-Methyl	Inaphthalene	ND	4.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
2-Methyl	Inaphthalene	ND	4.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Acetone		ND	10	µg/L	1	1/17/2017 3:57:00 AM	B40048
Bromobe	enzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Bromodi	chloromethane	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Bromofo	orm	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Bromom	ethane	ND	3.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
2-Butanc	one	ND	10	µg/L	1	1/17/2017 3:57:00 AM	B40048
Carbon o	disulfide	ND	10	µg/L	1	1/17/2017 3:57:00 AM	B40048
Carbon ⁻	Tetrachloride	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Chlorobe	enzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Chloroet	hane	ND	2.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Chlorofo	rm	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Chlorom	ethane	ND	3.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
2-Chloro	toluene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
4-Chloro	toluene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
cis-1,2-D	DCE	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
cis-1,3-D	Dichloropropene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
10 01	ana Q ablances	ND					715

Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

2.0

µg/L

ND

 Qualifiers:
 *
 Value exceeds Maximum Contaminant Level.

 D
 Sample Diluted Due to Matrix

1,2-Dibromo-3-chloropropane

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 10 of 26

1 1/17/2017 3:57:00 AM B40048

- P Sample pH Not In Range
- RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

1701600-003

Lab ID:

Client Sample ID: GBR-31 Collection Date: 1/13/2017 11:45:00 AM Received Date: 1/14/2017 9:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
Dibromochloromethane	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Dibromomethane	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,1-Dichloroethane	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,1-Dichloroethene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,2-Dichloropropane	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,3-Dichloropropane	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
2,2-Dichloropropane	ND	2.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,1-Dichloropropene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Hexachlorobutadiene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
2-Hexanone	ND	10	μg/L	1	1/17/2017 3:57:00 AM	B40048
Isopropylbenzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
4-Isopropyltoluene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
4-Methyl-2-pentanone	ND	10	µg/L	1	1/17/2017 3:57:00 AM	B40048
Methylene Chloride	ND	3.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
n-Butylbenzene	ND	3.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
n-Propylbenzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
sec-Butylbenzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Styrene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
tert-Butylbenzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
trans-1,2-DCE	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Trichlorofluoromethane	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Vinyl chloride	ND	1.0	µg/L	1	1/17/2017 3:57:00 AM	B40048
Xylenes, Total	ND	1.5	µg/L	1	1/17/2017 3:57:00 AM	B40048
Surr: 1,2-Dichloroethane-d4	94.8	70-130	%Rec	1	1/17/2017 3:57:00 AM	B40048
Surr: 4-Bromofluorobenzene	99.0	70-130	%Rec	1	1/17/2017 3:57:00 AM	B40048

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit Page 11 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical	Report

Hall Environmental Analysis Laboratory, Inc.

Lab Order **1701600** Date Reported: **1/31/2017**

CLIENT:	Western Refining Southwest, In	nc.	C	lient Samp	le ID: GBR-31	
Project:	GBR Annual Sampling			Collection	Date: 1/13/2017 11:45:00 AM	
Lab ID:	1701600-003	Matrix:	AQUEOUS	Received	Date: 1/14/2017 9:00:00 AM	
Analyses	in the second second	Result	PQL Qual	Units	DF Date Analyzed	Batch
EPA MET	HOD 8260B: VOLATILES				Analyst	BCN
	HOD 8260B: VOLATILES Dibromofluoromethane	93.0	70-130	%Rec	Analyst 1 1/17/2017 3:57:00 AM	: BCN B40048

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit Page 12 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

1701600-004 Lab ID:

Client Sample ID: SHS-8 Collection Date: 1/13/2017 10:45:00 AM

Received Date: 1/14/2017 9:00:00 AM ----

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS					2.0	Analyst	MED
Hardness (As CaCO3)	800	6.6		mg/L	1	1/27/2017	R40343
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	0.76	0.10		mg/L	1	1/23/2017 7:45:23 PM	R40231
Chloride	100	10		mg/L	20	1/23/2017 7:57:48 PM	R40231
Bromide	0.94	0.10		mg/L	1	1/23/2017 7:45:23 PM	R4023
Phosphorus, Orthophosphate (As P)	ND	0.50	Н	mg/L	1	1/23/2017 7:45:23 PM	R4023
Sulfate	720	10	*	mg/L	20	1/23/2017 7:57:48 PM	R40231
Nitrate+Nitrite as N	ND	1.0		mg/L	5	1/23/2017 8:47:25 PM	R40231
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	3000	1.0		µmhos/cm	1	1/16/2017 7:34:21 PM	R40056
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	984.3	20.00		mg/L CaCO3	1	1/16/2017 7:34:21 PM	R40056
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/16/2017 7:34:21 PM	R40056
Total Alkalinity (as CaCO3)	984.3	20.00		mg/L CaCO3	1	1/16/2017 7:34:21 PM	R40056
SM2540C MOD: TOTAL DISSOLVED SC	LIDS					Analyst	KS
Total Dissolved Solids	2210	20.0	*	mg/L	1	1/18/2017 4:23:00 PM	29736
SM4500-H+B: PH						Analyst:	JRR
рН	7.62	1.68	н	pH units	1	1/16/2017 7:34:21 PM	R40056
EPA METHOD 200.7: METALS						Analyst	MED
Calcium	260	5.0		mg/L	5	1/27/2017 11:42:00 AM	29915
Iron	66	2.0	*	mg/L	100	1/30/2017 3:30:40 PM	29915
Magnesium	35	1.0		mg/L	1	1/27/2017 11:40:12 AM	29915
Manganese	3.0	0.010	*	mg/L	5	1/27/2017 11:42:00 AM	29915
Potassium	7.4	1.0		mg/L	1	1/27/2017 11:40:12 AM	29915
Sodium	520	10		mg/L	10	1/30/2017 3:28:53 PM	29915
EPA METHOD 8260B: VOLATILES						Analyst:	BCN
Benzene	ND	1.0		µg/L	1	1/17/2017 4:20:00 AM	B40048
Toluene	ND	1.0		µg/L	1	1/17/2017 4:20:00 AM	B40048
Ethylbenzene	1.1	1.0		µg/L	1	1/17/2017 4:20:00 AM	B40048
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/17/2017 4:20:00 AM	B40048
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/17/2017 4:20:00 AM	B40048
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/17/2017 4:20:00 AM	B40048
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/17/2017 4:20:00 AM	B40048
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/17/2017 4:20:00 AM	B40048
Naphthalene	ND	2.0		µg/L	1	1/17/2017 4:20:00 AM	B40048
1-Methylnaphthalene	ND	4.0		µg/L	1	1/17/2017 4:20:00 AM	B40048

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit Page 13 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Project: GBR Annual Sampling	Inc.	Client Sample ID: SHS-8 Collection Date: 1/13/2017 10:45:00 AM							
Lab ID: 1701600-004	Matrix: A	QUEOUS	Received	Date: 1/14/2017 9:00:00 AM					
Analyses	Result	PQL Qu	al Units	DF Date Analyzed E	Batch				
EPA METHOD 8260B: VOLATILES				Analyst: E	BCN				
2-Methylnaphthalene	ND	4.0	µg/L	1 1/17/2017 4:20:00 AM	B40048				
Acetone	ND	10	µg/L	1 1/17/2017 4:20:00 AM	B40048				
Bromobenzene	ND	1.0	µg/L	1 1/17/2017 4:20:00 AM	B40048				
Bromodichloromethane	ND	1.0	µg/L	1 1/17/2017 4:20:00 AM	B40048				
Bromoform	ND	1.0	µg/L	1 1/17/2017 4:20:00 AM	B40048				
Bromomethane	ND	3.0	µg/L	1 1/17/2017 4:20:00 AM	B40048				
2-Butanone	ND	10	µg/L	1 1/17/2017 4:20:00 AM	B40048				
Carbon disulfide	ND	10	µg/L	1 1/17/2017 4:20:00 AM	B40048				
Carbon Tetrachloride	ND	1.0	µg/L	1 1/17/2017 4:20:00 AM	B40048				
Chlorobenzene	ND	1.0	µg/L	1 1/17/2017 4:20:00 AM	B40048				
Chloroethane	ND	2.0	µg/L	1 1/17/2017 4:20:00 AM	B40048				
Chloroform	ND	1.0	µg/L	1 1/17/2017 4:20:00 AM	B40048				
Chloromethane	ND	3.0	µg/L		B40048				
2-Chlorotoluene	ND	1.0	µg/L		B40048				
4-Chlorotoluene	ND	1.0	µg/L		B40048				
cis-1,2-DCE	ND	1.0	µg/L		B40048				
cis-1,3-Dichloropropene	ND	1.0	μg/L		B40048				
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L		B40048				
Dibromochloromethane	ND	1.0	μg/L		B40048				
Dibromomethane	ND	1.0	µg/L		B40048				
1,2-Dichlorobenzene	ND	1.0	µg/L		B40048				
1,3-Dichlorobenzene	ND	1.0	μg/L		B40048				
1,4-Dichlorobenzene	ND	1.0	µg/L		B40048				
Dichlorodifluoromethane	ND	1.0	μg/L		B40048				
1,1-Dichloroethane	ND	1.0	μg/L		B40048				
1,1-Dichloroethene	ND	1.0	µg/L		340048				
1,2-Dichloropropane	ND	1.0	μg/L		340048				
1,3-Dichloropropane	ND	1.0							
2,2-Dichloropropane	ND	2.0	µg/L		340048				
1,1-Dichloropropene	ND	1.0	µg/L		340048 340048				
			µg/L						
Hexachlorobutadiene 2-Hexanone	ND	1.0	µg/L		340048 340048				
Isopropylbenzene	ND ND	10 1.0	μg/L						
			µg/L		340048				
4-Isopropyltoluene	ND	1.0	µg/L		340048				
4-Methyl-2-pentanone	ND	10	µg/L		340048				
Methylene Chloride	ND	3.0	µg/L		340048				
n-Butylbenzene	ND	3.0	µg/L		340048				
n-Propylbenzene	ND	1.0	µg/L		340048				
sec-Butylbenzene	ND	1.0	µg/L	1 1/17/2017 4:20:00 AM B	340048				

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 14 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

Lab ID: 1701600-004

Client Sample ID: SHS-8 Collection Date: 1/13/2017 10:45:00 AM Received Date: 1/14/2017 9:00:00 AM

Analyses	Result	PQL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				2.4	Analyst	BCN
Styrene	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
tert-Butylbenzene	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
trans-1,2-DCE	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
Trichlorofluoromethane	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
Vinyl chloride	ND	1.0	µg/L	1	1/17/2017 4:20:00 AM	B40048
Xylenes, Total	ND	1.5	µg/L	1	1/17/2017 4:20:00 AM	B40048
Surr: 1,2-Dichloroethane-d4	96.3	70-130	%Rec	1	1/17/2017 4:20:00 AM	B40048
Surr: 4-Bromofluorobenzene	99.2	70-130	%Rec	1	1/17/2017 4:20:00 AM	B40048
Surr: Dibromofluoromethane	93.0	70-130	%Rec	1	1/17/2017 4:20:00 AM	B40048
Surr: Toluene-d8	98.7	70-130	%Rec	1	1/17/2017 4:20:00 AM	B40048

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 15 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Project: GBR Annual Sampling	Inc. Client Sample ID: Trip Blank Collection Date:								
Lab ID: 1701600-005	Matrix:	TRIP BLANK	Received	Date: 1/14/2017 9:00:00 AM					
Analyses	Result	PQL Qua	l Units	DF Date Analyzed Batch					
EPA METHOD 8260B: VOLATILES				Analyst: BCN					
Benzene	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Toluene	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Ethylbenzene	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Naphthalene	ND	2.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
1-Methylnaphthalene	ND	4.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
2-Methylnaphthalene	ND	4.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Acetone	ND	10	µg/L	1 1/17/2017 4:44:00 AM B4004					
Bromobenzene	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Bromodichloromethane	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Bromoform	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Bromomethane	ND	3.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
2-Butanone	ND	10	µg/L	1 1/17/2017 4:44:00 AM B4004					
Carbon disulfide	ND	10	µg/L	1 1/17/2017 4:44:00 AM B4004					
Carbon Tetrachloride	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Chlorobenzene	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Chloroethane	ND	2.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Chloroform	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
Chloromethane	ND	3.0	µg/L	1 1/17/2017 4:44:00 AM B4004					
2-Chlorotoluene	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B40048					
4-Chlorotoluene	ND	1.0	μg/L	1 1/17/2017 4:44:00 AM B40048					
cis-1,2-DCE	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B40048					
cis-1,3-Dichloropropene	ND	1.0	μg/L	1 1/17/2017 4:44:00 AM B40048					
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1 1/17/2017 4:44:00 AM B40048					
Dibromochloromethane	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B40048					
Dibromomethane	ND	1.0	μg/L	1 1/17/2017 4:44:00 AM B40048					
1,2-Dichlorobenzene	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B40048					
1,3-Dichlorobenzene	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B40048					
1,4-Dichlorobenzene	ND	1.0	μg/L	1 1/17/2017 4:44:00 AM B40048					
Dichlorodifluoromethane	ND	1.0	μg/L	1 1/17/2017 4:44:00 AM B40048					
1.1-Dichloroethane	ND	1.0	μg/L	1 1/17/2017 4:44:00 AM B40048					
1,1-Dichloroethene	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B40048					
1,2-Dichloropropane	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B40048					
1,3-Dichloropropane	ND	1.0	µg/L	1 1/17/2017 4:44:00 AM B40048					
2,2-Dichloropropane	ND	2.0	μg/L	1 1/17/2017 4:44:00 AM B40048					

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit Page 16 of 26
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701600

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

1701600-005

Lab ID:

Client Sample	ID: Trip Blank
Collection Da	ate:

Matrix: TRIP BLANK

Received Date: 1/14/2017 9:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch	
EPA METHOD 8260B: VOLATILES					Analyst	BCN	
1,1-Dichloropropene	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
Hexachlorobutadiene	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
2-Hexanone	ND	10	µg/L	1	1/17/2017 4:44:00 AM	B4004	
Isopropylbenzene	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
4-Isopropyltoluene	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
4-Methyl-2-pentanone	ND	10	µg/L	1	1/17/2017 4:44:00 AM	B4004	
Methylene Chloride	ND	3.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
n-Butylbenzene	ND	3.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
n-Propylbenzene	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
sec-Butylbenzene	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
Styrene	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
tert-Butylbenzene	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
trans-1,2-DCE	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
Trichlorofluoromethane	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
Vinyl chloride	ND	1.0	µg/L	1	1/17/2017 4:44:00 AM	B4004	
Xylenes, Total	ND	1.5	µg/L	1	1/17/2017 4:44:00 AM	B4004	
Surr: 1,2-Dichloroethane-d4	95.3	70-130	%Rec	1	1/17/2017 4:44:00 AM	B4004	
Surr: 4-Bromofluorobenzene	99.4	70-130	%Rec	1	1/17/2017 4:44:00 AM	B4004	
Surr: Dibromofluoromethane	95.2	70-130	%Rec	1	1/17/2017 4:44:00 AM	B4004	
Surr: Toluene-d8	99.0	70-130	%Rec	1	1/17/2017 4:44:00 AM	B4004	

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 17 of 26
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#:	1701600

31-Jan-17

	n Refining		st, Inc.			Ť.				
Sample ID MB-29915	IB-29915 SampType: MBLK			Tes	tCode: E	PA Method	200.7: Metals			
Client ID: PBW	Bate	ch ID: 29	915	F	RunNo: 4	0343				
Prep Date: 1/26/2017	Analysis	Date: 1/	27/2017	5	SeqNo: 1	264551	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0					0			
ron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Sodium	ND	1.0								
Sample ID LCS-29915	Samp	Type: LC	s	TestCode: EPA Method 200.7: Metals						
Client ID: LCSW	Bato	ch ID: 29	915	F	RunNo: 40343					
Prep Date: 1/26/2017	Analysis	Date: 1/	27/2017	5	SeqNo: 1264552 Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	101	85	115			
ron	0.50	0.020	0.5000	0	99.6	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.48	0.0020	0.5000	0	95.9	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Sodium	51	1.0	50.00	0	101	85	115			
Sample ID LCSLL-29915	Samp	Type: LC	SLL	Tes	tCode: E	PA Method	200.7: Metals			
Client ID: BatchQC	Bato	ch ID: 29	915	F	RunNo: 4	0343				
Prep Date: 1/26/2017	Analysis	Date: 1/	27/2017	S	SeqNo: 1	264553	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	102	50	150			
ron	0.025	0.020	0.02000	0	124	50	150			
Magnesium	ND	1.0	0.5000	0	108	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Potassium	ND	1.0	0.5000	0	113	50	150			
Sodium	ND	1.0	0.5000	0	119	50	150			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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	Refining S nual Sampl		st, Inc.							
Sample ID MB	SampT	уре: МЕ	BLK	Tes	tCode: E	PA Method	300.0: Anions	6		10 - Th
Client ID: PBW	Batch	1D: R4	0231	F	RunNo: 4	0231				
Prep Date:	Analysis D	ate: 1/2	23/2017		SeqNo: 1		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
luoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
litrate+Nitrite as N	ND	0.20								
Sample ID LCS	SampT	ype: LC	S	Tes	tCode: E	PA Method	300.0: Anions	5		
Client ID: LCSW	Batch	ID: R4	0231	F	RunNo: 4	0231				
Prep Date:	Analysis D	ate: 1/2	23/2017	S	SeqNo: 1	261325	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
luoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.8	0.50	5.000	0	95.2	90	110			
romide	2.4	0.10	2.500	0	96.2	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	95.2	90	110			
ulfate	9.6	0.50	10.00	0	96.2	90	110			
litrate+Nitrite as N	3.4	0.20	3.500	0	97.7	90	110			
Sample ID MB	SampT	уре: МВ	BLK	Tes	tCode: E	PA Method	300.0: Anions	5		1.23
Client ID: PBW	Batch	ID: R4	0255	R	RunNo: 4	0255				
Prep Date:	Analysis D	ate: 1/2	24/2017	S	SeqNo: 1	262250	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
ulfate	ND	0.50								
Sample ID LCS	SampT	ype: LC	S	Test	tCode: El	PA Method	300.0: Anions	5		
Client ID: LCSW	Batch	ID: R4	0255	R	RunNo: 4	0255				
Prep Date:	Analysis D	ate: 1/2	24/2017	S	SeqNo: 1	262251	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
ulfate	9.7	0.50	10.00	0	96.5	90	110			_

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701600 31-Jan-17

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 19 of 26

- P Sample pH Not In Range
- RL Reporting Detection Limit

В

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1701600

31-Jan-17

	n Refining S nnual Samp		st, Inc.							
Sample ID 100NG LCS2	SampT	ype: LC	s	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batcl	n ID: B 4	0048	F	RunNo: 4	0048				
Prep Date:	Analysis E	ate: 1	16/2017	S	SeqNo: 1	255199	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.3	70	130	1		
Toluene	19	1.0	20.00	0	94.6	70	130			
Chlorobenzene	19	1.0	20.00	0	95.1	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	100	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	89.8	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		99.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			
Sample ID rb	SampT	уре: МІ	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	n ID: B4	0048	F	RunNo: 4	0048				
Prep Date:	Analysis D	ate: 1	16/2017	S	SeqNo: 1	255200	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Η Holding times for preparation or analysis exceeded

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range Е
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1701600

31-Jan-17

	Western Refining S GBR Annual Samp		Inc.							
Sample ID rb	SampT	ype: MBL	к	Те	stCode: E	PA Method	8260B: VOL	ATILES		1.11
Client ID: PBW	Batch	n ID: B400	48		RunNo: 4	40048				
Prep Date:	Analysis D	Date: 1/16	/2017		SeqNo: 1	1255200	Units: µg/L			
Analyte	Result	PQL S	SPK value	SPK Ref Va	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropa	ne ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1.1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								

Qualifiers:

1,2,4-Trichlorobenzene

1,1,1-Trichloroethane

1,1,2-Trichloroethane

Trichloroethene (TCE)

Trichlorofluoromethane

1,2,3-Trichloropropane

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND

ND

ND

ND

ND

ND

1.0

1.0

1.0

1.0

1.0 2.0

- ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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WO#: 1701600

Hall Environmental Analysis Laboratory,	Inc.
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Client: Western Refining Southwest, Inc.	Client:	Western Refining Southwest, Inc.
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Project: GBR Annual Sampling

Sample ID rb	SampT	ype: ME	BLK	Test	tCode: El	PA Method	8260B: VOLA	ATILES		line of
Client ID: PBW	Batch	ID: B4	0048	R	RunNo: 4	0048				
Prep Date:	Analysis D	ate: 1/	16/2017	S	SeqNo: 1	255200	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0) 		
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.2	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

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31-Jan-17

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701600

31-Jan-17

Client:	Western Refining Southwest, Inc.
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Project: GBR Annual Sampling

Sample ID Ics-29754	Samp	Type: LC	S	Tes	tCode: E	PA Method	8270C: PAHs			
Client ID: LCSW	Batc	h ID: 29	754	R	RunNo: 4	0147				
Prep Date: 1/18/2017	Analysis E	Date: 1/	19/2017	S	SeqNo: 1	258606	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
laphthalene	14	0.50	20.00	0	69.6	37.4	120			
-Methylnaphthalene	14	0.50	20.00	0	67.9	39.3	121			
-Methylnaphthalene	14	0.50	20.00	0	68.4	37.8	122			
cenaphthylene	15	0.50	20.00	0	73.4	37	124			
cenaphthene	16	0.50	20.00	0	78.1	35.6	123			
luorene	16	0.50	20.00	0	82.4	35.2	122			
henanthrene	16	0.50	20.00	0	81.2	38.8	122			
nthracene	16	0.50	20.00	0	79.2	37.5	125			
luoranthene	16	0.50	20.00	0	80.3	37.4	131			
Pyrene	16	0.50	20.00	0	82.1	27.5	140			
enz(a)anthracene	17	0.50	20.00	0	86.4	25.4	141			
hrysene	16	0.50	20.00	0	81.4	33.6	155			
enzo(b)fluoranthene	18	0.50	20.00	0	88.4	39	153			
enzo(k)fluoranthene	16	0.50	20.00	0	80.4	38	154			
enzo(a)pyrene	17	0.50	20.00	0	85.1	38.6	153			
ibenz(a,h)anthracene	17	0.50	20.00	0	86.8	39.7	155			
enzo(g,h,i)perylene	16	0.50	20.00	0	81.1	39.6	154			
ideno(1,2,3-cd)pyrene	17	0.50	20.00	0	86.3	19.1	153			
Surr: N-hexadecane	67	0.00	87.60	0	76.9	15	176			
Surr: Benzo(e)pyrene	16		20.00		80.4	15	198			
			0.0	Teel						
Sample ID Icsd-29754		ype: LC			unNo: 4		8270C: PAHs			
Client ID: LCSS02										
Prep Date: 1/18/2017	Analysis D	ate: 1/	19/2017	S	eqNo: 1	258607	Units: µg/L			
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
aphthalene	13	0.50	20.00	0	64.4	37.4	120	7.76	20	
-Methylnaphthalene	13	0.50	20.00	0	67.1	39.3	121	1.19	26.8	
Methylnaphthalene	14	0.50	20.00	0	70.0	37.8	122	2.31	23.8	
cenaphthylene	14	0.50	20.00	0	68.9	37	124	6.32	28.6	
cenaphthene	15	0.50	20.00	0	75.0	35.6	123	4.05	27	
uorene	16	0.50	20.00	0	79.3	35.2	122	3.83	25.7	
henanthrene	17	0.50	20.00	0	84.3	38.8	122	3.75	20	
nthracene	17	0.50	20.00	0	82.9	37.5	125	4.57	21.2	
uoranthene	18	0.50	20.00	0	88.8	37.4	131	10.1	21.8	
yrene	17	0.50	20.00	0	86.8	27.5	140	5.57	31.1	
enz(a)anthracene	18	0.50	20.00	0	88.5	25.4	141	2.40	26.6	
enzlajanunacene										
hrysene	17	0.50	20.00	0	86.9	33.6	155	6.54	21.2	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

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P Sample pH Not In Range

В

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1701600 31-Jan-17

Sample ID Icsd-29754	Samp	ype: LC	SD	Tes	tCode: El	PA Method	8270C: PAHs			
Client ID: LCSS02	Batc	n ID: 29	754	F	RunNo: 4	0147				
Prep Date: 1/18/2017	Analysis [Date: 1/	19/2017	5	SeqNo: 1	258607	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	17	0.50	20.00	0	84.5	38	154	4.97	21	100
Benzo(a)pyrene	17	0.50	20.00	0	85.0	38.6	153	0.118	24.8	
Dibenz(a,h)anthracene	18	0.50	20.00	0	90.4	39.7	155	4.06	26	
Benzo(g,h,i)perylene	17	0.50	20.00	0	85.4	39.6	154	5.17	20	
ndeno(1,2,3-cd)pyrene	17	0.50	20.00	0	87.4	19.1	153	1.27	20	
Surr: N-hexadecane	63		87.60		71.6	15	176	0	0	
Surr: Benzo(e)pyrene	15		20.00		76.0	15	198	0	0	
Sample ID mb-29754	Samp	ype: ME	BLK	Tes	tCode: El	PA Method	8270C: PAHs	;		
Client ID: PBW	Batc	n ID: 29	754	F	RunNo: 4	0147				
Prep Date: 1/18/2017	Analysis [ate: 1/	19/2017	S	SeqNo: 1	258608	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	0.50								
2-Methylnaphthalene	ND	0.50								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
luoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
ndeno(1,2,3-cd)pyrene	ND	0.50								
indeno(1,2,3-ou)pyrene	110									
Surr: N-hexadecane	69		87.60		78.4	15	176			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

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WO#: 1701600

Hall Environmental Analysis Laboratory, Inc.

31-Jan-17

	estern Refining Southwest, Inc. R Annual Sampling				
Sample ID mb-1	SampType: mblk	TestCode: SM2320B: A	Ikalinity		NAME -
Client ID: PBW	Batch ID: R40056	RunNo: 40056			
Prep Date:	Analysis Date: 1/16/2017	SeqNo: 1255292	Units: mg/L CaCO3		
Analyte	Result PQL SPK value S	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND 20.00				֔.
Sample ID Ics-1	SampType: Ics	TestCode: SM2320B: A	Ikalinity		
Client ID: LCSW	Batch ID: R40056	RunNo: 40056			
Prep Date:	Analysis Date: 1/16/2017	SeqNo: 1255293	Units: mg/L CaCO3		
Analyte	Result PQL SPK value S	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.68 20.00 80.00	0 97.1 90	110		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
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WO#: 1701600 31-Jan-17

Hall Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc. **Client: Project: GBR** Annual Sampling Sample ID MB-29736 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids Client ID: PBW Batch ID: 29736 RunNo: 40117 Prep Date: 1/17/2017 Analysis Date: 1/18/2017 SeqNo: 1257458 Units: mg/L %RPD **RPDLimit** Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit Qual Total Dissolved Solids ND 20.0 TestCode: SM2540C MOD: Total Dissolved Solids Sample ID LCS-29736 SampType: LCS Client ID: LCSW Batch ID: 29736 RunNo: 40117 Prep Date: 1/17/2017 Analysis Date: 1/18/2017 SeqNo: 1257459 Units: mg/L %RPD **RPDLimit** Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit Qual Total Dissolved Solids 1010 20.0 1000 0 101 80 120

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 26 of 26

Albuq TEL: 505-345-3975 H	4901 Hawkin juerque, NM 8 FAX: 505-345-	s NE 7109 Samj 4107	ple Log-In Che	eck List
Work Order Number:	1701600		RcptNo: 1	
14/2017 9:00:00 AM		High		-28-11
/16/2017 8:26:49 AM		Auto		
	Yes	No 🗆	Not Present	
	Yes 🗹	No 🗌	Not Present	
	Courier			
	Yes 🗹	No 🗌	NA 🗌	
>0° C to 6.0°C	Yes 🗹	No	NA 🗌	
	Yes 🗹	No		
	Yes 🗹	No 🗌	0	
preserved?	Yes M	7. No 1	é	
	Yes 🗹 🕻	T No V	NA 🗌	
	Yes 🗹	No 🗌	No VOA Vials	
?	Yes	No 🗹	# of preserved	
	Vas V	No 🗔	bottles checked	
			(<2 or >	12 unless noted)
ustody?	Yes 🗹	No 🗌	Adjusted?	ES
			Pinter Di	
	Yes 🗹	No LI		
a order?	Yes	No 🗌	NA 🔽	
Date				
· · · · · · · · · · · · · · · · · · ·	eMail	Phone 🗌 Fax	In Person	
sis: Iml HND,	arasadded	to 0010	for acaptalle	pH
12 24 hrs priv	or fo au	ralysis,	1/16/17	
		Signed By	riro be	1
	Albug TEL: 505-345-3975 I Website: www.hall Work Order Number: /14/2017 9:00:00 AM /16/2017 8:26:49 AM /17/2017 9:00:00 AM /16/2017 8:26:49 AM /17/2017 9:00:00 AM	4901 Hawkin Albuquerque, NM 8 TEL: 505-345-3975 FAX: 505-345- Website: www.hallenvironmental Work Order Number: 1701600 //14/2017 9:00:00 AM /16/2017 8:26:49 AM Yes Yes	TEL: $505-345-375$ FAX: $505-345-4107$ Website: www.hallenvironmental.com Work Order Number: 1701600 /14/2017 9:00:00 AM /14/2017 9:00:00 AM /16/2017 8:26:49 AM Yes Yes No Yes No Yes Yes Yes No Yes Yes No Yes No Yes No Yes No Yes No Yes No Yes No <t< td=""><td>4001 Hawkins NE Altinguargue, NM 87109 TEL: 503-353 FG AV. S03-354-100 Sample Log-In Che Mage Soft AV. Soft Av. Although ReptNo: 1 Work Order Number: 1701600 ReptNo: 1 Work Order Number: 1701600 ReptNo: 1 M4/2017 9:00:00 AM Hall Mage Yes No No Na Yes No Yes No</td></t<>	4001 Hawkins NE Altinguargue, NM 87109 TEL: 503-353 FG AV. S03-354-100 Sample Log-In Che Mage Soft AV. Soft Av. Although ReptNo: 1 Work Order Number: 1701600 ReptNo: 1 Work Order Number: 1701600 ReptNo: 1 M4/2017 9:00:00 AM Hall Mage Yes No No Na Yes No Yes No

Page 1 of 1

ADD 2018 2018 1018 2018 2018	3010 3010 3010 3010 3010	2018 Rold Rold Rold Rold Rold Rold Rold						
Chain-of-Custody Record	Turn-Around Time:	HALL ENVIRONMENTAL						
lient: Western Refining	Standard	ANALYSIS LABORATORY						
Kelly Robinson	Project Name:	www.hallenvironmental.com						
lailing Address: / 111 CR 4990	GBR Annual sampling	4901 Hawkins NE - Albuquerque, NM 87109						
Bloomfidd New Maxico	Project #:	Tel. 505-345-3975 Fax 505-345-4107						
hone #: 505-801-5616	12615518 -> Wastern P.O.	Analysis Request						
mail or Fax#: Kelly Robinson	Project Manager:							
A/QC Package:	Devin Henomenn	3's (8021) I (Gas onl) IRO / MR(SIMS) 2' PO4, SO						
Creditation	a tala Alarac	TPH (Gas only) TPH (Gas only) D / DRO / MRO) 3.1) 3.1) 4.1) 270 SIMS) 270 SIMS) 270 SIMS) (NO2, PO4, SO4) (N)						
NELAP Other	Sampler: Josh Adams On Ice: Difference III.	+ TPH ((+ TPH () RO / DR RO / DR 18.1) 04.1) 04.1) 04.1) 3,NO ₂ ,F 8270 SI 8270 SI 8270 SI 8270 SI 8270 SI 8270 SI						
EDD (Type)	Sample Temperature							
		BTEX + MTBE + BTEX + MTBE + TPH 8015B (GR TPH (Method 5(PAH's (8310 or PAH's (83						
Date Time Matrix Sample Request ID	Container Preservative HEAL Notes	BTEX + BTEX + TPH 80° TPH (M(PAH's (f PAH's (f RCRA 8 8081 Pe 8260B (8260B (S S S S Air Bubt						
		BTEX BTEX TPH 8 TPH (h PAH's PAH's RCRA Anions 8260B 8260B 8260B 8270 (Banions 8270 (Anions 8270 (Bat Buit						
3-17 1600 GW GRW-3	Variaus Various -001							
1245 GW 6BR-24D	-002							
1145 6BR-31	-003							
1045 SHS-8	-0024							
TPIP BLANK	2440m2 Vag HC1 -005							
φ_{α}								
N9 01/16/17								
ê Million - Children - Children								
1 1								
ate: Time: Relinguished by:	Received by: Date Time	Remarks: (c: dhormanneltenv.com						
3-17 1623 Jac MMM	Received by: 1 Date Time	jadowns @ literer. com						
10 18W Abr. L. Marson	Received by: Date Time	Kelly Kobinson DO						
IT I OIT I THE SUPPLY A HOLE FULL AND A SUPPLY AND A SUPP	contracted to other competitied laboration This	is possibility. Any sub-contracted data will be clearly notated on the analytical report.						
	and a server and a server as notice of th	is possibility. Any sub-contracted data will be deany notated on the analytical report.						

GIANT BLOOMFIELD REFINERY WESTERN REFINING ATTACHMENT TO COC

SAMPLING CONDUCTED ON

Sample 1D	ANNUALLY (DEC)
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	VOC
GRW-3	GWC
	. РАН
	VOC
GRW-6	GWC
Construction of the local division of the lo	TAIL
	VOC
GRP.12	OTTO
	PAH
	VOC
GBR-24D	GWC
	PAH
	VOC
GBR-30	GWC
	РАН
	VOC
GBR-31	GWC
	PAH
	VOC
CENTUL .	UWG
	METALS
1.1.1	VOC
GIDINETIO	GWL
SIT ALL	METALS
	VOC
ODA IS	Umo
the set	METALS
	VOC
GBR-50	GWC
	METALS
COR OI	300
	GWC
CELSEN	VOC
	GWC
SHS-8	VOC
	GWC

Analysis	method	Bottle			
VOC	method 8260	3 - HCL VOA			
	1.10-0. AU				
PAH	method 8270	1 - Liter Amber (non preserved)			
GWC	Child Market and The				
pH	SM 4500-H+B				
EC	SM 2510B				
TDS	SM 2540C MOD	1 - 500ml (non preserved)			
alkalinity	SM 2320B				
hardness	SM 2340B				
	EPA Method 300.0	and the second se			
	nitrate/nitrite	1 - 250ml H2SO4			
	bromide	1 W			
ANIONS	chloride				
	sulfate				
	phosporus				
	fluoride				
	EPA Method 200.7	1 - 500ml HNO3			
	calcium	1- 500mm 111405			
	iron				
CATIONS / METALS	magnesium				
	manganese				
	potassium				
	sodium				
	EPA Method 200.7				
	barium				
	beryllium				
	cadmium				
	ohromium				
	silver				
	lead				
	nickel				
Metals	EPA 200.8	1 - 500ml HNO3			
WICHAIS	copper				
	zinc				
	antimony				
	arsenic				
	selenium				
	thallium				
	Epa Method 245.1				
	mercury				





January 31, 2017

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

OrderNo.: 1701827

RE: GBR Annual Sampling

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 2 sample(s) on 1/19/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1701827 Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: GBR-30 Collection Date: 1/18/2017 11:55:00 AM

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

1701827-001

Lab ID:

Received Date: 1/19/2017 7:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS					- 111	Analyst	MED
Hardness (As CaCO3)	1300	6.6		mg/L	1	1/27/2017	R40343
EPA METHOD 300.0: ANIONS						Analyst	MRA
Fluoride	0.52	0.50		mg/L	5	1/19/2017 11:10:13 AM	R40163
Chloride	220	10		mg/L	20	1/19/2017 11:47:26 AM	
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	1/19/2017 11:10:13 AM	R40163
Bromide	3.6	0.50		mg/L	5	1/19/2017 11:10:13 AM	R4016
Nitrogen, Nitrate (As N)	5.6	0.50		mg/L	5	1/19/2017 11:10:13 AM	R4016
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	1/19/2017 11:10:13 AM	R40163
Sulfate	1400	25	*	mg/L	50	1/23/2017 8:43:46 PM	R40232
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	3300	1.0		µmhos/cm	1	1/19/2017 5:17:24 PM	R40164
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	217.9	20.00		mg/L CaCO3	1	1/19/2017 5:17:24 PM	R40164
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/19/2017 5:17:24 PM	R40164
Total Alkalinity (as CaCO3)	217.9	20.00		mg/L CaCO3	1	1/19/2017 5:17:24 PM	R40164
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	KS
Total Dissolved Solids	2580	200	*D	mg/L	1	1/24/2017 9:21:00 AM	29819
SM4500-H+B: PH						Analyst	JRR
pH	7.27	1.68	Н	pH units	1	1/19/2017 5:17:24 PM	R40164
EPA METHOD 200.7: METALS						Analyst	MED
Calcium	430	5.0		mg/L	5	1/27/2017 12:46:19 PM	29914
Iron	64	2.0	*	mg/L	100	1/30/2017 4:00:07 PM	29914
Magnesium	45	1.0		mg/L	1	1/27/2017 12:44:31 PM	29914
Manganese	2.3	0.010	*	mg/L	5	1/27/2017 12:46:19 PM	29914
Potassium	8.6	1.0		mg/L	1	1/27/2017 12:44:31 PM	29914
Sodium	380	5.0		mg/L	5	1/27/2017 12:46:19 PM	29914
EPA METHOD 8270C: PAHS						Analyst	DAM
Naphthalene	ND	0.50		µg/L	1	1/26/2017 11:13:03 AM	29825
1-Methylnaphthalene	ND	0.50		µg/L	1	1/26/2017 11:13:03 AM	29825
2-Methylnaphthalene	ND	0.50		µg/L	1	1/26/2017 11:13:03 AM	29825
Acenaphthylene	ND	0.50		µg/L	1	1/26/2017 11:13:03 AM	29825
Acenaphthene	ND	0.50		µg/L	1	1/26/2017 11:13:03 AM	29825
Fluorene	ND	0.50		µg/L	1	1/26/2017 11:13:03 AM	29825
Phenanthrene	ND	0.50		µg/L	1	1/26/2017 11:13:03 AM	29825
Anthracene	ND	0.50		µg/L	1	1/26/2017 11:13:03 AM	29825
Fluoranthene	ND	0.50		µg/L	1	1/26/2017 11:13:03 AM	29825

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 16
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701827

Date Reported: 1/31/2017

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-30 Collection Date: 1/18/2017 11:55:00 AM **GBR** Annual Sampling **Project:** Lab ID: 1701827-001 Matrix: AQUEOUS Received Date: 1/19/2017 7:35:00 AM Result **PQL** Qual Units **DF** Date Analyzed Analyses Batch EPA METHOD 8270C: PAHS Analyst: DAM Pyrene ND 0.50 µg/L 1/26/2017 11:13:03 AM 29825 1 Benz(a)anthracene ND 0.50 1 1/26/2017 11:13:03 AM 29825 µg/L ND 0.50 1 1/26/2017 11:13:03 AM 29825 Chrysene µg/L ND 0.50 1/26/2017 11:13:03 AM 29825 Benzo(b)fluoranthene µg/L 1 29825 Benzo(k)fluoranthene ND 0.50 µg/L 1 1/26/2017 11:13:03 AM Benzo(a)pyrene ND 0.50 µg/L 1 1/26/2017 11:13:03 AM 29825 Dibenz(a,h)anthracene ND 0.50 µg/L 1 1/26/2017 11:13:03 AM 29825 ND 1/26/2017 11:13:03 AM 29825 Benzo(g,h,i)perylene 0.50 µg/L 1 Indeno(1,2,3-cd)pyrene ND 0.50 1/26/2017 11:13:03 AM 29825 µg/L 1 Surr: N-hexadecane 81 5 15-176 %Rec 1 1/26/2017 11:13:03 AM 29825 Surr: Benzo(e)pyrene 83.0 15-198 %Rec 1 1/26/2017 11:13:03 AM 29825 EPA METHOD 8260B: VOLATILES Analyst: BCN 1/20/2017 2:26:00 PM Benzene ND 1.0 R40185 µg/L 1 Toluene ND 1.0 1/20/2017 2:26:00 PM R40185 µg/L 1 Ethylbenzene ND 1.0 1/20/2017 2:26:00 PM R40185 µg/L 1 Methyl tert-butyl ether (MTBE) ND 1/20/2017 2:26:00 PM R40185 1.0 µg/L 1 1,2,4-Trimethylbenzene ND 1/20/2017 2:26:00 PM R40185 1.0 µg/L 1 1,3,5-Trimethylbenzene ND 1/20/2017 2:26:00 PM R40185 10 1 µg/L 1,2-Dichloroethane (EDC) ND 1.0 µg/L 1 1/20/2017 2:26:00 PM R40185 1,2-Dibromoethane (EDB) ND 1.0 µg/L 1 1/20/2017 2:26:00 PM R40185 Naphthalene ND 2.0 µg/L 1 1/20/2017 2:26:00 PM R40185 ND R40185 1-Methylnaphthalene 4.0 µg/L 1 1/20/2017 2:26:00 PM 2-Methylnaphthalene ND 4.0 1/20/2017 2:26:00 PM R40185 µg/L 1 ND 10 1/20/2017 2:26:00 PM R40185 Acetone µg/L 1 1/20/2017 2:26:00 PM R40185 Bromobenzene ND 1.0 µg/L 1 Bromodichloromethane ND 1.0 1/20/2017 2:26:00 PM R40185 µg/L 1 Bromoform ND 1.0 µg/L 1 1/20/2017 2:26:00 PM R40185 ND 1/20/2017 2:26:00 PM R40185 Bromomethane 3.0 µg/L 1 1/20/2017 2:26:00 PM 2-Butanone ND 10 µq/L 1 R40185 Carbon disulfide ND 10 1/20/2017 2:26:00 PM R40185 µg/L 1 Carbon Tetrachloride ND 1.0 µg/L 1 1/20/2017 2:26:00 PM R40185 Chlorobenzene ND 1.0 µg/L 1 1/20/2017 2:26:00 PM R40185 Chloroethane ND 2.0 µg/L 1 1/20/2017 2:26:00 PM R40185

Hall Environmental Analysis Laboratory, Inc.

Chloroform

Chloromethane

2-Chlorotoluene

4-Chlorotoluene

cis-1,3-Dichloropropene

cis-1,2-DCE

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

1.0

3.0

1.0

1.0

1.0

1.0

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L

1

1

1

1

1

1

1/20/2017 2:26:00 PM

R40185

R40185

R40185

R40185

R40185

R40185

ND

ND

ND

ND

ND

ND

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 16
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall E	nvironmental Analysis	ADM Ly	Date Reported: 1/3		
CLIENT:	Western Refining Southwest, In	nc.		Client Sam	ole ID: GBR-30
Project:	GBR Annual Sampling			Collection	Date: 1/18/2017 11:55:00
Lab ID:	1701827-001	Matrix:	AQUEOUS	Received	Date: 1/19/2017 7:35:00 A
Analyses	no sector a site of the	Result	PQL Qu	al Units	DF Date Analyzed
EPA MET	HOD 8260B: VOLATILES				An

Lab Order 1701827

Date Reported: 1/31/2017

Batch

: GBR-30 : 1/18/2017 11:55:00 AM 1/19/2017 7:35:00 AM

EPA METHOD 8260B: VOLATILES					Analyst	BCN
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	1/20/2017 2:26:00 PM	R40185
Dibromochloromethane	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R40185
Dibromomethane	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R40188
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R40185
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R40188
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R40188
1,1-Dichloroethane	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
1,1-Dichloroethene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
1,2-Dichloropropane	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R40185
1,3-Dichloropropane	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R40188
2,2-Dichloropropane	ND	2.0	µg/L	1	1/20/2017 2:26:00 PM	R40185
1,1-Dichloropropene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R40185
Hexachlorobutadiene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R40188
2-Hexanone	ND	10	µg/L	1	1/20/2017 2:26:00 PM	R4018
Isopropylbenzene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
4-Isopropyltoluene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
4-Methyl-2-pentanone	ND	10	µg/L	1	1/20/2017 2:26:00 PM	R4018
Methylene Chloride	ND	3.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
n-Butylbenzene	ND	3.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
n-Propylbenzene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
sec-Butylbenzene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
Styrene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
tert-Butylbenzene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
trans-1,2-DCE	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
Trichlorofluoromethane	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R40185
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
Vinyl chloride	ND	1.0	µg/L	1	1/20/2017 2:26:00 PM	R4018
Xylenes, Total	ND	1.5	µg/L	1	1/20/2017 2:26:00 PM	R4018
Surr: 1,2-Dichloroethane-d4	95.5	70-130	%Rec	1	1/20/2017 2:26:00 PM	R40185

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Analyte detected in the associated Method Blank Qualifiers: * Value exceeds Maximum Contaminant Level. В E Value above quantitation range D Sample Diluted Due to Matrix Analyte detected below quantitation limits Page 3 of 16 Holding times for preparation or analysis exceeded J H Р Sample pH Not In Range ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits RL **Reporting Detection Limit**

% Recovery outside of range due to dilution or matrix S

Sample container temperature is out of limit as specified W

Lab Order 1701827

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Western Refining Southwest, In	1C.	C	lient San	nple ID: GBR-30	
Project:	GBR Annual Sampling				n Date: 1/18/2017 11:55:00 AM	
Lab ID:	1701827-001	Matrix:	AQUEOUS	Receive	d Date: 1/19/2017 7:35:00 AM	
Analyses	and the second	Result	PQL Qual	Units	DF Date Analyzed	Batch
EPA MET	HOD 8260B: VOLATILES				Analyst:	BCN
Surr: 4	I-Bromofluorobenzene	98.0	70-130	%Rec	1 1/20/2017 2:26:00 PM	R40185
Surr: [Dibromofluoromethane	96.7	70-130	%Rec	1 1/20/2017 2:26:00 PM	R40185
Surr: 1	Foluene-d8	97.6	70-130	%Rec	1 1/20/2017 2:26:00 PM	R40185

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 16
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701827

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling 1701827-002

Lab ID:

Collection Date:

Matrix: TRIP BLANK Received Date: 1/19/2017 7:35:00 AM

Client Sample ID: Trip Blank

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
Benzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Toluene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Ethylbenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Naphthalene	ND	2.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1-Methylnaphthalene	ND	4.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
2-Methylnaphthalene	ND	4.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Acetone	ND	10	µg/L	1	1/20/2017 3:36:00 PM	R40185
Bromobenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Bromodichloromethane	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Bromoform	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Bromomethane	ND	3.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
2-Butanone	ND	10	µg/L	1	1/20/2017 3:36:00 PM	R40185
Carbon disulfide	ND	10	µg/L	. 1	1/20/2017 3:36:00 PM	R40185
Carbon Tetrachloride	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Chlorobenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Chloroethane	ND	2.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Chloroform	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Chloromethane	ND	3.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
2-Chlorotoluene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
4-Chlorotoluene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
cis-1,2-DCE	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
cis-1,3-Dichloropropene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Dibromochloromethane	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Dibromomethane	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,1-Dichloroethane	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,1-Dichloroethene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,2-Dichloropropane	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,3-Dichloropropane	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
2,2-Dichloropropane	ND	2.0	µg/L	1	1/20/2017 3:36:00 PM	R40185

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 16
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701827

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

 CLIENT:
 Western Refining Southwest, Inc.
 Client Sample ID: Trip Blank

 Project:
 GBR Annual Sampling
 Collection Date:

 Lab ID:
 1701827-002
 Matrix: TRIP BLANK
 Received Date: 1/19/2017 7:35:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
1,1-Dichloropropene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Hexachlorobutadiene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
2-Hexanone	ND	10	µg/L	1	1/20/2017 3:36:00 PM	R40185
Isopropylbenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
4-Isopropyltoluene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
4-Methyl-2-pentanone	ND	10	µg/L	1	1/20/2017 3:36:00 PM	R40185
Methylene Chloride	ND	3.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
n-Butylbenzene	ND	3.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
n-Propylbenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
sec-Butylbenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Styrene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
tert-Butylbenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
trans-1,2-DCE	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Trichlorofluoromethane	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Vinyl chloride	ND	1.0	µg/L	1	1/20/2017 3:36:00 PM	R40185
Xylenes, Total	ND	1.5	µg/L	1	1/20/2017 3:36:00 PM	R40185
Surr: 1,2-Dichloroethane-d4	91.4	70-130	%Rec	1	1/20/2017 3:36:00 PM	R40185
Surr: 4-Bromofluorobenzene	99.7	70-130	%Rec	1	1/20/2017 3:36:00 PM	R40185
Surr: Dibromofluoromethane	97.0	70-130	%Rec	1	1/20/2017 3:36:00 PM	R40185
Surr: Toluene-d8	99.4	70-130	%Rec	1	1/20/2017 3:36:00 PM	R40185

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 6 of 16
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701827

31-Jan-17

Client: Project:		n Refining Samp		st, Inc.							
Sample ID	MB-29914	Samp	Туре: МЕ	BLK	Tes	tCode: El	PA Method	200.7: Metals	;		101 03
Client ID:	PBW	Bato	ch ID: 29	914	F	RunNo: 4	0343				
Prep Date:	1/26/2017	Analysis	Date: 1/	27/2017	S	SeqNo: 1	264578	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0								
Iron		ND	0.020								
Magnesium		ND	1.0								
Manganese		ND	0.0020								
Potassium		ND	1.0								
Sodium	Lange Street	ND	1.0								
Sample ID	LCS-29914	Samp	Type: LC	S	Tes	tCode: El	PA Method	200.7: Metals			Y Y
Client ID:	LCSW	Bato	ch ID: 29	914	F	RunNo: 4	0343				
Prep Date:	1/26/2017	Analysis	Date: 1/	27/2017	S	SeqNo: 1	264579	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		49	1.0	50.00	0	98.3	85	115			
Iron		0.50	0.020	0.5000	0	99.2	85	115			
Magnesium		50	1.0	50.00	0	100	85	115			
Manganese		0.48	0.0020	0.5000	0	95.0	85	115			
Potassium		49	1.0	50.00	0	98.5	85	115			
Sodium		50	1.0	50.00	0	99.4	85	115			
Sample ID	LCSLL-29914	Samp	Type: LC	SLL	Tes	tCode: El	PA Method	200.7: Metals			
Client ID:	BatchQC	Bato	ch ID: 29	914	F	RunNo: 4	0343				
Prep Date:	1/26/2017	Analysis	Date: 1/	27/2017	5	SeqNo: 1	264583	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0	0.5000	0	104	50	150			
Iron		0.027	0.020	0.02000	0	135	50	150			
Magnesium		ND	1.0	0.5000	0	108	50	150			
Manganese		0.0022	0.0020	0.002000	0	108	50	150			
Potassium		ND	1.0	0.5000	0	120	50	150			
Sodium		ND	1.0	0.5000	0	123	50	150			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
 - Sample pH Not In Range
- RL Reporting Detection Limit

P

W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1701827 31-Jan-17

	rn Refining S Annual Samp		st, Inc.							
Sample ID MB	Samp	Type: ml	blk	Tes	tCode: E	PA Method	300.0: Anion	s		
Client ID: PBW	Batc	h ID: R4	0163	F	RunNo: 40163					
Prep Date:	Analysis [Date: 1/	19/2017	S	SeqNo: 1	258930	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As F	P ND	0.50								
Sample ID LCS	Samp	Type: Ics	5	Tes	tCode: E	PA Method	300.0: Anion	S		
Client ID: LCSW	Batc	h ID: R4	0163	F	RunNo: 4	0163				
Prep Date:	Analysis [Date: 1/	19/2017	S	SeqNo: 1	258931	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	105	90	110			
Chloride	4.8	0.50	5.000	0	96.2	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	94.9	90	110			
Bromide	2.4	0.10	2.500	0	97.3	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As F		0.50	5.000	0	96.7	90	110			
Sample ID 1701827-001BM	IS Samp	Type: ms	5	Tes	tCode: E	PA Method	300.0: Anions	5		
Client ID: GBR-30	Batc	h ID: R4	0163	F	RunNo: 4	0163				
Prep Date:	Analysis [Date: 1/	19/2017	5	SeqNo: 1	258933	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	3.0	0.50	2.500	0.5174	101	70.4	122			
Nitrogen, Nitrite (As N)	5.5	0.50	5.000	0	110	76.7	103			S
Bromide	14	0.50	12.50	3.581	80.7	80.8	108			S
Nitrogen, Nitrate (As N)	18	0.50	12.50	5.623	95.4	84.9	115			
Phosphorus, Orthophosphate (As F	° 21	2.5	25.00	0	84.0	77.3	106			
Sample ID 1701827-001BN	ISD Samp1	ype: ms	sd	Tes	tCode: El	PA Method	300.0: Anions	5		
Client ID: GBR-30	Batcl	h ID: R4	0163	F	RunNo: 4	0163				
Prep Date:	Analysis D	Date: 1/	19/2017	5	SeqNo: 1	258934	Units: mg/L			
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	3.0	0.50	2.500	0.5174	101	70.4	122	0.548	20	
Nitrogen, Nitrite (As N)	5.5	0.50	5.000	0	110	76.7	103	0.0659	20	S
Bromide	14	0.50	12.50	3.581	80.9	80.8	108	0.189	20	
Nitrogen, Nitrate (As N)	18	0.50	12.50	5.623	95.2	84.9	115	0.191	20	
in ogon, in acto (i to in)										

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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WO#:

Hall Environmental Analysis Laboratory, Inc.

1701827

31-Jan-17

Client: Project:		Western Ro GBR Annu	0		st, Inc.							
Sample ID	МВ		SampT	ype: MI	BLK	Tes	tCode: E	PA Method	300.0: Anions			46
Client ID:	PBW		Batch	n ID: R4	0232	F	RunNo: 4	0232				
Prep Date:		/	Analysis D	Date: 1/	23/2017	S	SeqNo: 1	261453	Units: mg/L			
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate			ND	0.50					1	i th		
Sample ID	LCS		SampT	ype: LC	s	Tes	tCode: E	PA Method	300.0: Anions			
Client ID:	LCSW		Batch	n ID: R4	0232	F	RunNo: 4	0232				
Prep Date:		1	Analysis D	ate: 1/	23/2017	5	SeqNo: 1	261454	Units: mg/L			
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate			9.7	0.50	10.00	0	97.0	90	110			A 11

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 9 of 16

WO#: 1701827 31-Jan-17

Hall Environmental Analysis Laboratory, Inc.

	n Refining S .nnual Samp		st, Inc.							
Sample ID 100ng Ics	SampT	ype: LC	s	Tes	tCode: E	EPA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch	n ID: R4	0185	F	RunNo:	40185				
Prep Date:	Analysis D	Date: 1/	20/2017	5	SeqNo:	1259798	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	92.4	70	130			
Toluene	20	1.0	20.00	0	97.6	70	130			
Chlorobenzene	19	1.0	20.00	0	96.0	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	96.2	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	89.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.9	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			
Sample ID rb	SampT	ype: MI	BLK	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	n ID: R4	0185	F	RunNo: 4	40185				
Prep Date:	Analysis D	ate: 1/	20/2017	5	SeqNo:	1259799	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
2-Oniol otoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1701827

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31-Jan-17

Client:	Western	Refining	Southwest,	Inc.
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Project: GBR Annual Sampling

Sample ID rb	SampT	уре: МВ	LK	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	1D: R4	0185	1	RunNo: 4	0185				1.1.1
Prep Date:	Analysis D	ate: 1/2	20/2017		SeqNo: 1	259799	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
sopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
ert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
rans-1,2-DCE	ND	1.0								
rans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc. **Client:**

Project: GBR Annual Sampling

Sample ID rb	SampT	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch	1D: R4	0185	R	RunNo: 4	0185					
Prep Date:	Analysis D	ate: 1/	20/2017	S	eqNo: 1	259799	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	1.5									
Surr: 1,2-Dichloroethane-d4	9.0		10.00		89.7	70	130				
Surr: 4-Bromofluorobenzene	9.8		10.00		97.8	70	130				
Surr: Dibromofluoromethane	9.5		10.00		95.3	70	130				
Surr: Toluene-d8	9.9		10.00		99.2	70	130				

Qualifiers:

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- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1701827

31-Jan-17

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID Ics-29825	SampT	ype: LC	S	Tes	tCode: E	PA Method	8270C: PAHs	1		
Client ID: LCSW	Batch	n ID: 29	825	F	RunNo: 4	0323				
Prep Date: 1/23/2017	Analysis D	Date: 1/	26/2017	S	SeqNo: 1	263927	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
laphthalene	15	0.50	20.00	0	74.0	37.4	120			
-Methylnaphthalene	14	0.50	20.00	0	71.1	39.3	121			
-Methylnaphthalene	14	0.50	20.00	0	67.8	37.8	122			
Acenaphthylene	15	0.50	20.00	0	75.6	37	124			
cenaphthene	15	0.50	20.00	0	72.8	35.6	123			
luorene	16	0.50	20.00	0	77.9	35.2	122			
henanthrene	16	0.50	20.00	0	82.3	38.8	122			
Inthracene	16	0.50	20.00	0	80.8	37.5	125			
luoranthene	16	0.50	20.00	0	80.9	37.4	131			
yrene	17	0.50	20.00	0	86.4	27.5	140			
enz(a)anthracene	17	0.50	20.00	0	85.4	25.4	141			
hrysene	17	0.50	20.00	0	82.6	33.6	155			
enzo(b)fluoranthene	17	0.50	20.00	0	84.3	39	153			
enzo(k)fluoranthene	16	0.50	20.00	0	79.5	38	154			
enzo(a)pyrene	16	0.50	20.00	0	82.0	38.6	153			
ibenz(a,h)anthracene	17	0.50	20.00	0	85.2	39.7	155			
enzo(g,h,i)perylene	17	0.50	20.00	0	83.9	39.6	154			
deno(1,2,3-cd)pyrene	17	0.50	20.00	0	86.7	19.1	153			
Surr: N-hexadecane	67		87.60		76.4	15	176			
Surr: Benzo(e)pyrene	18		20.00		90.6	15	198			
Sample ID Icsd-29825	SampT	ype: LC	SD	Tes	tCode: El	PA Method	8270C: PAHs			
Client ID: LCSS02	Batch	n ID: 29	825	R	aunNo: 4	0323				
Prep Date: 1/23/2017	Analysis D	ate: 1/	26/2017	S	eqNo: 1	263928	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
aphthalene	13	0.50	20.00	0	64.0	37.4	120	14.5	20	
Methylnaphthalene	13	0.50	20.00	0	64.9	39.3	121	9.12	26.8	
Methylnaphthalene	13	0.50	20.00	0	64.5	37.8	122	4.99	23.8	
cenaphthylene	14	0.50	20.00	0	69.2	37	124	8.84	28.6	
cenaphthene	14	0.50	20.00	0	67.9	35.6	123	6.97	27	
uorene	14	0.50	20.00	0	70.5	35.2	122	9.97	25.7	
nenanthrene	16	0.50	20.00	0	81.4	38.8	122	1.10	20	
nthracene	15	0.50	20.00	0	75.3	37.5	125	7.05	21.2	
uoranthene	15	0.50	20.00	0	76.6	37.4	131	5.46	21.8	
yrene	15	0.50	20.00	0	75.1	27.5	140	13.9	31.1	
enz(a)anthracene	15	0.50	20.00	0	74.4	25.4	141	13.8	26.6	
							455	110		
hrysene	15	0.50	20.00	0	73.8	33.6	155	11.3	21.2	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 13 of 16

- Sample pH Not In Range
- RL Reporting Detection Limit

P

W Sample container temperature is out of limit as specified

WO#: 1701827 31-Jan-17

	n Refining S Innual Samp		st, Inc.							
Sample ID Icsd-29825	SampT	ype: LC	SD	Test	tCode: E	PA Method	8270C: PAHs	;		
Client ID: LCSS02	Batch	n ID: 29	825	R	unNo: 4	0323				
Prep Date: 1/23/2017	Analysis D	ate: 1/	26/2017	S	eqNo: 1	263928	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	14	0.50	20.00	0	69.1	38	154	14.0	21	9
Benzo(a)pyrene	14	0.50	20.00	0	70.8	38.6	153	14.7	24.8	
Dibenz(a,h)anthracene	15	0.50	20.00	0	72.8	39.7	155	15.7	26	
Benzo(g,h,i)perylene	15	0.50	20.00	0	74.7	39.6	154	11.6	20	
ndeno(1,2,3-cd)pyrene	15	0.50	20.00	0	74.1	19.1	153	15.7	20	
Surr: N-hexadecane	65		87.60		73.9	15	176	0	0	
Surr: Benzo(e)pyrene	15		20.00		74.8	15	198	0	0	
Sample ID mb-29825	SampT	уре: МЕ	BLK	Test	Code: El	PA Method	8270C: PAHs	;		
Client ID: PBW	Batch	n ID: 29	825	R	unNo: 4	0323				
Prep Date: 1/23/2017	Analysis D	ate: 1/	26/2017	S	eqNo: 1	263929	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	0.50								
2-Methylnaphthalene	ND	0.50								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
^D yrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene										
	ND	0.50								
Benzo(b)fluoranthene		0.50 0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(k)fluoranthene Benzo(a)pyrene	ND ND	0.50 0.50								
Benzo(k)fluoranthene Benzo(a)pyrene Dibenz(a,h)anthracene	ND ND ND	0.50 0.50 0.50								
Benzo(k)fluoranthene Benzo(a)pyrene Dibenz(a,h)anthracene Benzo(g,h,i)perylene	ND ND ND	0.50 0.50 0.50 0.50								
	ND ND ND ND	0.50 0.50 0.50 0.50 0.50	87.60		85.7	15	176			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Sample pH Not In Range Р
- Reporting Detection Limit RL
- W Sample container temperature is out of limit as specified

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WO#: 1701827

Hall Environmental Analysis Laboratory, Inc.

31-Jan-17

Client: Project:			Refining S nual Samp		st, Inc.							
Sample ID r	nb-1		SampT	ype: ml	olk	Te	stCode: S	M2320B: AI	kalinity	n Asiana a		
Client ID: F	PBW		Batch	n ID: R4	0164		RunNo: 4	40164				
Prep Date:			Analysis D	Date: 1/	19/2017		SeqNo: 1	1259028	Units: mg/L	. CaCO3		
Analyte Total Alkalinity (a	as CaCO	03)	Result ND	PQL 20.00	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID I	cs-1		SampT	ype: Ics	;	Te	stCode: S	SM2320B: AI	kalinity			
Client ID:	CSW		Batch	n ID: R4	0164		RunNo: 4	40164				
Prep Date:			Analysis D	Date: 1/	19/2017		SeqNo: 1	1259029	Units: mg/L	CaCO3		
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (a	as CaCO	3)	77.68	20.00	80.00	0	97.1	90	110			-

- * Value exceeds Maximum Contaminant Level.
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- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 15 of 16
- 1 ugo

WO#: **1701827** *31-Jan-17*

Hall Environmental	Analysis	Laboratory, 1	nc.
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	n Refining Southwest, Inc. nnual Sampling			
Sample ID MB-29819	SampType: MBLK	TestCode: SM2540C MC	DD: Total Dissolved Solids	
Client ID: PBW	Batch ID: 29819	RunNo: 40233		
Prep Date: 1/21/2017	Analysis Date: 1/24/2017	SeqNo: 1261497	Units: mg/L	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Total Dissolved Solids	ND 20.0		2 A MARY	
Sample ID LCS-29819	SampType: LCS	TestCode: SM2540C MC	DD: Total Dissolved Solids	1. C.Y. J.
Client ID: LCSW	Batch ID: 29819	RunNo: 40233		
Prep Date: 1/21/2017	Analysis Date: 1/24/2017	SeqNo: 1261498	Units: mg/L	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Total Dissolved Solids	1010 20.0 1000	0 101 80	120	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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Fage 10

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albu Albu TEL: 505-345-3975 Website: www.hal	4901 querqu FAX: 5	Hawkins NE e, NM 87109 05-345-4107	Sa	m	ole Log-In Check List
Client Name: Western Refining Southw	Work Order Number:	17018	327			RcptNo: 1
Received by/date:	01/19/16					
Logged By: Lindsay Mangin	1/19/2017 7:35:00 AM		0	time by H	- Color	
Completed By: Lindsay Mangin	1/19/2017 9:29:51 AM	1	1 0	time by the	P	
Reviewed By: AR	01	110	117	~	U	
Chain of Custody		11				
1. Custody seals intact on sample bottles?		Yes	1.1	No	Ι.	Not Present
2. Is Chain of Custody complete?		Yes		No	1	Not Present
3. How was the sample delivered?		Cour	ier			
Log In						
			1120			
4. Was an attempt made to cool the samples	?	Yes		No		NA
5. Were all samples received at a temperature	e of >0° C to 6.0°C	Yes	V	No		NA [.]]
6. Sample(s) in proper container(s)?		Yes		No	1	
7. Sufficient sample volume for indicated test(s)?	Yes	Y	No		
8. Are samples (except VOA and ONG) prope	rly preserved?	Yes	~	No		
9. Was preservative added to bottles?		Yes	[1]	No		NA ["]
10.VOA vials have zero headspace?		Yes	~	No [_]	No VOA Vials
11. Were any sample containers received brok	en?	Yes	[_]	No	v	
						# of preserved bottles checked
12.Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes		No	ב	for pH:
13. Are matrices correctly identified on Chain of	f Custody?	Yes		No [Adjusted? N0
14. Is it clear what analyses were requested?		Yes	\checkmark	No		La
15. Were all holding times able to be met?		Yes		No .		Checked by:
(If no, notify customer for authorization.)					٤.	
Special Handling (if applicable)						

.

11

16.1	Nas client notified of all of	discrepancies with this order?		Yes		No []	NA
	Person Notified:	Interior and the second s	Date:	l		ADDICENTRALISMUS	
	By Whom:		Via:	eMail	[Pho	ne [] Fax	[]] In Person
	Regarding:				N TATION THE MENTANCE		a hanna ann annan an Chaille Bha bh Meissean ann an ann-
	Client Instructions:	THE REPORT OF THE PARTY OF THE			-	and the second	

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes		a was in the set	

Page 1 of 1

С	hain-	of-Cu	stody Record	Turn-Around	Time:											0	NEM	ENT	-	
ter of the second s		the second s	odinson	Standard	C Rush			Salaria										ATC		
			Refining	Project Name												al.co				-
lailing	Address	111	CR 4990	GBR	Ammunal	Sampling		49	01 H								M 8710	9		
	Blan		L N/M	Project #:	Trinual	Sampling				5-34				-			4107			
hone #	t: (50	5) 80	1 - 5616	12	615518)						A	naly	sis I	Req	uest				
			obinson@WNR. com				1)	nly)	RO)					04)	S					
A/QC F	Package:	/					(8021)	TPH (Gas only)	MIN/			ŝ		04,S	PCB					
Stan			Level 4 (Full Validation)		Hench		TMB's (D) T	R R			(SIMS))2,P(82 P			0		
.ccredi		□ Othe	ಸೆ r	Sampler: M	A Yes	licker No			TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270		Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	Pesticides / 8082		2	AHacheo		(Z
	(Type)			Sample Temp		3	3E +	3E +	(GR	d 41	d 50	or 8	tals	N,	ides	2	8270 (Semi-VOA)	Ha		Air Bubbles (Y or N)
				1.1		an a	MTBE	MTBE	15B	etho	etho	831(RCRA 8 Metals	С, П	estic	8260B (VOA)	emi	A		bles
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No:	+ ×	BTEX +	1 80	W) T	N N	H's (RAB	suo	1 Pe	0B (0 (S	25		Bubl
					.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1401827	BTEX	BTE	Ţ	TP		PA	RC	Ani	8081	826	827	S		Air
19-17	1155	GW	GBR-30	7	Various	-001												X		
			TRIP BLANK	4	HEI	-002						1			- ie	\times				
1																				
				-																
											1									
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			N., 4																	
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ate:	Time:	Relinquish	ed by	Received by:	ſ ¥ .	Date Time	Rer	nark	s:											
18-17	11623	1	14-	Matu	UNALT	5 118 m 103														
ate:	Time:	Relinquish	eerby:	Received by:	VV-	Date Time														
tha.	necessary.	1 ma	nitted to Hall Environmental may be subc		X C	0/19/19 0735		1.114.			un ete el	data i	will be	alaari	lu nah		Mar an al	diagl range	-4	

Report Report

NAME AND ADDR. NO. ADDR. NO. ADDR. NO. ADDR. NO.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited taboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

GIANT BLOOMFIELD REFINERY WESTERN REFINING ATTACHMENT TO COC

SAMPLING CONDUCTED ON 1 - 18 - 2017

BY Michael A Wicker

	the second se	
D	ANNUALLY (OCT)	
	Voc	1

Analysis	method	Bottle
VOC	method 8260	3 - HCL VOA
the set of the	Strand West State	
CALL PAHLING	method 8270	1 - Liter Amber (non preserved
	STATE OF STREET	
CWCAR Sticks		
的目	SM 4500-H+B	
ESICAL AFOLING WATCH	SM 2510B	
CHICKNOTDS DE AMARK	SM 2540C MOD	1 - 500ml (non preserved)
A SAME Yolken I folly 23 Street	SM 2320B	
1500 hardness Hardka	SM 2340B	
	EPA Method 300.0	
	nitrate/nitrite	1 - 250ml H2SO4
	bromide	
ANIONS	chloride	
	sulfate	
	phosporus	
	fluoride	
	EPA Method 200.7	1 - 500mi HNO3
	calcium	1 - 500mm Phy(05
A STATES A LABOR A	iron	
(CATIONS/METALS	magnesium	
····	manganese	
	potassium	
	sodium	
	EPA Method 200.7	
	barium	
	beryllium	
	cadmium	
	chromium	
	silver	
	lead	
	nickel	
Metals	EPA 200.8	1 - 500ml HNO3
	copper	
	zine	
0	antimony	
. [arseme	
	selenium	
	thallium	
	Epa Method 245.1	
F	mercury	

Sample 1D	ANNUALLY (OCT)
System Infinent	VOC
System Judnesd	GWC
	VOC
System Effluent	GWC
System Endern	METALS
	PAH
	VOC
GRW-3	GWC
	PAH
	VOC
GRW-6	GWC
	PAH
	VOC
GBR-17	GWC
	PAH
	VOC
GBR-24D	GWC
	PAH
GBR-30	VOC GWC PAH
	YOC
GBR-31	GWC
	PAH
	VOC
GBR-32	GWC
	METALS
	VOC
GBR-48	GWC
	METALS
	VOC
GBR-49	GWC
	METALS
	VOC
GBR-50	GWC
	METALS
GBR-51	VOC
5017-01	GWC
GBR-52	YOC
~DIV-0*	GWC
SHS-8	VOC
010-0	GIVC



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

January 31, 2017

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (970) 946-1093 FAX

OrderNo.: 1701540

Dear Devin Hencmann:

RE: GBR Annual Sampling

Hall Environmental Analysis Laboratory received 5 sample(s) on 1/13/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andia

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual SamplingLab ID: 1701540-001

Client Sample ID: GBR-17 Collection Date: 1/12/2017 11:50:00 AM Received Date: 1/13/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS				100.00	1910	Analyst	TES
Hardness (As CaCO3)	820	6.6		mg/L	1	1/20/2017	R40177
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	0.65	0.10		mg/L	1	1/24/2017 5:25:14 PM	R4024
Chloride	46	10		mg/L	20	1/18/2017 2:25:02 AM	A40102
Bromide	0.26	0.10		mg/L	1	1/18/2017 2:12:37 AM	A40102
Phosphorus, Orthophosphate (As P)	ND	10	Н	mg/L	20	1/18/2017 2:25:02 AM	A40102
Sulfate	1100	25	*	mg/L	50	1/20/2017 5:15:44 PM	R4019
Nitrate+Nitrite as N	5.4	1.0		mg/L	5	1/20/2017 7:32:17 PM	R4019
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	2300	1.0		µmhos/cm	1	1/16/2017 3:28:30 PM	R40056
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	213.2	20.00		mg/L CaCO3	1	1/16/2017 3:28:30 PM	R40056
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/16/2017 3:28:30 PM	R40056
Total Alkalinity (as CaCO3)	213.2	20.00		mg/L CaCO3	1	1/16/2017 3:28:30 PM	R40056
SM2540C MOD: TOTAL DISSOLVED SC	DLIDS					Analyst	KS
Total Dissolved Solids	1890	40.0	*D	mg/L	1	1/18/2017 4:23:00 PM	29736
SM4500-H+B: PH						Analyst	JRR
pH	7.32	1.68	Н	pH units	1	1/16/2017 3:28:30 PM	R40056
EPA METHOD 200.7: METALS						Analyst	TES
Calcium	280	10		mg/L	10	1/20/2017 8:32:54 PM	29771
Iron	15	1.0	*	mg/L	50	1/24/2017 7:57:08 AM	29771
Magnesium	28	1.0		mg/L	1	1/20/2017 8:31:14 PM	29771
Manganese	0.35	0.0020	*	mg/L	1	1/20/2017 8:31:14 PM	29771
Potassium	1.6	1.0		mg/L	1	1/20/2017 8:31:14 PM	29771
Sodium	220	10		mg/L	10	1/20/2017 8:32:54 PM	29771
EPA METHOD 8270C: PAHS						Analyst	DAM
Naphthalene	ND	0.50		µg/L	1	1/19/2017 2:45:55 PM	29754
1-Methylnaphthalene	ND	0.50		µg/L	1	1/19/2017 2:45:55 PM	29754
2-Methylnaphthalene	ND	0.50		µg/L	1	1/19/2017 2:45:55 PM	29754
Acenaphthylene	ND	0.50		µg/L	1	1/19/2017 2:45:55 PM	29754
Acenaphthene	ND	0.50		µg/L	1	1/19/2017 2:45:55 PM	29754
Fluorene	ND	0.50		µg/L	1	1/19/2017 2:45:55 PM	29754
Phenanthrene	ND	0.50		µg/L	1	1/19/2017 2:45:55 PM	29754
Anthracene	ND	0.50		µg/L	1	1/19/2017 2:45:55 PM	29754
Fluoranthene	ND	0.50		µg/L	1	1/19/2017 2:45:55 PM	29754
Pyrene	ND	0.50		µg/L	1	1/19/2017 2:45:55 PM	29754

Matrix: AQUEOUS

*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 31
ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified
	* H ND R S	 D Sample Diluted Due to Matrix H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits 	DSample Diluted Due to MatrixEHHolding times for preparation or analysis exceededJNDNot Detected at the Reporting LimitPRRPD outside accepted recovery limitsRL

Lab Order 1701540

Date Reported: 1/31/2017

CLIENT: Western Refining Southwest, Project: GBR Annual Sampling	Inc.		Client Samp Collection		BR-17 2/2017 11:50:00 AM	
Lab ID: 1701540-001	Matrix:	AQUEOUS	Received	Date: 1/1	3/2017 7:20:00 AM	
Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: PAHS					Analyst	DAM
Benz(a)anthracene	ND	0.50	µg/L	1	1/19/2017 2:45:55 PM	29754
Chrysene	ND	0.50	µg/L	1	1/19/2017 2:45:55 PM	29754
Benzo(b)fluoranthene	ND	0.50	µg/L	1	1/19/2017 2:45:55 PM	29754
Benzo(k)fluoranthene	ND	0.50	µg/L	1	1/19/2017 2:45:55 PM	29754
Benzo(a)pyrene	ND	0.50	µg/L	1	1/19/2017 2:45:55 PM	29754
Dibenz(a,h)anthracene	ND	0.50	µg/L	1	1/19/2017 2:45:55 PM	29754
Benzo(g,h,i)perylene	ND	0.50	µg/L	1	1/19/2017 2:45:55 PM	29754
Indeno(1,2,3-cd)pyrene	ND	0.50	µg/L	1	1/19/2017 2:45:55 PM	29754
Surr: N-hexadecane	69.6	15-176	%Rec	1	1/19/2017 2:45:55 PM	29754
Surr: Benzo(e)pyrene	64.2	15-198	%Rec	1	1/19/2017 2:45:55 PM	29754
EPA METHOD 8260B: VOLATILES					Analyst	BCN
Benzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B4001
Toluene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B4001
Ethylbenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B4001
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B4001
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B4001
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B4001
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B4001
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
Naphthalene	ND	2.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
1-Methylnaphthalene	ND	4.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
2-Methylnaphthalene	ND	4.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
Acetone	ND	10	µg/L	1	1/14/2017 2:11:00 AM	B40014
Bromobenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
Bromodichloromethane	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
Bromoform	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
Bromomethane	ND	3.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
2-Butanone	ND	10	µg/L	1	1/14/2017 2:11:00 AM	B40014
Carbon disulfide	ND	10	µg/L	1	1/14/2017 2:11:00 AM	B40014
Carbon Tetrachloride	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
Chlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
Chloroethane	ND	2.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
Chloroform	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
Chloromethane	ND	3.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
2-Chlorotoluene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
4-Chlorotoluene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
cis-1,2-DCE	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
cis-1,3-Dichloropropene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B40014
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	1/14/2017 2:11:00 AM	B40014

Hall Environmental Analysis Laboratory, Inc.

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 31
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling 1701540-001

Lab ID:

Client Sample ID: GBR-17 Collection Date: 1/12/2017 11:50:00 AM

Received Date: 1/13/2017 7:20:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
Dibromochloromethane	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B4001
Dibromomethane	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B4001
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B4001
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B4001
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,1-Dichloroethane	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,1-Dichloroethene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,2-Dichloropropane	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,3-Dichloropropane	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
2,2-Dichloropropane	ND	2.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,1-Dichloropropene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
Hexachlorobutadiene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
2-Hexanone	ND	10	µg/L	1	1/14/2017 2:11:00 AM	B400
Isopropylbenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
4-Isopropyltoluene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
4-Methyl-2-pentanone	ND	10	µg/L	1	1/14/2017 2:11:00 AM	B400
Methylene Chloride	ND	3.0	µg/L	1	1/14/2017 2:11:00 AM	B400
n-Butylbenzene	ND	3.0	µg/L	1	1/14/2017 2:11:00 AM	B400
n-Propylbenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
sec-Butylbenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
Styrene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
tert-Butylbenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/14/2017 2:11:00 AM	B400
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
trans-1,2-DCE	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
Trichlorofluoromethane	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/14/2017 2:11:00 AM	B400
Vinyl chloride	ND	1.0	µg/L	1	1/14/2017 2:11:00 AM	B400
Xylenes, Total	ND	1.5	µg/L	1	1/14/2017 2:11:00 AM	B400
Surr: 1,2-Dichloroethane-d4	99.2	70-130	%Rec	1	1/14/2017 2:11:00 AM	B400
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	1/14/2017 2:11:00 AM	B400

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 31
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

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CLIENT:	Western Refining Southwest, In	с.	C	lient Samp	le ID: GBR-17	
Project:	GBR Annual Sampling			Collection	Date: 1/12/2017 11:50:00 AM	
Lab ID:	1701540-001	Matrix:	AQUEOUS	Received	Date: 1/13/2017 7:20:00 AM	
Analyses		Result	POL Oual	Units	DF Date Analyzed	Batch
v			- ((CHING	j	
	HOD 8260B: VOLATILES				Analyst	
EPA MET	HOD 8260B: VOLATILES	96.7	70-130	%Rec		

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 31
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

GBR Annual Sampling Project: 1701540-002

Lab ID:

Client Sample ID: GBR-49 Collection Date: 1/12/2017 12:50:00 PM Received Date: 1/13/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst	JLF
Antimony	ND	0.0010		mg/L	1	1/23/2017 1:31:33 PM	29771
Arsenic	0.0042	0.0010		mg/L	1	1/23/2017 1:31:33 PM	29771
Copper	0.013	0.0010		mg/L	1	1/23/2017 1:31:33 PM	29771
Lead	0.0072	0.00050		mg/L	1	1/23/2017 1:31:33 PM	29771
Selenium	0.0081	0.0010		mg/L	1	1/23/2017 1:31:33 PM	29771
Thallium	ND	0.00050		mg/L	1	1/23/2017 1:31:33 PM	29771
SM2340B: HARDNESS						Analyst	TES
Hardness (As CaCO3)	1200	6.6		mg/L	1	1/20 <mark>/</mark> 2017	R4017
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	0.99	0.10		mg/L	1	1/24/2017 5:37:38 PM	R4024
Chloride	210	10		mg/L	20	1/18 <mark>/2017 2:49:51 AM</mark>	A4010
Bromide	0.98	0.10		mg/L	1	1/18 <mark>/2017 2:37:26 AM</mark>	A4010
Phosphorus, Orthophosphate (As P)	ND	10	н	mg/L	20	1/18 <mark>/2017 2:49:51 AM</mark>	A4010
Sulfate	1900	50	*	mg/L	100	1/20/2017 5:40:34 PM	R4019
Nitrate+Nitrite as N	1.9	1.0		mg/L	5	1/20 <mark>/2017 7:44:41 PM</mark>	R4019
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	3800	1.0		µmhos/cm	1	1/16 <mark>/</mark> 2017 3:44:26 PM	R4005
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	260.7	20.00		mg/L CaCO3	1	1/16/2017 3:44:26 PM	R4005
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/16/2017 3:44:26 PM	R4005
Total Alkalinity (as CaCO3)	260.7	20.00		mg/L CaCO3	1	1/16 <mark>/</mark> 2017 3:44:26 PM	R4005
SM2540C MOD: TOTAL DISSOLVED SC	LIDS					Analyst	KS
Total Dissolved Solids	3160	100	*D	mg/L	1	1/18 <mark>/</mark> 2017 4:23:00 PM	29736
SM4500-H+B: PH						Analyst	JRR
рН	7.31	1.68	Н	pH units	1	1/16 <mark>/</mark> 2017 3:44:26 PM	R4005
EPA METHOD 200.7: METALS						Analyst	MED
Barium	0.10	0.0020		mg/L	1	1/24/2017 7:01:07 AM	29771
Beryllium	ND	0.0020		mg/L	1	1/24/2017 7:01:07 AM	29771
Cadmium	ND	0.0020		mg/L	1	1/24/2017 7:01:07 AM	29771
Calcium	410	5.0		mg/L	5	1/20/2017 8:36:42 PM	29771
Chromium	0.20	0.0060	*	mg/L	1	1/20/2017 8:35:04 PM	29771
Iron	11	1.0	*	mg/L	50	1/24/2017 8:00:59 AM	29771
Magnesium	43	1.0		mg/L	1	1/20/2017 8:35:04 PM	29771
Manganese	1.1	0.010	*	mg/L	5	1/20/2017 8:36:42 PM	29771
Nickel	0.20	0.010	*	mg/L	1	1/24/2017 7:59:15 AM	29771
Potassium	2.5	1.0		mg/L	1	1/20/2017 8:35:04 PM	29771

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 31
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT:Western Refining Southwest, Inc.Client Sample ID: GBR-49Project:GBR Annual SamplingCollection Date: 1/12/2017 12:50:00 PMLab ID:1701540-002Matrix: AQUEOUSReceived Date: 1/13/2017 7:20:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS					Analyst	MED
Silver	ND	0.0050	mg/L	1	1/24/2017 7:01:07 AM	29771
Sodium	430	5.0	mg/L	5	1/20/2017 8:36:42 PM	29771
Zinc	0.036	0.010	mg/L	1	1/24/2017 7:59:15 AM	29771
EPA METHOD 245.1: MERCURY					Analyst	pmf
Mercury	ND	0.00020	mg/L	1	1/17/2017 10:52:24 AM	29703
EPA METHOD 8260B: VOLATILES					Analyst	BCN
Benzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Toluene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Ethylbenzene	ND	1.0	μg/L	1	1/14/2017 2:35:00 AM	B40014
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	1/14/2017 2:35:00 AM	B40014
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	1/14/2017 2:35:00 AM	B40014
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Naphthalene	ND	2.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
1-Methylnaphthalene	ND	4.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
2-Methylnaphthalene	ND	4.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Acetone	ND	10	µg/L	1	1/14/2017 2:35:00 AM	B40014
Bromobenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Bromodichloromethane	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Bromoform	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Bromomethane	ND	3.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
2-Butanone	ND	10	µg/L	1	1/14/2017 2:35:00 AM	B40014
Carbon disulfide	ND	10	µg/L	1	1/14/2017 2:35:00 AM	B40014
Carbon Tetrachloride	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Chlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Chloroethane	ND	2.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Chloroform	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Chloromethane	ND	3.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
2-Chlorotoluene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
4-Chlorotoluene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
cis-1,2-DCE	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
cis-1,3-Dichloropropene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Dibromochloromethane	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Dibromomethane	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 6 of 31
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report Lab Order 1701540

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Lab ID: 1701540-002

Date Reported: 1/31/2017 Client Sample ID: GBR-49

Collection Date: 1/12/2017 12:50:00 PM

Received Date: 1/13/2017 7:20:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
1,1-Dichloroethane	ND	1.0	µg/L	1	1/1 <mark>4</mark> /2017 2:35:00 AM	B40014
1,1-Dichloroethene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
1,2-Dichloropropane	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
1,3-Dichloropropane	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
2,2-Dichloropropane	ND	2.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
1,1-Dichloropropene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
Hexachlorobutadiene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
2-Hexanone	ND	10	µg/L	1	1/14/2017 2:35:00 AM	B40014
Isopropylbenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
4-Isopropyltoluene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
4-Methyl-2-pentanone	ND	10	µg/L	1	1/14/2017 2:35:00 AM	B40014
Methylene Chloride	ND	3.0	µg/L	1	1/14/2017 2:35:00 AM	B40014
n-Butylbenzene	ND	3.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
n-Propylbenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
sec-Butylbenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
Styrene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
tert-Butylbenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
Tetrachloroethene (PCE)	1.3	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
trans-1,2-DCE	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
Trichlorofluoromethane	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
Vinyl chloride	ND	1.0	µg/L	1	1/14/2017 2:35:00 AM	B4001
Xylenes, Total	ND	1.5	µg/L	1	1/14/2017 2:35:00 AM	B4001
Surr: 1,2-Dichloroethane-d4	97.8	70-130	%Rec	1	1/14/2017 2:35:00 AM	B4001
Surr: 4-Bromofluorobenzene	100	70-130	%Rec	1	1/14/2017 2:35:00 AM	B4001
Surr: Dibromofluoromethane	93.4	70-130	%Rec	1	1/14/2017 2:35:00 AM	B4001
Surr: Toluene-d8	98.7	70-130	%Rec	1	1/14/2017 2:35:00 AM	B40014

Matrix: AQUEOUS

Qualifiers:	Qualifiers: * Value exceeds Maximum Contaminant Level.		в	Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix		E	Value above quantitation range	
H Holding times for preparation or analysis exceeded		J	Analyte detected below quantitation limits Page 7 of 31	
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

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Project:

Lab ID:

CLIENT: Western Refining Southwest, Inc. **Client Sample ID: GBR-32 GBR** Annual Sampling Collection Date: 1/12/2017 1:55:00 PM 1701540-003 Matrix: AQUEOUS Received Date: 1/13/2017 7:20:00 AM Recult POL Qual Units **DF** Date Analyzed

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst	JLF
Antimony	ND	0.0010		mg/L	1	1/23/2017 1:36:42 PM	29771
Arsenic	ND	0.0050		mg/L	5	1/23/2017 2:21:09 PM	29771
Copper	0.017	0.0010		mg/L	1	1/23/2017 1:36:42 PM	29771
Lead	0.0048	0.00050		mg/L	1	1/23/2017 1:36:42 PM	29771
Selenium	0.0099	0.0010		mg/L	1	1/23/2017 1:36:42 PM	29771
Thallium	ND	0.00050		mg/L	1	1/23/2017 1:36:42 PM	29771
SM2340B: HARDNESS						Analyst	TES
Hardness (As CaCO3)	1300	6.6		mg/L	1	1/20/2017	R4017
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	0.83	0.10		mg/L	1	1/24/2017 5:50:03 PM	R4024
Chloride	320	10	*	mg/L	20	1/18/2017 3:14:41 AM	A4010
Bromide	1.5	0.10		mg/L	1	1/18/2017 3:02:15 AM	A4010
Phosphorus, Orthophosphate (As P)	ND	10	н	mg/L	20	1/18/2017 3:14:41 AM	A4010
Sulfate	2000	50	*	mg/L	100	1/20/2017 5:52:59 PM	R4019
Nitrate+Nitrite as N	1.0	1.0		mg/L	5	1/20/2017 7:57:06 PM	R4019
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	4100	1.0		µmhos/cm	1	1/16/2017 3:57:41 PM	R4005
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	246.5	20.00		mg/L CaCO3	1	1/16/2017 3:57:41 PM	R4005
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/16/2017 3:57:41 PM	R4005
Total Alkalinity (as CaCO3)	246.5	20.00		mg/L CaCO3	1	1/16/2017 3:57:41 PM	R4005
SM2540C MOD: TOTAL DISSOLVED SO	LIDS					Analyst	KS
Total Dissolved Solids	3500	100	*D	mg/L	1	1/18/2017 4:23:00 PM	29736
SM4500-H+B: PH						Analyst	JRR
pH	7.01	1.68	Н	pH units	1	1/16/2017 3:57:41 PM	R4005
EPA METHOD 200.7: METALS						Analyst	MED
Barium	0.092	0.0020		mg/L	1	1/24/2017 7:05:02 AM	29771
Beryllium	ND	0.0020		mg/L	1	1/24/2017 7:05:02 AM	29771
Cadmium	ND	0.0020		mg/L	1	1/24/2017 7:05:02 AM	29771
Calcium	430	5.0		mg/L	5	1/20/2017 8:40:23 PM	29771
Chromium	0.33	0.0060	*	mg/L	1	1/20/2017 8:38:43 PM	29771
Iron	11	1.0	*	mg/L	50	1/24/2017 8:04:48 AM	29771
Magnesium	46	1.0		mg/L	1	1/20/2017 8:38:43 PM	29771
Manganese	1.2	0.010	*	mg/L	5	1/20/2017 8:40:23 PM	29771
Nickel	0.33	0.010	*	mg/L	1	1/24/2017 8:03:07 AM	29771
Potassium	2.6	1.0		mg/L	1	1/20/2017 8:38:43 PM	29771

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

- Е Value above quantitation range
- Analyte detected below quantitation limits Page 8 of 31 J
- Sample pH Not In Range Ρ
- RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1701540

Date Reported: 1/31/2017

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

1701540-003

Lab ID:

Client Sample ID: GBR-32 Collection Date: 1/12/2017 1:55:00 PM

Received Date: 1/13/2017 7:20:00 AM

Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS					Analyst	MED
Silver	ND	0.0050	mg/L	1	1/24/2017 7:05:02 AM	29771
Sodium	560	50	mg/L	50	1/2 <mark>4</mark> /2017 7:06:42 AM	29771
Zinc	0.023	0.010	mg/L	1	1/24/2017 8:03:07 AM	29771
EPA METHOD 245.1: MERCURY					Analyst	pmf
Mercury	ND	0.00020	mg/L	1	1/17/2017 10:54:28 AM	29703
EPA METHOD 8260B: VOLATILES					Analyst	BCN
Benzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Toluene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Ethylbenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Naphthalene	ND	2.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
1-Methylnaphthalene	ND	4.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
2-Methylnaphthalene	ND	4.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Acetone	ND	10	µg/L	1	1/14/2017 2:59:00 AM	B40014
Bromobenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Bromodichloromethane	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Bromoform	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Bromomethane	ND	3.0	μg/L	1	1/14/2017 2:59:00 AM	B40014
2-Butanone	ND	10	µg/L	1	1/14/2017 2:59:00 AM	B40014
Carbon disulfide	ND	10	µg/L	1	1/14 <mark>/</mark> 2017 2:59:00 AM	B40014
Carbon Tetrachloride	ND	1.0	µg/L	1	1/14 <mark>/</mark> 2017 2:59:00 AM	B40014
Chlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Chloroethane	ND	2.0	μg/L	1	1/14/2017 2:59:00 AM	B40014
Chloroform	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Chloromethane	ND	3.0	µg/L	1	1/14 <mark>/</mark> 2017 2:59:00 AM	B40014
2-Chlorotoluene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
4-Chlorotoluene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
cis-1,2-DCE	ND	1.0	μg/L	1	1/14/2017 2:59:00 AM	B40014
cis-1,3-Dichloropropene	ND	1.0	µg/L	1	1/14/ <mark>2017 2:59:00 AM</mark>	B40014
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Dibromochloromethane	ND	1.0	µg/L	1	1/14/ <mark>2017 2:59:00 AM</mark>	B40014
Dibromomethane	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	H Holding times for preparation or analysis exceeded		J	Analyte detected below quantitation limits Page 9 of 31
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

1701540-003

Lab ID:

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Client Sample ID: GBR-32

Collection Date: 1/12/2017 1:55:00 PM

Matrix: AQUEOUS

COUS Received Date: 1/13/2017 7:20:00 AM

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
1,1-Dichloroethane	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
1,1-Dichloroethene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
1,2-Dichloropropane	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B40014
1,3-Dichloropropane	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
2,2-Dichloropropane	ND	2.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
1,1-Dichloropropene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
Hexachlorobutadiene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
2-Hexanone	ND	10	µg/L	1	1/14/2017 2:59:00 AM	B4001
Isopropylbenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
4-Isopropyltoluene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
4-Methyl-2-pentanone	ND	10	µg/L	1	1/14/2017 2:59:00 AM	B4001
Methylene Chloride	ND	3.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
n-Butylbenzene	ND	3.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
n-Propylbenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
sec-Butylbenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
Styrene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
tert-Butylbenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
Tetrachloroethene (PCE)	1.3	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
trans-1,2-DCE	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
Trichlorofluoromethane	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
Vinyl chloride	ND	1.0	µg/L	1	1/14/2017 2:59:00 AM	B4001
Xylenes, Total	ND	1.5	µg/L	1	1/14/2017 2:59:00 AM	B4001
Surr: 1,2-Dichloroethane-d4	99.9	70-130	%Rec	1	1/14/2017 2:59:00 AM	B4001
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	1/14/2017 2:59:00 AM	B4001
Surr: Dibromofluoromethane	97.6	70-130	%Rec	1	1/14/2017 2:59:00 AM	B4001
Surr: Toluene-d8	98.9	70-130	%Rec	1	1/14/2017 2:59:00 AM	B4001

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	H Holding times for preparation or analysis exceeded		J	Analyte detected below quantitation limit Page 10 of 31
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Lab ID: 1701540-004

Client Sample ID: GBR-48 Collection Date: 1/12/2017 3:10:00 PM Received Date: 1/13/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS					5.7	Analyst	JLF
Antimony	ND	0.0010		mg/L	1	1/2 <mark>3</mark> /2017 1:41:50 PM	29771
Arsenic	0.010	0.0010	*	mg/L	1	1/23/2017 1:41:50 PM	29771
Copper	0.12	0.0050		mg/L	5	1/23/2017 2:26:18 PM	29771
Lead	0.066	0.0025	*	mg/L	5	1/23/2017 2:26:18 PM	29771
Selenium	0.014	0.0010		mg/L	1	1/23/2017 1:41:50 PM	29771
Thallium	0.0014	0.00050		mg/L	1	1/23/2017 1:41:50 PM	29771
SM2340B: HARDNESS						Analyst	MED
Hardness (As CaCO3)	1900	6.6		mg/L	1	1/24/2017	R40223
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	0.87	0.10		mg/L	1	1/24/2017 6:02:28 PM	R40241
Chloride	340	25	*	mg/L	50	1/20/2017 6:55:02 PM	R40195
Bromide	0.99	0.10		mg/L	1	1/20/2017 6:42:38 PM	R40195
Phosphorus, Orthophosphate (As P)	ND	0.50	Н	mg/L	1	1/20/2017 6:42:38 PM	R40195
Sulfate	2000	25	*	mg/L	50	1/20/2017 6:55:02 PM	R40195
Nitrate+Nitrite as N	3.2	1.0		mg/L	5	1/20/2017 8:09:30 PM	R40195
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	4300	1.0		µmhos/cm	1	1/16/2017 4:10:59 PM	R40056
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	276.8	20.00		mg/L CaCO3	1	1/16 <mark>/</mark> 2017 4:10:59 PM	R40056
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/16/2017 4:10:59 PM	R40056
Total Alkalinity (as CaCO3)	276.8	20.00		mg/L CaCO3	1	1/16/2017 4:10:59 PM	R40056
SM2540C MOD: TOTAL DISSOLVED SC	LIDS					Analyst	KS
Total Dissolved Solids	3360	200	*D	mg/L	1	1/18/2017 4:23:00 PM	29736
SM4500-H+B: PH						Analyst	JRR
рН	7.26	1.68	н	pH units	1	1/16/2017 4:10:59 PM	R40056
EPA METHOD 200.7: METALS						Analyst	MED
Barium	0.52	0.0020		mg/L	1	1/24/2017 7:08:48 AM	29771
Beryllium	0.0065	0.0020	*	mg/L	1	1/24/ <mark>2017 7:08:48 AM</mark>	29771
Cadmium	ND	0.0020		mg/L	1	1/24/2017 7:08:48 AM	29771
Calcium	650	100		mg/L	100	1/24/2017 8:08:43 AM	29771
Chromium	0.42	0.0060	*	mg/L	1	1/20/2017 8:42:20 PM	29771
Iron	89	2.0	*	mg/L		1/24/2017 8:08:43 AM	29771
Magnesium	66	1.0		mg/L	1	1/24/2017 8:06:55 AM	29771
Manganese	4.8	0.010	*	mg/L	5	1/20/2017 8:51:27 PM	29771
Nickel	0.24	0.010	*	mg/L	1	1/24/2017 8:06:55 AM	29771
Potassium	13	1.0		mg/L	1	1/20/2017 8:42:20 PM	29771

Matrix: AQUEOUS

*	Value exceeds Maximum Contaminant Level.		Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix		Е	Value above quantitation range
H Holding times for preparation or analysis exceeded		J	Analyte detected below quantitation limit Page 11 of 31
ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
R RPD outside accepted recovery limits		RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified
	ND	 D Sample Diluted Due to Matrix H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits 	DSample Diluted Due to MatrixEHHolding times for preparation or analysis exceededJNDNot Detected at the Reporting LimitPRRPD outside accepted recovery limitsRL

Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

Project: Lab ID:

1701540-004

CLIENT: Western Refining Southwest, Inc. **Client Sample ID: GBR-48** Collection Date: 1/12/2017 3:10:00 PM GBR Annual Sampling Matrix: AQUEOUS Received Date: 1/13/2017 7:20:00 AM

Analyses	Result	PQL Q	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS					Analyst	MED
Silver	ND	0.0050	mg/L	1	1/24/2017 7:08:48 AM	29771
Sodium	460	5.0	mg/L	5	1/20/2017 8:51:27 PM	29771
Zinc	0.20	0.010	mg/L	1	1/24/2017 8:06:55 AM	29771
EPA METHOD 245.1: MERCURY					Analyst	pmf
Mercury	ND	0.00020	mg/L	1	1/17/2017 10:56:26 AM	29703
EPA METHOD 8260B: VOLATILES					Analyst	BCN
Benzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
Toluene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
Ethylbenzene	ND	1.0	μg/L	1	1/14/2017 3:23:00 AM	B4001
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001-
Naphthalene	ND	2.0	μg/L	1	1/14/2017 3:23:00 AM	B4001
1-Methylnaphthalene	ND	4.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
2-Methylnaphthalene	ND	4.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
Acetone	ND	10	µg/L	1	1/14/2017 3:23:00 AM	B4001
Bromobenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
Bromodichloromethane	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
Bromoform	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
Bromomethane	ND	3.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
2-Butanone	ND	10	µg/L	1	1/14/2017 3:23:00 AM	B4001
Carbon disulfide	ND	10	µg/L	1	1/14/2017 3:23:00 AM	B4001
Carbon Tetrachloride	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
Chlorobenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
Chloroethane	ND	2.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
Chloroform	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
Chloromethane	ND	3.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
2-Chlorotoluene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
4-Chlorotoluene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
cis-1,2-DCE	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
cis-1,3-Dichloropropene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
Dibromochloromethane	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
Dibromomethane	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B4001
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014

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12 of 31
12 01 51
specified

Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling Lab ID: 1701540-004 Client Sample ID: GBR-48 Collection Date: 1/12/2017 3:10:00 PM Received Date: 1/13/2017 7:20:00 AM

Matrix: AQUEOUS Received

Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,1-Dichloroethane	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,1-Dichloroethene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,2-Dichloropropane	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,3-Dichloropropane	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
2,2-Dichloropropane	ND	2.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,1-Dichloropropene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
Hexachlorobutadiene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
2-Hexanone	ND	10	µg/L	1	1/14/2017 3:23:00 AM	B40014
Isopropylbenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
4-Isopropyltoluene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
4-Methyl-2-pentanone	ND	10	µg/L	1	1/14/2017 3:23:00 AM	B40014
Methylene Chloride	ND	3.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
n-Butylbenzene	ND	3.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
n-Propylbenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
sec-Butylbenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
Styrene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
tert-Butylbenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
trans-1,2-DCE	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
Trichlorofluoromethane	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
Vinyl chloride	ND	1.0	µg/L	1	1/14/2017 3:23:00 AM	B40014
Xylenes, Total	ND	1.5	µg/L	1	1/14/2017 3:23:00 AM	B40014
Surr: 1,2-Dichloroethane-d4	100	70-130	%Rec	1	1/14/ <mark>2017 3:23:00 AM</mark>	B40014
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	1/14/2017 3:23:00 AM	B40014
Surr: Dibromofluoromethane	98.1	70-130	%Rec	1	1/14/2017 3:23:00 AM	B40014
Surr: Toluene-d8	99.4	70-130	%Rec	1	1/14/2017 3:23:00 AM	B40014

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the assoc	iated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation ran	ge
	H Holding times for preparation or analysis exc		J	Analyte detected below quan	titation limitsPage 13 of 31
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	1 450 15 01 51
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperatur	e is out of limit as specified

Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

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CLIENT: Western Refining Southwest, In	c.		C	lient Sample I	D: GE	3R-50	
Project: GBR Annual Sampling				Collection Dat	te: 1/1	2/2017 4:20:00 PM	
Lab ID: 1701540-005	Matrix:	AQUEOU	S	Received Dat	te: 1/1	3/2017 7:20:00 AM	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst	JLF
Antimony	ND	0.0010		mg/L	1	1/23/2017 1:46:58 PM	29771
Arsenic	0.0043	0.0010		mg/L	1	1/23/2017 1:46:58 PM	29771
Copper	0.011	0.0010		mg/L	1	1/23/2017 1:46:58 PM	29771
Lead	0.0032	0.00050		mg/L	1	1/23/2017 1:46:58 PM	29771
Selenium	0.0081	0.0010		mg/L	1	1/23/2017 1:46:58 PM	29771
Thallium	ND	0.00050		mg/L	1	1/23/2017 1:46:58 PM	29771
SM2340B: HARDNESS						Analyst	MED
Hardness (As CaCO3)	1100	6.6		mg/L	1	1/24/2017	R40223
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	1.1	0.10		mg/L	1	1/24/2017 6:14:52 PM	R40241
Chloride	59	25		mg/L	50	1/20/2017 7:19:52 PM	R40195
Bromide	0.24	0.10		mg/L	1	1/20/2017 7:07:27 PM	R40195
Phosphorus, Orthophosphate (As P)	ND	0.50	Н	mg/L	1	1/20/2017 7:07:27 PM	R40195
Sulfate	1500	25	*	mg/L	50	1/20/2017 7:19:52 PM	R40195
Nitrate+Nitrite as N	2.4	1.0		mg/L	5	1/20/2017 8:21:55 PM	R40195
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	3000	1.0		µmhos/cm	1	1/16/2017 4:24:57 PM	R40056
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	273.0	20.00		mg/L CaCO3	1	1/16/2017 4:24:57 PM	R40056
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/16/2017 4:24:57 PM	R40056
Total Alkalinity (as CaCO3)	273.0	20.00		mg/L CaCO3	1	1/16/2017 4:24:57 PM	R40056
SM2540C MOD: TOTAL DISSOLVED SO	LIDS					Analyst	KS
Total Dissolved Solids	2580	100	*D	mg/L	1	1/18/2017 4:23:00 PM	29736
SM4500-H+B: PH						Analyst:	JRR
рН	7.35	1.68	Н	pH units	1	1/16/2017 4:24:57 PM	R40056
EPA METHOD 200.7: METALS						Analyst:	MED
Barium	0.063	0.0020		mg/L	1	1/24/2017 7:12:49 AM	29771
Beryllium	ND	0.0020		mg/L	1	1/24/2017 7:12:49 AM	29771
Cadmium	ND	0.0020		mg/L	1	1/24/2017 7:12:49 AM	29771
Calcium	400	10		mg/L	10	1/24/2017 8:23:13 AM	29771
Chromium	0.36	0.0060	*	mg/L	1	1/24/2017 7:12:49 AM	29771
Iron	6.8	0.20	*	mg/L	10	1/24/2017 8:23:13 AM	29771
Magnesium	31	1.0		mg/L	1	1/24/2017 7:12:49 AM	29771
Manganese	1.3	0.020	*	mg/L	10	1/24/2017 8:23:13 AM	29771
Nickel	0.17	0.010	*	mg/L	1	1/24/2017 8:10:46 AM	29771
Potassium	1.8	1.0		mg/L	1	1/20/2017 8:53:18 PM	29771

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit Page 14 of 31
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1701540

Date Reported: 1/31/2017

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

1701540-005

Lab ID:

Client Sample ID: GBR-50 Collection Date: 1/12/2017 4:20:00 PM

Received Date: 1/13/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date	e Analyzed	Batch
EPA METHOD 200.7: METALS							Analyst:	MED
Silver	ND	0.0050		mg/L	1	1/24	/2017 7:12:49 AM	29771
Sodium	340	5.0		mg/L	5	1/20	/2017 8:54:58 PM	29771
Zinc	0.020	0.010		mg/L	1	1/24	/2017 8:10:46 AM	29771
EPA METHOD 245.1: MERCURY							Analyst:	pmf
Mercury	ND	0.00020		mg/L	1	1/17	2017 10:58:24 AM	29703
EPA METHOD 8260B: VOLATILES							Analyst:	BCN
Benzene	ND	1.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
Toluene	ND	1.0		µg/L	1		2017 3:46:00 AM	B40014
Ethylbenzene	ND	1.0		µg/L	1		2017 3:46:00 AM	B40014
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
Naphthalene	ND	2.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
1-Methylnaphthalene	ND	4.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
2-Methylnaphthalene	ND	4.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
Acetone	ND	10		µg/L	1	1/14	2017 3:46:00 AM	B40014
Bromobenzene	ND	1.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
Bromodichloromethane	ND	1.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
Bromoform	ND	1.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
Bromomethane	ND	3.0		µg/L	1	1/14	2017 3:46:00 AM	B40014
2-Butanone	ND	10		µg/L	1	1/14	2017 3:46:00 AM	B40014
Carbon disulfide	ND	10		µg/L	1	1/14	2017 3:46:00 AM	B40014
Carbon Tetrachloride	ND	1.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
Chlorobenzene	ND	1.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
Chloroethane	ND	2.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
Chloroform	ND	1.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
Chloromethane	ND	3.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
2-Chlorotoluene	ND	1.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
4-Chlorotoluene	ND	1.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
cis-1,2-DCE	ND	1.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	- 1	1/14	/2017 3:46:00 AM	B40014
Dibromochloromethane	ND	1.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
Dibromomethane	ND	1.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
1,2-Dichlorobenzene	ND	1.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014
1,3-Dichlorobenzene	ND	1.0		µg/L	1	1/14	/2017 3:46:00 AM	B40014

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 15 of 31
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701540

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-50 Collection Date: 1/12/2017 4:20:00 PM **GBR** Annual Sampling **Project:** Lab ID: 1701540-005 Matrix: AQUEOUS Received Date: 1/13/2017 7:20:00 AM Result **PQL** Qual Units **DF** Date Analyzed Batch Analyses EPA METHOD 8260B: VOLATILES Analyst: BCN B40014 1,4-Dichlorobenzene ND 1.0 µg/L 1 1/14/2017 3:46:00 AM ND 1.0 1 1/14/2017 3:46:00 AM B40014 Dichlorodifluoromethane µg/L 1,1-Dichloroethane ND 1.0 µg/L 1 1/14/2017 3:46:00 AM B40014 1,1-Dichloroethene ND 1.0 µg/L 1 1/14/2017 3:46:00 AM B40014 1,2-Dichloropropane ND 1.0 µg/L 1 1/14/2017 3:46:00 AM B40014 1,3-Dichloropropane ND 1.0 µg/L 1 1/14/2017 3:46:00 AM B40014 2,2-Dichloropropane ND 2.0 µg/L 1 1/14/2017 3:46:00 AM B40014 1/14/2017 3:46:00 AM B40014 1,1-Dichloropropene ND 1.0 1 µg/L Hexachlorobutadiene ND 1.0 µg/L 1 1/14/2017 3:46:00 AM B40014 ND 10 1 1/14/2017 3:46:00 AM B40014 2-Hexanone µg/L B40014 Isopropylbenzene ND 1.0 µg/L 1 1/14/2017 3:46:00 AM 4-Isopropyltoluene ND 1.0 µg/L 1 1/14/2017 3:46:00 AM B40014 ND 1/14/2017 3:46:00 AM B40014 4-Methyl-2-pentanone 10 µg/L 1 Methylene Chloride ND 3.0 µg/L 1 1/14/2017 3:46:00 AM B40014 n-Butylbenzene ND 3.0 µg/L 1 1/14/2017 3:46:00 AM B40014 n-Propylbenzene ND 1.0 µg/L 1 1/14/2017 3:46:00 AM B40014 ND 1.0 B40014 sec-Butylbenzene µg/L 1 1/14/2017 3:46:00 AM 1.0 1/14/2017 3:46:00 AM B40014 Styrene ND µg/L 1 tert-Butylbenzene ND 1.0 1/14/2017 3:46:00 AM B40014 µg/L 1 1,1,1,2-Tetrachloroethane ND 1.0 µg/L 1 1/14/2017 3:46:00 AM B40014 1,1,2,2-Tetrachloroethane 2.0 1/14/2017 3:46:00 AM B40014 ND µg/L 1 Tetrachloroethene (PCE) ND 1/14/2017 3:46:00 AM B40014 1.0 µg/L 1 trans-1,2-DCE ND 1/14/2017 3:46:00 AM B40014 1.0 µg/L 1 ND 1/14/2017 3:46:00 AM B40014 trans-1,3-Dichloropropene 1.0 µg/L 1 1,2,3-Trichlorobenzene ND 10 µg/L 1 1/14/2017 3:46:00 AM B40014 1,2,4-Trichlorobenzene ND 1.0 µg/L 1 1/14/2017 3:46:00 AM B40014 1/14/2017 3:46:00 AM 1,1,1-Trichloroethane ND 1.0 µg/L 1 B40014 1,1,2-Trichloroethane ND 1.0 1 1/14/2017 3:46:00 AM B40014 µg/L Trichloroethene (TCE) ND 1.0 µg/L 1 1/14/2017 3:46:00 AM B40014 Trichlorofluoromethane ND 1.0 1/14/2017 3:46:00 AM µg/L 1 B40014 1.2.3-Trichloropropane ND 2.0 1/14/2017 3:46:00 AM B40014 µg/L 1 Vinyl chloride ND 1.0 1/14/2017 3:46:00 AM µg/L 1 B40014 Xylenes, Total ND 1.5 µg/L 1 1/14/2017 3:46:00 AM B40014 Surr: 1,2-Dichloroethane-d4 96.4 70-130 %Rec 1 1/14/2017 3:46:00 AM B40014 Surr: 4-Bromofluorobenzene 70-130 %Rec 101 1/14/2017 3:46:00 AM B40014 1

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

70-130

70-130

%Rec

%Rec

95.5

98.2

- Qualifiers:
 *
 Value exceeds Maximum Contaminant Level.

 D
 Sample Diluted Due to Matrix
 - H Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit
 - R RPD outside accepted recovery limits

Surr: Dibromofluoromethane

Surr: Toluene-d8

- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

1

1

- E Value above quantitation range
- J Analyte detected below quantitation limit Page 16 of 31

1/14/2017 3:46:00 AM

1/14/2017 3:46:00 AM

B40014

B40014

- P Sample pH Not In Range
- RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701540

31-Jan-17

Client: Project:		n Refining nnual Sam		st, Inc.							
Sample ID	MB-29771	Samp	Туре: МЕ	BLK	Tes	tCode: E	PA Method	200.7: Metals	6		
Client ID:	PBW	Bate	ch ID: 29	771	F						
						RunNo: 4 SeqNo: 1		Units: mg/L			
Prep Date:	1/18/2017	Analysis	Date: 1/	20/2017							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium		ND	0.0020								
Cadmium		ND	0.0020								
Calcium		ND	1.0								
Chromium		ND	0.0060								
ron		ND	0.020								
Magnesium		ND	1.0								
Manganese		ND	0.0020								
Potassium		ND	1.0								
Silver		ND	0.0050								
Sodium	and a straight	ND	1.0			_					
Sample ID	LCSLL-29771	Samp	Type: LC	SLL	Tes	tCode: E	3				
Client ID:	BatchQC	Bate	ch ID: 29	771	F	RunNo: 4	0177				
Prep Date:	1/18/2017	2017 Analysis Date: 1/20/2017		5	SeqNo: 1	259643	Units: mg/L				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium		ND	0.0020	0.002000	0	77.0	50	150			
Cadmium		0.0023	0.0020	0.002000	0	114	50	150			
Calcium		ND	1.0	0.5000	0	93.6	50	150			
Chromium		ND	0.0060	0.006000	0	89.3	50	150			
ron		0.023	0.020	0.02000	0	115	50	150			
Magnesium		ND	1.0	0.5000	0	100	50	150			
langanese		ND	0.0020	0.002000	0	98.0	50	150			
Potassium		ND	1.0	0.5000	0	64.7	50	150			
Silver		ND	0.0050	0.005000	0	90.4	50	150			
Sodium		ND	1.0	0.5000	0	83.7	50	150			
Sample ID	LCS-29771	Samp	Type: LC	S	Tes	tCode: El	PA Method	200.7: Metals	;		
Client ID:	LCSW	Bato	ch ID: 29	771	F	RunNo: 4	0177				
Prep Date:	1/18/2017	Analysis	Date: 1/	20/2017	5	SeqNo: 1	259644	Units: mg/L			
		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
		rtcount				95.9	85	115			
Analyte		0.48	0.0020	0.5000	0	95.9					
Analyte Beryllium				0.5000	0 0	93.9 93.7	85	115			
Analyte Beryllium Cadmium		0.48 0.47 48	0.0020	0.5000 50.00			85 85				
Analyte Beryllium Cadmium Calcium		0.48 0.47	0.0020 0.0020	0.5000	0	93.7	85	115			
Analyte Beryllium Cadmium Calcium Chromium		0.48 0.47 48	0.0020 0.0020 1.0	0.5000 50.00	0 0	93.7 96.5	85 85	115 115			
Analyte Beryllium Cadmium Calcium Chromium ron		0.48 0.47 48 0.46	0.0020 0.0020 1.0 0.0060	0.5000 50.00 0.5000	0 0 0	93.7 96.5 92.8	85 85 85	115 115 115			
Analyte Beryllium Cadmium Calcium Chromium ron Magnesium Magnese		0.48 0.47 48 0.46 0.47	0.0020 0.0020 1.0 0.0060 0.020	0.5000 50.00 0.5000 0.5000	0 0 0	93.7 96.5 92.8 93.0	85 85 85	115 115 115 115			

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND R
- RPD outside accepted recovery limits S
- % Recovery outside of range due to dilution or matrix

- E Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit

Sample container temperature is out of limit as specified W

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WO#: 1701540 31-Jan-17

Client: Project:		n Refining S nnual Samp		st, Inc.											
Sample ID	LCS-29771	Samp	Type: LC	S	Tes	tCode: E	PA Method	200.7: Metals			, ax				
Client ID:	LCSW	Bato	h ID: 29	771	F	RunNo: 4	0177								
Prep Date:	1/18/2017	Analysis I	Date: 1/	20/2017	S	SeqNo: 1	259644	Units: mg/L							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Silver		0.087	0.0050	0.1000	0	87.4	85	115							
Sodium		47	1.0	50.00	0	93.2	85	115							
Sample ID	MB-29771	Samp	Туре: МЕ	BLK	Tes	tCode: E	PA Method	200.7: Metals	ki pon						
Client ID:	PBW	Batc	h ID: 29	771	F	RunNo: 4	0223								
Prep Date:	1/18/2017	Analysis I	Date: 1/	24/2017	S	SeqNo: 1	261598	Units: mg/L							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Barium		ND	0.0020												
Nickel		ND	0.010												
Zinc		ND	0.010												
Sample ID	LCS-29771	Samp	Type: LC	S	Tes	tCode: E	PA Method	200.7: Metals							
Client ID:	LCSW	Batc	h ID: 29	771	F	RunNo: 4	0223								
Prep Date:	1/18/2017	Analysis I	Date: 1/	24/2017	5	SeqNo: 1	261599	Units: mg/L							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Barium		0.48	0.0020	0.5000	0	95.3	85	115							
Nickel		0.45	0.010	0.5000	0	89.1	85	115							
Zinc		0.46	0.010	0.5000	0	92.4	85	115							
Sample ID	LCSLL-29771	Samp	Type: LC	SLL	Tes	tCode: E	PA Method	200.7: Metals							
Client ID:	BatchQC	Batc	h ID: 29	771	F	RunNo: 4	0223								
Prep Date:	1/18/2017	Analysis I	Date: 1/	24/2017	5	SeqNo: 1	261600	Units: mg/L							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Barium		ND	0.0020	0.002000	0	96.5	50	150							
Nickel		ND	0.010	0.005000	0	106	50	150							
Zinc		ND	0.010	0.005000	0	101	50	150							

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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Client: Project:	Western GBR An	-		st, Inc.							
Sample ID	MB-29771	Samp	оТуре: МЕ	BLK	Tes	tCode: E			171		
Client ID:	PBW	Bat	ch ID: 29	771	RunNo: 40219						
Prep Date:	1/18/2017	Analysis	Date: 1/	23/2017	S	SeqNo: 1	260980	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony		ND	0.0010								
Arsenic		ND	0.0010								
Copper		ND	0.0010								
Lead		ND	0.00050								
Selenium		ND	0.0010								
Thallium		ND	0.00050								
Sample ID	MSLCS-29771	Samp	Type: LC	s	Tes	tCode: E					
Client ID:	Batch ID: 29771				F	RunNo: 4	0219				
Prep Date:	1/18/2017	Analysis	Date: 1/	23/2017	5	SeqNo: 1	260982	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony		0.026	0.0010	0.02500	0	106	85	115			
Arsenic		0.026	0.0010	0.02500	0	102	85	115			
Copper		0.026	0.0010	0.02500	0	102	85	115			
Lead		0.013	0.00050	0.01250	0	103	85	115			
Selenium		0.025	0.0010	0.02500	0	102	85	115			
Thallium		0.013	0.00050	0.01250	0	102	85	115			
Sample ID	MSLCSLL-29771	Samp	Type: LC	SLL	Tes	tCode: E	PA 200.8: N	letals			
Client ID:	BatchQC	Bat	ch ID: 29	771	F	RunNo: 4	0219				
Prep Date:	1/18/2017	Analysis	Date: 1/	23/2017	S	SeqNo: 1	260984	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony		ND	0.0010	0.001000	0	63.2	50	150			
Arsenic		0.0011	0.0010	0.001000	0	114	50	150			
Copper		ND	0.0010	0.001000	0	63.8	50	150			
Lead		ND	0.00050	0.0005000	0	97.0	50	150			
Selenium		0.0010	0.0010	0.001000	0	102	50	150			
Thallium		0.00050	0.00050	0.0005000	0	101	50	150			

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
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WO#: 1701540

31-Jan-17

Client: Project:		Refining Southwest, In nual Sampling	nc.					
Sample ID	MB-29703	SampType: MBLK	Tes	tCode: EPA Method	245.1: Mercur	у		
Client ID:	PBW	Batch ID: 29703	F	RunNo: 40075				
Prep Date:	1/16/2017	Analysis Date: 1/17/2	2017	SeqNo: 1256132	Units: mg/L			
Analyte Mercury		Result PQL SP ND 0.00020	K value SPK Ref Val	%REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID	LCS-29703	SampType: LCS	Tes	tCode: EPA Method	245.1: Mercur	у		
Client ID:	LCSW	Batch ID: 29703	F	RunNo: 40075				
Prep Date:	1/16/2017	Analysis Date: 1/17/2	2017	SeqNo: 1256133	Units: mg/L			
Analyte		Result PQL SP	K value SPK Ref Val	%REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Мегсигу		0.0050 0.00020 0.	.005000 0	100 80	120			

Qualifiers:

- Value exceeds Maximum Contaminant Level. *
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1701540

31-Jan-17

	Refining Southwe	est, Inc.							
Sample ID MB	SampType: M	BLK	Tes	tCode: E	PA Method	300.0: Anion	s		N. C. M
Client ID: PBW	Batch ID: A	40102	F	RunNo: 4	0102		10.00		
Prep Date:	Analysis Date: 1	/18/2017	S	SeqNo: 1	257097	Units: mg/L			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND 0.50								
Bromide	ND 0.10								
hosphorus, Orthophosphate (As P	ND 0.50								
Sample ID LCS	SampType: LO	CS	Tes	tCode: E	PA Method	300.0: Anion	s		
Client ID: LCSW	Batch ID: A	10102	F	RunNo: 4	0102				
Prep Date:	Analysis Date: 1	/18/2017	S	SeqNo: 1	257098	Units: mg/L			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9 0.50		0	97.1	90	110			
Bromide	2.5 0.10	2.500	0	98.1	90	110			
Phosphorus, Orthophosphate (As P	5.0 0.50	5.000	0	100	90	110			
Sample ID MB	SampType: m	blk	Tes	tCode: El	PA Method	300.0: Anion	S		
Client ID: PBW	Batch ID: R	40195	RunNo: 40195						
Prep Date:	Analysis Date: 1	/20/2017	S	SeqNo: 1	260294	Units: mg/L			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND 0.50								
Bromide	ND 0.10								
Phosphorus, Orthophosphate (As P	ND 0.50								
Sulfate	ND 0.50 ND 0.20								
litrate+Nitrite as N	ND 0.20								
Sample ID LCS	SampType: Ic	S	Tes	tCode: El	PA Method	300.0: Anion:	S		
Client ID: LCSW	Batch ID: Re	40195	F	RunNo: 4	0195				
Prep Date:	Analysis Date: 1	/20/2017	S	SeqNo: 1	260295	Units: mg/L			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8 0.50		0	95.5	90	110			
romide	2.4 0.10		0	97.8	90	110			
Phosphorus, Orthophosphate (As P	4.8 0.50	5.000	0	97.0	90	110			
Sulfate litrate+Nitrite as N	9.7 0.50 3.5 0.20		0	97.3 99.4	90 90	110 110			
			•	00.1					
Sample ID MB	SampType: M		Tes	tCode: El	PA Method	300.0: Anions	S		
Client ID: PBW	Batch ID: R4		F	RunNo: 4	0241				
Prep Date:	Analysis Date: 1	/24/2017	S	SeqNo: 1	261862	Units: mg/L			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Value exceeds Maximum O D Sample Diluted Due to Ma H Holding times for preparation	trix	ed	E Value al	bove quant	n the associat titation range elow quantita	ed Method Blan ation limits	nk	Page 21 of	f 31

Not Detected at the Reporting Limit ND RPD outside accepted recovery limits R

S % Recovery outside of range due to dilution or matrix Р Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Result

ND

PQL

SampType: LCS

0.10

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Qual

Qual

5			U	
	Client: Project:		Western Refining Southwest, Inc. GBR Annual Sampling	
	Sample ID	MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions
	Client ID:	PBW	Batch ID: R40241	RunNo: 40241
	Prep Date:		Analysis Date: 1/24/201	SeaNo: 1261862 Units: ma/L

Client ID: LCSW	Batch	ID: R4	0241	R	unNo: 4	0241			
Prep Date:	Analysis D	ate: 1/	24/2017	S	eqNo: 1	261863	Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit
Fluoride	0.50	0.10	0.5000	0	99.0	90	110		

SPK value SPK Ref Val %REC LowLimit

HighLimit

TestCode: EPA Method 300.0: Anions

%RPD

RPDLimit

Qualifiers:

Analyte

Sample ID LCS

Fluoride

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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Hall Environmental Analysis Laboratory, Inc.

	rn Refining S Annual Samp		st, Inc.							
Sample ID 100ng Ics	Samp	Type: LC	s	Tes	tCode: E	PA Method	8260B: VOL	ATILES		12
Client ID: LCSW	Batc	h ID: B 4	0014	F	RunNo: 4	0014				
Prep Date:	Analysis E	Date: 1	13/2017	S	SeqNo: 1	254018	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130	1.54		
1,1-Dichloroethene	19	1.0	20.00	0	95.6	70	130	1.1		
Trichloroethene (TCE)	18	1.0	20.00	0	90.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.0	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			
Sample ID rb1	SampT	уре: М	BLK	Tes	tCode: El					
Client ID: PBW	Batcl	h ID: B4	0014	F	RunNo: 4	0014				
Prep Date:	Analysis D	Date: 1	13/2017	S	SeqNo: 1	254019	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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WO#: 1701540 31-Jan-17

	Vestern Refining S BBR Annual Samp		st, Inc.							
Sample ID rb1	Samp	Гуре: МЕ	BLK	Tes						
Client ID: PBW	Batch ID: B40014			F	RunNo:	40014				- 10 C
Prep Date:	Analysis [Date: 1/	13/2017	S	eqNo:	1254019	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropa	ne ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
lsopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
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Hall Environmental Analysis Laboratory, Inc.

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	rn Refining So Annual Sampl		st, Inc.							
Sample ID rb1	SampT	ype: ME	BLK	Те	stCode: E	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	ID: B4	0014		RunNo: 4	0014				
Prep Date:	Analysis D	ate: 1/	13/2017		SeqNo: 1	254019	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.2	70	130			
Surr: Toluene-d8	9.8		10.00		98.5	70	130			

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
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Client:	Western Refining Southwest	, Inc.
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Project: GBR Annual Sampling

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Sample ID Ics-29754	SampT	ype: LC	S	Tes	tCode: E					
Client ID: LCSW	Batc	n ID: 29	754	F	RunNo: 4	0147				
Prep Date: 1/18/2017	Analysis E	Date: 1/	19/2017	5	SeqNo: 1	258606	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vaphthalene	14	0.50	20.00	0	69.6	37.4	120			
I-Methylnaphthalene	14	0.50	20.00	0	67.9	39.3	121			
2-Methylnaphthalene	14	0.50	20.00	0	68.4	37.8	122			
Acenaphthylene	15	0.50	20.00	0	73.4	37	124			
Acenaphthene	16	0.50	20.00	0	78.1	35.6	123			
Fluorene	16	0.50	20.00	0	82.4	35.2	122			
Phenanthrene	16	0.50	20.00	0	81.2	38.8	122			
Anthracene	16	0.50	20.00	0	79.2	37.5	125			
Fluoranthene	16	0.50	20.00	0	80.3	37.4	131			
Pyrene	16	0.50	20.00	0	82.1	27.5	140			
Benz(a)anthracene	17	0.50	20.00	0	86.4	25.4	141			
Chrysene	16	0.50	20.00	0	81.4	33.6	155			
Benzo(b)fluoranthene	18	0.50	20.00	0	88.4	39	153			
Benzo(k)fluoranthene	16	0.50	20.00	0	80.4	38	154			
Benzo(a)pyrene	17	0.50	20.00	0	85.1	38.6	153			
Dibenz(a,h)anthracene	17	0.50	20.00	0	86.8	39.7	155			
Benzo(g,h,i)perylene	16	0.50	20.00	0	81.1	39.6	154			
ndeno(1,2,3-cd)pyrene	17	0.50	20.00	0	86.3	19.1	153			
Surr: N-hexadecane	67		87.60		76.9	15	176			
Surr: Benzo(e)pyrene	16		20.00		80.4	15	198			
Sample ID Icsd-29754	SampT	ype: LC	SD	Tes	tCode: E	PA Method	8270C: PAHs			
Client ID: LCSS02	Batcl	n ID: 29	754	RunNo: 40147						
Prep Date: 1/18/2017	Analysis D	ate: 1/	19/2017	S	SeqNo: 1	258607	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
laphthalene	13	0.50	20.00	0	64.4	37.4	120	7.76	20	
1-Methylnaphthalene	13	0.50	20.00	0	67.1	39.3	121	1.19	26.8	
2-Methylnaphthalene	14	0.50	20.00	0	70.0	37.8	122	2.31	23.8	
Acenaphthylene	14	0.50	20.00	0	68.9	37	124	6.32	28.6	
Acenaphthene	15	0.50	20.00	0	75.0	35.6	123	4.05	27	
luorene	16	0.50	20.00	0	79.3	35.2	122	3.83	25.7	
Phenanthrene	17	0.50	20.00	0	84.3	38.8	122	3.75	20	
Anthracene	17	0.50	20.00	0	82.9	37.5	125	4.57	21.2	
luoranthene	18	0.50	20.00	0	88.8	37.4	131	10.1	21.8	
Pyrene	17	0.50	20.00	0	86.8	27.5	140	5.57	31.1	
Benz(a)anthracene	18	0.50	20.00	0	88.5	25.4	141	2.40	26.6	
	17	0.50	20.00	0	86.9	33.6	155	6.54	21.2	
Chrysene	17	0.00	20.00	0	0010	00.0		0.01		

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

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P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701540

31-Jan-17

	n Refining S		st, Inc.							
Project: GBR A	Annual Samp	ling								
Sample ID Icsd-29754	SD	Tes	stCode: EP	A Method	8270C: PAH	6		1.50		
Client ID: LCSS02	Batc	h ID: 29	754	F	RunNo: 40	147				
Prep Date: 1/18/2017	Analysis E	Date: 1/	19/2017		SeqNo: 12	258607	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
enzo(k)fluoranthene	17	0.50	20.00	0	84.5	38	154	4.97	21	
enzo(a)pyrene	17	0.50	20.00	0	85.0	38.6	153	0.118	24.8	
ibenz(a,h)anthracene	18	0.50	20.00	0	90.4	39.7	155	4.06	26	
enzo(g,h,i)perylene	17	0.50	20.00	0	85.4	39.6	154	5.17	20	
deno(1,2,3-cd)pyrene	17	0.50	20.00	0	87.4	19.1	153	1.27	20	
Surr: N-hexadecane	63		87.60		71.6	15	176	0	0	
Surr: Benzo(e)pyrene	15	5	20.00		76.0	15	198	0	0	
Sample ID mb-29754	Samp	Гуре: МЕ	BLK	Tes	tCode: EP	A Method	8270C: PAH	5		
Client ID: PBW	Batcl	h ID: 29	754	F	RunNo: 40					
Prep Date: 1/18/2017	Analysis E	Date: 1/	19/2017	5	SeqNo: 12					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
aphthalene	ND	0.50								
-Methylnaphthalene	ND	0.50								
-Methylnaphthalene	ND	0.50								
cenaphthylene	ND	0.50								
cenaphthene	ND	0.50								
luorene	ND	0.50								
henanthrene	ND	0.50								
nthracene	ND	0.50								
uoranthene	ND	0.50								
yrene	ND	0.50								
enz(a)anthracene	ND	0.50								
hrysene	ND	0.50								
enzo(b)fluoranthene	ND	0.50								
enzo(k)fluoranthene	ND	0.50								
enzo(a)pyrene	ND	0.50								
	ND	0.50						-		
	ND									
ibenz(a,h)anthracene	ND	0.50								
ibenz(a,h)anthracene enzo(g,h,i)perylene										
ibenz(a,h)anthracene	ND	0.50	87.60		78.4	15	176			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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of limit as specified

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WO#: 1701540 31-Jan-17

Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Western Refining Southwest, Inc. GBR Annual Sampling										
Sample ID	1701540-001b dup	SampT	ype: du	р	Tes	tCode: S	M2510B: S	pecific Cond	uctance		
Client ID:	GBR-17	Batch	ID: R4	0056	F	RunNo: 4	0056				
Prep Date:	Analysis Date: 1/16/2017				S	SeqNo: 1	255316	Units: µmh	os/cm		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity		2300	1.0						0.171	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 28 of 31

rage 20 C

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.	WO#:	1701540 31-Jan-17
Client:Western Refining Southwest, Inc.Project:GBR Annual Sampling		
Sample ID 1701540-001b dup SampType: dup TestCode: SM4500-H+B: pH Client ID: GBR-17 Batch ID: R40056 RunNo: 40056		
Prep Date: Analysis Date: 1/16/2017 SeqNo: 1255336 Units: pH units		
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD	RPDLimit	Qual
рН 7.33 1.68		Н

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S $\hfill \%$ Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

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WO#: 1701540 31-Jan-17

Client: Project:		Western Re GBR Annua	Ū		st, Inc.							
Sample ID m	nb-1		SampT	ype: ml	olk	Tes	tCode: S	M2320B: AI	kalinity			
Client ID: P	PBW		Batch	n ID: R4	0056	F	RunNo: 4	0056				
Prep Date:		A	nalysis D	ate: 1/	16/2017	5	SeqNo: 1	255292	Units: mg/L	CaCO3		
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as	is CaCO	3)	ND	20.00								-
Sample ID Ic	cs-1		SampT	ype: Ics	5	Tes	tCode: S	M2320B: AI	kalinity	1994		
Client ID: L	.csw		Batch	n ID: R4	0056	F	RunNo: 4	0056				
Prep Date:		A	nalysis D	ate: 1/	16/2017	5	SeqNo: 1	255293	Units: mg/L	CaCO3		
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as	s CaCO	3)	77.68	20.00	80.00	0	97.1	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range Е
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

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WO#: 1701540

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31-Jan-17

Hall Environmental Analysis	Laboratory, Inc.
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Client: Project:		Refining Sound States		st, Inc.							
Sample ID	MB-29736	SampT	ype: MI	BLK	Tes	tCode: S	M2540C MC	D: Total Dise	solved Sc	olids	- 100
Client ID:	PBW	Batch	ID: 29	736	F	RunNo: 4	0117				
Prep Date:	1/17/2017	Analysis D	ate: 1	/18/2017	5	SeqNo: 1	257458	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved	Solids	ND	20.0								10.10
Sample ID	LCS-29736	SampT	ype: LC	s	Tes	tCode: S	M2540C MC	D: Total Diss	solved Sc	olids	100
Client ID:	LCSW	Batch	ID: 29	736	F	RunNo: 4	0117				
Prep Date:	1/17/2017	Analysis D	ate: 1	/18/2017	5	SeqNo: 1	257459	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved	Solids	1010	20.0	1000	0	101	80	120			
Sample ID	1701540-003BMS	SampT	ype: MS	S	Tes	tCode: S	M2540C MC	D: Total Diss	solved Sc	olids	
Client ID:	GBR-32	Batch	ID: 29	736	F	RunNo: 4	0117				
Prep Date:	1/17/2017	Analysis D	ate: 1/	18/2017	S	SeqNo: 1	257468	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved	Solids	8560	100	5000	3495	101	80	120			D
Sample ID	1701540-003BMSI	D SampT	ype: MS	SD	Tes	tCode: S	M2540C MC	D: Total Diss	solved Sc	olids	
Client ID:	GBR-32	Batch	ID: 29	736	F	RunNo: 4	0117				
Prep Date:	1/17/2017	Analysis D	ate: 1/	18/2017	S	SeqNo: 1	257469	Units: mg/L			
		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte											

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

LABORATORY TEL: 505-345-39	4901 Hawki Ibuquerque, NM	ns NE 87109 Sam	ple Log-In C	heck List
Client Name: Western Refining Southw Work Order Number	er: 1701540		RcptNo:	1
Received by/date: ogged By: Lindsay Mangin 1/13/2017 7:20:00 Al		Analy Hayage		·
		dullo		
Completed By: Lindsay Mangin 1/13/2017 9:12:44 Al Reviewed By: AAA 01/13/17	VI	Connegting		Signa P
hain of Custody				
1. Custody seals intact on sample bottles?	Yes	No []	Not Present	
2. Is Chain of Custody complete?	Yes 🔽	No	Not Present	
3. How was the sample delivered?	Courier			
<u>.og in</u>				
4. Was an attempt made to cool the samples?	Yes 🗹	No	NA []	
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No		
6. Sample(s) in proper container(s)?	Yes 🔽	No []		
7. Sufficient sample volume for indicated test(s)?	Yes 🖌	No		
8. Are samples (except VOA and ONG) properly preserved?	Yes 🔽	No 🗔		
9. Was preservative added to bottles?	Yes []	No 🗹	na 🗋	
0.VOA vials have zero headspace?	Yes 🗹	No 🗔	No VOA Vials	
1. Were any sample containers received broken?	Yes	No 🗹	# of preserved	
2.Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No 🗔	for pH:	15 r >12 unless note
3. Are matrices correctly identified on Chain of Custody?	Yes 🖌	No 🗌	Adjusted?	NO
4. Is it clear what analyses were requested?	Yes 🖌	No []]		\hat{D}
5. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🖌	No [[Checked by:	R
pecial Handling (if applicable)				
6. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🗹	
Person Notified: Date:		and provide the second second second		
By Whom: Via:		Phone Fax	In Person	P 20
Regarding:	•			C CT TE B
Client Instructions:			**************************************	-900
7. Additional remarks:	····· ···			STALLA
8. <u>Cooler Information</u> Cooler No Temp °C Condition Seal Intect Seal No	Seal Date	Signed By		
1 2.1 Good Yes				

Chain-of-Custody Record	Turn-Around Time:	HALL ENVIRONMENTAL
ient: Wester Refining	Standard	ANALYSIS LABORATORY
Kelley Robinson	Project Name:	www.hallenvironmental.com
ailing Address: 111 CR. 4990	BR Annual Sampling Project #: 126/3518 -> western Project #:	4901 Hawkins NE - Albuquerque, NM 87109
Ploonfield, NM	Project #: 12/15 = 10 western	Tel. 505-345-3975 Fax 505-345-4107
none #: 505-80 -5616	12615510 - P.O.	Analysis Request
nail or Fax#: Kelly, robinson@wnr.com	Project Manager:	021) 8 only) MRO) B's B's
VQC Package:	Devin Hercmann	TPH (Gas only) TPH (Gas only) D / DRO / MRO) 3.1)
Standard Level 4 (Full Validation)		AB's (802 H (Gas (802))))))))))))))))))))))))) ())))))))) ())))))
creditation NELAP □ Other	Sampler: Josh Adam5 On Ice: Offes and ENO	ATBE + TME ATBE + TPF ATBE + TPF ATBE + TPF fhod 504.1) allo or 8270 Metals (CI,NO3,NO CJ,CU,NO3,NO (OA) mi-VOA) mi-VOA) es (Y or N)
EDD (Type)	Sample Temperature: Z	BE + T BE + T BE + T BE + T BE + T GGR0 (GR0 (GR0 (GR0 1,N0 ₃ ,N 1,N0 ₃ ,N 1
Date Time Matrix Sample Request ID	Container Type and # Preservative Type HEAL No.	BTEX + MTBE + TMB's (8021) BTEX + MTBE + TPH (Gas only) TPH 8015B (GRO / DRO / MRO) TPH (Method 418.1) EDB (Method 504.1) PAH's (8310 or 8270 SIMS) RCRA 8 Metals Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄) 8081 Pesticides / 8082 PCB's 8260B (VOA) 8270 (Semi-VOA) 8270 (Semi-VOA) 8270 (Semi-VOA) Ari Bubbles (Y or N)
2-17 1150 GW GBR-17	Various Various -001	
P1275 6BR-49		
1355 /2BR-32	-003	
1510 GBR-48	-004	
1620 BBR-50		
lear DUN 20	V -025	
ate: Time: Relinquished by:	Reaeived by: Date Time	Remarks: ec: dhorman @ Henv.com
12-17 16-4 (1 MMN 8	Khistilitete /12/17 1640	jadams@ltenu.com
ate: Time: Relinguished by:	Received by Date Time	Kelly. robinson@wnr.com
yn 1812 Mufflet	01/13/17 072	olivect bill western PO
If necessary, samples submitted to Hall Environmental may be sul	pcontracted to other accredited laboratories. This serves as notice of th	is possibility. Any sub-contracted data will be clearly notated on the analytical report.
	~	
some more more work with \$100	will sold sold sold sold	and and and and and and and

GIANT BLOOMFIELD REFINERY WESTERN REFINING ATTACHMENT TO COC

SAMPLING CONDUCTED ON

Analysis	method	Bottle			
VOC	method 8260	3 - HCL VOA			
VUL	method 8200	J-HCL VOA			
PAH	method 8270	1 - Liter Amber (non preserved)			
GWC					
and the state of t		······			
pH	SM 4500-H+B				
EC	SM 2510B	1 500ml (and material)			
TDS	SM 2540C MOD	1 - 500ml (non preserved)			
alkalinity	SM 2320B				
hardness	SM 2340B				
	EPA Method 300.0	1 474 1 174004			
	nitrate/nitrite	1 - 250ml H2SO4			
1 3/7 0 3/0	bromide				
ANIONS	chloride				
	sulfate				
	phosporus				
	fluoride				
	EPA Method 200.7	1 - 500ml HNO3			
	calcium				
	iron				
CATIONS / METALS	magnesium				
	manganese				
	potassium sodium				
		ALL ALL BURGER HILL OF COMPANY OF THE OTHER			
	EPA Method 200,7				
	barium				
	beryllium				
	cadmium				
	silver				
	lead				
	the second se				
Metals	nickel EPA 200,8	1 - 500ml HNO3			
Metals	and the second s	1 - 500mi HNO5			
	zino				
	and the state of t				
	antimony				
	arsenic				
	selenium thallium				
	Epa Method 245.1				
	mercury	4			

Sample ID	ANNUALLY (OCT)						
System Influent	VOC						
System misuent	GWC						
	VOC						
System Effluent	GWC						
oystem Enquent	METALS						
	PAH						
	VOC						
074W-5	GWC						
	PAH						
	VOC						
	GWC						
	РАН						
	VOC						
GBR-17	GWC						
	РАН						
CPD 24D	VOC						
-	TATI						
	PAH VOC						
CIDE COLOR	GWC						
	PAH						
	VOC						
Carton	CTUC CTUC						
	PAH						
	VOC						
GBR-32	GWC						
	METALS						
	VOC						
GBR-48	GWC						
	METALS						
	VOC						
GBR-49	GWC						
	METALS						
	VOC						
GBR-50	GWC						
	METALS						
GRAPSI	VOC						
	GWC						
CHID. CO. CO.	VOC						
	GWC VOC						
0100	GWC						
	GWC						

VOC × 15 GWC × 15 Metals × 5 PAH × 7

.



BY



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

January 26, 2017

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (970) 946-1093 FAX

RE: GBR Annual Sampling

OrderNo.: 1701465

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 2 sample(s) on 1/12/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order 1701465

Date Reported: 1/26/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

1701465-001

Lab ID:

Client Sample ID: GBR-52 Collection Date: 1/11/2017 2:15:00 PM Received Date: 1/12/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS					18115	Analyst	TES
Hardness (As CaCO3)	1200	6.6		mg/L	1	1/20/2017	R40177
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	0.78	0.10		mg/L	1	1/12/2017 6:49:18 PM	R39992
Chloride	58	10		mg/L	20	1/12/2017 7:01:43 PM	R39992
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	1/12/2017 6:49:18 PM	R39992
Bromide	0.32	0.10		mg/L	1	1/12/2017 6:49:18 PM	R39992
Nitrogen, Nitrate (As N)	7.3	0.10		mg/L	1	1/12/2017 6:49:18 PM	R39992
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	1/12/2017 7:01:43 PM	R39992
Sulfate	1400	25	*	mg/L	50	1/17/2017 3:55:07 AM	R40059
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	2900	1.0		µmhos/cm	1	1/12/2017 3:59:15 PM	R39993
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	208.5	20.00		mg/L CaCO3	1	1/12/2017 3:59:15 PM	R39993
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/12/2017 3:59:15 PM	R39993
Total Alkalinity (as CaCO3)	208.5	20.00		mg/L CaCO3	1	1/12/2017 3:59:15 PM	R39993
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst	KS
Total Dissolved Solids	2540	100	*D	mg/L	1	1/13/2017 6:52:00 PM	29665
SM4500-H+B: PH						Analyst	JRR
pH	7.40	1.68	Н	pH units	1	1/12/2017 3:59:15 PM	R39993
EPA METHOD 200.7: METALS						Analyst	TES
Calcium	430	10		mg/L	10	1/20/2017 8:12:34 PM	29771
Iron	18	1.0	*	mg/L	50	1/24/2017 7:55:01 AM	29771
Magnesium	36	1.0		mg/L	1	1/20/2017 8:10:55 PM	29771
Manganese	0.46	0.0020	*	mg/L	1	1/20/2017 8:10:55 PM	29771
Potassium	3.1	1.0		mg/L	1	1/20/2017 8:10:55 PM	29771
Sodium	290	10		mg/L	10	1/20/2017 8:12:34 PM	29771
EPA METHOD 8260B: VOLATILES						Analyst	BCN
Benzene	ND	1.0		µg/L	1	1/13/2017 1:04:00 PM	R40014
Toluene	ND	1.0		µg/L	1	1/13/2017 1:04:00 PM	R40014
Ethylbenzene	ND	1.0		µg/L	1	1/13/2017 1:04:00 PM	R40014
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/13/2017 1:04:00 PM	R40014
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2017 1:04:00 PM	R40014
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2017 1:04:00 PM	R40014
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/13/2017 1:04:00 PM	R40014
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/13/2017 1:04:00 PM	R40014
Naphthalene	ND	2.0		µg/L	1	1/13/2017 1:04:00 PM	R40014

Matrix: AQUEOUS

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Value exceeds Maximum Contaminant Level. Analyte detected in the associated Method Blank Qualifiers: * В E Value above quantitation range D Sample Diluted Due to Matrix Analyte detected below quantitation limits Page 1 of 13 H Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit Ρ Sample pH Not In Range R RPD outside accepted recovery limits RL **Reporting Detection Limit** % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified S W

Lab Order 1701465

Date Reported: 1/26/2017

Hall Environmental Analysis Laboratory, Inc.

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CLIENT: Western Refining Southwest, Inc.Client Sample ID: GBR-52Project: GBR Annual SamplingCollection Date: 1/11/2017 2:15:00 PMLab ID: 1701465-001Matrix: AQUEOUSReceived Date: 1/12/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				- Sector 1	Analyst	BCN
1-Methylnaphthalene	ND	4.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
2-Methylnaphthalene	ND	4.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Acetone	ND	10	µg/L	1	1/13/2017 1:04:00 PM	R40014
Bromobenzene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Bromodichloromethane	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Bromoform	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Bromomethane	ND	3.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
2-Butanone	ND	10	µg/L	1	1/13/2017 1:04:00 PM	R40014
Carbon disulfide	ND	10	µg/L	1	1/13/2017 1:04:00 PM	R40014
Carbon Tetrachloride	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Chlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Chloroethane	ND	2.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Chloroform	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Chloromethane	ND	3.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
2-Chlorotoluene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
4-Chlorotoluene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
cis-1,2-DCE	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
cis-1,3-Dichloropropene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Dibromochloromethane	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Dibromomethane	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,1-Dichloroethane	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,1-Dichloroethene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,2-Dichloropropane	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,3-Dichloropropane	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
2,2-Dichloropropane	ND	2.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,1-Dichloropropene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Hexachlorobutadiene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
2-Hexanone	ND	10	µg/L	1	1/13/2017 1:04:00 PM	R40014
Isopropylbenzene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
4-Isopropyltoluene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
4-Methyl-2-pentanone	ND	10	µg/L	1	1/13/2017 1:04:00 PM	R40014
Methylene Chloride	ND	3.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
n-Butylbenzene	ND	3.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
n-Propylbenzene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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Hall Environmental Analysis Laboratory, Inc.

Lab Order 1701465

Date Reported: 1/26/2017

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Lab ID: 1701465-001

Client Sample ID: GBR-52 Collection Date: 1/11/2017 2:15:00 PM

Received Date: 1/12/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				0.1	Analyst	BCN
sec-Butylbenzene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Styrene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
tert-Butylbenzene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
trans-1,2-DCE	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Trichlorofluoromethane	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Vinyl chloride	ND	1.0	µg/L	1	1/13/2017 1:04:00 PM	R40014
Xylenes, Total	ND	1.5	µg/L	1	1/13/2017 1:04:00 PM	R40014
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec	1	1/13/2017 1:04:00 PM	R40014
Surr: 4-Bromofluorobenzene	99.8	70-130	%Rec	1	1/13/2017 1:04:00 PM	R40014
Surr: Dibromofluoromethane	102	70-130	%Rec	1	1/13/2017 1:04:00 PM	R40014
Surr: Toluene-d8	101	70-130	%Rec	1	1/13/2017 1:04:00 PM	R40014

Matrix: AQUEOUS

Oualifiers:	*	Value exceeds Maximum Contaminant Level.	р	Analyte detected in the associated Method Blank
Quanners:			Б	-
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order **1701465** Date Reported: **1/26/2017**

CLIENT:	Western Refining Southwest, Inc.
Project:	GBR Annual Sampling

1701465-002

Lab ID:

Client Sample ID: GBR-51

Collection Date: 1/11/2017 4:07:00 PM

Received Date: 1/12/2017 7:00:00 AM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst:	TES
Hardness (As CaCO3)	850	6.6		mg/L	1	1/20/2017	R40177
EPA METHOD 300.0: ANIONS						Analyst:	LGT
Fluoride	0.79	0.10		mg/L	1	1/12/2017 7:38:56 PM	R39992
Chloride	45	10		mg/L	20	1/12/2017 7:51:20 PM	R39992
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	1/12/2017 7:38:56 PM	R39992
Bromide	0.22	0.10		mg/L	1	1/12/2017 7:38:56 PM	R39992
Nitrogen, Nitrate (As N)	8.1	0.10		mg/L	1	1/12/2017 7:38:56 PM	R39992
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	1/12/2017 7:51:20 PM	R39992
Sulfate	990	25	*	mg/L	50	1/17/2017 4:07:32 AM	R40059
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	2500	1.0		µmhos/cm	1	1/12/2017 4:19:40 PM	R39993
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	208.8	20.00		mg/L CaCO3	1	1/12/2017 4:19:40 PM	R39993
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/12/2017 4:19:40 PM	R39993
Total Alkalinity (as CaCO3)	208.8	20.00		mg/L CaCO3	1	1/12/2017 4:19:40 PM	R39993
SM2540C MOD: TOTAL DISSOLVED SC	DLIDS					Analyst:	KS
Total Dissolved Solids	2080	40.0	*D	mg/L	1	1/13/2017 6:52:00 PM	29665
SM4500-H+B: PH						Analyst:	JRR
рН	7.43	1.68	н	pH units	1	1/12/2017 4:19:40 PM	R39993
EPA METHOD 200.7: METALS						Analyst:	TES
Calcium	300	10		mg/L	10	1/20/2017 8:25:13 PM	29771
Iron	9.1	0.20	*	mg/L	10	1/20/2017 8:25:13 PM	29771
Magnesium	25	1.0		mg/L	1	1/20/2017 8:14:42 PM	29771
Manganese	0.47	0.0020	*	mg/L	1	1/20/2017 8:14:42 PM	29771
Potassium	1.4	1.0		mg/L	1	1/20/2017 8:14:42 PM	29771
Sodium	250	10		mg/L	10	1/20/2017 8:25:13 PM	29771
EPA METHOD 8260B: VOLATILES						Analyst:	BCN
Benzene	ND	1.0		µg/L	1	1/13/2017 1:28:00 PM	R40014
Toluene	ND	1.0		µg/L	1	1/13/2017 1:28:00 PM	R40014
Ethylbenzene	ND	1.0		µg/L	1	1/13/2017 1:28:00 PM	R40014
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	1/13/2017 1:28:00 PM	R40014
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2017 1:28:00 PM	R40014
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2017 1:28:00 PM	R40014
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	1/13/2017 1:28:00 PM	R40014
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	1/13/2017 1:28:00 PM	R40014
Naphthalene	ND	2.0		µg/L	1	1/13/2017 1:28:00 PM	R40014

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1701465 Date Reported: 1/26/2017

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual SamplingLab ID: 1701465-002

Client Sample ID: GBR-51 Collection Date: 1/11/2017 4:07:00 PM Received Date: 1/12/2017 7:00:00 AM

Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
1-Methylnaphthalene	ND	4.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
2-Methylnaphthalene	ND	4.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Acetone	ND	10	µg/L	1	1/13/2017 1:28:00 PM	R40014
Bromobenzene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Bromodichloromethane	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Bromoform	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Bromomethane	ND	3.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
2-Butanone	ND	10	µg/L	1	1/13/2017 1:28:00 PM	R40014
Carbon disulfide	ND	10	µg/L	1	1/13/2017 1:28:00 PM	R40014
Carbon Tetrachloride	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Chlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Chloroethane	ND	2.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Chloroform	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Chloromethane	ND	3.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
2-Chlorotoluene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
4-Chlorotoluene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
cis-1,2-DCE	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
cis-1,3-Dichloropropene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Dibromochloromethane	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Dibromomethane	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,1-Dichloroethane	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,1-Dichloroethene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,2-Dichloropropane	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,3-Dichloropropane	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
2,2-Dichloropropane	ND	2.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,1-Dichloropropene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Hexachlorobutadiene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
2-Hexanone	ND	10	µg/L	1	1/13/2017 1:28:00 PM	R40014
Isopropylbenzene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
4-Isopropyltoluene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
4-Methyl-2-pentanone	ND	10	µg/L	1	1/13/2017 1:28:00 PM	R40014
Methylene Chloride	ND	3.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
n-Butylbenzene	ND	3.0	μg/L	1	1/13/2017 1:28:00 PM	R40014
n-Propylbenzene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014

Matrix: AQUEOUS

			P	
Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701465

Date Reported: 1/26/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

1701465-002

Lab ID:

Client Sample ID: GBR-51 Collection Date: 1/11/2017 4:07:00 PM

Received Date: 1/12/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
sec-Butylbenzene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Styrene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
tert-Butylbenzene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
trans-1,2-DCE	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Trichlorofluoromethane	8.6	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Vinyl chloride	ND	1.0	µg/L	1	1/13/2017 1:28:00 PM	R40014
Xylenes, Total	ND	1.5	µg/L	1	1/13/2017 1:28:00 PM	R40014
Surr: 1,2-Dichloroethane-d4	102	70-130	%Rec	1	1/13/2017 1:28:00 PM	R40014
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	1/13/2017 1:28:00 PM	R40014
Surr: Dibromofluoromethane	99.7	70-130	%Rec	1	1/13/2017 1:28:00 PM	R40014
Surr: Toluene-d8	99.3	70-130	%Rec	1	1/13/2017 1:28:00 PM	R40014

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 6 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

WO#: 1701465

Hall Environmental Analysis Laboratory, Inc.

26-Jan-17

Client: Project:		n Refining nnual Samj		st, Inc.							
Sample ID	MB-29771	Samp	Туре: М	BLK	Tes	stCode: E	PA Method	200.7: Metals	6		
Client ID:	PBW	Bate	ch ID: 29	771	1	RunNo: 4	0177				
Prep Date:		Analysis	Date: 1/	20/2017		SegNo: 1	259557	Units: mg/L			
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0	OF IX Value	or it iter var	/orceo	LOWLINI	riigneiniit		IN DEIMI	Quai
Iron		ND	0.020								
Magnesium		ND	1.0								
Manganese		ND	0.0020								
Potassium		ND	1.0								
Sodium		ND	1.0								
Soulum		ND	1.0								
Sample ID	LCSLL-29771	Samp	Type: LC	SLL	Tes	stCode: E	PA Method	200.7: Metals	6		
Client ID:	BatchQC	Bate	ch ID: 29	771	F	RunNo: 4	0177				
Prep Date:	1/18/2017	Analysis	Date: 1/	20/2017		SeqNo: 1	259643	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0	0.5000	0	93.6	50	150			
Iron		0.023	0.020	0.02000	0	115	50	150			
Magnesium		ND	1.0	0.5000	0	100	50	150			
Manganese		ND	0.0020	0.002000	0	98.0	50	150			
Potassium		ND	1.0	0.5000	0	64.7	50	150			
Sodium		ND	1.0	0.5000	0	83.7	50	150			
Sample ID	LCS-29771	Samp	Type: LC	S	Tes	tCode: E	PA Method	200.7: Metals	3		
Client ID:	LCSW	Bato	ch ID: 29	771	F	RunNo: 4	0177				
Prep Date:	1/18/2017	Analysis	Date: 1/	20/2017	5	SeqNo: 1	259644	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		48	1.0	50.00	0	96.5	85	115			
Iron		0.47	0.020	0.5000	0	93.0	85	115			
Magnesium		48	1.0	50.00	0	96.9	85	115			
0		0.46	0.0020	0.5000	0	91.4	85	115			
Manganese		0.40	0.0020	0.0000	-						
		47	1.0	50.00	0	93.1	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 7 of 13

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

	Refining Sonnual Sampl		st, Inc.							
Sample ID MB	SampT	уре: МЕ	BLK	Tes	tCode: E	PA Method	300.0: Anions	5		
Client ID: PBW	Batch	ID: R3	9992	F	RunNo: 3	9992				
Prep Date:	Analysis D	ate: 1/	12/2017	5	SeqNo: 1	253178	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sample ID LCS	SampT	ype: LC	S	Tes	tCode: E	PA Method	300.0: Anions	6		
Client ID: LCSW	Batch	ID: R3	9992	F	RunNo: 3	9992				
Prep Date:	Analysis D	ate: 1/	12/2017	5	SeqNo: 1	253179	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	101	90	110			
Chloride	4.8	0.50	5.000	0	96.6	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	95.8	90	110			
Bromide	2.5	0.10	2.500	0	98.0	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	95.3	90	110			
Sample ID MB	SampT	ype: mb	olk	Tes	tCode: E	PA Method	300.0: Anions	6		
Client ID: PBW	Batch	ID: R4	0059	F	RunNo: 4	0059				
Prep Date:	Analysis D	ate: 1/	16/2017	5	SeqNo: 1	255476	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								1. Sec. 1.
Sample ID LCS	SampT	ype: Ics	;	Tes	tCode: E	PA Method	300.0: Anions	6		
Client ID: LCSW	Batch	ID: R4	0059	F	RunNo: 4	0059				
Prep Date:	Analysis D	ate: 1/	16/2017	5	SeqNo: 1	255477	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.8	0.50	10.00	0	98.0	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

WO#: 1701465 26-Jan-17

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Hall Environmental Analysis Laboratory, Inc.

WO#:	1701465
WOT.	1/01405

26-Jan-17

	n Refining S		st, Inc.				18 A			
Sample ID 100ng Ics	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch	n ID: R4	0014	F	RunNo: 40	0014				
Prep Date:	Analysis D	ate: 1/	13/2017	5	SeqNo: 12	253945	Units: µg/L			
	Result	PQL		SPK Ref Val	%REC	LowLimit		%RPD	RPDLimit	Qual
Analyte Benzene	19	1.0	20.00	OFR Rei Vai	94.4	70	HighLimit 130	70RFD	KFULIIIII	Qual
Toluene	20	1.0	20.00	0	98.7	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	96.0	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	91.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.9	1.0	10.00	0	99.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			
		- 11.5								
Sample ID rb		ype: ME					8260B: VOL	ATILES		
Client ID: PBW		n ID: R4			RunNo: 40					
Prep Date:	Analysis D	ate: 1/	13/2017	S	SeqNo: 12	253946	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0					P			
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
,3,5-Trimethylbenzene	ND	1.0								
,2-Dichloroethane (EDC)	ND	1.0								
I,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
 - Sample pH Not In Range

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RL Reporting Detection Limit

P

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701465

26-Jan-17

Client: Western Refining Southwest, Inc.
--

Project: GBR Annual Sampling

Sample ID rb	SampT	ype: MBLK	TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch	ID: R40014	F	RunNo: 40014						
Prep Date:	Analysis D	ate: 1/13/2017	S	SeqNo: 1253946	Units: µg/L					
Analyte	Result	PQL SPK value	SPK Ref Val	%REC LowLimit	HighLimit	%RPD RPDLin	nit Qual			
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
lsopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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WO#: 1701465

Hall	Environmental	Analysis	Laboratory,	Inc.

26-Jan-17

Client:	Western Refining Southwest, Inc.
-	

GBR Annual Sampling **Project:**

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		ц г .,
Client ID: PBW	Batch	1D: R4	0014	F	RunNo: 4	0014				
Prep Date:	Analysis D	ate: 1/	13/2017	5	SeqNo: 1	253946	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.3	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL
- W Sample container temperature is out of limit as specified

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Reporting Detection Limit

WO#: 1701465 26-Jan-17

Hall Environmental Analysis Laboratory, Inc.

Client: Project:		Refining So wal Sampl		st, Inc.							
Sample ID	mb-1	SampT	ype: ml	blk	Tes	tCode: S	M2320B: AI	kalinity			
Client ID:	PBW	Batch	ID: R3	9993	F	RunNo: 3	9993				
Prep Date:		Analysis D	ate: 1/	12/2017	5	SeqNo: 1	253315	Units: mg/L	CaCO3		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity	(as CaCO3)	ND	20.00								
Sample ID	lcs-1	SampT	ype: Ics	3	Tes	tCode: S	M2320B: AI	kalinity			
Client ID:	LCSW	Batch	ID: R3	9993	F	RunNo: 3	9993				
Prep Date:		Analysis D	ate: 1/	12/2017	S	SeqNo: 1	253316	Units: mg/L	CaCO3		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity	(as CaCO3)	77.80	20.00	80.00	0	97.3	90	110	a 10		
Sample ID	1701465-002bms	SampT	ype: ms	6	Tes	tCode: S	M2320B: AI	kalinity			
Client ID:	GBR-51	Batch	ID: R3	9993	F	RunNo: 3	9993				
Prep Date:		Analysis D	ate: 1/	12/2017	S	SeqNo: 1	253319	Units: mg/L	CaCO3		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity	(as CaCO3)	253.2	20.00	80.00	208.8	55.4	19.8	126			
Sample ID	1701465-002bmsd	SampT	ype: ms	sd	Tes	tCode: S	M2320B: AI	kalinity			
Client ID:	GBR-51	Batch	ID: R3	9993	F	RunNo: 3	9993				
Prep Date:		Analysis D	ate: 1/	12/2017	S	SeqNo: 1	253320	Units: mg/L	CaCO3		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity	(as CaCO3)	250.5	20.00	80.00	208.8	52.1	19.8	126	1.06	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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WO#: 1701465

26-Jan-17

Hall Environmental Analysis Laboratory, Inc.

Client: Project:		ern Refining S Annual Samp		st, Inc.					en de la composition de la composition Composition de la composition de la comp		
Sample ID	MB-29665	Samp	Туре: МІ	BLK	Tes	tCode: S	M2540C MC	DD: Total Diss	olved So	lids	1. 1.1
Client ID:	PBW	Bato	h ID: 29	665	F	RunNo: 4	8000				
Prep Date:	1/12/2017	Analysis	Date: 1	13/2017	S	SeqNo: 1	253638	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved	Solids	ND	20.0					- Sei I			
Sample ID	LCS-29665	Samp	Type: LC	s	Tes	tCode: S	M2540C MC	DD: Total Diss	olved So	lids	1.17
Client ID:	LCSW	Bato	h ID: 29	665	F	RunNo: 4	0008				
Prep Date:	1/12/2017	Analysis	Date: 1	13/2017	5	SeqNo: 1	253639	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved	Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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- Page 13

HALL Hall Environmental ENVIRONMENTAL ANALYSIS LABORATORY Website: www.ha	4901 Hawkin uquerque. NM 83 FAX: 505-345-	s NE 7105 Samp 4107	ple Log-In Ch	eck List
Client Name: Western Refining Southw Work Order Number:	1701465		RcptNo: 1	1
Received by/date: AS 01/12/17-				
Logged By: Lindsay Mangin 1/12/2017 7:00:00 AM		Junhy Heard		
Completed By: Lindsay Mangin 1/12/2017 9:21:45 AM Reviewed By: A 0//12./17		Junday Harpo		
Chain of Custody				
1. Custody seals intact on sample bottles?	Yes	No	Not Present 🗸	
2. Is Chain of Custody complete?	Yes 🗸	No	Not Present	
3. How was the sample delivered?	Courier			
Log In				
4. Was an attempt made to cool the samples?	Yes 🗸	No	NA	
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗸	No	NA	
6. Sample(s) in proper container(s)?	Yes 🗸	No		
7. Sufficient sample volume for indicated test(s)?	Yes 🖌	No		
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗸	No		
9. Was preservative added to bottles?	Yes	No 🗸	NA	
10.VOA vials have zero headspace?	Yes 🗸	No	No VOA Vials	
11, Were any sample containers received broken?	Yes	No 🗸		
12.Does paperwork match bottle labels?	Yes 🗸	No	# of preserved bottles checked for pH:	10
(Note discrepancies on chain of custody)	100		((<2) or	>12 unless not
13. Are matrices correctly identified on Chain of Custody?	Yes 🖌	No :	Adjusted?	NO
14. Is it clear what analyses were requested?	Yes 🗸	No		A
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗸	No	Checked by:	Ap
Special Handling (if applicable)				V
16. Was client notified of all discrepancies with this order?	Yes	No	NA 🗸	
Person Notified: Date:	A COMPANY AND A COMPANY			
By Whom: Via:	eMail	Phone Fax	In Person	
Regarding:	an a	Area that and a second state of the second	and an and the second	
Client Instructions:	A CONTRACTOR OF AND	A STATE OF A	and a second	
17. Additional remarks:				
18. <u>Cooler Information</u> Cooler No Temp °C Condition Seal Intact Seal No	Soul Data	Signed Du		
Cooler No Temp °C Condition Seal Intact Seal No 1 1.0 Good Yes	Seal Date	Signed By		

Page 1 of 1

10

iii

С	hain-	of-Cu	stody Record	Turn-Around	Time:									T	DC			NT		
Client:	West	ern	Refining	Standard	🗆 Rush				_						_			ATC		
Anness a	Kaller	Robis	56D)	Project Name																-
Mailing	Address		R 4990	GBR	Annual	Sampling 8→Western		490)1 Ha		www.l ns NE						7109			
	1		Field N/M	Project #:		indian of					5-397					5-410				
	#: 505	-801	- 5616	12	61551	8 > P.O.							alysis							
email o	r Fax#:	rely. Rol	Sinson@WDF.COM	Project Mana	ger:		=	(YII	(0)				13	F						
	Package:	1		Davir	Hencino	\sim	302	SS O	WI			0	S.	DCB's						
Stan	dard		Level 4 (Full Validation)			1	s (s	Ö	RO				Dd			1	D			
Accredi					sh Hain	>/Devin Henomen	TMB's (8021)	H		=		82/0	Ś				18			2
		□ Othe	۲	On Ice:	VYes	□ No	+	+	RO	118.	504	20	slő	2 2		(Y	Y			or
	(Type)_			Sample Tem	perature:	1.000		BE	<u>C</u>	po	po	0 0	etal	- ido	A	E S	cutcac			Z
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + MTBE	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAHS (8310 OF	KCKA 8 Metals Anions (F.CI.NO, NO, PO, SO,)	8081 Decticidae / 8082	RORD (VOA)	8270 (Semi-VOA)	See c			Air Bubbles (Y or N)
1-11-17	1415	Gwi	GBR - 52	3-100451-1 2-11/03 1-152	nonsies Anni /	-001											X			
J	1607	GW	GBR-51	1	The second second	-002											X			
																-				
	1																			
											-		1							
						_														
			4																	
			A 1								-									
Date:	Time: [753 Time: [804	Relinquish	d une	Received by: Received by:	Valt	Date Time /////7 1753 Date Time \//12/17 0700		narks	5: [[dhe jad K	elly the	nanr Cobi 11 C	lte Ite	Itc.	N. 10	nr.	n con	n	

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

1

GLANT BLOOMFIELD REFINERY WESTERN REFINING ATTACHMENT TO COC

Analysis

VOC

A/DH BY

method method 8260 Bottle

J - HCL VOA

SAMPLING CONDUCTED ON __

Sample ID	ANNUALLY (DEC)
	VOC
GRW-3	OWC
	PAII
0	VOC
Zenwo	GWC
	PAH
-	VOC
GBR-17	GWC
	PAH
	VOC
(7011-240	GWC
	PAH
	VOC
668.30	GWC
	PAH
	VOC
GBR-31	GWC.
	PAH
	VOC
C198-32	OWC
	METALS
	VOC
COMMENT	GWC
	METALS
	VOC
CRP 10	OWN
	METÁLS
	VOC
6-0094-66	GW
	METALS
GBR-51	Voc
	GWC
GBR-51	VOC
	GWC
SHS-8	Charles and the second s
	CIWC .

PAH	method 8279	1 - Liter Amber (non preserved)
GWC		
pH	SM 4500-H+B	
EC.	SM 2510B	
TDS	SM 2540C MOD	1 - 500ml (non preserved)
alkalinity	SM 2320B	a second second second
hurdness	SM 2340B	
	EPA Method 300.0	
	ntrateminit	1 - 250ml H2SO4
	bromide	
ANIONS	chloride	
and a second	suite	
	phospans.	
	fluorido	
	EPA Method 200.7	4 400 444103
	calcium	1 - 500ml HNO3
	iran	1
CATIONS/ METALS	magnes um	1
	man canese	
	potessium	
	scolarm	
	EPA Method 200,7	
	barnen	
	ber,illiam	
	cadmium	
	chromium	
	silver	
	Thead	
	makel	
Metals	EPA 200.8	1 - 500ml HNO3
Charles and the second	copper	
	28:38	,
	untimony	
	arsenie	
	selentura	
	thallium	
	Epa Method 245.1	
	mencury	





Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

January 31, 2017

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: FAX

OrderNo.: 1701641

RE: GBR Annual Sampling

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/17/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1701641 Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

Project: GBR Annual Sa **Lab ID:** 1701641-001 Client Sample ID: GRW-6 Collection Date: 1/16/2017 1:30:00 PM Received Date: 1/17/2017 7:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS				71 L	2.040	Analyst	MED
Hardness (As CaCO3)	1100	6.6		mg/L	1	1/27/2017	R40343
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	1.1	0.10		mg/L	1	1/17/2017 3:52:05 PM	R40102
Chloride	89	10		mg/L	20	1/17/2017 4:04:30 PM	R40102
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	1/17/2017 3:52:05 PM	R40102
Bromide	0.34	0.10		mg/L	1	1/17/2017 3:52:05 PM	R40102
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	1/17/2017 3:52:05 PM	R40102
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	1/17/2017 3:52:05 PM	R40102
Sulfate	1500	25	*	mg/L	50	1/19/2017 11:47:12 PM	A40163
SM2510B: SPECIFIC CONDUCTANCE	E					Analyst	JRR
Conductivity	3100	1.0		µmhos/cm	1	1/19/2017 3:10:37 PM	R40164
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	364.3	20.00		mg/L CaCO3	1	1/19/2017 3:10:37 PM	R40164
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	1/19/2017 3:10:37 PM	R40164
Total Alkalinity (as CaCO3)	364.3	20.00		mg/L CaCO3	1	1/19/2017 3:10:37 PM	R40164
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	KS
Total Dissolved Solids	2580	100	*	mg/L	1	1/20/2017 4:35:00 PM	29789
SM4500-H+B: PH						Analyst	JRR
рН	7.00	1.68	Н	pH units	1	1/19/2017 3:10:37 PM	R40164
EPA METHOD 200.7: METALS						Analyst	MED
Calcium	340	5.0		mg/L	5	1/27/2017 12:22:47 PM	29914
Iron	11	1.0	*	mg/L	50	1/30/2017 3:32:44 PM	29914
Magnesium	57	1.0		mg/L	1	1/27/2017 12:20:59 PM	29914
Manganese	17	0.10	*	mg/L	50	1/30/2017 3:32:44 PM	29914
Potassium	2.3	1.0		mg/L	1	1/27/2017 12:20:59 PM	29914
Sodium	390	5.0		mg/L	5	1/27/2017 12:22:47 PM	29914
EPA METHOD 8270C: PAHS						Analyst	DAM
Naphthalene	ND	0.50		µg/L	1	1/19/2017 4:22:43 PM	29754
1-Methylnaphthalene	ND	0.50		µg/L	1	1/19/2017 4:22:43 PM	29754
2-Methylnaphthalene	ND	0.50		µg/L	1	1/19/2017 4:22:43 PM	29754
Acenaphthylene	ND	0.50		µg/L	1	1/19/2017 4:22:43 PM	29754
Acenaphthene	ND	0.50		µg/L	1	1/19/2017 4:22:43 PM	29754
Fluorene	ND	0.50		µg/L	1	1/19/2017 4:22:43 PM	29754
Phenanthrene	ND	0.50		µg/L	1	1/19/2017 4:22:43 PM	29754
Anthracene	ND	0.50		µg/L	1	1/19/2017 4:22:43 PM	29754
Fluoranthene	ND	0.50		µg/L	1	1/19/2017 4:22:43 PM	29754

Matrix: AQUEOUS

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level. В Analyte detected in the associated Method Blank D Sample Diluted Due to Matrix E Value above quantitation range Analyte detected below quantitation limits Page 1 of 13 Η Holding times for preparation or analysis exceeded J Р Sample pH Not In Range ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits Reporting Detection Limit RL % Recovery outside of range due to dilution or matrix W Sample container temperature is out of limit as specified S

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Lab Order 1701641

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest,	Inc.		Client Samp	le ID: GR	2W-6	
Project: GBR Annual Sampling			Collection	Date: 1/1	6/2017 1:30:00 PM	
Lab ID: 1701641-001	Matrix:	AQUEOUS	Received	Date: 1/1	7/2017 7:05:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: PAHS					Analyst	DAM
Pyrene	ND	0.50	µg/L	1	1/19/2017 4:22:43 PM	29754
Benz(a)anthracene	ND	0.50	µg/L	1	1/19/2017 4:22:43 PM	29754
Chrysene	ND	0.50	µg/L	1	1/19/2017 4:22:43 PM	29754
Benzo(b)fluoranthene	ND	0.50	µg/L	1	1/19/2017 4:22:43 PM	29754
Benzo(k)fluoranthene	ND	0.50	µg/L	1	1/19/2017 4:22:43 PM	29754
Benzo(a)pyrene	ND	0.50	µg/L	1	1/19/2017 4:22:43 PM	29754
Dibenz(a,h)anthracene	ND	0.50	µg/L	1	1/19/2017 4:22:43 PM	29754
Benzo(g,h,i)perylene	ND	0.50	µg/L	1	1/19/2017 4:22:43 PM	29754
Indeno(1,2,3-cd)pyrene	ND	0.50	µg/L	1	1/19/2017 4:22:43 PM	29754
Surr: N-hexadecane	59.0	15-176	%Rec	1	1/19/2017 4:22:43 PM	29754
Surr: Benzo(e)pyrene	60.0	15-198	%Rec	1	1/19/2017 4:22:43 PM	29754
EPA METHOD 8260B: VOLATILES					Analyst	BCN
Benzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
Toluene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
Ethylbenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
Naphthalene	ND	2.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
1-Methylnaphthalene	ND	4.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
2-Methylnaphthalene	ND	4.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
Acetone	ND	10	µg/L	1	1/17/2017 1:54:00 PM	R40055
Bromobenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
Bromodichloromethane	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
Bromoform	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
Bromomethane	ND	3.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
2-Butanone	ND	10	µg/L	1	1/17/2017 1:54:00 PM	R40055
Carbon disulfide	ND	10	μg/L	1	1/17/2017 1:54:00 PM	R40055
Carbon Tetrachloride	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
Chlorobenzene	ND	1.0	μg/L	1	1/17/2017 1:54:00 PM	R40055
Chloroethane	ND	2.0	μg/L	1	1/17/2017 1:54:00 PM	R40055
Chloroform	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
Chloromethane	ND	3.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
2-Chlorotoluene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
4-Chlorotoluene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R40055
			- J			

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

1.0

1.0

µg/L

µg/L

ND

ND

Qualifiers: * Value exceeds Maximum Contaminant Level.

cis-1,3-Dichloropropene

cis-1,2-DCE

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

1

1

J Analyte detected below quantitation limits Page 2 of 13

1/17/2017 1:54:00 PM

1/17/2017 1:54:00 PM

R40055

R40055

- P Sample pH Not In Range
- RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order 1701641

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Annual Sampling

 Project:
 GBR Annual S

 Lab ID:
 1701641-001

Client Sample ID: GRW-6 Collection Date: 1/16/2017 1:30:00 PM

Received Date: 1/17/2017 7:05:00 AM

nalyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	1/17/2017 1:54:00 PM	R400
Dibromochloromethane	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
Dibromomethane	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,2-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,3-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,4-Dichlorobenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
Dichlorodifluoromethane	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,1-Dichloroethane	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,1-Dichloroethene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,2-Dichloropropane	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,3-Dichloropropane	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
2,2-Dichloropropane	ND	2.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,1-Dichloropropene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
Hexachlorobutadiene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
2-Hexanone	ND	10	µg/L	1	1/17/2017 1:54:00 PM	R400
lsopropylbenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
4-Isopropyltoluene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
4-Methyl-2-pentanone	ND	10	µg/L	1	1/17/2017 1:54:00 PM	R400
Methylene Chloride	ND	3.0	µg/L	1	1/17/2017 1:54:00 PM	R400
n-Butylbenzene	ND	3.0	µg/L	1	1/17/2017 1:54:00 PM	R400
n-Propylbenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
sec-Butylbenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
Styrene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
tert-Butylbenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	1/17/2017 1:54:00 PM	R400
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
trans-1,2-DCE	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,1,1-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,1,2-Trichloroethane	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
Trichloroethene (TCE)	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
Trichlorofluoromethane	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
1,2,3-Trichloropropane	ND	2.0	µg/L	1	1/17/2017 1:54:00 PM	R400
Vinyl chloride	ND	1.0	µg/L	1	1/17/2017 1:54:00 PM	R400
Xylenes, Total	ND	1.5	µg/L	1	1/17/2017 1:54:00 PM	R400
Surr: 1,2-Dichloroethane-d4	96.4	70-130	%Rec	1	1/17/2017 1:54:00 PM	R400

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1701641

Date Reported: 1/31/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Western Refining Southwest,	Inc.	C	lient San	nple ID: GRW-6
Project:	GBR Annual Sampling			Collectio	on Date: 1/16/2017 1:30:00 PM
Lab ID:	1701641-001	Matrix:	AQUEOUS	Receive	d Date: 1/17/2017 7:05:00 AM
Analyses		Result	PQL Qual	Units	DF Date Analyzed Batch
EPA MET	HOD 8260B: VOLATILES				Analyst: BCN
Surr: 4-	-Bromofluorobenzene	99.8	70-130	%Rec	1 1/17/2017 1:54:00 PM R4005
Surr: D	bibromofluoromethane	97.9	70-130	%Rec	1 1/17/2017 1:54:00 PM R4005
Surr: To	oluene-d8	97.4	70-130	%Rec	1 1/17/2017 1:54:00 PM R4005

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 13
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701641

31-Jan-17

Client: Project:		Refining nual Sam		st, Inc.							
Sample ID	MB-29914	Samp	Туре: МІ	BLK	Tes	tCode: E	PA Method	200.7: Metals			
Client ID:	PBW	Bato	ch ID: 29	914	F	RunNo: 4	0343				
Prep Date:	1/26/2017	Analysis	Date: 1	27/2017	5	SeqNo: 1	264578	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0								
Iron		ND	0.020								
Magnesium		ND	1.0								
Manganese		ND	0.0020								
Potassium		ND	1.0								
Sodium		ND	1.0								
Sample ID	LCS-29914	Samp	Type: LC	s	Tes	tCode: E	PA Method	200.7: Metals			
Client ID:	LCSW	Bato	ch ID: 29	914	F	RunNo: 4	0343				
Prep Date:	1/26/2017	Analysis	Date: 1/	27/2017	S	SeqNo: 1	264579	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		49	1.0	50.00	0	98.3	85	115			
Iron		0.50	0.020	0.5000	0	99.2	85	115			
Magnesium		50	1.0	50.00	0	100	85	115			
Manganese		0.48	0.0020	0.5000	0	95.0	85	115			
Potassium		49	1.0	50.00	0	98.5	85	115			
Sodium		50	1.0	50.00	0	99.4	85	115			
Sample ID	LCSLL-29914	Samp	Type: LC	SLL	Tes	tCode: E	PA Method	200.7: Metals			
Client ID:	BatchQC	Bato	ch ID: 29	914	F	RunNo: 4	0343				
Prep Date:	1/26/2017	Analysis	Date: 1/	27/2017	5	SeqNo: 1	264583	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0	0.5000	0	104	50	150			
Iron		0.027	0.020	0.02000	0	135	50	150			
Magnesium		ND	1.0	0.5000	0	108	50	150			
Manganese		0.0022	0.0020	0.002000	0	108	50	150			
Potassium		ND	1.0	0.5000	0	120	50	150			

Qualifiers:

Sodium

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded Η

ND

1.0

0.5000

0

123

- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В

150

50

- Value above quantitation range Е
- Analyte detected below quantitation limits J
- P Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified
- Page 5 of 13

Hall Environmental Analysis Laboratory, Inc.

WO#:	1701641

31-Jan-17

	Refining S nual Samp		st, Inc.							
Sample ID MB	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	300.0: Anions	5		
Client ID: PBW	Batch	DID: R4	0102	F	RunNo: 4	0102				
Prep Date:	Analysis D	ate: 1	17/2017	5	SeqNo: 1	257043	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sample ID LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	300.0: Anions	5		
Client ID: LCSW	Batch	D: R4	0102	F	RunNo: 4	0102				
Prep Date:	Analysis D	ate: 1	17/2017	\$	SeqNo: 1	257044	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.9	0.50	5.000	0	97.8	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	96.9	90	110			
Bromide	2.5	0.10	2.500	0	98.9	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.9	90	110			
Sample ID MB	SampT	ype: ml	blk	Tes	tCode: El	PA Method	300.0: Anions	;		
Client ID: PBW	Batch	n ID: A4	0163	F	RunNo: 4	0163				
Prep Date:	Analysis D	ate: 1	19/2017	5	SeqNo: 1	258986	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								
Sample ID LCS	SampT	ype: Ics	5	Tes	tCode: El	PA Method	300.0: Anions			To be
Client ID: LCSW	Batch	n ID: A4	0163	F	RunNo: 4	0163				
Prep Date:	Analysis D	ate: 1	19/2017	S	SeqNo: 1	258987	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.6	0.50	10.00	0	96.3	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 6 of 13

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701641

Page 7 of 13

31-Jan-17

	n Refining S Annual Samp		st, Inc.							
Sample ID 100ng Ics	Samp	Type: LC	S	Tes		814				
Client ID: LCSW	Batc	h ID: R4	0055	F	RunNo: 4	0055				
Prep Date:	Analysis [Date: 1/	17/2017	5	SeqNo: 1	255558	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.6	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
I,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	92.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.7	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.8	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.8	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			ч <i>U</i> -
Sample ID rb	SampT	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batc	Batch ID: R40055			RunNo: 4	0055				
Prep Date:	Analysis E	Date: 1/	17/2017	S	SeqNo: 1	255559	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
oluene	ND	1.0								
Ethylbenzene	ND	1.0								
Nethyl tert-butyl ether (MTBE)	ND	1.0								
,2,4-Trimethylbenzene	ND	1.0								
,3,5-Trimethylbenzene	ND	1.0								
,2-Dichloroethane (EDC)	ND	1.0								
,2-Dibromoethane (EDB)	ND	1.0								
laphthalene	ND	2.0								
-Methylnaphthalene	ND	4.0								
-Methylnaphthalene	ND	4.0								
cetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
romoform	ND	1.0								
romomethane	ND	3.0								
-Butanone	ND	10								
arbon disulfide	ND	10								
arbon Tetrachloride	ND	1.0								
chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
hloroform	ND	1.0								
chloromethane	ND	3.0								
-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
 - Sample pH Not In Range
- RL Reporting Detection Limit

Р

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701641 31-Jan-17

	stern Refining S R Annual Samp		st, Inc.							
Sample ID rb	SampT	ype: ME	LK	Tes	tCode:	EPA Method	8260B: VOI	ATILES		
Client ID: PBW	Batch	1D: R4	0055	F	RunNo:	40055				1.00
Prep Date:	Analysis D	ate: 1/	17/2017	5	SeqNo:	1255559	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0						111		
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1701641

31-Jan-17

	Refining S nual Samp		st, Inc.							
Sample ID rb	Samp	Туре: МЕ	BLK	Tes	tCode: E	PA Method	8260B: VOL	ATILES		67
Client ID: PBW	Batc	h ID: R4	0055	F	RunNo: 4	0055				
Prep Date:	Analysis [Date: 1/	17/2017	5	SeqNo: 1	255559	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
/inyl chloride	ND	1.0								
Kylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.1	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.5	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.9	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			
Sample ID 1701641-001ams	Samp	Гуре: М	6	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: GRW-6	Batc	h ID: R4	0055	F	RunNo: 4	0055				
Prep Date:	Analysis [Date: 1/	17/2017	5	SeqNo: 1	256271	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.0	70	130			
Toluene	20	1.0	20.00	0	99.7	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
richloroethene (TCE)	19	1.0	20.00	0	93.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.8	70	130			
Surr: Toluene-d8	9.9		10.00		98.6	70	130			
Sample ID 1701641-001ams	d Samp1	Гуре: МS	SD.	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: GRW-6	Batcl	h ID: R4	0055	F	RunNo: 4	0055				
Prep Date:	Analysis E	Date: 1/	17/2017	5	SeqNo: 1	256273	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
enzene	19	1.0	20.00	0	94.8	70	130	2.24	20	
oluene	19	1.0	20.00	0	96.1	70	130	3.64	20	
Chlorobenzene	20	1.0	20.00	0	97.5	70	130	3.89	20	
,1-Dichloroethene	19	1.0	20.00	0	96.6	70	130	4.62	20	
richloroethene (TCE)	18	1.0	20.00	0	89.4	70	130	3.85	20	
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.9		10.00		99.2	70	130	0	0	
Surr: Dibromofluoromethane	9.6		10.00		96.2	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		97.6	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Holding times for preparation or analysis exceeded Η
- Not Detected at the Reporting Limit ND
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range Е
- Analyte detected below quantitation limits J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:	Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Haptitulation 14 0.50 20.00 0 69.6 37.4 120 -Methynaphthalene 14 0.50 20.00 0 67.9 39.3 121 Vachynaphthalene 15 0.50 20.00 0 68.4 37.8 122 Vachynaphthalene 16 0.50 20.00 0 73.4 37 124 Vacenaphthylene 16 0.50 20.00 0 73.4 37 124 Vacenaphthylene 16 0.50 20.00 0 82.4 35.2 122 *henanthrene 16 0.50 20.00 0 80.3 7.4 131 Yarene 16 0.50 20.00 0 82.1 27.5 140 Invarathreace 17 0.50 20.00 0 88.4 39 153 Beraz(k)fuoranthene 16 0.50 20.00 0 88.3 19.1 153 Beraz(k)fuoranthene	Sample ID Ics-29754	Samp	Type: LC	s	Tes	tCode: E	PA Method	8270C: PAHs			
Analyte Result PQL SPK value SPK Ref Val %REC LowLinit HighLinit %RPD RPDLinit Qual Methylnaphthalene 14 0.50 20.00 0 66.6 37.4 120 1 4 0.50 20.00 0 67.9 39.3 121 4 5 5 5 0.50 20.00 0 73.4 37.8 122 4 5 5 124 4 5 2 122 4 5 124 4 5 2 122 4 5 125 4 14 5 5 125 124 144 156 5 125 124 144 146 5 5 125 124 141 1 147 156 124 141 1<5 125 124 144 146 156 120.00 0 86.4 39 153 145 145 145 145 145 145 <td< th=""><th>Client ID: LCSW</th><th>Batc</th><th>h ID: 29</th><th>754</th><th>F</th><th>unNo: 4</th><th>0147</th><th></th><th></th><th></th><th></th></td<>	Client ID: LCSW	Batc	h ID: 29	754	F	unNo: 4	0147				
upsthalene 14 0.50 20.00 0 69.6 37.4 120 -Methynaphthalene 14 0.50 20.00 0 67.9 39.3 121 Vechynaphthalene 14 0.50 20.00 0 67.4 37.8 122 Vaenaphthylene 15 0.50 20.00 0 73.4 37 124 Vaenaphthylene 16 0.50 20.00 0 82.4 35.2 122 "henaphthalene 16 0.50 20.00 0 81.2 38.8 122 "ubranthene 16 0.50 20.00 0 83.3 7.4 131 "yrene 16 0.50 20.00 0 88.4 39 153 Senzo(k)fuoranthene 16 0.50 20.00 0 88.4 39.7 155 Senzo(k)fuoranthene 16 0.50 20.00 0 88.3 39.7 154 Indeno(1.2.3-cd)prene	Prep Date: 1/18/2017	Analysis D	Date: 1/	19/2017	S	eqNo: 1	258606	Units: µg/L			
Methynaphthalene 14 0.50 20.00 0 67.9 39.3 121 Methynaphthalene 14 0.50 20.00 0 68.4 37.8 122 Menaphthalene 16 0.50 20.00 0 78.1 35.6 123 Numene 16 0.50 20.00 0 82.4 35.2 122 Mehandhene 16 0.50 20.00 0 82.4 35.2 125 Nemanthene 16 0.50 20.00 0 80.3 37.4 131 Yene 16 0.50 20.00 0 86.4 25.4 141 Shapenz(a)manthene 16 0.50 20.00 0 88.4 35 153 Sterz(a)Muranthene 17 0.50 20.00 0 88.4 38 153 Sterz(a)Muranthene 17 0.50 20.00 88.4 39 154 Sterz(a)Muranthene 17 0.50 20.00 88.1 38.6 155 Sterz(a)Muranthene 17 </th <th>Analyte</th> <th>Result</th> <th>PQL</th> <th>SPK value</th> <th>SPK Ref Val</th> <th>%REC</th> <th>LowLimit</th> <th>HighLimit</th> <th>%RPD</th> <th>RPDLimit</th> <th>Qual</th>	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Andenymaphthalene 14 0.50 20.00 0 68.4 37.8 122 keenaphthalene 16 0.50 20.00 0 73.4 37.6 124 keenaphthalene 16 0.50 20.00 0 82.4 35.2 122 124 henanthrene 16 0.50 20.00 0 82.4 35.2 122 144 henanthrene 16 0.50 20.00 0 82.4 35.2 122 144 henanthrene 16 0.50 20.00 0 82.4 37.4 131 yrene 16 0.50 20.00 0 86.4 39 153 earc/ghi/lucranthene 18 0.50 20.00 0 86.3 19.1 153 earc/ghi/lucranthene 16 0.50 20.00 0 86.3 19.1 153 earc/ghi/lucranthene 16 0.50 20.00 0 86.4 19.6 <td< td=""><td>Naphthalene</td><td>14</td><td>0.50</td><td>20.00</td><td>0</td><td>69.6</td><td>37.4</td><td>120</td><td></td><td></td><td></td></td<>	Naphthalene	14	0.50	20.00	0	69.6	37.4	120			
beanaphthylene 15 0.50 20.00 0 73.4 37 124 beanaphthene 16 0.50 20.00 0 73.4 35.6 123 branenthene 16 0.50 20.00 0 82.4 35.2 123 branenthene 16 0.50 20.00 0 82.2 37.5 140 branenthene 16 0.50 20.00 0 82.4 25.4 141 branz(planthacene 17 0.50 20.00 0 88.4 25.4 141 branz(planthacene 16 0.50 20.00 0 88.4 38 154 branz(planthacene 16 0.50 20.00 0 88.4 38 153 branz(planthacene 17 0.50 20.00 0 88.3 19.1 153 branz(planthacene 17 0.50 20.00 88.4 15 191 branz(planthacene 17	1-Methylnaphthalene	14	0.50	20.00	0	67.9	39.3	121			
boanaphthene 16 0.50 20.00 0 78.1 35.6 123 Burnene 16 0.50 20.00 0 82.4 35.2 122 Winhacene 16 0.50 20.00 0 81.2 38.8 123 Winhacene 16 0.50 20.00 0 80.3 37.4 131 Winhacene 16 0.50 20.00 0 86.4 25.4 141 Strangelighntracene 17 0.50 20.00 0 88.1 33.6 155 Serzol(hlucranthene 16 0.50 20.00 0 88.4 39 153 Serzol(hlyrene 17 0.50 20.00 0 88.3 153 154 Sterzol(hlyrene 16 0.50 20.00 0 88.3 154 155 Sterzol(hlyrene 17 0.50 20.00 0 86.4 151 154 Sterzol(hlyrene 16	2-Methylnaphthalene	14	0.50	20.00	0	68.4	37.8	122			
Filturene 16 0.50 20.00 0 82.4 35.2 122 Phenanthrene 16 0.50 20.00 0 79.2 37.5 122 Untracene 16 0.50 20.00 0 79.2 37.5 122 Untracene 16 0.50 20.00 0 86.3 37.4 131 Yrene 16 0.50 20.00 0 86.4 35.6 155 Senzo(b)fluoranthene 18 0.50 20.00 0 88.4 39 153 Senzo(b)fluoranthene 16 0.50 20.00 0 86.1 39.7 155 Senzo(b)fluoranthene 17 0.50 20.00 0 86.8 39.7 155 Senzo(b)fluoranthene 17 0.50 20.00 86.1 19.6 154 Sum: Abasdecane 67 76.9 15 176 176 176 Sum: Benzo(e)pyrene 16 29.00	Acenaphthylene	15	0.50	20.00	0	73.4	37	124			
Phenanthrene 16 0.50 20.00 0 81.2 38.8 122 Nuhracene 16 0.50 20.00 0 79.2 37.5 125 Hundracene 16 0.50 20.00 0 80.3 37.4 131 Variationanthene 16 0.50 20.00 0 86.4 25.4 141 Strazglanthracene 17 0.50 20.00 0 86.4 39 153 Serzgloffluoranthene 16 0.50 20.00 0 86.8 39.7 155 Serzgloffluoranthene 16 0.50 20.00 0 86.8 19.1 153 Strazglanthracene 17 0.50 20.00 0 86.3 19.1 153 Starzgloffluoranthene 16 0.50 20.00 86.4 19.1 153 Starzgloffluoranthene 17 0.50 20.00 80.4 19.1 153 Starzgloffluoranthene 1	Acenaphthene	16	0.50	20.00	0	78.1	35.6	123			
whitescene 16 0.50 20.00 0 79.2 37.5 125 Huoranthene 16 0.50 20.00 0 80.3 37.4 131 Ayrene 16 0.50 20.00 0 82.1 27.5 140 Serz(a)Intracene 17 0.50 20.00 0 81.4 33.6 155 Serzo(hjuoranthene 16 0.50 20.00 0 88.4 38 153 Serzo(hjuoranthene 16 0.50 20.00 0 85.1 38.6 153 Serzo(hjuoranthene 16 0.50 20.00 0 81.1 39.6 154 Genzo(hjuoranthene 16 0.50 20.00 0 81.1 39.6 154 Genzo(hjuoranthene 16 50 20.00 0 81.1 39.6 154 Genzo(hjuoranthene 16 50 20.00 80.4 15 154 Genzo(hjuoranthene 16	Fluorene	16	0.50	20.00	0	82.4	35.2	122			
Fluoranthene 16 0.50 20.00 0 80.3 37.4 131 Yrene 16 0.50 20.00 0 82.1 27.5 140 Benz(a)anthracene 17 0.50 20.00 0 86.4 25.4 141 Drygene 16 0.50 20.00 0 88.4 39 153 Benzo(b)fluoranthene 16 0.50 20.00 0 88.4 38 154 Benzo(a)pyrene 17 0.50 20.00 0 86.8 39.7 155 Benzo(a)pyrene 16 0.50 20.00 0 86.1 154 Benzo(a)pyrene 16 0.50 20.00 0 86.3 19.1 153 Benzo(a)pyrene 16 0.50 20.00 0 86.3 19.1 153 Sur: Hexadecane 67 87.60 76.9 15 176 198 Client ID LCSS02 Batch ID: 29754 RunNo: 40147 198 191 113.0 2.0 7.6 20	Phenanthrene	16	0.50	20.00	0	81.2	38.8	122			
Paymene 16 0.50 20.00 0 82.1 27.5 140 Janz(a)anthracene 17 0.50 20.00 0 86.4 32.6 141 Chrysene 16 0.50 20.00 0 81.4 33.6 155 Barz(a)filtoranthene 16 0.50 20.00 0 88.4 39 153 Barza(a)filtoranthene 16 0.50 20.00 0 86.1 38.6 153 Barza(a)filtoranthene 16 0.50 20.00 0 86.1 39.7 155 Barza(a)filtoranthene 16 0.50 20.00 0 86.3 19.1 153 Barza(b)filtoranthene 16 0.50 20.00 0 86.4 19.1 153 Barza(b)filtoranthene 16 0.50 20.00 0 86.4 19.1 153 Barza(b)filtoranthene 16 0.50 20.00 76.9 15 176 Barza(b)	Anthracene	16	0.50	20.00	0	79.2	37.5	125			
Pyrene 16 0.50 20.00 0 82.1 27.5 140 bara/a/anthracene 17 0.50 20.00 0 86.4 32.6 141 chrysene 16 0.50 20.00 0 81.4 336 155 bara/a/anthracene 16 0.50 20.00 0 80.4 38 154 bara/a/anthracene 17 0.50 20.00 0 86.3 38.6 153 bara/a/a/anthracene 17 0.50 20.00 0 86.3 19.1 153 bara/a/a/apyrene 17 0.50 20.00 0 86.3 19.1 153 stare/a/a/apyrene 17 0.50 20.00 0 86.4 19.5 176 stare/a/a/apyrene 17 0.50 20.00 0 86.4 19.5 176 stare/a/apyrene 16 20.00 76.9 15 176 176 bara/a/apyrene 16	luoranthene	16	0.50	20.00	0	80.3	37.4	131			
Chrysene 16 0.50 20.00 0 81.4 33.6 155 Janzo(b)fluoranthene 18 0.50 20.00 0 88.4 39 153 Jenzo(k)fluoranthene 16 0.50 20.00 0 80.4 38 154 Jenzo(k)fluoranthene 17 0.50 20.00 0 85.1 38.6 153 Jenzo(gh,i)perylene 16 0.50 20.00 0 86.8 39.7 155 Jenzo(gh,i)perylene 16 0.50 20.00 0 86.3 19.1 153 Surr: N-hexadecane 67 87.60 76.9 15 176 176 Surr: Benzo(e)pyrene 16 20.00 80.4 15 198 176 Sample ID Icsd-29754 SampType: ICSD TestCode: EPA Method 8270C: PAHs 176 20.00 Analyte Result I/19/2017 SeqNo: 125867 Units: µg/L 110 20.00 10 10.01 20.00 10 10.01 20.01 10 10.01 20.01 10.01	^o yrene	16	0.50		0	82.1	27.5	140			
Chrysene 16 0.50 20.00 0 81.4 33.6 155 Berzo(k)fluoranthene 18 0.50 20.00 0 88.4 39 153 Berzo(k)fluoranthene 16 0.50 20.00 0 80.4 38 154 Berzo(k)fluoranthene 17 0.50 20.00 0 85.1 38.6 153 Berzo(gh,i)perytene 16 0.50 20.00 0 86.8 39.7 155 Berzo(gh,i)perytene 16 0.50 20.00 0 86.3 19.1 173 Surr: N-hexadecane 67 87.60 76.9 15 176 176 Surr: Berzo(e)pyrene 16 20.00 80.4 15 198 176 Sample ID Icsd-29754 SampType: ICSD TestCode: EPA Method SZTOC: PAHs 176 20.00 Analyte Result PQL SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Heiphhalene 13 0.50 20.00 67.1 39.3 <t< td=""><td>Benz(a)anthracene</td><td>17</td><td>0.50</td><td>20.00</td><td>0</td><td>86.4</td><td>25.4</td><td>141</td><td></td><td></td><td></td></t<>	Benz(a)anthracene	17	0.50	20.00	0	86.4	25.4	141			
Benzo(b)fluoranthene 18 0.50 20.00 0 88.4 39 153 Benzo(b)fluoranthene 16 0.50 20.00 0 80.4 38 154 Benzo(a)pyrene 17 0.50 20.00 0 85.1 38.6 153 Benzo(g),hijervjene 16 0.50 20.00 0 86.3 154 154 Benzo(g),hijervjene 16 0.50 20.00 0 86.3 19.1 153 Surr. Bhexadecane 67 × 87.60 76.9 15 176 Surr. Benzo(e)pyrene 16 v 20.00 80.4 15 198 Sample ID LCSS02 Batch ID: 29754 RunNo: 40147 1015: µg/L Analyte Result POL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Methylaphthalene 13 0.50 20.00 0 67.1 39.3 <t< td=""><td>Chrysene</td><td>16</td><td>0.50</td><td>20.00</td><td>0</td><td>81.4</td><td>33.6</td><td>155</td><td></td><td></td><td></td></t<>	Chrysene	16	0.50	20.00	0	81.4	33.6	155			
Benzo(k)fluoranthene 16 0.50 20.00 0 80.4 38 154 Benzo(a)pyrene 17 0.50 20.00 0 85.1 38.6 153 Dibenz(a,b)anthracene 17 0.50 20.00 0 86.8 39.7 155 Benzo(g,h)jberylene 16 0.50 20.00 0 86.3 19.1 153 Sur: N-hexadecane 67 87.60 76.9 15 176 Sur: Benzo(e)pyrene 16 20.00 80.4 15 198 Client ID: LCSS02 Batch :: 29754 RunNo: 40147 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Hothylaphthalene 13 0.50 20.00 0 67.1 39.3 121 1.19 26.8 Methylaphthalene 14 0.50 20.00 0 76.5 122 2.31 <t< td=""><td>Benzo(b)fluoranthene</td><td>18</td><td>0.50</td><td>20.00</td><td>0</td><td>88.4</td><td>39</td><td>153</td><td></td><td></td><td></td></t<>	Benzo(b)fluoranthene	18	0.50	20.00	0	88.4	39	153			
Diberz(a), Janthracene 17 0.50 20.00 0 86.8 39.7 155 Benzo(g), J)perylene 16 0.50 20.00 0 81.1 39.6 154 Andeno(1, 2, 3-cd) pyrene 17 0.50 20.00 0 86.3 19.1 153 Surr. N-hexadecane 67 87.60 76.9 15 176 Surr. Benzo(e) pyrene 16 20.00 80.4 15 198 Sample ID Ics-29754 SampType: LCS TestCode: EPA Method 8270C: PAHs Version Client ID: LCSS02 Batch ID: 29754 TestCode: IPA Method 8270C: PAHs Version Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Naphthalene 13 0.50 20.00 0 67.1 39.3 121 1.19 26.8 Venenphthalene 14 0.50 20.00 75.0 35.6 123 4.05	Benzo(k)fluoranthene	16	0.50		0			154			
Dibenz(a, h)anthracene 17 0.50 20.00 0 86.8 39.7 155 Benzo(g, h, i)perviene 16 0.50 20.00 0 81.1 39.6 154 Benzo(g, h, i)perviene 17 0.50 20.00 0 86.3 19.1 153 Surr. N-hexadecane 67 ×87.60 76.9 15 176 Surr. Benzo(e)pyrene 16 20.00 80.4 15 198 Sample ID Icsd-29754 SampType: Icsso2 Batch ID: 2975+ RunNo: 401+7 Prep Date: 1/18/2017 Analysis Date: 1/19/2017 SeqNo: 1258607 Units: µg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLinit HighLinit %RPD RPDLinit Qual Naphthalene 13 0.50 20.00 0 67.1 39.3 121 1.19 26.8 Chenaphthylene 13 0.50 20.00	Benzo(a)pyrene	17	0.50	20.00	0	85.1	38.6	153			
Benzo(g,h,l)perylene 16 0.50 20.00 0 81.1 39.6 154 Indeno(1,2,3-cd)pyrene 17 0.50 20.00 0 86.3 19.1 153 Surr: N-haxadecane 67 87.60 76.9 15 176 Surr: Benzo(e)pyrene 16 20.00 80.4 15 198 Sample ID Icsd-29754 SampType: LCSD TestCode: EPA Method 8270C: PAHs 16 Client ID: LCSS02 Batch ID: 29754 RunNo: 40147 119 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Valphthalene 13 0.50 20.00 0 64.4 37.4 120 7.76 20 Vedthylnaphthalene 13 0.50 20.00 0 63.9 37 124 6.32 28.6 Vedthylnaphthalene 14 0.50 20.00 0 75.0 <td>Dibenz(a,h)anthracene</td> <td>17</td> <td>0.50</td> <td>20.00</td> <td>0</td> <td>86.8</td> <td>39.7</td> <td>155</td> <td></td> <td></td> <td></td>	Dibenz(a,h)anthracene	17	0.50	20.00	0	86.8	39.7	155			
ndeno(1,2,3-cd)pyrene170.5020.00086.319.1153Surr: N-hexadecane6787.6076.915176Surr: Benzo(e)pyrene1620.0080.415198Sample ID Icsd-29754Sample ID Icsd-29754Sample ID Icsd-29754Sample ID Icsd-29754Client ID:29754TestCol: EPA Method S270C: PAHsClient ID:29754TestCol: I25867Units: µg/LAnalysis Dat:1/19/2017SeqNo: 125867Units: µg/LAnalyteResultPQLSPK valueSPK Val%RECLowLimitHighLimit%RPDRPDLimitQualAnalyteResultPQLSPK valueSPK value <td< td=""><td>Benzo(g,h,i)perylene</td><td>16</td><td>0.50</td><td></td><td>0</td><td>81.1</td><td>39.6</td><td>154</td><td></td><td></td><td></td></td<>	Benzo(g,h,i)perylene	16	0.50		0	81.1	39.6	154			
Surr. N-hexadecane Surr. Benzo(e)pyrene 67 87.60 76.9 15 176 Surr. Benzo(e)pyrene 16 20.00 80.4 15 198 Sample ID Icsd-29754 SampType: LCSD TestCode: EPA Method 8270C: PAHs Client ID: LCSS02 Batch ID: 29754 RunNo: 40147 Units: µg/L Analyste Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Natyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Natythaphthalene 13 0.50 20.00 0 67.1 39.3 121 1.19 26.8 Adenaphthalene 14 0.50 20.00 0 75.0 35.6 123 4.05 27.7 Pubenaphthalene 14 0.50 20.00 0 75.0 35.6 123 4.05 27.7	ndeno(1,2,3-cd)pyrene	17	0.50	20.00	0	86.3	19.1	153			
Surr. Benzo(e)pyrene 16 20.00 80.4 15 198 Sample ID Icsd-29754 SampType: LCSD TestCode: EPA Method 8270C: PAHs Image: Code and Code a	Surr: N-hexadecane			87.60		76.9	15	176			
Client ID: LCSS02 Batch ID: 29754 RunNo: 40147 Prep Date: 1/18/2017 Analysis Date: 1/19/2017 SeqNo: 1258607 Units: µg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Valphthalene 13 0.50 20.00 0 67.0 39.3 121 1.19 26.8 Valenaphthylene 14 0.50 20.00 0 75.0 35.6 123 4.05 27.7 Sevenaphthylene 17 0.50 20.00 84.3 38.8 <t< td=""><td></td><td>16</td><td></td><td>20.00</td><td></td><td>80.4</td><td></td><td>198</td><td></td><td></td><td></td></t<>		16		20.00		80.4		198			
Prep Date: 1/18/2017 Analysis Date: 1/19/2017 SeqNo: 1/258607 Units: µg/L Repult PQL SPK value SPK Ref Val %REC LowLinti HighLintit %RPD RPDLintit Qual Analyte Result 9QL SPK value SPK Ref Val %REC LowLintit HighLintit %RPD RPDLintit Qual Appthalene 13 0.50 20.00 0 64.4 37.4 120 7.76 20 I-Methylnaphthalene 13 0.50 20.00 0 67.1 39.3 121 1.19 26.8 Acenaphthylene 14 0.50 20.00 0 75.0 37.6 123 4.05 28.6 Acenaphthylene 15 0.50 20.00 0 75.0 35.6 123 4.05 27.7 Fluorene 16 0.50 20.00 0 84.3 38.8 122 3.75 20.1 Anthracene 17	Sample ID Icsd-29754	SampT	ype: LC	SD	Tes	Code: E	PA Method	8270C: PAHs			
AnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualNaphthalene130.5020.00064.437.41207.7620I-Methylnaphthalene130.5020.00067.139.31211.1926.82-Methylnaphthalene140.5020.00070.037.81222.3123.82-Methylnaphthalene140.5020.00068.9371246.3228.6Acenaphthylene150.5020.00075.035.61234.0527Guorene160.5020.00079.335.21223.8325.7Phenanthrene170.5020.00084.338.81223.7520Shutracene170.5020.00088.837.413110.121.8Pyrene170.5020.00088.837.413110.121.8Pyrene170.5020.00088.827.51405.5731.1Benz(a)anthracene180.5020.00088.525.41412.4026.6Chrysene170.5020.00086.933.61556.5421.2	Client ID: LCSS02	Batcl	n ID: 29	754	R	unNo: 4	0147				
Naphtalene 13 0.50 20.00 0 64.4 37.4 120 7.76 20 I-Methylnaphthalene 13 0.50 20.00 0 67.1 39.3 121 1.19 26.8 I-Methylnaphthalene 14 0.50 20.00 0 70.0 37.8 122 2.31 23.8 Acenaphthylene 14 0.50 20.00 0 75.0 35.6 123 4.05 27 Acenaphthene 15 0.50 20.00 0 79.3 35.2 122 3.83 25.7 Fluorene 16 0.50 20.00 0 79.3 35.2 122 3.83 25.7 Phenanthrene 17 0.50 20.00 0 84.3 38.8 122 3.75 20 Anthracene 17 0.50 20.00 0 84.3 38.8 122 3.75 21.2 Senz(a)anthracene 17 0.50 20.00 <td>Prep Date: 1/18/2017</td> <td>Analysis D</td> <td>Date: 1/</td> <td>19/2017</td> <td>S</td> <td>eqNo: 1</td> <td>258607</td> <td>Units: µg/L</td> <td></td> <td></td> <td></td>	Prep Date: 1/18/2017	Analysis D	Date: 1/	19/2017	S	eqNo: 1	258607	Units: µg/L			
I-Methylnaphthalene130.5020.00067.139.31211.1926.82-Methylnaphthalene140.5020.00070.037.81222.3123.8Acenaphthylene140.5020.00068.9371246.3228.6Acenaphthylene150.5020.00075.035.61234.0527Stuorene160.5020.00079.335.21223.8325.7Stuorene170.5020.00084.338.81223.7520Anthracene170.5020.00082.937.51254.5721.2Stuoranthene180.5020.00088.837.413110.121.8Pyrene170.5020.00086.827.51405.5731.1Benz(a)anthracene180.5020.00088.525.41412.4026.6Chrysene170.5020.00086.933.61556.5421.2	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylnaphthalene140.5020.00070.037.81222.3123.8Acenaphthylene140.5020.00068.9371246.3228.6Acenaphthylene150.5020.00075.035.61234.0527Cluorene160.5020.00079.335.21223.8325.7Cluorene170.5020.00084.338.81223.7520Anthracene170.5020.00082.937.51254.5721.2Cluoranthene180.5020.00088.837.413110.121.8Pyrene170.5020.00088.525.41412.4026.6Chrysene170.5020.00088.525.41412.4026.6	Naphthalene	13	0.50	20.00	0	64.4	37.4	120	7.76	20	2.01
Accenaphthylene140.5020.00068.9371246.3228.64.05Accenaphthene150.5020.00075.035.61234.052710Fluorene160.5020.00079.335.21223.8325.710Phenanthrene170.5020.00084.338.81223.7520Anthracene170.5020.00082.937.51254.5721.2Fluoranthene180.5020.00088.837.413110.121.8Pyrene170.5020.00086.827.51405.5731.1Benz(a)anthracene180.5020.00088.525.41412.4026.6Chrysene170.5020.00086.933.61556.5421.2	1-Methylnaphthalene	13	0.50	20.00	0	67.1	39.3	121	1.19	26.8	
Accenaphthene150.5020.00075.035.61234.052716Fluorene160.5020.00079.335.21223.8325.7Phenanthrene170.5020.00084.338.81223.7520Anthracene170.5020.00082.937.51254.5721.2Fluoranthene180.5020.00088.837.413110.121.8Pyrene170.5020.00086.827.51405.5731.1Benz(a)anthracene180.5020.00088.525.41412.4026.6Chrysene170.5020.00086.933.61556.5421.2	2-Methylnaphthalene	14	0.50	20.00	0	70.0	37.8	122	2.31	23.8	
Huorene160.5020.00079.335.21223.8325.7Phenanthrene170.5020.00084.338.81223.7520Anthracene170.5020.00082.937.51254.5721.2Juoranthene180.5020.00088.837.413110.121.8Pyrene170.5020.00086.827.51405.5731.1Benz(a)anthracene180.5020.00088.525.41412.4026.6Chrysene170.5020.00086.933.61556.5421.2	Acenaphthylene	14	0.50	20.00	0	68.9	37	124	6.32	28.6	
Phenanthrene170.5020.00084.338.81223.7520Anthracene170.5020.00082.937.51254.5721.2Sluoranthene180.5020.00088.837.413110.121.8Pyrene170.5020.00086.827.51405.5731.1Benz(a)anthracene180.5020.00088.525.41412.4026.6Chrysene170.5020.00086.933.61556.5421.2	Acenaphthene	15	0.50	20.00	0	75.0	35.6	123	4.05	27	
Anthracene170.5020.00082.937.51254.5721.2Fluoranthene180.5020.00088.837.413110.121.8Pyrene170.5020.00086.827.51405.5731.1Benz(a)anthracene180.5020.00088.525.41412.4026.6Chrysene170.5020.00086.933.61556.5421.2	Fluorene	16	0.50	20.00	0	79.3	35.2	122	3.83	25.7	
Ruoranthene180.5020.00088.837.413110.121.8Pyrene170.5020.00086.827.51405.5731.1Benz(a)anthracene180.5020.00088.525.41412.4026.6Chrysene170.5020.00086.933.61556.5421.2	Phenanthrene	17	0.50	20.00	0	84.3	38.8	122	3.75	20	
Pyrene170.5020.00086.827.51405.5731.1Benz(a)anthracene180.5020.00088.525.41412.4026.6Chrysene170.5020.00086.933.61556.5421.2	Anthracene	17	0.50	20.00	0	82.9	37.5	125	4.57	21.2	
Jenz(a)anthracene180.5020.00088.525.41412.4026.6Chrysene170.5020.00086.933.61556.5421.2	luoranthene	18	0.50	20.00	0	88.8	37.4	131	10.1	21.8	
Chrysene 17 0.50 20.00 0 86.9 33.6 155 6.54 21.2	Pyrene	17	0.50	20.00	0	86.8	27.5	140	5.57	31.1	
	Benz(a)anthracene	18	0.50	20.00	0	88.5	25.4	141	2.40	26.6	
	Chrysene	17	0.50	20.00	0	86.9	33.6	155	6.54	21.2	
	Benzo(b)fluoranthene	17	0.50	20.00	0	85.4	39	153	3.45	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

E Value above quantitation range

- J Analyte detected below quantitation limits
 - Sample pH Not In Range
 - Reporting Detection Limit

Р

RL

W Sample container temperature is out of limit as specified

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Hun Environmen	Ital Mai	y 515 1		ory, me.						31-Ja		
	rn Refining S Annual Samp		st, Inc.									
Sample ID Icsd-29754	SampT	ype: LC	SD	Tes	tCode: E	PA Method	8270C: PAHs			15.0		
Client ID: LCSS02 Batch ID: 29754			RunNo: 40147									
Prep Date: 1/18/2017	ate: 1/18/2017 Analysis Date: 1/19/2			S	258607	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzo(k)fluoranthene	17	0.50	20.00	0	84.5	38	154	4.97	21			
Benzo(a)pyrene	17	0.50	20.00	0	85.0	38.6	153	0.118	24.8			
Dibenz(a,h)anthracene	18	0.50	20.00	0	90.4	39.7	155	4.06	26			
Benzo(g,h,i)perylene	17	0.50	20.00	0	85.4	39.6	154	5.17	20			
Indeno(1,2,3-cd)pyrene	17	0.50	20.00	0	87.4	19.1	153	1.27	20			
Surr: N-hexadecane	63		87.60		71.6	15	176	0	0			
Surr: Benzo(e)pyrene	15		20.00		76.0	15	198	0	0			
Sample ID mb-29754 SampType: MBLK				TestCode: EPA Method 8270C: PAHs								
Client ID: PBW	Batch	Batch ID: 29754			RunNo: 40147							
Prep Date: 1/18/2017	Analysis D	Analysis Date: 1/19/2017			SeqNo: 1258608			Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Naphthalene	ND	0.50										
1-Methylnaphthalene	ND	0.50										
2-Methylnaphthalene	ND	0.50										
Acenaphthylene	ND	0.50										
Acenaphthene	ND	0.50										
Fluorene	ND	0.50										
Phenanthrene	ND	0.50										
Anthracene	ND	0.50										
Fluoranthene	ND	0.50										
Pyrene	ND	0.50										
Benz(a)anthracene	ND	0.50										
Chrysene	ND	0.50										

Hall Environmental Analysis Laboratory, Inc.

0.50

0.50

0.50

0.50

0.50

0.50

87.60

20.00

ND

ND ND

ND

ND

ND

69

14

WO#: 1701641

31-Jan-17

Qualifiers:

Benzo(b)fluoranthene

Benzo(k)fluoranthene

Benzo(g,h,i)perylene

Indeno(1,2,3-cd)pyrene

Surr: N-hexadecane

Surr: Benzo(e)pyrene

Benzo(a)pyrene Dibenz(a,h)anthracene

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

176

198

15

15

E Value above quantitation range

78.4

68.6

- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 11 of 13

WO#: 1701641 31-Jan-17

Hall Environmental Analysis Laboratory, Inc.

	rn Refining Southwest, Inc. Annual Sampling			
Sample ID mb-1	SampType: mblk	TestCode: SM2320B: A		
Client ID: PBW	Batch ID: R40164	RunNo: 40164		
Prep Date:	Analysis Date: 1/19/2017	SeqNo: 1259028	Units: mg/L CaCO3	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Total Alkalinity (as CaCO3)	ND 20.00			de la compañía de las
Sample ID Ics-1	SampType: Ics	TestCode: SM2320B: A	de ^{la} f.	
Client ID: LCSW	Batch ID: R40164	RunNo: 40164		
Prep Date:	Analysis Date: 1/19/2017	SeqNo: 1259029	Units: mg/L CaCO3	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Total Alkalinity (as CaCO3)	77.68 20.00 80.00	0 97.1 90	110	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL
- W Sample container temperature is out of limit as specified

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Reporting Detection Limit

WO#: 1701641

31-Jan-17

Hall Environmental Analysis Laboratory, Inc.

Client: Project:		tern Refining S Annual Sampl		st, Inc.							
Sample ID	MB-29789	SampT	уре: МІ	BLK	Tes	tCode: S	M2540C MC	DD: Total Diss	olved So	lids	E R. I
Client ID:	PBW	Batch	n ID: 29	789	F	RunNo: 4	0175				
Prep Date:	1/19/2017	Analysis D	ate: 1	/20/2017		SeqNo: 1	259296	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved	Solids	ND	20.0	1.1				1.151			6 40 10
Sample ID	LCS-29789	SampT	SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids							lids	1-4-1
Client ID:	LCSW	Batch	Batch ID: 29789		RunNo: 40175						
Prep Date:	1/19/2017	Analysis D	ate: 1/	20/2017	\$	SeqNo: 1	259297	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved	Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

Value exceeds Maximum Contaminant Level. *

Sample Diluted Due to Matrix D

- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits J
- P Sample pH Not In Range
- RL
- Sample container temperature is out of limit as specified W

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- Reporting Detection Limit

HALL Hall Environment ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-345-39 Website: www.			awkins NE NM 87109 -345-4107	Sam	ole Log-In C	heck List
Client Name: Western Refining Southw	Work Order Number:	170164	1		RcptNo:	1
Received by/date:	11717					
Logged By: Lindsay Mangin	1/17/2017 7:05:00 AM		0	the first		
Completed By: Lindsay Mangin Reviewed By: QJ	1/17/2017 8:09:38 AM		0	they they		
Chain of Custody						
1. Custody seals intact on sample bottles?		Yes [No 🗆	Not Present 🗹	
2. Is Chain of Custody complete?		Yes S		No 🗌	Not Present	
3. How was the sample delivered?		Courie	<u>c</u>			
Log In						
4. Was an attempt made to cool the samples	?	Yes		No 🗌		
5. Were all samples received at a temperature	e of >0° C to 6.0°C	Yes	2	No 🗌		
6. Sample(s) in proper container(s)?		Yes		No 🗌		
7. Sufficient sample volume for indicated test(s)?	Yes	2	No 🗌		
8. Are samples (except VOA and ONG) prope	rly preserved?	Yes		No 🗆		
9. Was preservative added to bottles?		Yes []	No 🗹	NA 🗌	
10.VOA viais have zero headspace?		Yes		No 🗌	No VOA Vials	
11, Were any sample containers received brok	en?	Yes [No 🗹	# of preserved	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes		No 🗆	bottles checked for pH:	2 r >12 unless noted
13. Are matrices correctly identified on Chain of	Custody?	Yes V		No 🗆	Adjusted?	NO
14. Is it clear what analyses were requested?		Yes		No 🗆		La
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🖸		No 🗌	Checked by: _(<u>M</u>

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order	r? Yes	No 🗌	NA 🗹
Person Notified:	Date	and the statement of the second	
By Whom:		Phone 🗌 Fax 🛄 li	n Person
Regarding:			
Client Instructions:	A LEA AND A TAXABLE A COMPANY A DESCRIPTION OF A	AN INCOME. COMMAN IN THE REAL PROPERTY AND AND AND AND AND	
·			

17. Additional remarks:

8	Cooler Information	

1.4

Good

18. <u>Cooler Information</u> Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date Signed By

Yes

Chain-of-Custody Record Iient: Western Refining Kelly Robinson Iailing Address: III GR 1990 Bloomfield, NM hone #: 505-801-5616 mail or Fax#: Kelly, robinson@wn.com A/QC Package: Standard Level 4 (Full Validation) ccreditation I NELAP Other	Turn-Around Time: Standard Rush Project Name: GBR annual sampling Project #: 12G1SS18 > westock 12G1SS18 > westock Project Manager: Devin Hencman Sampler: Cosh Adams On Ice: Prose PI Nor Sample Temperature: 1, 4	BIEX + MIBE + IMB's (8021) BIEX + MIBE + HMB's (8021) BIEX + MIBE + TMB's (8021) BIEX + MIBE + TPH (6as only) TPH 8015B (GRO / DRO / MRO) TPH 10015B (GRO / DRO / MRO) About 100 TPH 10015B (GRO / DRO / MRO) TPH 8015B (GRO / DRO / MRO) TPH 100 418.1) EDB (Method 204.1) BAH,s (8310 or 8270 SIMS) B081 Pesticides / 8082 PCB's 8260B (VOA) S260B (VOA) S260B (VOA) Vor No S200 (Semi-NOA) Vor No S200 (VOA) S200 (VOA) Vor No S200 (VOA) S200 (VOA) Vor No S200 (VOA) Vor No Vor No Vor No VOA VOA S200 (VOA) Vor N
Date Time Matrix Sample Request ID 6-17 1330 Gw GRW-G	Container Type and # Preservative Type HEAL-No. 17016411 Vandus Varidus - 001	BTEX + MTBE + TM BTEX + MTBE + TPI BTEX + MTBE + TPI BTEX + MTBE + TPI TPH 8015B (GRO / I TPH 8015B (GRO / I PAH'S (8310 or 8270 PAH'S (8310 or 8270 RCRA 8 Metals Anions (F, CI,NO ₃ ,NC 8081 Pesticides / 80 8260B (VOA) 8270 (Semi-VOA) Air Bubbles (Y or N)
rate: Time: Luc Relinquished by Clubber -17	Received by: Received by: Received by: Received by: Date Time Date Date Time Dat	Remarks: EC! Abenchanne for com jadams@ Henv.com jadams@ Henv.com Kelly Robinson Areed bill western Prod

GIANT BLOOMFIELD REFINERY WESTERN REFINING ATTACHMENT TO COC

SAMPLING CONDUCTED ON _

	BY				
Analysis	method	Bottle			
VOC	method 8260	3 - HCL VOA			
РАН	method 8270	1 - Liter Amber (non preserved)			
1 MA	interior carto	a bier maser (not preserveu)			
GWC					
pH	SM 4500-H+B				
EC	SM 2510B				
TDS	SM 2540C MOD	1 - 500ml (non preserved)			
alkalinity	SM 2320B				
hardness	SM 2340B				
	EPA Method 300.0	44			
	nitrate/nitrite	1 - 250ml H2SO4			
	bromide	· · ·			
ANIONS	chloride				
	sulfate				
	phosporus				
	fluoride				
	EPA Method 200.7	1 - 500ml HNO3			
	calcium	1- 500 Mt 111005			
	iron				
CATIONS / METALS	magnesium				
	manganese .				
	potassium				
	sodium				
	EPA Method 200.7				
	barium				
	beryllium				
	cadmium				
	chromium				
	silver				
	lead				
	nickel				
Metals	EPA 200,8	1 - 500ml HNO3			
	copper				
	zinc				
	antimony				
	arsenic				
	selenium				
	thallium				
	Epa Method 245.1				
	mercury				

Sample ID	ANNUALLY (DEC)					
	VOC					
GRW-3	GWC					
	PAH					
	VOC					
GRW-6	GWC					
	PAH					
	VOC					
GBR-17	GWC					
	PAH					
	VOC					
GBR-24D	GWC					
	PAH					
	VOC					
GBR-30	GWC					
	РАН					
	VOC					
GBR-31	GWC					
	PAH					
	VOC					
GBR-32	GWC					
	METALS					
CIPIT IN	VOC					
GBR-48	GWC					
	VOC					
GBR-49	GWC					
GBR-49	METALS					
	VOC					
GBR-50	GWC					
G	METALS					
	VOC					
GBR-51	GWC					
	VOC					
GBR-52	GWC					
STE B	VOC					
SHS-8	GWC					

12615518 on 66 COC





Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

August 15, 2015

Ashley Ager Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (970) 946-1093 FAX (505) 632-3911

RE: GBR Shutdown Action Plan

OrderNo.: 1508343

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 8 sample(s) on 8/8/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u> Workorder Sample Summary WO#: 1508343

15-Aug-15

CLIENT:Western Refining Southwest, Inc.Project:GBR Shutdown Action Plan

Lab SampleID	Client Sample ID Tag No	Date Collected	Date Received	Matrix
1508343-001	GBR-21D	8/7/2015 12:30:00 PM	8/8/2015 9:45:00 AM	Aqueous
1508343-001	GBR-21D	8/7/2015 12:30:00 PM	8/8/2015 9:45:00 AM	Aqueous
1508343-002	GBR-22	8/7/2015 11:35:00 AM	8/8/2015 9:45:00 AM	Aqueous
1508343-002	GBR-22	8/7/2015 11:35:00 AM	8/8/2015 9:45:00 AM	Aqueous
1508343-003	GBR-25	8/7/2015 12:23:00 PM	8/8/2015 9:45:00 AM	Aqueous
1508343-003	GBR-25	8/7/2015 12:23:00 PM	8/8/2015 9:45:00 AM	Aqueous
1508343-004	GBR-26	8/7/2015 1:25:00 PM	8/8/2015 9:45:00 AM	Aqueous
1508343-004	GBR-26	8/7/2015 1:25:00 PM	8/8/2015 9:45:00 AM	Aqueous
1508343-005	GBR-34	8/7/2015 11:30:00 AM	8/8/2015 9:45:00 AM	Aqueous
1508343-005	GBR-34	8/7/2015 11:30:00 AM	8/8/2015 9:45:00 AM	Aqueous
1508343-006	SHS-8	8/7/2015 3:10:00 PM	8/8/2015 9:45:00 AM	Aqueous
1508343-006	SHS-8	8/7/2015 3:10:00 PM	8/8/2015 9:45:00 AM	Aqueous
1508343-007	SHS-9	8/7/2015 3:00:00 PM	8/8/2015 9:45:00 AM	Aqueous
1508343-007	SHS-9	8/7/2015 3:00:00 PM	8/8/2015 9:45:00 AM	Aqueous
1508343-008	Trip Blank		8/8/2015 9:45:00 AM	Trip Blank

Analytica	l Report
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Lab Order 1508343

Date Reported: 8/15/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Western Refining Southwest, In	nc.		0	lient Sam	ple ID: GB	8R-21D	
Project:	GBR Shutdown Action Plan				Collection	Date: 8/7	/2015 12:30:00 PM	
Lab ID:	1508343-001	Matrix:	AQUEOU	IS	Received	Date: 8/8	/2015 9:45:00 AM	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015M/D: DIESEL RANG	E					Analys	t: KJH
Diesel R	ange Organics (DRO)	350	10		mg/L	10	8/11/2015 8:48:31 PM	20682
Surr: [ONOP	0	72-136	S	%REC	10	8/11/2015 8:48:31 PM	20682
EPA MET	HOD 8015D: GASOLINE RANG	θE					Analys	NSB
Gasoline	Range Organics (GRO)	ND	1.0	D	mg/L	20	8/12/2015 2:51:54 PM	R28140
Surr: E	BFB	89.0	57.8-137	D	%REC	20	8/12/2015 2:51:54 PM	R28140

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1508343

Date Reported: 8/15/2015

CLIENT: Western Refining Southwest, Inc.

Project: GBR Shutdown Action Plan

1508343-002

Lab ID:

Client Sample ID: GBR-22 Collection Date: 8/7/2015 11:35:00 AM

Received Date: 8/8/2015 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE	Ξ					Analyst	KJH
Diesel Range Organics (DRO)	110	10		mg/L	10	8/12/2015 9:02:49 AM	20682
Surr: DNOP	0	72-136	S	%REC	10	8/12/2015 9:02:49 AM	20682
EPA METHOD 8015D: GASOLINE RANG	iΕ					Analyst	NSB
Gasoline Range Organics (GRO)	0.34	0.25	D	mg/L	5	8/12/2015 3:16:43 PM	R28140
Surr: BFB	96.9	57.8-137	D	%REC	5	8/12/2015 3:16:43 PM	R28140

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Lab Order 1508343

Date Reported: 8/15/2015

Hall Environmental Analysis Laboratory, Inc.

1

Project: GI	estern Refining Southwest, In 3R Shutdown Action Plan 08343-003		AQUEOU		Collection		BR-25 7/2015 12:23:00 PM 8/2015 9:45:00 AM	
Analyses	denker og slike	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHO	D 8015M/D: DIESEL RANG	E					Analys	t: KJH
Diesel Range	e Organics (DRO)	92	1.0		mg/L	1	8/11/2015 10:14:44 PM	1 20682
Surr: DNO	P	85.4	72-136		%REC	1	8/11/2015 10:14:44 PM	1 20682
EPA METHO	D 8015D: GASOLINE RANG	E					Analys	t: NSB
Gasoline Rai	nge Organics (GRO)	0.98	0.25	ΡD	mg/L	5	8/12/2015 3:41:37 PM	R28140
Surr: BFB		155	57.8-137	SP D	%REC	5	8/12/2015 3:41:37 PM	R28140

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Lab Order 1508343 Date Reported: 8/15/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

GBR Shutdown Action Plan **Project:** 1508343-004

Lab ID:

Client Sample ID: GBR-26 Collection Date: 8/7/2015 1:25:00 PM

Received Date: 8/8/2015 9:45:00 AM

Analyses	Result	RL Q	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE	Ξ					Analyst	KJH
Diesel Range Organics (DRO)	1.8	1.0		mg/L	1	8/11/2015 10:57:52 PM	20682
Surr: DNOP	89.4	72-136		%REC	1	8/11/2015 10:57:52 PM	20682
EPA METHOD 8015D: GASOLINE RANG	E					Analyst	NSB
Gasoline Range Organics (GRO)	ND	0.20	D	mg/L	4	8/12/2015 4:06:29 PM	R28140
Surr: BFB	98.6	57.8-137	D	%REC	4	8/12/2015 4:06:29 PM	R28140

Matrix: AQUEOUS

*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 11
ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		
		 D Sample Diluted Due to Matrix H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits 	DSample Diluted Due to MatrixEHHolding times for preparation or analysis exceededJNDNot Detected at the Reporting LimitPRRPD outside accepted recovery limitsRL

Lab Order 1508343

Date Reported: 8/15/2015

Hall Environmental Analysis Laboratory, Inc.

1

CLIENT: Western Refining Sc Project: GBR Shutdown Acti Lab ID: 1508343-005	ion Plan	AQUEOUS		concerton	Date: 8/7	BR-34 7/2015 11:30:00 AM 8/2015 9:45:00 AM	
Analyses	Result			Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIES	EL RANGE					Analys	t KJH
Diesel Range Organics (DRO)	400	10		mg/L	10	8/12/2015 9:24:16 AM	20682
Surr: DNOP	0	72-136	S	%REC	10	8/12/2015 9:24:16 AM	20682
EPA METHOD 8015D: GASOL	INE RANGE					Analys	RAA
Gasoline Range Organics (GRO)	13	2.5	Ρ	mg/L	50	8/11/2015 4:17:36 AM	R28068
Surr: BFB	125	57.8-137	Р	%REC	50	8/11/2015 4:17:36 AM	R28068

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 6 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1508343 Date Reported: 8/15/2015

CLIENT: Western Refining Southwest, Inc.

Project: GBR Shutdown Action Plan

1508343-006

Lab ID:

Client Sample ID: SHS-8 Collection Date: 8/7/2015 3:10:00 PM

Received Date: 8/8/2015 9:45:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E					Analys	t: KJH
Diesel Range Organics (DRO)	23	1.0		mg/L	1	8/12/2015 12:24:05 AM	1 20682
Surr: DNOP	98.4	72-136		%REC	1	8/12/2015 12:24:05 AM	1 20682
EPA METHOD 8015D: GASOLINE RANG	GE					Analys	t: RAA
Gasoline Range Organics (GRO)	0.18	0.10	Ρ	mg/L	2	8/11/2015 4:42:23 AM	R28068
Surr: BFB	126	57.8-137	P	%REC	2	8/11/2015 4:42:23 AM	R28068

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 7 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Lab Order 1508343

Date Reported: 8/15/2015

Hall Environmental Analysis Laboratory, Inc.

	Western Refining Southwest, I GBR Shutdown Action Plan	nc.		C	Client Samp Collection		IS-9 7/2015 3:00:00 PM	
Lab ID:	1508343-007	Matrix:	AQUEOU	S	Received	Date: 8/8	3/2015 9:45:00 AM	
Analyses	Internet the transmission	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015M/D: DIESEL RANG	E				[4]	Analys	t: KJH
Diesel Ra	inge Organics (DRO)	29	1.0		mg/L	1	8/12/2015 1:07:09 AM	20682
Surr: D	NOP	91.7	72-136		%REC	1	8/12/2015 1:07:09 AM	20682
EPA MET	HOD 8015D: GASOLINE RANG	GE					Analys	t: NSB
Gasoline	Range Organics (GRO)	ND	0.20	D	mg/L	4	8/12/2015 4:31:22 PM	R28140
Surr: B	FB	108	57.8-137	D	%REC	4	8/12/2015 4:31:22 PM	R28140

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 8 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical	Report
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Hall Environmental Analysis Laboratory, Inc.

Lab Order 1508343 Date Reported: 8/15/2015

CLIENT:	Western Refining So	outhwest, Inc.		Client Sample ID: Trip Blank					
Project:	GBR Shutdown Acti	on Plan		Collection	Date:				
Lab ID:	1508343-008	Matrix:	TRIP BLANK	Received	Date: 8/8/2015 9:45:00 AM				
Analyses		Result	RL Qua	l Units	DF Date Analyzed	Batch			
EPA MET	HOD 8015D: GASOL	INE RANGE			Analy	st: RAA			
Gasoline	Range Organics (GRO)	ND	0.050	mg/L	1 8/11/2015 5:31:52 AM	R28068			
Surr: E	BFB	90.3	57.8-137	%REC	1 8/11/2015 5:31:52 AM	R28068			

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 9 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

WO#: 1508343 15-Aug-15

Hall Environmental Ana	lysis Laboratory, Inc.
------------------------	------------------------

	n Refining So hutdown Act									
Sample ID MB-20682	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e	
Client ID: PBW	Batch	ID: 20	682	F	RunNo: 2	8064				
Prep Date: 8/10/2015	Analysis Da	ate: 8/	10/2015	5	SeqNo: 8	45825	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0						1. 1.1	5.Q.2	
Surr: DNOP	0.98		1.000		98.1	72	136			
Sample ID LCS-20682	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e	1111
Client ID: LCSW	Batch	ID: 20	682	F	RunNo: 2	8064				
Prep Date: 8/10/2015	Analysis Da	ate: 8/	10/2015	S	SeqNo: 8	45826	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.4	1.0	5.000	0	127	60.1	156			
Surr: DNOP	0.55		0.5000		110	72	136			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit

Page 10 of 11

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508343

15-Aug-15

Client: Project:		Refining S itdown Ac									
Sample ID			Type: MI					8015D: Gaso	line Rang	e	
Client ID:	PBW		h ID: R2			RunNo: 2		Linita: ma/l			
Prep Date:		Analysis E				SeqNo: 8		Units: mg/L			
Analyte	0 : (000)	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sasoline Rang	e Organics (GRO)	ND 18	0.050	20.00		91. <mark>4</mark>	57.8	137			
Sample ID	2.5UG LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	1
Client ID:	LCSW	Batcl	h ID: R2	8068	F	RunNo: 2	8068				
Prep Date:		Analysis D	Date: 8/	10/2015	S	SeqNo: 8	45771	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Basoline Rang	e Organics (GRO)	0.46	0.050	0.5000	0	92.2	80	120			Service Re-
Surr: BFB		20		20.00		97.7	57.8	137			
Sample ID	B30	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID:	PBW	Batch	n ID: R2	8140	F	RunNo: 2	8140				
Prep Date:		Analysis D	Date: 8/	12/2015	S	SeqNo: 8	48357	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	ND	0.050								
Surr: BFB		18		20.00		92.1	57.8	137			
Sample ID	2.5UG GRO LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID:	LCSW	Batch	n ID: R2	8140	F	unNo: 2	8140				
Prep Date:		Analysis D	ate: 8/	12/2015	S	eqNo: 8	48358	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
asoline Rang	e Organics (GRO)	0.44	0.050	0.5000	0	87.1	80	120			
Surr: BFB				20.00		95.3	57.8	137			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 11 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

TEL: 505-345-397	4901 Hawkin. buquerque, NM 8	s NE 7109 Sam 4107	ple Log-In C	heck List
Client Name: Western Refining Southw Work Order Number	er: 1508343		RcptNo:	1
Received by/date: Logged By: Lindsay Mangin 8/8/2015 9:45:00 AM		Junday Margo		
Completed By: Lindsay Mangin 8/8/2015 10:37:54 Al	N	Anichy Harriso		
Reviewed By: Ja 08/10/15		000		
Chain of Custody				
1. Custody seals intact on sample bottles?	Yes	No 🗌	Not Present	
2. Is Chain of Custody complete?	Yes 🛃	No 🗌	Not Present	
3. How was the sample delivered?	Courier			
Log In				
4. Was an attempt made to cool the samples?	Yes 🛃	No 🗌		
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🛃	No 🗌		
6. Sample(s) in proper container(s)?	Yes 🛃	No 🗍		
7. Sufficient sample volume for indicated test(s)?	Yes	No 🗆		
8. Are samples (except VOA and ONG) properly preserved?	Yes	No 🗍		
9. Was preservative added to bottles?	Yes	No 🛃	NA 🗆	
10.VOA vials have zero headspace?	Yes	No 🗌	No VOA Vials	z.
11. Were any sample containers received broken?	Yes	No 🛃	# of preserved	
12.Does paperwork match bottle labels?	Yes 💌	No 🗆	bottles checked for pH:	
(Note discrepancies on chain of custody)			(<2 of Adjusted?)	or >12 unless noted
13. Are matrices correctly identified on Chain of Custody?	Yes 🛃	No 🗌	Adjusted	
14, is it clear what analyses were requested?	Yes 🛃	No 🗌	Checked by:	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 💌	No 🗌	oncondu by.	
Special Handling (if applicable)				
16. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🛃	
Person Notified: Date: Date:		an a' an an ann a ann a bhlith bh thair, ann a ann Alb		ISI ISI
By Whom: Via:	eMail	Phone 🗌 Fax	in Person	
Regarding:		geneli di Genera espisione en	unnen han de ser de la ser de l	
Client Instructions:				
17. Additional remarks:				
18. Cooler Information		1.0		
Cooler No Temp °C Condition Seal Intact Seal No	Seal Date	Signed By		
1 4.6 Good Yes				

Client:	Kelly III C	Robin R 49	ison, Western Refining	Turn-Around Time: Standard Rus Project Name:	h				A		LY:	519	5 L	AE	30	1EN RA		
Mailing	Address:	Bloow	Hield NM	GBL Shutdown Project #:	Action Man	F				ns NE					M 87 -4107			
-) 385-	1096 DLTENV.com	WRI00 ⁰ Project Manager:			ЬĽ,		0-0-1	-557	Anal	ysis	-		Contraction of the			
QA/QC F	Package: dard)	Level 4 (Full Validation)	Ashley		TMB's (8021)	TPH (Gas only)	RO /MR		CIMCI	(crano	2,PO4,SO	32 PCB's					
	AP	□ Othe	r	Sampler: Alex Crock On Ice: Alex Crock Sample Temperature: 2	BENO		E + TP	GRO/D	418.1)	504.1)	sli	NO ₃ ,NO	es / 8082		(VA)			(or N)
Date	Time	Matrix	Sample Request ID	Container Type and # Type		BTEX + MTBE +	BTEX + MTBE +	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 5	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides /	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (Y or N)
3-7-15	1230	GW	GBR-ZID	Cool/24 1/ Amber	001			1		- 3								
1	1135		GBR-22	Cool/HCI	-002													
	1223		G-BR-29	Cool ONLY	-003					-	-							
	1325		(JDR-26	CoolONLY	-004					-	-			_				
	1130	1	GBR-34	CoolOVIY	-005				-								_	
	1510		SHS-8 SHS-9	Cool/HCI	-000					-	-	-	-					
1	1500	V	Trip Blank	1 VOA HCI	-008			V		-		-	-		$\left - \right $	-	-	
	7707		uting Dello		000						-						+	
			Gring - dito							+						21	-	
								-										
																		8
Date: -7-15 Date:	Time: 1993 Time:	Relinquishe	int lef	Received by:	Date Time	Rer	nark	s:	Coj	iny	DH	enci	iya	ns1(CL	TE.	NU:CO	us
th/15	1807	Ch	riste libeters		x 10x 15 0945		. 194								1			and a
	necessary,	BIR SUD	nitted to Hall Environmental may be subc			possi	omty. /		D-CONT	acted ds	ica wili D		iy nota	ited of	i une al	uanyuCan I	eport	



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

August 24, 2015

Ashley Ager Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (970) 946-1093 FAX (505) 632-3911

RE: GBR Shutdown Action Plan

OrderNo.: 1508346

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 8 sample(s) on 8/8/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order 1508346

Date Reported: 8/24/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Shutdown Action Plan

Lab ID: 1508346-001

Client Sample ID: GBR-21D Collection Date: 8/7/2015 12:30:00 PM Received Date: 8/8/2015 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				1	A	nalyst: LGT
Chloride	330	50	*	mg/L	100 8/11/2015 10:55:	23 AM R28135
EPA METHOD 8260B: VOLATILES					A	nalyst: DJF
Benzene	ND	2.0	D	µg/L	2 8/14/2015 12:57:	48 AM R28180
Toluene	ND	2.0	D	µg/L	2 8/14/2015 12:57:	48 AM R28180
Ethylbenzene	ND	2.0	D	µg/L	2 8/14/2015 12:57:	48 AM R28180
Xylenes, Total	ND	3.0	D	µg/L	2 8/14/2015 12:57:	48 AM R28180
Surr: 1,2-Dichloroethane-d4	99.4	70-130	D	%REC	2 8/14/2015 12:57:	48 AM R28180
Surr: 4-Bromofluorobenzene	90.5	70-130	D	%REC	2 8/14/2015 12:57:	48 AM R28180
Surr: Dibromofluoromethane	104	70-130	D	%REC	2 8/14/2015 12:57:	48 AM R28180
Surr: Toluene-d8	97.6	70-130	D	%REC	2 8/14/2015 12:57:	48 AM R28180

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

8/14/2015 1:25:14 AM

2 8/14/2015 1:25:14 AM

2 8/14/2015 1:25:14 AM

R28180

R28180

R28180

R28180

R28180

R28180

R28180

R28180

Lab Order 1508346

Date Reported: 8/24/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Western Refining Southwest, I	nc.		C	lient Sar	nple ID: GBR-22	
Project:	GBR Shutdown Action Plan				Collectio	on Date: 8/7/2015 11:35:00 AM	
Lab ID:	1508346-002	Matrix:	AQUEOUS	é.	Receive	ed Date: 8/8/2015 9:45:00 AM	
Analyses		Result	RL (Qual	Units	DF Date Analyzed	Batch
EPA MET	THOD 300.0: ANIONS					Analyst	LGT
Chloride		470	50	*	mg/L	100 8/21/2015 10:28:39 PM	R28406
EPA MET	THOD 8260B: VOLATILES					Analyst	DJF

1.0

2.0

2.0

3.0

70-130

70-130

70-130

70-130

D

D

D

D

D

D

D

D

µg/L

µg/L

µg/L

µg/L

%REC

%REC

%REC

%REC

2

2

2

2

2

2

1.7

ND

16

6.3

98.1

95.7

107

99.2

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the asso
	D	Sample Diluted Due to Matrix	E	Value above quantitation ran
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quar
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

- S % Recovery outside of range due to dilution or matrix
- ociated Method Blank
- range
- antitation limits Page 2 of 10

Benzene

Toluene

Ethylbenzene

Xylenes, Total

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1508346

Date Reported: 8/24/2015

CLIENT: Western Refining Southwest, Inc. Project: GBR Shutdown Action Plan

Lab ID: 1508346-003

Client Sample ID: GBR-25 Collection Date: 8/7/2015 12:25:00 PM Received Date: 8/8/2015 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	LGT
Chloride	520	50	*	mg/L	100	8/11/2015 11:45:01 AM	R28135
EPA METHOD 8260B: VOLATILES						Analyst	DJF
Benzene	ND	5.0	DP	µg/L	5	8/14/2015 1:52:44 AM	R28180
Toluene	ND	5.0	DP	µg/L	5	8/14/2015 1:52:44 AM	R28180
Ethylbenzene	15	5.0	DP	µg/L	5	8/14/2015 1:52:44 AM	R28180
Xylenes, Total	ND	7.5	DP	µg/L	5	8/14/2015 1:52:44 AM	R28180
Surr: 1,2-Dichloroethane-d4	99.8	70-130	DP	%REC	5	8/14/2015 1:52:44 AM	R28180
Surr: 4-Bromofluorobenzene	93.9	70-130	DP	%REC	5	8/14/2015 1:52:44 AM	R28180
Surr: Dibromofluoromethane	104	70-130	DP	%REC	5	8/14/2015 1:52:44 AM	R28180
Surr: Toluene-d8	104	70-130	DP	%REC	5	8/14/2015 1:52:44 AM	R28180

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Lab Order 1508346

Date Reported: 8/24/2015

Hall Environmental Analysis Laboratory, Inc.

 CLIENT:
 Western Refining Southwest, Inc.
 Client Sample ID: GBR-26

 Project:
 GBR Shutdown Action Plan
 Collection Date: 8/7/2015 1:25:00 PM

 Lab ID:
 1508346-004
 Matrix: AQUEOUS
 Received Date: 8/8/2015 9:45:00 AM

 Analyses
 Result
 RL
 Qual
 Units
 DF
 Date Analyzed
 Batch

 EPA METHOD 300.0: ANIONS
 10
 8/11/2015 12:22:14 PM
 R28133

EPA METHOD 300.0: ANIONS						Analyst	LGT
Chloride	170	5.0		mg/L	10	8/11/2015 12:22:14 PM	R28135
EPA METHOD 8260B: VOLATILES						Analyst	DJF
Benzene	ND	2.0	DP	µg/L	2	8/14/2015 2:20:16 AM	R28180
Toluene	ND	2.0	DP	µg/L	2	8/14/2015 2:20:16 AM	R28180
Ethylbenzene	ND	2.0	DP	µg/L	2	8/14/2015 2:20:16 AM	R28180
Xylenes, Total	ND	3.0	DP	µg/L	2	8/14/2015 2:20:16 AM	R28180
Surr: 1,2-Dichloroethane-d4	96.7	70-130	DP	%REC	2	8/14/2015 2:20:16 AM	R28180
Surr: 4-Bromofluorobenzene	99.4	70-130	DP	%REC	2	8/14/2015 2:20:16 AM	R28180
Surr: Dibromofluoromethane	108	70-130	DP	%REC	2	8/14/2015 2:20:16 AM	R28180
Surr: Toluene-d8	96.9	70-130	DP	%REC	2	8/14/2015 2:20:16 AM	R28180

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Lab Order **1508346** Date Reported: **8/24/2015**

CLIENT: Western Refining Southwest, Inc.

Project: GBR Shutdown Action Plan Lab ID: 1508346-005 Client Sample ID: GBR-34 Collection Date: 8/7/2015 11:30:00 AM Received Date: 8/8/2015 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF Date Analyzed Bat
EPA METHOD 300.0: ANIONS					Analyst: LG
Chloride	280	50	*	mg/L	100 8/11/2015 12:59:29 PM R28
EPA METHOD 8260B: VOLATILES					Analyst: DJF
Benzene	5.2	5.0	DP	µg/L	5 8/14/2015 2:47:49 AM R28
Toluene	ND	5.0	DP	µg/L	5 8/14/2015 2:47:49 AM R28
Ethylbenzene	51	5.0	DP	µg/L	5 8/14/2015 2:47:49 AM R28
Xylenes, Total	49	7.5	DP	µg/L	5 8/14/2015 2:47:49 AM R28
Surr: 1,2-Dichloroethane-d4	103	70-130	DP	%REC	5 8/14/2015 2:47:49 AM R28
Surr: 4-Bromofluorobenzene	51.0	70-130	SDP	%REC	5 8/14/2015 2:47:49 AM R28
Surr: Dibromofluoromethane	100	70-130	DP	%REC	5 8/14/2015 2:47:49 AM R28
Surr: Toluene-d8	98.0	70-130	DP	%REC	5 8/14/2015 2:47:49 AM R28

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Lab Order 1508346

8/14/2015 3:15:27 AM

8/14/2015 3:15:27 AM

8/14/2015 3:15:27 AM

1

1

1

R28180

R28180

R28180

Date Reported: 8/24/2015

Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

Project:	Western Refining Southwest, In GBR Shutdown Action Plan			Controll	Date: 8/7	7/2015 3:10:00 PM	
Lab ID:	1508346-006	Matrix:	AQUEOUS	Received	Date: 8/8	8/2015 9:45:00 AM	
Analyses	and the last of the second	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analyst	LGT
Chloride		120	5.0	mg/L	10	8/11/2015 1:11:53 PM	R28135
EPA MET	HOD 8260B: VOLATILES					Analyst	DJF
Benzene		ND	1.0	µg/L	1	8/14/2015 3:15:27 AM	R28180
Toluene		ND	1.0	µg/L	1	8/14/2015 3:15:27 AM	R28180
Ethylben	zene	14	1.0	µg/L	1	8/14/2015 3:15:27 AM	R28180
Xylenes,	Total	ND	1.5	µg/L	1	8/14/2015 3:15:27 AM	R28180
Surr: 1	,2-Dichloroethane-d4	103	70-130	%REC	1	8/14/2015 3:15:27 AM	R28180

70-130

70-130

70-130

%REC

%REC

%REC

94.0

111

101

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 6 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1508346

Date Reported: 8/24/2015

CLIENT: Western Refining Southwest, Inc. Project: GBR Shutdown Action Plan

Lab ID: 1508346-007

Client Sample ID: SHS-9 Collection Date: 8/7/2015 3:00:00 PM Received Date: 8/8/2015 9:45:00 AM

Analyses	Result	RL Q)ual	Units	DF	Date Ana	lyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst:	LGT
Chloride	96	50		mg/L	100	8/11/2015	1:49:08 PM	R28135
EPA METHOD 8260B: VOLATILES							Analyst:	DJF
Benzene	ND	5.0	D	µg/L	5	8/14/2015	3:42:53 AM	R28180
Toluene	ND	5.0	D	µg/L	5	8/14/2015	3:42:53 AM	R28180
Ethylbenzene	21	5.0	D	µg/L	5	8/14/2015	3:42:53 AM	R28180
Xylenes, Total	ND	7.5	D	µg/L	5	8/14/2015	3:42:53 AM	R28180
Surr: 1,2-Dichloroethane-d4	101	70-130	D	%REC	5	8/14/2015	3:42:53 AM	R28180
Surr: 4-Bromofluorobenzene	94.4	70-130	D	%REC	5	8/14/2015	3:42:53 AM	R28180
Surr: Dibromofluoromethane	109	70-130	D	%REC	5	8/14/2015	3:42:53 AM	R28180
Surr: Toluene-d8	101	70-130	D	%REC	5	8/14/2015	3:42:53 AM	R28180

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 7 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Lab Order 1508346

Date Reported: 8/24/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT:Western Refining Southwest,Project:GBR Shutdown Action PlanLab ID:1508346-008		Client Sample ID: Trip Blank Collection Date: Matrix: TRIP BLANK Received Date: 8/8/2015 9:45:00 AM							
Analyses	Result	RL Qual	Units	DF	Date Analyzed	Batch			
EPA METHOD 8260B: VOLATILES					Analyst	DJF			
Benzene	ND	1.0	µg/L	1	8/14/2015 4:37:39 AM	R28180			
Toluene	ND	1.0	µg/L	1	8/14/2015 4:37:39 AM	R28180			
Ethylbenzene	ND	1.0	µg/L	1	8/14/2015 4:37:39 AM	R28180			
Xylenes, Total	ND	1.5	µg/L	1	8/14/2015 4:37:39 AM	R28180			
Surr: 1,2-Dichloroethane-d4	103	70-130	%REC	1	8/14/2015 4:37:39 AM	R28180			
Surr: 4-Bromofluorobenzene	110	70-130	%REC	1	8/14/2015 4:37:39 AM	R28180			
Surr: Dibromofluoromethane	107	70-130	%REC	1	8/14/2015 4:37:39 AM	R28180			
Surr: Toluene-d8	99.4	70-130	%REC	1	8/14/2015 4:37:39 AM	R28180			

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in th
	D	Sample Diluted Due to Matrix	E	Value above quantita
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected belo
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Ra
	R	RPD outside accepted recovery limits	RL	Reporting Detection

S % Recovery outside of range due to dilution or matrix

- the associated Method Blank
- tation range
- low quantitation limits Page 8 of 10
- lange Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

24-Aug-15

Client: Project:		Western Refining Southwest GBR Shutdown Action Plan								
Sample ID	MB	SampType: MBI	LK	Test	Code: El	PA Method	300.0: Anions	5		12.14.1
Client ID:	PBW	Batch ID: R28	135	R	unNo: 2	8135				
Prep Date:		Analysis Date: 8/1	1/2015	S	eqNo: 8	47702	Units: mg/L			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	e inc.	ND 0.50								
Sample ID	LCS	SampType: LCS	6	Test	Code: El	PA Method	300.0: Anions	5		10 M 1
Client ID:	LCSW	Batch ID: R28	135	R	unNo: 2	8135				
Prep Date:		Analysis Date: 8/1	1/2015	S	eqNo: 8	47703	Units: mg/L			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		5.0 0.50	5.000	0	99.2	90	110			1.0019
Sample ID	МВ	SampType: MBI	LK	Test	Code: El	PA Method	300.0: Anions	5		
Client ID:	PBW	Batch ID: R28	135	R	unNo: 2	8135				
Prep Date:		Analysis Date: 8/1	1/2015	S	eqNo: 84	47758	Units: mg/L			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 0.50								
Sample ID	LCS	SampType: LCS	3	Test	Code: El	PA Method	300.0: Anions	;		
Client ID:	LCSW	Batch ID: R28	135	R	unNo: 2	8135				
Prep Date:		Analysis Date: 8/1	1/2015	S	eqNo: 84	47759	Units: mg/L			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		5.3 0.50	5.000	0	106	90	110			
Sample ID	MB	SampType: MBI	LK	Test	Code: EF	PA Method	300.0: Anions			
Client ID:	PBW	Batch ID: R28	406	R	unNo: 28	3406				
Prep Date:		Analysis Date: 8/2	1/2015	S	eqNo: 8	58181	Units: mg/L			
Analyte Chloride		Result PQL ND 0.50	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chionde		ND 0.50								
Sample ID		SampType: LCS					300.0: Anions			
	LCSW	Batch ID: R28			unNo: 28					
Prep Date:		Analysis Date: 8/2	1/2015	S	eqNo: 8	58182	Units: mg/L			
Analyte		Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 9 of 10

- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:

Sample ID rb1

	J ,	27 114
Western Refining Southwest, Inc. GBR Shutdown Action Plan		
SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES	
Batch ID: R28180	RunNo: 28180	

Client ID: PBW	Batch	n ID: R2	8180	F	RunNo: 2	8180				
Prep Date:	Analysis D	ate: 8/	13/2015	S	SeqNo: 8	49535	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0							Sec. 12.	
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.9	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.7	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	9.8		10.00		97.7	70	130			
Surr: Toluene-d8		ype: LC		Tes			130 8260B: VOL	ATILES	a start and	in the fa
	SampT	ype: LC	S			PA Method	1. (5)	ATILES	e la mana	in to fe
Sample ID 100ng Ics2	SampT	n ID: R2	S 8180	F	tCode: El	PA Method 8180	1. (5)	ATILES	d al trans	a tek Tartek Tartek
Sample ID 100ng Ics2 Client ID: LCSW Prep Date:	SampT Batch	n ID: R2	S 8180 13/2015	F	tCode: El	PA Method 8180	8260B: VOL	ATILES %RPD	RPDLimit	Qual
Sample ID 100ng Ics2 Client ID: LCSW	SampT Batch Analysis D	n ID: R2 Date: 8/	S 8180 13/2015	F	tCode: El RunNo: 2 SeqNo: 8	PA Method 8180 49536	8260B: VOL/ Units: μg/L		RPDLimit	Qual
Sample ID 100ng Ics2 Client ID: LCSW Prep Date: Analyte	SampT Batch Analysis D Result	n ID: R2 Date: 8/ PQL	S 8180 13/2015 SPK value	R S SPK Ref Val	tCode: El RunNo: 2 SeqNo: 8 %REC	PA Method 8180 49536 LowLimit	8260B: VOL/ Units: µg/L HighLimit		RPDLimit	Qual
Sample ID 100ng Ics2 Client ID: LCSW Prep Date: Analyte Benzene	SampT Batch Analysis D Result 21	n ID: R2 Date: 8/ PQL 1.0	S 8180 13/2015 SPK value 20.00	R SPK Ref Val 0	tCode: El RunNo: 2 BeqNo: 8 %REC 107	PA Method 8180 49536 LowLimit 70	8260B: VOL/ Units: µg/L HighLimit 130		RPDLimit	Qual
Sample ID 100ng Ics2 Client ID: LCSW Prep Date: Analyte Benzene Foluene	SampT Batch Analysis D Result 21 21	n ID: R2 Date: 8/ PQL 1.0	S 8180 13/2015 SPK value 20.00 20.00	R SPK Ref Val 0	tCode: El RunNo: 2 SeqNo: 8 %REC 107 107	PA Method 8180 49536 LowLimit 70 70	8260B: VOL/ Units: μg/L HighLimit 130 130		RPDLimit	Qual
Sample ID 100ng Ics2 Client ID: LCSW Prep Date: Analyte Benzene Foluene Surr: 1,2-Dichloroethane-d4	SampT Batch Analysis D Result 21 21 10	n ID: R2 Date: 8/ PQL 1.0	S 8180 13/2015 SPK value 20.00 20.00 10.00	R SPK Ref Val 0	tCode: El RunNo: 2 SeqNo: 8 %REC 107 107 99.6	PA Method 8180 49536 LowLimit 70 70 70	8260B: VOL/ Units: μg/L HighLimit 130 130 130		RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit

Page 10 of 10

LABORATORY TEL: 505-345-3975	4901 Hawkins NE querque, NM 87109	Samp	ole Log-In Check List
Client Name: Western Refining Southw Work Order Number:	1508346		RcptNo: 1
Received by/date: Logged By: Lindsay Mangin 8/8/2015 9:45:00 AM Completed By: Lindsay Mangin 8/8/2015 10:59:38 AM Reviewed By: 08/10/15	0	finalaj Hadigi D finalaj Hadigi D	
Chain of Custody			
1. Custody seals intact on sample bottles?	Yes 🗋	No 🗌	Not Present
2. Is Chain of Custody complete?	Yes 🛃	No 🗌	Not Present
3. How was the sample delivered?	Courier		
Log In			
4. Was an attempt made to cool the samples?	Yes 🛃	No 🗌	
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🛃	No 🗌	
6. Sample(s) in proper container(s)?	Yes 🕢	No 🗌	
7. Sufficient sample volume for indicated test(s)?	Yes 🛃	No 🗌	
8. Are samples (except VOA and ONG) properly preserved?	Yes 🛃	No 🗌	
9. Was preservative added to bottles?	Yes	No 🛃	NA 🗌
	CS 08/10/1	No 9	No VOA Vials Sample -003A (bo
10.VOA vials have zero headspace?	Yes	No 🛃	Vials) have bubbl
11. Were any sample containers received broken?	res —		# of preserved CS 08/10/15
12. Does paperwork match bottle labels?	Yes 🛃	No 🗌	for pH:
(Note discrepancies on chain of custody)			(<2 or >12 unless noted) Adjusted?
13. Are matrices correctly identified on Chain of Custody?	Yes 🕢		
14. Is it clear what analyses were requested?15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹		Checked by:
Special Handling (if applicable)			
16. Was client notified of all discrepancies with this order?	Yes 🗌	No 🗌	NA 🐱
Person Notified: Date:		-	
By Whom: Via:	eMail Phor	ne 🗌 Fax	In Person
Regarding: Client Instructions:			1977 - 1999 - Marine Marine Bagelander

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.6	Good	Yes			

Page 1 of 1

С	hain-	of-Cu	stody Record	Turn-Around	Time:					ы	A I			VI.	TE	20	NIN	ЛFI	NTA		
Client:	1011	u 120	binson	Standard															ΤΟ		
	1/00	tim	Refining	Project Name):	2						hallenvironmental.com									
Mailing	Address:		K 4990	6BK	Annual	Sampling		490)1 Ha									109			
Ri	mmlt	1051	NM 87413	Project #:					1. 505								4107				
Phone #	t: 9	70 - 2	85-1096	WR/009 Analysis Request																	
	Fax#:		railtenv.com	Project Mana	ger:		_	only)	<u>(</u>)					04)							
	Package:	0		AS	hey A	ger	(8021)	IO SE	/ DRO / MRO)			S)		04,S(PCB's			X			
Stan			Level 4 (Full Validation)	1.0.		1	S	Ű	RO			SIMS)		PC PC	2 P(D			
				Sampler:	seyn Hen	cmann	TMB'	TPH (Gas		Ê.	.	52		N	8082			B			î
			r		Z Yes		+	+	GRO	418	504	or 8	s	ş	les /		VOA	x			(Y or
	(Type)_			Optimple i chi			MTBE	MTBE	5B (thod	thoc	310	Meta	D,	sticic	(AO	mi-	de			
Date	Time	Matrix	Sample Request ID	Container	Preservative	HEAL NO	+	+ 1	801	(Me	(Me	s (8	A 8	IS (F	Pes	B	(Se	110			lddu
Puto		THE COMPANY		Type and #	Туре	1508346	BTEX	BTEX	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	Chlond			Air Bubbles
3/2/15	1230	GN	GBR-ZID	Vanous/5	Coollife	-001	<u> </u>				<u> </u>	-	-	~	0	00		X			4
<u> </u>	(135	1	GBR-72	1/1	Coo/HCI	-002												T		\square	
1	1225		G-BR-75		Cool only	-003							1					\top			
	1325		6-BR-26		CODIDNIC	-004					+	+	1						+-	\square	_
1	[130		ABR-34		Cooloniu	-005					+	+								\square	_
1	1510		SHS-8		CODIFICI	-006					-								+		
V	155D	V	SH5-9		000 . HCI	-007	\square			\uparrow	-	+						V	-	\square	_
	1-0		Trip Blank	1-V00	HCI	-008					+								-	++	_
																				\square	
													·						+		
											+	+							-		
										+	-	-									_
Date:	Time:	Relinquish	ed by?	Received by:	2	8/7/15 ISSC		narks	s:												
17/15	1550	1	lly noor	1. hrustin	elilaet	es 0/7/15 1550	10	25,						/		t,		1			
Date:	Time:	Relinquish	ed by:	Received by:	A	Pate Time	1	d	he	na	cm	(a)	nl	2	21	He	n	V-(Cor	1	
1/15	1807	hru	staliale	M I	\$ 08	08/15 0945		<u> </u>													
li	necessary,	samples subi	mitted to Hall Environmental may be subo	contracted to other a	ccredited laboratorie	es. This serves as notice of this	s possil	bility.	Any sul	o-contr	acted	data w	rill be	clear	ly nota	ated or	n the a	nalytica	report.		



August 20, 2015

Ashley Ager Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (970) 946-1093 FAX (505) 632-3911

RE: GBR Shutdown Action Plan

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

OrderNo.: 1508344

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/7/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1508344 Date Reported: 8/20/2015

CLIENT: Western Refining Southwest, Inc. Project: GBR Shutdown Action Plan

Lab ID: 1508344-001

Client Sample ID: GBR-8 Collection Date: 8/6/2015 2:00:00 PM Received Date: 8/7/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	LGT
Chloride	86	5.0		mg/L	10	8/14/2015 4:58:44 AM	R28196
EPA METHOD 8260B: VOLATILES						Analyst	DJF
Benzene	ND	5.0	D	µg/L	5	8/13/2015 7:56:21 PM	R28180
Toluene	ND	5.0	D	µg/L	5	8/13/2015 7:56:21 PM	R28180
Ethylbenzene	ND	5.0	D	µg/L	5	8/13/2015 7:56:21 PM	R28180
Xylenes, Total	ND	7.5	D	µg/L	5	8/13/2015 7:56:21 PM	R28180
Surr: 1,2-Dichloroethane-d4	101	70-130	D	%REC	5	8/13/2015 7:56:21 PM	R28180
Surr: 4-Bromofluorobenzene	101	70-130	D	%REC	5	8/13/2015 7:56:21 PM	R28180
Surr: Dibromofluoromethane	114	70-130	D	%REC	5	8/13/2015 7:56:21 PM	R28180
Surr: Toluene-d8	99.6	70-130	D	%REC	5	8/13/2015 7:56:21 PM	R28180

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level. B Analyte detected in the as		Analyte detected in the associated Method I	Blank
	D Sample Diluted Due to Matrix E Value above quantitation range				
	H Holding times for preparation or analysis exceeded J Analyte detected below quant		Analyte detected below quantitation limits	Page 1 of 7	
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	1 420 1 01 /
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Lab Order 1508344

Date Reported: 8/20/2015

Hall Environmental Analysis Laboratory, Inc.

 CLIENT:
 Western Refining Southwest, Inc.
 Client Sample ID: GBR-11

 Project:
 GBR Shutdown Action Plan
 Collection Date: 8/6/2015 1:20:00 PM

 Lab ID:
 1508344-002
 Matrix: AQUEOUS
 Received Date: 8/7/2015 8:00:00 AM

 Analyses
 Result
 RL
 Oual
 Units
 DF

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	95	5.0	mg/L	10	8/14/2015 5:11:09 AM	R28196
EPA METHOD 8260B: VOLATILES					Analys	t: DJF
Benzene	1.7	1.0	µg/L	1	8/13/2015 9:18:39 PM	R28180
Toluene	ND	1.0	µg/L	1	8/13/2015 9:18:39 PM	R28180
Ethylbenzene	1.1	1.0	µg/L	1	8/13/2015 9:18:39 PM	R28180
Xylenes, Total	ND	1.5	µg/L	1	8/13/2015 9:18:39 PM	R28180
Surr: 1,2-Dichloroethane-d4	105	70-130	%REC	1	8/13/2015 9:18:39 PM	R28180
Surr: 4-Bromofluorobenzene	104	70-130	%REC	1	8/13/2015 9:18:39 PM	R28180
Surr: Dibromofluoromethane	112	70-130	%REC	1	8/13/2015 9:18:39 PM	R28180
Surr: Toluene-d8	97.4	70-130	%REC	1	8/13/2015 9:18:39 PM	R28180

*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method I	Blank	
D	Sample Diluted Due to Matrix	E	Value above quantitation range		
Н	Holding times for preparation or analysis exceeded		J Analyte detected below quantitation limits P		
ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	Page 2 of 7	
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit		
S	% Recovery outside of range due to dilution or matrix				
	ND	 D Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded NOt Detected at the Reporting Limit R PPD outside accepted recovery limits 	DSample Diluted Due to MatrixEHHolding times for preparation or analysis exceededJNDNot Detected at the Reporting LimitPRRPD outside accepted recovery limitsRL	DSample Diluted Due to MatrixEValue above quantitation rangeHHolding times for preparation or analysis exceededJAnalyte detected below quantitation limitsNDNot Detected at the Reporting LimitPSample pH Not In RangeRRPD outside accepted recovery limitsRLReporting Detection Limit	

Analytical Report Lab Order 1508344

Date Reported: 8/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.Client Sample ID: GBR-20Project:GBR Shutdown Action PlanCollection Date: 8/6/2015 3:20:00 PMLab ID:1508344-003Matrix: AQUEOUSReceived Date: 8/7/2015 8:00:00 AM

Analyses	Result	RL (Qual	Units	DF D	ate Analyzed	Batch
EPA METHOD 300.0: ANIONS					80	Analyst	LGT
Chloride	96	5.0		mg/L	10 8	/14/2015 5:23:34 AM	R28196
EPA METHOD 8260B: VOLATILES						Analyst	DJF
Benzene	ND	2.0	D	µg/L	2 8	/13/2015 9:46:04 PM	R28180
Toluene	ND	2.0	D	µg/L	2 8	/13/2015 9:46:04 PM	R28180
Ethylbenzene	ND	2.0	D	µg/L	2 8	/13/2015 9:46:04 PM	R28180
Xylenes, Total	ND	3.0	D	µg/L	2 8	/13/2015 9:46:04 PM	R28180
Surr: 1,2-Dichloroethane-d4	100	70-130	D	%REC	2 8	/13/2015 9:46:04 PM	R28180
Surr: 4-Bromofluorobenzene	95.2	70-130	D	%REC	2 8	/13/2015 9:46:04 PM	R28180
Surr: Dibromofluoromethane	110	70-130	D	%REC	2 8	/13/2015 9:46:04 PM	R28180
Surr: Toluene-d8	100	70-130	D	%REC	2 8	/13/2015 9:46:04 PM	R28180

Qualifiers:	*	Value exceeds Maximum Contaminant Level. B Analyte detected in the associated Method H		
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Lab Order 1508344

Date Reported: 8/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT:Western Refining SoutProject:GBR Shutdown ActionLab ID:1508344-004	n Plan	Client Sample ID: Trip Blank Collection Date: Matrix: AQUEOUS Received Date: 8/7/2015 8:00:00 AM							
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch			
EPA METHOD 8260B: VOLATIL	ES				Analyst	DJF			
Benzene	ND	1.0	µg/L	1	8/14/2015 12:30:27 AM	R28180			
Toluene	ND	1.0	µg/L	1	8/14/2015 12:30:27 AM	R28180			
Ethylbenzene	ND	1.0	µg/L	1	8/14/2015 12:30:27 AM	R28180			
Xylenes, Total	ND	1.5	µg/L	1	8/14/2015 12:30:27 AM	R28180			
Surr: 1,2-Dichloroethane-d4	96.7	70-130	%REC	1	8/14/2015 12:30:27 AM	R28180			
Surr: 4-Bromofluorobenzene	100	70-130	%REC	1	8/14/2015 12:30:27 AM	R28180			
Surr: Dibromofluoromethane	108	70-130	%REC	1	8/14/2015 12:30:27 AM	R28180			
Surr: Toluene-d8	104	70-130	%REC	1	8/14/2015 12:30:27 AM	R28180			

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	Н	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	R	RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508344

20-Aug-15

Client: Project:		Western Refining Sc GBR Shutdown Acti									
Sample ID	MB	SampTy	pe: ME	BLK	T	estCode:	EPA Method	1 300.0: Anions	5	67	11.41
Client ID:	PBW	Batch	ID: R2	8196		RunNo:	28196				
Prep Date:		Analysis Da	ate: 8/	13/2015		SeqNo:	849656	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Va	NRE(C LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	0.50								
Sample ID	LCS	SampTy	Т	TestCode: EPA Method 300.0: Anions							
Client ID:	LCSW	W Batch ID: R28196				RunNo: 28196					
Prep Date:		Analysis Da	ate: 8/	13/2015		SeqNo:	849657	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Va	I %REG	C LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		5.1	0.50	5.000	0	10	3 90	110			
Sample ID	MB	SampType: MBLK TestCode: EPA Method 300.0: Anions									
Client ID:	PBW	V Batch ID: R28196				RunNo: 28196					
Prep Date:		Analysis Da	ate: 8/	13/2015		SeqNo:	849716	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Va	REC	C LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	0.50								
Sample ID	LCS	SampType: LCS				TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW	W Batch ID: R28196				RunNo: 28196					
Prep Date:		Analysis Date: 8/13/2015				SeqNo: 849717 Units: mg					
Analyte		Result	PQL	SPK value	SPK Ref Va	I %REC	C LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		5.1	0.50	5.000	0	10	1 90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Е Value above quantitation range

- J Analyte detected below quantitation limits
- Р Sample pH Not In Range RL

Page 5 of 7

Reporting Detection Limit

WO#: 1508344

20-Aug-15

Hall Environmental Analysis Laboratory, Inc.

Sample ID rb1	Samp	Гуре: М	BLK	Tes	tCode: E	PA Method	8260B: VOL	ATILES	Define 11	1. 1. 11
Client ID: PBW	Batc	h ID: R	28180	F	RunNo: 2	8180				
Prep Date:	Analysis D	Date: 8	/13/2015	S	SeqNo: 8	49535	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
enzene	ND	1.0							10	
oluene	ND	1.0								
thylbenzene	ND	1.0								
Kylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.9	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.7	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	9.8		10.00		97.7	70	130			
Sample ID 100ng lcs2	Samp1	Type: LO	cs	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batcl	h ID: R	28180	F	RunNo: 2	8180				
Prep Date:	Analysis E	Date: 8	/13/2015	5	SeqNo: 8	49536	Units: µg/L			
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0		0	107	70	130			
oluene	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		99.6	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			
Sample ID 1508344-001a m	s SampT	ype: M	S	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: GBR-8	Batcl	h ID: R	28180	F	RunNo: 2	8180				
Prep Date:	Analysis E	Date: 8	/13/2015	5	SeqNo: 8	49538	Units: µg/L			
Analyte	Result	PQL		SPK Ref Val		LowLimit	HighLimit	%RPD	RPDLimit	Qual
lenzene	100	5.0	100.0	0	103	70	130			D
oluene	100	5.0	100.0	0	101	70	130			D
Surr: 1,2-Dichloroethane-d4	50		50.00		99.7	70	130			D
Surr: 4-Bromofluorobenzene	52		50.00		105	70	130			D
Surr: Dibromofluoromethane	55		50.00		110	70	130			D
Surr: Toluene-d8	48		50.00		96.1	70	130			D
Sample ID 1508344-001a m	sd SampT	ype: M	SD	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: GBR-8	Batch	n ID: R	28180	F	RunNo: 2	8180				
Prep Date:	Analysis D	ate: 8	/13/2015	S	SeqNo: 8	49539	Units: µg/L			
									DDDL I	0 1
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte Benzene Foluene	Result 110 110	PQL 5.0 5.0	100.0	SPK Ref Val	%REC 106 106	LowLimit 70 70	HighLimit 130 130	%RPD 2.69 4.64	20 20	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 6 of 7

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508344

20-Aug-15

Client: Western Refining Southwest, Inc.

Project: GBR Shutdown Action Plan

Sample ID 1508344-001a ms	sd SampTy	pe: MS	SD		Test	Code: E	PA Method	8260B: VOL	ATILES		
Client ID: GBR-8	Batch I	D: R2	8180		R	unNo: 2	8180				
Prep Date:	Analysis Da	te: 8/	13/2015		S	eqNo: 8	49539	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref	Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	51		50.00			103	70	130	0	0	D
Surr: 4-Bromofluorobenzene	50		50.00			101	70	130	0	0	D
Surr: Dibromofluoromethane	55		50.00			110	70	130	0	0	D
Surr: Toluene-d8	50		50.00			100	70	130	0	0	D

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 7 of 7

ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-3	onmental Analysis Labord 4901 Hawkin Albuquerque, NM 8 345-3975 FAX: 505-345- www.hallenvironmental	7109 Sam 4107	ole Log-In C	heck List
Client Name: Western Refining Southw Work Order	Number: 1508344		RcptNo:	1
Received by/date:	5			
Logged By: Lindsay Mangin 8/7/2015 8:00:	00 AM	Junely Hopp		
Completed By: Lindsay Mangin 8/8/2015 10:51	:57 AM	(truly Hago		
Reviewed By: 08/10/15	5			
Chain of Custody				
1. Custody seals intact on sample bottles?	Yes	No 🗌	Not Present	
2. Is Chain of Custody complete?	Yes 🛃	No 🗌	Not Present	
3. How was the sample delivered?	Courier			
Log In				
 Was an attempt made to cool the samples? 	Yes 🕢	No 🗌		
5. Were all samples received at a temperature of >0° C to 6.0	°C Yes 🛃	No 🗌		
6. Sample(s) in proper container(s)?	Yes 🛃	No 🗍		
7. Sufficient sample volume for indicated test(s)?	Yes 🖈	No 🗌		
8. Are samples (except VOA and ONG) properly preserved?	Yes 🛃	No 🗌		
9. Was preservative added to bottles?	Yes 🗌	No 🖉	NA 🗍	
10.VOA vials have zero headspace?	Yes 🕢	No 🗌	No VOA Vials 🗌	
11. Were any sample containers received broken?	Yes	No 🖉	# of preserved bottles checked	
12.Does paperwork match bottle labels?	Yes 🛃	No 🗆	for pH:	or >12 unless noted
(Note discrepancies on chain of custody) 13. Are matrices correctly identified on Chain of Custody?	Yes 💌	No 🗌	Adjusted?	
14. Is it clear what analyses were requested?	Yes	No 🗌		
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🖈	No 🗌	Checked by:	
Special Handling (if applicable)				
16. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🜌	
Person Notified:	Date:	generalenski film Carte II. Trrener operik bilde		
By Whom: Regarding:	,	Phone 🗌 Fax	in Person	No. 1
Client Instructions: 17. Additional remarks:		an an ann an an an Ann Ann Ann Ann an Ann An		1 Contraction
18. Cooler Information				
Cooler No Temp °C Condition Seal Intact Seal 1 2.7 Good Yes Intact Seal	I No Seal Date	Signed By		

C	hain-	of-Cu	stody Record	Turn-Around	Time:				1.5							-			TA	
Client:	Kelly	Robin	nson	Standard	🗆 Rush													EN		
			Refining	Project Name	:							.hall							-	
Mailing A	Address:	11) (R 4990	GBR Sh	interven 1	Action Plan		490)1 H								M 871	09		
	Blook	nfield		Project #:						5-34							4107			
Phone #	1: (97	0338	5-1096	W	R1009							-		sis		1		0.0		
email or	Fax#:	AAdevi	PLTEnvicon	Project Mana			_	(YI	Ô					04)						
QA/QC P		5 (2.5		TMB's (8021)	+ TPH (Gas only)	DRO / MRO)			ŝ		4,SC	CB's					
Stand			Level 4 (Full Validation)	Ashle	y Ager		s's (8	Ű	S S			SIMS)		PO	2 P(
Accredit			1 1 - 1	Sampler: Dev	in Heneman	n Michael Wicker	TMB	TPH	-	,	?	8270		NO	808	8		5		Î
			·			MINO SALA	+	+	SRO	418	504	or 8.	s	So S	es /		(YO	202		-o
	(Type)			Sample Tem	perature		ITBI	ITBI	B (6	pou	pou	310	Aeta	,C,	ticid	(YO	N-in	5	3	Se ()
Date	Time	Matrix	Sample Request ID	Container	Preservative	HEAL No.	BTEX + MTBE	BTEX + MTBE	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX (BOZI	Morida	Air Bubbles (Y or N)
				Type and #	Туре	150x24L	BTE	BTH	H	H	B	PAH	RCR	Anio	8081	8260	8270	à	0	Air B
3-6-15	1400	GW	GBR-8	Varias/34	Varioos	-001	_	_			_		_					1	1	
1	1320	1	GBR-11	1	1	-007									14				Π	
V	1520	V	6BR-20	V	\checkmark	-023								2		5		V	V	
			Trip Blank	1400	Haciz	-004									-					
				-	HCI								1					T		35
			1113										-6							
				1.3 1.1 3	6							28						1		
	1 2									- 5								8		
								6		1	2	8	6	1						b.
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						4 4 m 1									1					
		1	1 1		6															
	Time:	Relinquishe	Star A	Received by:	1 hal	Date Time	Ren	narks	s: P	leas	2	co	DY	D	Hen	cm	anne	PLTE	Env.	com
-6-13 Date:	Time:	Relinquishe	d by:	Received by:	5 Jaco	0/6/15 /640 Date Time					_		1/					14th		
1/1/	2110	M	1-1.)-1	La Car			6													1200
10/15	CIU	MA	hitfed to Hall Environmental may be subo	ANIA	ligos	08/07/15 0800		nility -	A	hant	ootod	data	adll b -	alco	v m = t =	tod -	-	hating 1 -		



August 15, 2015

Ashley Ager Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (970) 946-1093 FAX (505) 632-3911

RE: GBR Shutdown Action Plan

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

OrderNo.: 1508345

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/7/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

Workorder Sample Summary ^{WO#:} 1508345

15-Aug-15

CLIENT: Project:	Western Refining Southwes GBR Shutdown Action Plan			el a contrace	
Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
1508345-001	GBR-8		8/6/2015 2:00:00 PM	8/7/2015 8:00:00 AM	Aqueous
1508345-001	GBR-8		8/6/2015 2:00:00 PM	8/7/2015 8:00:00 AM	Aqueous
1508345-002	GBR-11		8/6/2015 1:20:00 PM	8/7/2015 8:00:00 AM	Aqueous
1508345-002	GBR-11		8/6/2015 1:20:00 PM	8/7/2015 8:00:00 AM	Aqueous
1508345-003	GBR-20		8/6/2015 3:20:00 PM	8/7/2015 8:00:00 AM	Aqueous
1508345-003	GBR-20		8/6/2015 3:20:00 PM	8/7/2015 8:00:00 AM	Aqueous
1508345-004	Trip Blank			8/7/2015 8:00:00 AM	Trip Blank

Page 1 of 7

Analytical Report Lab Order 1508345

Date Reported: 8/15/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Western Refining Southwest, In	nc.		(lient Sam	nple ID: GH	3R-8	
Project:	GBR Shutdown Action Plan				Collectio	n Date: 8/6	5/2015 2:00:00 PM	
Lab ID:	1508345-001	Matrix:	AQUEOU	S	Receive	d Date: 8/7	7/2015 8:00:00 AM	
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	THOD 8015M/D: DIESEL RANG	E					Analys	st: KJH
Diesel R	ange Organics (DRO)	16	1.0		mg/L	1	8/10/2015 8:57:22 PM	20682
Surr: [DNOP	106	72-136		%REC	1	8/10/2015 8:57:22 PM	20682
EPA MET	THOD 8015D: GASOLINE RANG	GE					Analys	st: NSB
Gasoline	Range Organics (GRO)	ND	0.20	D	mg/L	4	8/12/2015 4:56:12 PM	R28140
Surr: E	BFB	101	57.8-137	D	%REC	4	8/12/2015 4:56:12 PM	R28140

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1508345 Date Reported: 8/15/2015

CLIENT: Western Refining Southwest, Inc.

Project: GBR Shutdown Action Plan

Lab ID: 1508345-002

Client Sample ID: GBR-11 Collection Date: 8/6/2015 1:20:00 PM

Received Date: 8/7/2015 8:00:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE					Analys	t: KJH
Diesel Range Organics (DRO)	1.9	1.0		mg/L	1	8/10/2015 9:24:42 PM	20682
Surr: DNOP	100	72-136		%REC	1	8/10/2015 9:24:42 PM	20682
EPA METHOD 8015D: GASOLINE R	ANGE					Analys	t: NSB
Gasoline Range Organics (GRO)	ND	0.20	D	mg/L	4	8/12/2015 5:21:00 PM	R28140
Surr: BFB	104	57.8-137	D	%REC	4	8/12/2015 5:21:00 PM	R28140

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Bl	ank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 3 of 7
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	age 5 of 7
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Lab Order 1508345

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/15/2015
Client Sample ID: GBR-20

CLIENT:	Western Refining Southwest, In	nc.		0	lient Samp	le ID: GI	3R-20	
Project:	GBR Shutdown Action Plan				Collection	Date: 8/6	5/2015 3:20:00 PM	
Lab ID:	1508345-003	Matrix:	AQUEOU	S	Received	Date: 8/7	7/2015 8:00:00 AM	
Analyses	lighter and the light	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015M/D: DIESEL RANG	E					Analys	t KJH
Diesel Ra	ange Organics (DRO)	56	1.0		mg/L	1	8/10/2015 9:51:57 PM	20682
Surr: D	NOP	115	72-136		%REC	1	8/10/2015 9:51:57 PM	20682
EPA MET	HOD 8015D: GASOLINE RANG	GE					Analys	NSB
Gasoline	Range Organics (GRO)	0.39	0.25	D	mg/L	5	8/12/2015 5:45:49 PM	R28140
Surr: B	3FB	118	57.8-137	D	%REC	5	8/12/2015 5:45:49 PM	R28140

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, In	Analytical ReportLab Order 1508345C.Date Reported: 8/15/2015
CLIENT: Western Refining Southwest, Inc.	Client Sample ID: Trip Blank
Project: GBR Shutdown Action Plan	Collection Date:

Project: GBR Shutdown Action Plan **Collection Date:** 1508345-004 Lab ID: Matrix: TRIP BLANK Received Date: 8/7/2015 8:00:00 AM Analyses Result **RL** Qual Units **DF** Date Analyzed Batch **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB

Gasoline Range Organics (GRO) ND 0.050 mg/L 8/12/2015 6:10:37 PM R28140 1 Surr: BFB 93.2 57.8-137 %REC 8/12/2015 6:10:37 PM R28140 1

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

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Hall Environmental Analysis Laboratory, Inc.

	Western Refining Southwest, Inc. GBR Shutdown Action Plan								
Sample ID MB-20682	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range						
Client ID: PBW	Batch ID: 20682	RunNo: 28064							
Prep Date: 8/10/2015	Analysis Date: 8/10/2015	SeqNo: 845825	Units: mg/L						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual					
Diesel Range Organics (DRO)	ND 1.0		1.1						
Surr: DNOP	0.98 1.000	98.1 72	136	_					
Sample ID LCS-20682	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range	-1.					
Client ID: LCSW	Batch ID: 20682	RunNo: 28064							
Prep Date: 8/10/2015	Analysis Date: 8/10/2015	SeqNo: 845826	Units: mg/L						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual					
Diesel Range Organics (DRO)	6.4 1.0 5.000	0 127 60.1	156						
Surr: DNOP	0.55 0.5000	110 72	136						

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit

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WO#: 1508345 15-Aug-15

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508345

15-Aug-15

Client: Project:		Refining S tdown Act									
Sample ID	B30	SampT	ype: ME	BLK	Те	stCode: E	PA Method	8015D: Gaso	line Rang	le	1.11
Client ID:	PBW	Batch	1D: R2	8140		RunNo: 2	28140				
Prep Date:		Analysis D	ate: 8/	12/2015		SeqNo: 8	348357	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Va	NREC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang Surr: BFB	e Organics (GRO)	ND 18	0.050	20.00		92.1	57.8	137			
Sample ID	2.5UG GRO LCS	SampT	ype: LC	s	Те	stCode: E	PA Method	8015D: Gaso	line Rang	e	
Client ID:	LCSW	Batch	ID: R2	8140		RunNo: 2	28140				
Prep Date:		Analysis D	ate: 8/	12/2015		SeqNo: 8	48358	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Va	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	e Organics (GRO)	0.44	0.050	0.5000	0	87.1	80	120			1 A Y
Surr: BFB		19		20.00		95.3	57.8	137			
Sample ID	1508345-003AMS	SampT	ype: MS	3	Те	stCode: E	PA Method	8015D: Gaso	line Rang	e	
Client ID:	GBR-20	Batch	ID: R2	8140		RunNo: 2	8140				
Prep Date:		Analysis D	ate: 8/	12/2015		SeqNo: 8	48370	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Va	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	e Organics (GRO)	2.9	0.25	2.500	0.3900	99.4	51	131			
Surr: BFB		120		100.0		119	57.8	137			
Sample ID	1508345-003AMSE	SampT	ype: MS	SD	Те	stCode: E	PA Method	8015D: Gaso	line Rang	e	
Client ID:	GBR-20	Batch	ID: R2	8140		RunNo: 2	8140				
Prep Date:		Analysis D	ate: 8/	12/2015		SeqNo: 8	48371	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Va	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	2.5	0.25	2.500	0.3900	84.3	51	131	14.0	20	
Surr: BFB		110		100.0		107	57.8	137	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
 - Sample pH Not In Range

Page 7 of 7

Reporting Detection Limit

Р

RL

LABORATORY TEL: 502-543-597 Website: 141414.	allenvironmenta	l.com		
Client Name: Western Refining Southw Work Order Number	r: 1508345		RcptNo:	1
Received by/date: AG (Colorador)				
Logged By: Lindsay Mangin 8/7/2015 8:00:00 AM		Junky Happ		
Completed By: Lindsay Mangin 8/8/2015 10:55:44 AM	4	Analus Alexan		
· · · · · · · · · · · · · · · · · · ·		0.9.00		
Reviewed By: Chain of Custody				
1. Custody seals intact on sample bottles?	Yes	No 🗌	Not Present	
2. Is Chain of Custody complete?	Yes 🛃		Not Present	
3. How was the sample delivered?	Courier		- · · · · · · · · · · · · · · · · · · ·	
<u>Log in</u>		_		
4. Was an attempt made to cool the samples?	Yes 🛃	No	NA	
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🛃	No 🗌		
6. Sample(s) in proper container(s)?	Yes 🛃	No 🗌		
7. Sufficient sample volume for indicated test(s)?	Yes	No 🗆		
8. Are samples (except VOA and ONG) properly preserved?	Yes 🛃	No 🗌		
9. Was preservative added to bottles?	Yes	No 🖝	NA 🗌	
10.VOA vials have zero headspace?	Yes 🛃	No 🗆	No VOA Vials	
11. Were any sample containers received broken?	Yes	No 🛃		
12-			# of preserved botties checked	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🛃	No	for pH: (<2 or	>12 unless
13. Are matrices correctly identified on Chain of Custody?	Yes 🛃	No 🗔	Adjusted?	the .
14. Is it clear what analyses were requested?	Yes 🛃	No 🗌		
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🛃	No 🗌	Checked by:	
Special Handling (if applicable)				
16. Was client notified of all discrepancles with this order?	Yes 🗌	No 🗆	NA 🛃	
Person Notified: Date:				Fel
By Whom: Via:	eMail 🗌	Phone 🗌 Fax	In Person	
Regarding:				
Client Instructions:			1-21-2	
17. Additional remarks:				
18. <u>Cooler Information</u>				
Cooler No Temp °C Condition Seal Intact Seal No 1 2.7 Good Yes Image: Seal No Image: Seal No	Seal Date	Signed By		

-

	hain-	of-Cu	stody Record	Turn-Around	Time:						141		FI	u v	TE	0			NT	Δ.	
Client:	Kell.	y Ro	obinson	Standard		·													TC		
	West	ern }	Refining	Project Name) :		www.hallenvironmental.com														
Mailing	Address		CR 4990	GBR SI	hutdown	Action Plan	4901 Hawkins NE - Albuquerque, NM 87109														
		Beld.		Project #:				Tel. 505-345-3975 Fax 505-345-4107								13					
Phone #		0) 385		WR1009			Analysis Request														
		AAger	@ LTENVICOM	Project Manager:			(1)	only)	P					304)	S						
QA/QC F	Package: dard		Level 4 (Full Validation)	Ashley Ager			TMB's (8021)	(Gas	RO /W			SIMS)		,PO4,S	2 PCB					2	
Accredi		□ Othe	r	Sampler: Devin Heremann/Midnel Wicker Onlee Deves Dinon				+	(GRO / DRO / MRO)	18.1)	04.1)	8270		03,NO2	s / 808	240	(A)				or N)
	(Type)					dse rt s er	MTBE	MTBE	(G	od 4	od 5	0 or	etals	N,N	cides	A)	N-1			1	2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO	BTEX + MI	+	TPH 8015B	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082 PCB'	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles
-6-15	1400	GW	GBR-8	Amber/1	Cool	-001			X												1
	1320	1	GBR-11	1	1	-007_			X											1	
\checkmark	1520	V	GBR-20	V	V	-003			X						5	8					
			Trip Blank	1 VOQ	HOI	-004															
			4mg 08/10/15										2	2				24	_		
	16																			+	
												_		9	•					+	
		2									-										
						-													$ \rightarrow $	_	-
Date:	Time:	Relinquish		Received by:	 / } _ /	CIII.	Rer	nark	s:	Die	ase	C	OD	11	DHe	uncu	max	ma	LTI	Env	com
-6-15 Date:	1640 Time:	Relinquish	ed by:	Received by:	let	8/6/15/640 Date Time				,			1								
8/0/15	2/10	samples sub	Multin Waller Y	AMGal	CCredited laboratori	08/07/5 08/00 es. This serves as notice of this	possi	ibility.	Any su	ip-cou	iracted	data	will be	clear	y nota	ted or	n the ar	nalytica	al repor	L.	
				-		100 100									1						

the second s



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

February 12, 2016

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (970) 403-6023 FAX (505) 632-3911

RE: GBR Shutdown

OrderNo.: 1508411

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/11/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1508411

Date Reported: 2/12/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Shutdown

1508411-001

Lab ID:

Client Sample ID: SHS-2 Collection Date: 8/10/2015 11:50:00 AM Received Date: 8/11/2015 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL R	ANGE				1,171	Analys	t: KJH
Diesel Range Organics (DRO)	19	1.0		mg/L	1	8/13/2015 6:28:44 PM	20760
Surr: DNOP	125	72-136		%Rec	1	8/13/2015 6:28:44 PM	20760
EPA METHOD 8015D: GASOLINE	RANGE					Analys	t: NSB
Gasoline Range Organics (GRO)	ND	1.0	PD	mg/L	20	8/19/2015 11:50:32 AM	A A28329
Surr: BFB	87.3	57.8-137	PD	%Rec	20	8/19/2015 11:50:32 AM	A28329

Matrix: AQUEOUS

*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	Е	Value above quantitation range
Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 3
ND Not Detected at the Reporting Limit		Р	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified
1		 D Sample Diluted Due to Matrix H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits 	DSample Diluted Due to MatrixEHHolding times for preparation or analysis exceededJNDNot Detected at the Reporting LimitPRRPD outside accepted recovery limitsRL

WO#: 1508411 12-Feb-16

Page 2 of 3

Hall Environmental Analysis Laboratory, Inc.

	n Refining Southwest, Inc. hutdown			
Sample ID MB-20760	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range	711 . M
Client ID: PBW	Batch ID: 20760	RunNo: 28159		
Prep Date: 8/13/2015	Analysis Date: 8/13/2015	SeqNo: 849273	Units: mg/L	
Analyte	Result PQL SPK value	e SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Diesel Range Organics (DRO) Surr: DNOP	ND 1.0 1.2 1.000) 121 72	136	
Sample ID LCS-20760	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range	
Client ID: LCSW	Batch ID: 20760	RunNo: 28159		
Prep Date: 8/13/2015	Analysis Date: 8/13/2015	SeqNo: 849274	Units: mg/L	
Analyte	Result PQL SPK value	e SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Diesel Range Organics (DRO)	5.5 1.0 5.000	0 0 111 60.1	156	
Surr: DNOP	0.59 0.5000) 119 72	136	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508411

12-Feb-16

Client: Project:	Western I GBR Shu	Refining Southeast Southeast Content of Southeast C	outhwe	st, Inc.							
Sample ID	5ML RB	SampT	ype: MI	BLK	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	e	-11.34
Client ID:	PBW	Batch	ID: A2	8329	F	RunNo: 2	8329				
Prep Date:		Analysis D	ate: 8/	19/2015	S	SeqNo: 8	55363	Units: mg/L			
Analyte	State of State of	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang Surr: BFB	e Organics (GRO)	ND 16	0.050	20.00		80.9	57.8	137			True a
Sample ID	2.5UG GRO LCS	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	e	a takor
Client ID:	LCSW	Batch	ID: A2	8329	F	RunNo: 2	8329				
Prep Date:		Analysis D	ate: 8/	19/2015	S	eqNo: 8	55364	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Basoline Rang	e Organics (GRO)	0.46	0.050	0.5000	0	92.0	80	120			
Surr: BFB		17		20.00		85.3	57.8	137			
Sample ID	1508411-001AMS	SampT	ype: MS	3	Test	Code: E	PA Method	8015D: Gaso	line Rang	e	
Client ID:	SHS-2	Batch	ID: A2	8329	R	aunNo: 2	8329				
Prep Date:		Analysis D	ate: 8/	19/2015	S	eqNo: 8	55369	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range	e Organics (GRO)	9.5	1.0	10.00	0.2840	92.6	70	130			
Surr: BFB		360		400.0		89.2	57.8	137			
Sample ID	1508411-001AMSE	SampT	ype: MS	SD	Test	Code: E	PA Method	8015D: Gasol	line Rang	e	
Client ID:	SHS-2	Batch	ID: A2	8329	R	unNo: 2	8329				
Prep Date:		Analysis D	ate: 8/	19/2015	S	eqNo: 8	55370	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
0	e Organics (GRO)	9.2	1.0	10.00	0.2840	89.3	70	130	3.54	20	
Surr: BFB		370		400.0		92.0	57.8	137	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
 - Sample pH Not In Range
- RL Reporting Detection Limit

Р

W Sample container temperature is out of limit as specified

Page 3 of 3

ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-345-39	al Analysis Labord 4901 Hawkin Ibuquerque, NM 8 75 FAX: 505-345- halleavironmental	^{3 NE} 7109 Sam 4107	Sample Log-In Cheo						
Client Name: Western Refining Southw Work Order Numb	er: 1508411		RoptNo: 1						
Received by/date: AGA 08/11/14	5								
.ogged By: Ashley Galleges 8/11/2015 7:40:00 A	м	AZ							
Completed By: Ashley Gallegos 8/11/2015 9:46:50 A	м	AG							
Reviewed By: OS 08/11/15		. 0							
thain of Custody									
1. Custody seals intact on sample bottles?	Yes	No 🗌	Not Present						
2. Is Chain of Custody complete?	Yes 🔽	No 🗌	Not Present						
3. How was the sample delivered?	Courier								
Log In									
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗌							
 Were all samples received at a temperature of >0° C to 6.0°C 	Yes 🗹	No 🗌							
6. Sample(s) in proper container(s)?	Yes 🗹	No 🗌							
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No							
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗸	No							
9, Was preservative added to bottles?	Yes 🗌	No 🗹	NA						
0. VOA vials have zero headspace?	Yes 🗹	No 🗌	No VOA Vials						
1. Were any sample containers received broken?	Yes	No 🗹	4						
		_	# of preserved bottles checked						
2. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🖌	No	for pH: (<2 or 2	12 unless note					
3. Are matrices correctly identified on Chain of Custody?	Yes V	No.	Adjusted?						
4. Is it clear what analyses were requested?	Yes 🗸	No 🗌							
 Were all holding times able to be met? (If no, notify customer for authorization.) 	Yes 🖌	No 🗌	Checked by:						
pecial Handling (if applicable)									
6. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA V						
Person Notified: Date	-								
By Whom: Via:	1	Phone Fax	In Person						
Regarding:		in the second se							
Client Instructions:									
7. Additional remarks:									
8. Cooler Information									
Cooler No Temp °C Condition Seal Infact Seal No	Seal Date	Signed By							

Page 1 of 1

1000

Client: Mailing Blo Phone	WIS Address DMH +: 7 Fax#: (Package: dard	y Rot tern 1 : 111 reld N To-32 Thence	stody Record	Project Mana	E Rush Shutd HAMAGA K(00 J	auto Jern pling per Atex. 13-05/20	TMB's (8021)			Aawki	ns N	AL /.hall IE - 975 Au (SWIS)	envi Albi	ironr uque	s L ment erque 505- Req	AE al.co e, NI 345-	30 om M 87 410	7109	AT		Y	
	AP	□ Othe	r	On Ice: Xes D No				+	RO	418.1)	04.	827		03.N	s / 8		(A)	1 d			or N)	1
	(Type)							BE	(G	4 bd	od 5	0 or	etals	UNIC N	cide	(A	-10	r			2	
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + MTBE	BTEX + MTBE	TPH 8015E	TPH (Method	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,C	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)	AN			Air Bubbles	
3/10/15	1150	GW	545-2	Vanos \$	C00/4+1C1	-001												r				
Date:	Time:	Relipquish	ed by	Received by:		Date Time	Rer	mark	s:													
10/15 Date:	1517 Time: 2030	Relinquish	theWallon .	Received by:	eligos	2 8/10/15 1517 08/11/5 0740				1												
	f necessary	samples subi	mitted to Hall Environmental may be sub	contracted to o fficer ad	ccredited laboratorie	es. This serves as notice of this	s possi	bility.	Апу за	ub-con	tracted	l data v	will be	cleari	ly nota	ted or	the a	analytic	al repo	ort.		



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

August 15, 2015

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (970) 403-6023 FAX

OrderNo.: 1508412

Dear Devin Hencmann:

RE: GBR Annual

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/11/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andia

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

Workorder Sample Summary WO#: 1508412 15-Aug-15

CLIENT: Western Refining Southwest, Inc. **Project: GBR** Annual Lab SampleID Client Sample ID Tag No Date Collected **Date Received** Matrix 1508412-001 SHS-2 8/10/2015 11:50:00 AM 8/11/2015 7:40:00 AM Aqueous 1508412-001 SHS-2 8/10/2015 11:50:00 AM 8/11/2015 7:40:00 AM Aqueous

Page 1 of 4

Lab Order 1508412

Date Reported: 8/15/2015

Hall Environmental Analysis Laboratory, Inc.

 CLIENT:
 Western Refining Southwest, Inc.
 Client Sample ID: SHS-2

 Project:
 GBR Annual
 Collection Date: 8/10/2015 11:50:00 AM

 Lab ID:
 1508412-001
 Matrix: AQUEOUS
 Received Date: 8/11/2015 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	LGT
Chloride	280	50	*	mg/L	100	8/11/2015 7:11:47 PM	R28135
EPA METHOD 8260B: VOLATILES						Analyst	DJF
Benzene	ND	5.0	D	µg/L	5	8/14/2015 5:05:18 AM	R28180
Toluene	ND	5.0	D	µg/L	5	8/14/2015 5:05:18 AM	R28180
Ethylbenzene	ND	5.0	D	µg/L	5	8/14/2015 5:05:18 AM	R28180
Xylenes, Total	ND	7.5	D	µg/L	5	8/14/2015 5:05:18 AM	R28180
Surr: 1,2-Dichloroethane-d4	98.2	70-130	D	%REC	5	8/14/2015 5:05:18 AM	R28180
Surr: 4-Bromofluorobenzene	110	70-130	D	%REC	5	8/14/2015 5:05:18 AM	R28180
Surr: Dibromofluoromethane	105	70-130	D	%REC	5	8/14/2015 5:05:18 AM	R28180
Surr: Toluene-d8	101	70-130	D	%REC	5	8/14/2015 5:05:18 AM	R28180

Contaminant Level. B	Analytic latest dis discussion in the day of the
billaminant Devel.	Analyte detected in the associated Method Blank
trix E	Value above quantitation range
on or analysis exceeded J	Analyte detected below quantitation limits Page 2 of 4
ng Limit P	Sample pH Not In Range
very limits RL	Reporting Detection Limit
ge due to dilution or matrix	
i	ttrix E ion or analysis exceeded J ing Limit P

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508412

15-Aug-15

Client: Project:		Western Refining GBR Annual	g Southwe	est, Inc.							
Sample ID	MB	San	прТуре: М	BLK	Tes	tCode: E	PA Method	300.0: Anions	s		
Client ID:	PBW	B	atch ID: R	28135	F	RunNo: 2	8135				
Prep Date:		Analys	s Date: 8	/11/2015	S	SeqNo: 8	47702	Units: mg/L			
Analyte Chloride		Resul			SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID	LCS	San	npType: LO	cs	Tes	tCode: El	PA Method	300.0: Anions	s		
Client ID:	LCSW	B	atch ID: R	28135	F	RunNo: 2	8135				
Prep Date:		Analysi	s Date: 8	/11/2015	S	SeqNo: 8	47703	Units: mg/L			
Analyte		Resul	t PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	5.0	0.50	5.000	0	99.2	90	110			5 mg 2
Sample ID	МВ	San	прТуре: М	BLK	Tes	tCode: El	PA Method	300.0: Anions	S		
Client ID:	PBW	Ba	atch ID: R	28135	F	RunNo: 2	8135				
Prep Date:		Analysi	s Date: 8	/11/2015	5	SeqNo: 8	47758	Units: mg/L			
Analyte		Resul	t PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		NE	0.50								
Sample ID	LCS	San	прТуре: L(CS	Tes	tCode: El	PA Method	300.0: Anions	5		
Client ID:	LCSW	Ba	atch ID: R	28135	F	RunNo: 2	8135				
Prep Date:		Analysi	s Date: 8	/11/2015	S	SeqNo: 8	47759	Units: mg/L			
Analyte		Resul	t PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		5.3	0.50	5.000	0	106	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 3 of 4

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#:	1508412

15-Aug-15

	Vestern Refining BBR Annual	Southwe	st, Inc.							
Sample ID rb1	Sam	рТуре: МІ	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Bat	tch ID: R	28180	F	RunNo: 2	8180				
Prep Date:	Analysis	Date: 8	/13/2015	S	SeqNo: 8	49535	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0							1004	1.23
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane	-d4 9.5		10.00		94.9	70	130			
Surr: 4-Bromofluorobenz	ene 9.7		10.00		96.7	70	130			
Surr: Dibromofluorometh	ane 11		10.00		111	70	130			
Surr: Toluene-d8	9.8		10.00		97.7	70	130			
Sample ID 100ng Ic	s2 Sam	oType: LC	s	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Bat	ch ID: R2	28180	F	RunNo: 2	8180				
Prep Date:	Analysis	Date: 8	13/2015	S	SeqNo: 8	49536	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane	-d4 10		10.00		99.6	70	130			
Surr: 4-Bromofluorobenz	ene 11		10.00		107	70	130			
Surr: Dibromofluorometh	ane 11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 4 of 4

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albu TEL: 505-345-3975 Webstie: www.hat	4901 Hawkins querque, NM 87 FAX: 505-343-4	NE 109 Sam	ple Log-In Ch	eck List
Client Name: Western Refining Southw	Work Order Number:	1508412		RoptNo: 1	
Received by/date: VA	08/11/15	-			
Logged By: Ashley Gallegos 8/	11/2015 7:40:00 AM		AZ		
Completed By: Ashley Gallegos 8/	11/2015 9:50:03 AM		A		
Reviewed By:	08/11/15		0		
Chain of Custody	e oprips				
1. Custody seals intact on sample bottles?		Yes	No 🗌	Not Present 🔽	
2. Is Chain of Custody complete?		Yes 🗸	No 🗌	Not Present	
3. How was the sample delivered?		Courier			
Log In					
4. Was an attempt made to cool the samples?		Yes 🗸	No	NA	
5. Were all samples received at a temperature of	>0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗌	
6. Sample(s) in proper container(s)?		Yes 🗹	No 🗌		
7. Sufficient sample volume for indicated test(s)?		Yes 🗹	No 🗌		
8. Are samples (except VOA and ONG) properly p	preserved?	Yes 🗹	No 🗌		
9. Was preservative added to bottles?		Yes 🗌	No 🗹	NA	
10. VOA vials have zero headspace?		Yes 🖌	No 🗌	No VOA Vials	
11. Were any sample containers received broken?		Yes	No 🗹	# of preserved	
12. Does paperwork match bottle labels?		Yes 🗹	No	bottles checked for pH:	
(Note discrepancies on chain of custody)		100		(<2 or >	12 unless note
13. Are matrices correctly identified on Chain of Cu	stody?	Yes 🖌	No 🗌	Adjusted?	
14. Is it clear what analyses were requested?		Yes 🗹	No 🗌	Charlester	
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🖌	No 🗋	Checked by	
Special Handling (if applicable)					
16. Was client notified of all discrepancies with this	order?	Yes	No 🗌	NA 🗹	
Person Notified:	Date				
By Whom:	Via:	eMail P	hone 🗌 Fax	In Person	
Regarding					
Client Instructions					
17. Additional remarks:					
18. Cooler Information					
	Intact Seal No S	Seal Date	Signed By		
1 1.0 Good Yes					

1

С	hain	-of-Cu	stody Record	Turn-Around	Time:]								TT	~			NT	
Dient: Ully RobinSon NULSHAN DEGNING Mailing Address: III CR 4970 Blodmfeld I NMI 8741S Phone #: 770 - 385-1076 email or Fax#: CJULIAC IMANG, Frenc Ord QA/QC Package: Standard Level 4 (Full Validation)			Davin Henchlann			HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107 Analysis Request (1) (2) (3) (4) (5) (1) (1) (1) (1)														
CStan Accredi NEL EDD Date	itation AP		Level 4 (Full Validation)	Sampler: On Ice: Sample Tem Container Type and #	Yes	□ No 1·D	BTEX + MTBE + TMB's (BTEX + MTBE + TPH (G	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082 P	8260B (VOA)	8270 (Semi-VOA)	Chloride + BTE,		Air Bubbles (Y or N)
	1150	6N	S#S-2	Vanws/4	Cool+H((-001								4						
Date: 8/16/19 10ate: 8/10/15	Time: 15/7 Time: 2030/	Relinquish	lex treates	Received by: Austa Received by: HMGH	West	Date Time 8/10/15-151 Date / Time 08/11/15 0740	Rer	nark	s:											<u>+-</u>

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If necessary samples submitted to Hall Environmental may be subcontracted to other accredited aboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

March 01, 2017

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

RE: GBR Shutdown

OrderNo.: 1603E56

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 7 sample(s) on 3/31/2016 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued April 05, 2016.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1603E56

Date Reported: 3/1/2017

100

Hall Environmental Analysis Laboratory, Inc.

	Western Refining Southwes	t, Inc.		Client Sampl		
Project:	GBR Shutdown			Collection I	Date: 3/30/20	016 10:55:00 AM
Lab ID:	1603E56-001	Matrix:	AQUEOUS	Received 1	Date: 3/31/20	016 7:30:00 AM
Analyses		Result	PQL Qua	l Units	DF	Date Analyzed
EPA MET	HOD 8015M/D: DIESEL RA	NGE				Analyst: KJH
Diesel Ra	ange Organics (DRO)	6.0	1.0	mg/L	1	4/1/2016 4:54:30 PM
Surr: D	DNOP	102	70-141	%Rec	1	4/1/2016 4:54:30 PM
EPA MET	HOD 8015D: GASOLINE RA	NGE				Analyst: RAA
Gasoline	Range Organics (GRO)	0.060	0.050	mg/L	1	4/1/2016 2:59:35 PM
Surr: E	BFB	111	49.5-130	%Rec	1	4/1/2016 2:59:35 PM

Qualifiers: *	Value exceeds Maximum	Contaminant Level.
---------------	-----------------------	--------------------

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1603E56

Date Reported: 3/1/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refin Project: GBR Shutdow	•				nple ID: SHS-9 on Date: 3/30/2016	11:30:00 AM	
Lab ID: 1603E56-002	Matrix	AQUEOUS	5	Receive	ed Date: 3/31/2016	7:30:00 AM	
Analyses	Result	PQL	Qual	Units	DF I	Date Analyzed	11
EPA METHOD 8015M/D:	DIESEL RANGE				1	Analyst:	KJH
Diesel Range Organics (D	RO) 32	1.0		mg/L	1	4/1/2016 5:16:08	PM
Surr: DNOP	121	70-141		%Rec	1	4/1/2016 5:16:08	PM
EPA METHOD 8015D: G	ASOLINE RANGE					Analyst:	RAA
Gasoline Range Organics	(GRO) 0.20	0.050		mg/L	1	4/1/2016 4:13:08	PM
Surr: BFB	144	49.5-130	S	%Rec	1	4/1/2016 4:13:08	PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1603E56 Date Reported: 3/1/2017

CLIENT: Western Refining Southwest, Inc.

GBR Shutdown **Project:**

Lab ID: 1603E56-003 **Client Sample ID: SHS-2** Collection Date: 3/30/2016 12:10:00 PM Received Date: 3/31/2016 7:30:00 AM

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL R/	ANGE			a interaction and the	Analyst: KJH
Diesel Range Organics (DRO)	18	1.0	mg/L	1	4/1/2016 5:37:58 PM
Surr: DNOP	100	70-141	%Rec	1	4/1/2016 5:37:58 PM
EPA METHOD 8015D: GASOLINE F	RANGE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.25	D mg/L	5	4/1/2016 4:37:40 PM
Surr: BFB	84.5	49.5-130	D %Rec	5	4/1/2016 4:37:40 PM

Matrix: AQUEOUS

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 9 J
- Ρ Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1603E56

Date Reported: 3/1/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining	Southwest, Inc.		Client Sampl	e ID: GBR-2	26
Project: GBR Shutdown			Collection I	Date: 3/30/20	016 12:55:00 PM
Lab ID: 1603E56-004	Matrix:	AQUEOUS	Received I	Date: 3/31/20	016 7:30:00 AM
Analyses	Result	PQL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015M/D: DI	IESEL RANGE			1.000	Analyst: KJH
Diesel Range Organics (DRO) 13	1.0	mg/L	1	4/1/2016 5:59:32 PM
Surr: DNOP	112	70-141	%Rec	1	4/1/2016 5:59:32 PM
EPA METHOD 8015D: GAS	OLINE RANGE				Analyst: RAA
Gasoline Range Organics (GF	RO) 0.053	0.050	mg/L	1	4/1/2016 5:02:09 PM
Surr: BFB	90.2	49.5-130	%Rec	1	4/1/2016 5:02:09 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1603E56

Date Reported: 3/1/2017

CLIENT: Western Refining Southwest, Inc.

Project: GBR Shutdown Lab ID: 1603E56-005 Client Sample ID: GBR-21D Collection Date: 3/30/2016 1:25:00 PM Received Date: 3/31/2016 7:30:00 AM

		-			
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL R/	ANGE			· F.B.J.	Analyst: KJH
Diesel Range Organics (DRO)	22	1.0	mg/L	1	4/1/2016 6:21:12 PM
Surr: DNOP	104	70-141	%Rec	1	4/1/2016 6:21:12 PM
EPA METHOD 8015D: GASOLINE F	ANGE				Analyst: RAA
Gasoline Range Organics (GRO)	0.059	0.050	mg/L	1	4/1/2016 5:26:39 PM
Surr: BFB	104	49.5-130	%Rec	1	4/1/2016 5:26:39 PM

Matrix: AQUEOUS

- Qualifiers: * Value exceeds Maximum Contaminant Level.
 - D Sample Diluted Due to Matrix
 - H Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit
 - R RPD outside accepted recovery limits
 - S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical	Report
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Lab Order 1603E56

Date Reported: 3/1/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwe Project: GBR Shutdown	est, Inc.		(-	le ID: GBR-2	25 016 2:25:00 PM
Project: GBR Shutdown Lab ID: 1603E56-006	Matrix:	AQUEOUS	5			016 7:30:00 AM
Analyses	Result			Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RA	ANGE					Analyst: KJH
Diesel Range Organics (DRO)	250	10		mg/L	10	4/4/2016 8:18:13 AM
Surr: DNOP	0	70-141	S	%Rec	10	4/4/2016 8:18:13 AM
EPA METHOD 8015D: GASOLINE R	ANGE					Analyst: RAA
Gasoline Range Organics (GRO)	0.60	0.25	D	mg/L	5	4/1/2016 5:51:10 PM
Surr: BFB	104	49.5-130	D	%Rec	5	4/1/2016 5:51:10 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1603E56

Date Reported: 3/1/2017

Hall Environmental Analysis Laboratory, Inc.

 CLIENT:
 Western Refining Southwest, Inc.
 Client Sample ID: GBR-22

 Project:
 GBR Shutdown
 Collection Date: 3/30/2016 3:00:00 PM

 Lab ID:
 1603E56-007
 Matrix:
 AQUEOUS
 Received Date: 3/31/2016 7:30:00 AM

 Analyses
 Result
 PQL
 Qual
 Units
 DF
 Date Analyzed

			_			
EPA METHOD 8015M/D: DIESEL RAN	GE				1 - 19-0	Analyst: KJH
Diesel Range Organics (DRO)	140	10		mg/L	10	4/4/2016 8:39:40 AM
Surr: DNOP	0	70-141	S	%Rec	10	4/4/2016 8:39:40 AM
EPA METHOD 8015D: GASOLINE RAN	NGE					Analyst: RAA
Gasoline Range Organics (GRO)	0.32	0.25	D	mg/L	5	4/1/2016 11:58:21 PM
Surr: BFB	91.3	49.5-130	D	%Rec	5	4/1/2016 11:58:21 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	Н	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	R	RPD outside accepted recovery limits

- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 7 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

WO#: 1603E56 01-Mar-17

Hall Environmental Analysis Laboratory, Inc.

	m Refining South	outhwe	st, Inc.							
Sample ID LCS-24574	SampT	ype: LC	s	TestCode: EPA Method 8015M/D: Diesel Range						
Client ID: LCSW	Batch ID: 24574			RunNo: 33232						
Prep Date: 4/1/2016	Analysis D	ate: 4/	1/2016	S	SeqNo: 1	020954	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.0	1.0	5.000	0	99.8	71.3	139			1
Surr: DNOP	0.51		0.5000		101	70	141			
Sample ID MB-24574	SampT	уре: М	BLK	Tes	tCode: E	PA Method	8015M/D: Die	sel Range	e	
Client ID: PBW	Batch	ID: 24	574	RunNo: 33232						
Prep Date: 4/1/2016	Analysis D	ate: 4/	1/2016	S	SeqNo: 1	020955	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0		6.2.				-	4	
Surr: DNOP	1.1		1.000		108	70	141			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range Е
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

Page 8 of 9

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603E56

Page 9 of 9

01-Mar-17

Client: Project:	Western H GBR Shu	Refining So tdown	outhwe	st, Inc.							
Sample ID	1603E56-001AMS	SampTy	ype: MS	3	Tes	Code: El	PA Method	8015D: Gasol	line Rang	e	1.2.1
Client ID:	SHS-8	Batch	ID: R3	3266	R	unNo: 3	3266				
Prep Date:		Analysis Da	ate: 4/	1/2016	S	eqNo: 1	021755	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	0.54	0.050	0.5000	0.06000	95.7	70	130			
Surr: BFB		36		20.00		182	49.5	130			S
Sample ID	1603E56-001AMS	SampTy	ype: MS	SD	Tes	Code: El	A Method	8015D: Gasol	ine Rang	e	STATE - Day
Client ID:	SHS-8	Batch	ID: R3	3266	R	unNo: 3	3266				
Prep Date:		Analysis Da	ate: 4/	1/2016	S	eqNo: 1	021756	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	0.53	0.050	0.5000	0.06000	95.0	70	130	0.671	20	يحجره والملا
Surr: BFB		36		20.00		182	49.5	130	0	0	S
Sample ID	2.5UG GRO LCS	SampTy	ype: LC	S	Test	Code: El	PA Method	8015D: Gasol	ine Rang	e	
Client ID:	LCSW	Batch	ID: R3	3266	R	unNo: 3	3266				
Prep Date:		Analysis Da	ate: 4/	1/2016	S	eqNo: 1	021770	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Jasoline Rang	e Organics (GRO)	0.47	0.050	0.5000	0	94.3	80	120			
asonne rang	0 ()	0.47	0.050	0.5000	0	94.5	00	120			
Surr: BFB	5 ()	19	0.050	20.00	0	94.3 95.7	49.5	130			
-				20.00		95.7	49.5		ine Rang	9	
Surr: BFB	5ML RB	19 SampTy		20.00	Test	95.7	49.5 PA Method	130	ine Rang	9	
Surr: BFB	5ML RB	19 SampTy	ype: ME	20.00 BLK 3266	Tesi	95.7 Code: EF	49.5 PA Method 3266	130	ine Rang	9	
Surr: BFB Sample ID Client ID:	5ML RB	19 SampTy Batch	ype: ME	20.00 BLK 3266 1/2016	Tesi	95.7 Code: EF unNo: 3 eqNo: 10	49.5 PA Method 3266	130 8015D: Gasol	ine Rang %RPD	e RPDLimit	Qual
Surr: BFB Sample ID Client ID: Prep Date: Analyte	5ML RB	19 SampTy Batch Analysis Da	ype: ME ID: R3 ate: 4/	20.00 BLK 3266 1/2016	Tesi R S	95.7 Code: EF unNo: 3 eqNo: 10	49.5 PA Method 3266 021771	130 8015D: Gasol Units: mg/L	-		Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-345-39	tal Analysis Labor 4901 Hawkii Albuquerque, NM & 075 FAX: 505-345 hallenvironmenta	ns NE 37109 Samj 4107	ole Log-In Che	eck List
Client Name: Western Refining Southw Work Order Numb	ber: 1603E56		RcptNo: 1	
Received by/date:0331110	······································			
Logged By: Lindsay Mangin 3/31/2016 7:30:00 A	M	Julythigo		
Completed By: Lindsay Mangin 3/31/2016 11:39:19	AM	And Happ		
Reviewed By: On 04/01/16		000		
Chain of Custody				
1. Custody seals intact on sample bottles?	Yes	No 🗀	Not Present	
2. Is Chain of Custody complete?	Yes 🖌	No 🗌	Not Present	
3. How was the sample delivered?	Courier			
Log In				
4. Was an attempt made to cool the samples?	Yes 🔽	No 🗔	NA 🗌	
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗌	NA	
6. Sample(s) in proper container(s)?	Yes 🗹	No 🗌		
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗌		
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗌		
9. Was preservative added to bottles?	Yes 🗌	No 🗹	NA 🗌	
10. VOA vials have zero headspace?	Yes 🗹	No 🗌	No VOA Vials	
11. Were any sample containers received broken?	Yes	No 🗹		
			# of preserved bottles checked	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No 🗌	for pH: (<2 or >	12 unless note
13. Are matrices correctly identified on Chain of Custody?	Yes 🗸	No 🗌	Adjusted?	
14. Is it clear what analyses were requested?	Yes 🖌	No 🗆		
15. Were all holding times able to be met?	Yes 🗹	No 🗌	Checked by:	
(If no, notify customer for authorization.)				
Special Handling (if applicable)				
16. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🗹	
Person Notified: Date		201 dl. S		
By Whom: Via:	eMail	Phone 🗌 Fax	In Person	
Regarding:	an a			
Client Instructions:			۳ <u>يين ٿا ٿي ان پريني پريني ۽ محمدوني</u> : 1	
17. Additional remarks:	•••			
18. Cooler Information				
Cooler No Temp °C Condition Seal Intact Seal No	Seal Date	Signed By		
1 2.2 Good Yes				

lient: k	elly	Pala																			
[M]	0000	KANN	nson	Standard	🗆 Rush													IEN RAT			
V/V	0010	nR	a Cining Ci	Project Name								.hall									
lailing A	ddress:	1110	Ry990	GBR SI	hutdown	1		101	<u>л1 ц</u>								M 871	00			
Pla		Gald	, NM	Project #:			1											09			
hone #	971	1-38	5-1096	W	WRLOO9			Tel. 505-345-3975 Fax 505-345-4107 Analysis Request													
mail or F	ax#:	Bdher	remanna itenvicon	Project Manag	ger:			only)	Ô					(4)							
A/QC Pa	ickage:		Level 4 (Full Validation)	Devin Hencmann			TMB's (8021)	TPH (Gas or	RO / MF			SIMS)		,PO4,SC	2 PCB's						
ccredita				Sampler: A	Sampler: AUX CHOOKS			H		Ŧ	=	120		NO2	8082						Î
) NELA					On Ice: ZYes DNo Sample Temperature: Z 22		1 + 1	+	SRO	418	504	or 82	s	Ŝ.	es /		(YO)				or N)
	Time	Matrix	Sample Request ID	TT	Preservative Type	1	BTEX + MTBE	BTEX + MTBE	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides /	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y
BD ,	1055	GN	S#5-8	Vanous 4	HCL = ND	-001			X												-
1	1130		SHS-9	1		-002			1											1	
	120		SHS-Z			-003											- 17				
	1255		6BR-26			-004													1		
	325		6BR-210			-005									0.1		-				
	1425		GBR-25			-006									1.0						
V	1500	V	6337-22	N.	V	-007			X												
												-	_						-		
							-				_	_						-		+	
													_					_	-		
			7 1				+				_		_		-						
30 ate: 1 34/14	1800	Relinquishe	lex hora	Received by: Received by: Received by:	eta A ce	1-11-21-2		nark	PECTER	(b-con)	Inactor	1 data :		Clear	v pote		the an	alytical	hone		

NAME AND ADDRESS AND ADDRESS ADDRE

10.13



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

April 12, 2016

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

RE: GBR Shutdown

OrderNo.: 1603E57

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 7 sample(s) on 3/31/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1603E57

Date Reported: 4/12/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Western Refining Southwest,	Inc.		C	lient Samp	ole ID: SH	IS-8	
Project:	GBR Shutdown				Collection	Date: 3/3	0/2016 10:55:00 AM	
Lab ID:	1603E57-001	Matrix:	AQUEOUS	5	Received	Date: 3/3	31/2016 7:30:00 AM	
Analyses	Conteros de la conteros	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
	HOD 300.0: ANIONS						Analys	t: LGT
Chloride		97	10		mg/L	20	4/1/2016 9:27:57 PM	R33267
EPA METH	HOD 8021B: VOLATILES						Analys	t: RAA
Benzene		ND	1.0		µg/L	1	4/1/2016 9:20:41 AM	A33266
Toluene		ND	1.0		µg/L	1	4/1/2016 9:20:41 AM	A33266
Ethylbenz	ene	14	1.0		µg/L	1	4/1/2016 9:20:41 AM	A33266
Xylenes, 7	Total	ND	2.0		µg/L	1	4/1/2016 9:20:41 AM	A33266
Surr: 4-	Bromofluorobenzene	148	87.9-146	S	%Rec	1	4/1/2016 9:20:41 AM	A33266

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order **1603E57** Date Reported: **4/12/2016**

CLIENT: Western Refining Southwest, Inc. Project: GBR Shutdown

1603E57-002

Lab ID:

Client Sample ID: SHS-9 Collection Date: 3/30/2016 11:30:00 AM Received Date: 3/31/2016 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	st: LGT
Chloride	92	10	mg/L	20	4/1/2016 10:17:37 PM	R33267
EPA METHOD 8021B: VOLATILES					Analys	st: RAA
Benzene	ND	1.0	µg/L	1	4/1/2016 9:45:11 AM	A33266
Toluene	ND	1.0	µg/L	1	4/1/2016 9:45:11 AM	A33266
Ethylbenzene	24	1.0	µg/L	1	4/1/2016 9:45:11 AM	A33266
Xylenes, Total	ND	2.0	µg/L	1	4/1/2016 9:45:11 AM	A33266
Surr: 4-Bromofluorobenzene	130	87.9-146	%Rec	1	4/1/2016 9:45:11 AM	A33266

Matrix: AQUEOUS

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

267 **A** 266

Lab Order 1603E57

Date Reported: 4/12/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Project: GBR Shutdown	Inc.		0	Client Samp Collection		IS-2 80/2016 12:10:00 PM	
Lab ID: 1603E57-003	Matrix:	AQUEOU	S	Received	Date: 3/3	31/2016 7:30:00 AM	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	LGT
Chloride	270	10	*	mg/L	20	4/1/2016 10:42:26 PM	R33267
EPA METHOD 8021B: VOLATILES						Analyst	RAA
Benzene	ND	5.0	D	µg/L	5	4/1/2016 10:08:50 AM	A33266
Toluene	ND	5.0	D	µg/L	5	4/1/2016 10:08:50 AM	A33266
Ethylbenzene	ND	5.0	D	µg/L	5	4/1/2016 10:08:50 AM	A33266
Xylenes, Total	ND	10	D	µg/L	5	4/1/2016 10:08:50 AM	A33266
Surr: 4-Bromofluorobenzene	104	87.9-146	D	%Rec	5	4/1/2016 10:08:50 AM	A33266

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1603E57

Date Reported: 4/12/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Project: GBR Shutdown

Lab ID: 1603E57-004

Client Sample ID: GBR-26 Collection Date: 3/30/2016 12:55:00 PM Received Date: 3/31/2016 7:30:00 AM

Result PQL Qual Units **DF** Date Analyzed Batch Analyses EPA METHOD 300.0: ANIONS Analyst: LGT Chloride 140 10 mg/L 20 4/2/2016 1:11:23 AM A33267 **EPA METHOD 8021B: VOLATILES** Analyst: RAA ND 4/1/2016 10:32:38 AM A33266 Benzene 1.0 µg/L 1 4/1/2016 10:32:38 AM A33266 Toluene ND 1.0 µg/L 1 Ethylbenzene ND 4/1/2016 10:32:38 AM 1.0 µg/L 1 A33266 Xylenes, Total ND 2.0 µg/L 1 4/1/2016 10:32:38 AM A33266 Surr: 4-Bromofluorobenzene 108 87.9-146 %Rec 1 4/1/2016 10:32:38 AM A33266

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1603E57

Date Reported: 4/12/2016

4/1/2016 10:56:23 AM A33266

Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

CLIENT:	Western Refining Southwest, I	nc.		C	lient Sam	ple ID: GB	R-21D	
Project:	GBR Shutdown				Collection	n Date: 3/3	0/2016 1:25:00 PM	
Lab ID:	1603E57-005	Matrix:	AQUEOU	S	Received	d Date: 3/3	1/2016 7:30:00 AM	
Analyses	Bartaby and	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS						Analys	LGT
Chloride		380	10	*	mg/L	20	4/1/2016 11:56:54 PM	A33267
EPA MET	HOD 8021B: VOLATILES						Analys	RAA
Benzene		ND	1.0		µg/L	1	4/1/2016 10:56:23 AM	A33266
Toluene		ND	1.0		µg/L	1	4/1/2016 10:56:23 AM	A33266
Ethylben	zene	ND	1.0		µg/L	1	4/1/2016 10:56:23 AM	A33266
Xylenes,	Total	ND	2.0		µg/L	1	4/1/2016 10:56:23 AM	A33266

87.9-146

%Rec

1

117

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1603E57 Date Reported: 4/12/2016

CLIENT: Western Refining Southwest, Inc.

Project: GBR Shutdown

Lab ID: 1603E57-006

Client Sample ID: GBR-25 Collection Date: 3/30/2016 2:25:00 PM

Received Date: 3/31/2016 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	t: LGT
Chloride	640	25	*	mg/L	50	4/5/2016 9:23:58 PM	R33339
EPA METHOD 8021B: VOLATILES						Analys	t: RAA
Benzene	ND	5.0	D	µg/L	5	4/1/2016 11:20:09 AM	A33266
Toluene	ND	5.0	D	µg/L	5	4/1/2016 11:20:09 AM	A33266
Ethylbenzene	16	5.0	D	µg/L	5	4/1/2016 11:20:09 AM	A33266
Xylenes, Total	ND	10	D	µg/L	5	4/1/2016 11:20:09 AM	A33266
Surr: 4-Bromofluorobenzene	117	87.9-146	D	%Rec	5	4/1/2016 11:20:09 AM	A33266

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 6 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1603E57

Date Reported: 4/12/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-22 GBR Shutdown Collection Date: 3/30/2016 3:00:00 PM **Project:** 1603E57-007 Lab ID: Matrix: AQUEOUS Received Date: 3/31/2016 7:30:00 AM Analyses Result PQL Qual Units **DF** Date Analyzed Batch Analyst: LGT **EPA METHOD 300.0: ANIONS** 50 4/5/2016 9:36:22 PM R33339 Chloride 420 25 mg/L EPA METHOD 8021B: VOLATILES Analyst: RAA

-	LIAMETHOD WEID. VOLATILLO						7 that you	
	Benzene	ND	5.0	D	µg/L	5	4/1/2016 12:07:32 PM	A33266
	Toluene	ND	5.0	D	µg/L	5	4/1/2016 12:07:32 PM	A33266
	Ethylbenzene	23	5.0	D	µg/L	5	4/1/2016 12:07:32 PM	A33266
	Xylenes, Total	ND	10	D	µg/L	5	4/1/2016 12:07:32 PM	A33266
	Surr: 4-Bromofluorobenzene	111	87.9-146	D	%Rec	5	4/1/2016 12:07:32 PM	A33266

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 7 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

WO#: 1603E57

Hall Environmental Analysis Laboratory, Inc.

12-Apr-16

Client: Project:		Western Refining Southwest, Ind GBR Shutdown								. Shire The second
Sample ID	МВ	SampType: MBLK		Test	Code: EF	PA Method	300.0: Anions	;		
Client ID:	PBW	Batch ID: R33267		R	unNo: 3	3267				
Prep Date:		Analysis Date: 4/1/2010	6	S	eqNo: 10	021774	Units: mg/L			
Analyte		Result PQL SPK	value SPK	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 0.50								at and
Sample ID	LCS	SampType: LCS		Test	Code: EF	PA Method	300.0: Anions			
Client ID:	LCSW	Batch ID: R33267		R	unNo: 3	3267				
Prep Date:		Analysis Date: 4/1/2010	5	S	eqNo: 10	021775	Units: mg/L			
Analyte		Result PQL SPK	value SPK	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		4.8 0.50	5.000	0	96.9	90	110			
Sample ID	MB	SampType: MBLK		Test	Code: EF	PA Method	300.0: Anions			
Client ID:	PBW	Batch ID: A33267		R	unNo: 3	3267				
Prep Date:		Analysis Date: 4/1/2010	5	S	eqNo: 10	021849	Units: mg/L			
Analyte		Result PQL SPK	value SPK	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 0.50	_							
Sample ID	LCS	SampType: LCS		Test	Code: EF	PA Method	300.0: Anions			
Client ID:	LCSW	Batch ID: A33267		R	unNo: 3	3267				
Prep Date:		Analysis Date: 4/1/2016	;	S	eqNo: 10	021851	Units: mg/L			
Analyte		Result PQL SPK	value SPK	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		4.8 0.50	5.000	0	95.3	90	110			
Sample ID	MB	SampType: MBLK		Test	Code: EF	PA Method	300.0: Anions			
Client ID:	PBW	Batch ID: R33339		R	unNo: 33	3339				
Prep Date:		Analysis Date: 4/5/2016	•	S	eqNo: 10	024512	Units: mg/L			
Analyte			value SPK	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 0.50								
Sample ID	LCS	SampType: LCS		Test	Code: EF	A Method	300.0: Anions			
Client ID:	LCSW	Batch ID: R33339		R	unNo: 33	3339				
Prep Date:		Analysis Date: 4/5/2016	;	S	eqNo: 10	024513	Units: mg/L			
Analyte			value SPK		%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		4.9 0.50	5.000	0	97.6	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 8 of 9

- P Sample pH Not In Range
- RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603E57 12-Apr-16

	rn Refining S Shutdown	outhwe	st, Inc.							
Sample ID 100NG BTEX L	.CS Samp1	Type: LC	s	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: LCSW	Batcl	h ID: A3	33266	F	RunNo: 3	3266				
Prep Date:	Analysis D	Date: 4	/1/2016	5	SeqNo: 1	021805	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.2	80	120		N. 1	
Toluene	21	1.0	20.00	0	105	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Xylenes, Total	62	2.0	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		115	87.9	146			
Sample ID 1603E57-001AI	MS Samp1	Гуре: М	S	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: SHS-8	Batcl	h ID: A3	3266	F	RunNo: 3	3266				
Prep Date:	Analysis D	Date: 4	/1/2016	5	SeqNo: 1	021833	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0.4440	99.0	78	119			
Toluene	21	1.0	20.00	0	106	80	120			
Ethylbenzene	34	1.0	20.00	13.77	98.8	80	120			
Xylenes, Total	63	2.0	60.00	0.9480	104	75.3	120			
Surr: 4-Bromofluorobenzene	31		20.00		156	87.9	146			S
Sample ID 1603E57-001A	NSD SampT	уре: М	SD	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: SHS-8	Batch	h ID: A3	3266	F	RunNo: 3	3266				
Prep Date:	Analysis D	Date: 4	/1/2016	S	SeqNo: 1	021836	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0.4440	95.7	78	119	3.37	20	
Toluene	20	1.0	20.00	0	102	80	120	3.51	20	
Ethylbenzene	32	1.0	20.00	13.77	91.9	80	120	4.18	20	
Xylenes, Total	60	2.0	60.00	0.9480	98.3	75.3	120	5.58	20	
Surr: 4-Bromofluorobenzene	30		20.00		148	87.9	146	0	0	S
Sample ID 5ML RB	SampT	уре: МІ	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		101154
Client ID: PBW	Batch	n ID: A3	3266	F	RunNo: 3	3266				
Prep Date:	Analysis D	Date: 4/	1/2016	5	SeqNo: 1	021856	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Kylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		103	87.9	146			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 9 of 9

Client Name: Western Refining Southw Wo	rk Order Number:	1603E57		RcptNo:	1
Received by/date:03	3176				
Logged By: Lindsay Mangin 3/31/2	2016 7:30:00 AM		Jundy Harry	σ	
Completed By: Lindsay Mangin 3/31/2	2016 11:44:52 AM		Andy Hope	Ø	
Reviewed By: 04 A41	hillis		000		
Chain of Custody	0.110				
1. Custody seals intact on sample bottles?		Yes 🗌	No 🗔	Not Present	
2. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present	
3. How was the sample delivered?		Courier			
t to					
Log In					
4. Was an attempt made to cool the samples?		Yes 🗹	No	NA 🗌	
5. Were all samples received at a temperature of >0	° C to 6.0°C	Yes 🗹	No 🗌	NA	
6. Sample(s) in proper container(s)?		Yes 🗹	No 🗌		
7. Sufficient sample volume for indicated test(s)?		Yes 🗹	No 🗌		
8. Are samples (except VOA and ONG) properly pres	erved?	Yes 🗹	No 🗌		
9. Was preservative added to bottles?		Yes 🗌	No 🗹	NA 🗌	
10. VOA vials have zero headspace?		Yes 🔽	No 🗌	No VOA Vials	
1. Were any sample containers received broken?		Yes	No 🗹	:	
				# of preserved bottles checked	
12. Does paperwork match bottle labels?		Yes 🗹	No 🗌	for pH:	or >12 unless noted
(Note discrepancies on chain of custody) 3. Are matrices correctly identified on Chain of Custod	1/2	Yes 🗹	No 🗆	Adjusted?	J - 12 Unless Hole
4. Is it clear what analyses were requested?	.,,	Yes 🗹	No 🗆		
5. Were all holding times able to be met?		Yes 🗹	No 🗆	Checked by:	
(If no, notify customer for authorization.)				·	
pecial Handling (if applicable)		, n			
6. Was client notified of all discrepancies with this ord	er?	Yes 🗌	No 🗌	NA 🗹	
Person Notified:	Date				İ
By Whom:	Via:	eMail] Phone 🗌 Fax	In Person	
Regarding:			1. 17. 1 (1997) . 18. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19	and the same state and the second	1
Client Instructions:					

Cł	nain-	of-Cu	stody Record	Turn-Around	Time:	÷				ы,				TE	20	NIF	ME	NT	A I	
ent:	Ken	y R	obinson	Standard	□ Rush													TO		<i>(</i>
				Project Name																
ailing A	ddress:	IIIC	Fining R 4990	Project #:	Shutdon	n	www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109													
Blo	DNG	eld 1	NM	Project #:			Tel. 505-345-3975 Fax 505-345-4107													
one #:	97	0-385	5-1096	N N	1121009		Analysis Request													
			mann @ Henvicom	Project Manager:				(July)	30)				04)							
VQC Pa	ackage:			ADennencmann				as ol	/ WE		s)		04,S(PCB's						
Stand	- torne		Level 4 (Full Validation)				s) s,	Ö	RO		SIMS)		PC,							
credita					type Cn		+ TMB's (8021)	H		÷ ÷			NO	808			E	·		or N)
NELA			r	On Ice:		□ No		+	SRC	418	Dr 8	S	NO3	es /		(YO	8021			
EDD (Type)			Sample Tem	perature: 2	12	IB	TB	B ((pou	10	leta	CI	icid	(YO	Ni-V		2		ss (Y
)ate	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1) EDR (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)	BTEX	Chiloride		Bubbles
+				1603E57		- [E	<u>F</u>		PA	R N	An	80	82	82	0	0	_	Air	
30	1055	GN	SH3-8	Vanous/4	HEH NA	-001											X	X		
	1130	1	SHS-9			-002														
	1210		SHS-2			-003														
	1255		6BR-26			-004														
	1325		6-BR-21D			-005														
	1425		15BR-25			-006											1	V		
VI	1500	Y	67BR-22	\checkmark		-007														
			4																	
	-																			
-			2																	
	Time:	Relinquish	ed by:	Received by:	L,	Date Time	Rer	nark	s:											-
30	1545		Ulx Groch	Notwo	et	3/30/14 1545														
ite:	ite: Time: Relinquished by: Date				Date Time															
34/12	19/1 1800 Misto Warts				KD	3/31/16 0730														
lfr	necessary,	samples sub	mitted to Hall Environmental may be sub	contracted to other a	ccredited laboratorie	es. This serves as notice of this	s possi	bility.	Any su	o-contrac	ted data	a will b	e clear	rly not	ated o	n the a	analytic	al report		



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

April 06, 2016

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

RE: GBR Shutdown

OrderNo.: 1604002

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/1/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1604002

Date Reported: 4/6/2016

CLIENT: Western Refining Southwest, Inc.

Project: GBR Shutdown Lab ID: 1604002-001

Client Sample ID: GBR-8 Collection Date: 3/31/2016 9:45:00 AM

Received Date: 4/1/2016 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					TAL MIL	Analyst	LGT
Chloride	85	10		mg/L	20	4/1/2016 9:13:40 PM	R3324
EPA METHOD 8021B: VOLATILES						Analyst	RAA
Benzene	ND	5.0	D	µg/L	5	4/1/2016 11:09:22 PM	A33266
Toluene	ND	5.0	D	µg/L	5	4/1/2016 11:09:22 PM	A33266
Ethylbenzene	ND	5.0	D	µg/L	5	4/1/2016 11:09:22 PM	A33266
Xylenes, Total	ND	10	D	µg/L	5	4/1/2016 11:09:22 PM	A33266
Surr: 4-Bromofluorobenzene	101	87.9-146	D	%Rec	5	4/1/2016 11:09:22 PM	A33266

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1604002

Date Reported: 4/6/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest,	Inc.		(Client Sam	ple ID: GBR-20	
Project: GBR Shutdown				Collectio	n Date: 3/31/2016 10:00:00 AM	
Lab ID: 1604002-002	Matrix:	AQUEOU	S	Receive	d Date: 4/1/2016 7:50:00 AM	
Analyses	Result	PQL	Qual	Units	DF Date Analyzed Ba	tch
EPA METHOD 300.0: ANIONS					Analyst: LO	ЭT
Chloride	82	10		mg/L	20 4/1/2016 9:38:30 PM R3	33247
EPA METHOD 8021B: VOLATILES					Analyst: RA	AA
Benzene	ND	5.0	D	µg/L	5 4/1/2016 11:33:50 PM A3	3266
Toluene	ND	5.0	D	µg/L	5 4/1/2016 11:33:50 PM A3	3266
Ethylbenzene	17	5.0	D	µg/L	5 4/1/2016 11:33:50 PM A3	3266
Xylenes, Total	ND	10	D	µg/L	5 4/1/2016 11:33:50 PM A3	3266
Surr: 4-Bromofluorobenzene	109	87.9-146	D	%Rec	5 4/1/2016 11:33:50 PM A3	3266

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 7
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1604002

Date Reported: 4/6/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Shutdown Lab ID: 1604002-003

Client Sample ID: GBR-11 Collection Date: 3/31/2016 10:30:00 AM

Received Date: 4/1/2016 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	t: LGT
Chloride	97	2.5		mg/L	5	4/1/2016 9:50:54 PM	R33247
EPA METHOD 8021B: VOLATILES						Analys	t: NSB
Benzene	ND	5.0	D	µg/L	5	4/1/2016 11:39:40 AM	A33241
Toluene	ND	5.0	D	µg/L	5	4/1/2016 11:39:40 AM	A33241
Ethylbenzene	ND	5.0	D	µg/L	5	4/1/2016 11:39:40 AM	A33241
Xylenes, Total	ND	10	D	µg/L	5	4/1/2016 11:39:40 AM	A33241
Surr: 4-Bromofluorobenzene	101	87.9-146	D	%Rec	5	4/1/2016 11:39:40 AM	A33241

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Date Reported: 4/6/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Project: GBR Shutdown	Inc.	Client Sample ID: GBR-34 Collection Date: 3/31/2016 11:15:00 AM									
Lab ID: 1604002-004	Matrix:	AQUEOUS		Received Date: 4/1/2016 7:50:00 AM							
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch				
EPA METHOD 300.0: ANIONS						Analyst	: LGT				
Chloride	220	10		mg/L	20	4/1/2016 10:28:07 PM	R33247				
EPA METHOD 8021B: VOLATILES						Analyst	NSB				
Benzene	ND	5.0	D	µg/L	5	4/1/2016 12:50:16 PM	A33241				
Toluene	ND	5.0	D	µg/L	5	4/1/2016 12:50:16 PM	A33241				
Ethylbenzene	130	5.0	D	µg/L	5	4/1/2016 12:50:16 PM	A33241				
Xylenes, Total	48	10	D	µg/L	5	4/1/2016 12:50:16 PM	A33241				
Surr: 4-Bromofluorobenzene	116	87.9-146	D	%Rec	5	4/1/2016 12:50:16 PM	A33241				

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Bla	ank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 4 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	age + 01 /
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as	s specified

WO#: 1604002

Hall Environmental Analysis Laboratory, Inc.

06-Apr-16

Client: Project:		Western F GBR Shu		Southwe	st, Inc.	e da Refer			201			21-11- 1-1-1
Sample ID	МВ		Samp	Гуре: М	BLK	Tes	tCode: E	PA Method	300.0: Anions	5		1.01
Client ID:	PBW		Batc	h ID: R	33247	F	RunNo: 3	3247				
Prep Date:			Analysis [Date: 4	/1/2016	S	SeqNo: 1	021626	Units: mg/L			
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride			ND	0.50					04			and the second
Sample ID	LCS	line - i	Samp	Type: LC	s	Tes	tCode: El	PA Method	300.0: Anions	5		
Client ID:	LCSW		Batc	h ID: R3	33247	F	RunNo: 3	3247				
Prep Date:			Analysis E	Date: 4	/1/2016	S	SeqNo: 1	021627	Units: mg/L			
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride			4.7	0.50	5.000	0	93.4	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified W

Page 5 of 7

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#:

1604002

06-Apr-16

Client: Project:	Western H GBR Shu		outhwe	st, Inc.							
Sample ID	5ML RB	Samp	Гуре: МІ	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID:	PBW	Batch ID: A33241		F	RunNo: 33241						
Prep Date:		Analysis E	Date: 4	/1/2016	5	SeqNo: 1	021183	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Brom	ofluorobenzene	19		20.00		97.0	87.9	146			0.00
Sample ID	100NG BTEX LCS	Samp	Type: LC	s	Tes	tCode: E	PA Method	8021B: Volat	iles		1.5
Client ID:	LCSW	Batcl	h ID: A3	3241	F	RunNo: 3	3241				
Prep Date:		Analysis D	Date: 4/	1/2016	S	SeqNo: 1	021184	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		19	1.0	20.00	0	94.1	80	120	1.2		
Toluene		18	1.0	20.00	0	89.7	80	120			
Ethylbenzene		17	1.0	20.00	0	87.1	80	120			
Xylenes, Total		52	2.0	60.00	0	86.0	80	120			
Surr: 4-Brom	ofluorobenzene	21		20.00		104	87.9	146			
Sample ID	1604002-003AMS	SampT	уре: М	S	TestCode: EPA Method 8021B: Volatiles						
Client ID:	GBR-11	Batcl	h ID: A3	3241	RunNo: 33241						
Prep Date:		Analysis D	Date: 4/	1/2016	5	SeqNo: 1	021187	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		97	5.0	100.0	2.435	94.9	78	119			
Toluene		91	5.0	100.0	2.006	89.1	80	120			
Ethylbenzene		90	5.0	100.0	2.692	87.8	80	120			
Xylenes, Total		270	10	300.0	5.427	86.9	75.3	120			
Surr: 4-Brom	ofluorobenzene	110		100.0		109	87.9	146			
Sample ID	1604002-003AMSE) SampT	ype: MS	SD	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	GBR-11	Batch	n ID: A3	3241	F	RunNo: 3	3241				
Prep Date:		Analysis D	Date: 4/	1/2016	5	SeqNo: 1	021188	Units: µg/L			
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		96	5.0	100.0	2.435	93.3	78	119	1.61	20	
Toluene		90	5.0	100.0	2.006	87.7	80	120	1.54	20	
Ethylbenzene		89	5.0	100.0	2.692	86.4	80	120	1.53	20	
Xylenes, Total		260	10	300.0	5.427	85.0	75.3	120	2.23	20	
Surr A Brom	ofluorobenzene	110		100.0		108	87.9	146	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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Hall Environmental Analysis Laboratory, Inc.

06-Apr-16

	n Refining S hutdown	Southwe	st, Inc.				- 10 - 11 - 11 - 11 - 11 - 11 - 11 - 11			
Sample ID 100NG BTEX LO	CS Samp	Type: LC	s	Tes	tCode: E	PA Method	8021B: Volat	iles		- 12
Client ID: LCSW	Batc	Batch ID: A33266		F	RunNo: 3	3266				
Prep Date:	Analysis [Date: 4	/1/2016	5	SeqNo: 1	021805	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.2	80	120	100		
Toluene	21	1.0	20.00	0	105	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Xylenes, Total	62	2.0	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		115	87.9	146			
Sample ID 5ML RB	Samp	Гуре: М	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		1. 19
Client ID: PBW	Batc	h ID: A3	3266	F	RunNo: 3	3266				
Prep Date:	Analysis [Date: 4	1/2016	S	SeqNo: 1	021856	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0	\$1					10		
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		103	87.9	146			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 7 of 7

lot In Range

sec. 11.)

WO#: 1604002

ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-	onmental Analysis 4901 F Albuquerque, 345-3975 FAX: 50. :: www.hallenviron	lawkins NE NM 87109 5-345-4107	Sam	ple Log-In Check	List
Client Name: Western Refining Southw Work Order	Number: 160400	2		RcptNo: 1	
Received by/date: 04/01//	6				
ogged By: Joe Archuleta 4/1/2016 7:50	:00 AM	in the second se	1: ast		
Completed By: Joe Archuleta 4/1/2016 8:18	:41 AM		in lat		
Reviewed By: On as 04/0	01/16	6 ¹⁴	(, , , , , , , , , , , , , , , , , , ,		
hain of Custody			C -7	(2)	
1. Custody seals intact on sample bottles?			No	Not Present	
2. Is Chain of Custody complete?	Yes		No	Not Present	
3. How was the sample delivered?	Courie	<u>er</u>			
<u>.og In</u>					
 Was an attempt made to cool the samples? 	Yes		No 🗌	NA LI	
 Were all samples received at a temperature of >0° C to 6.0)°C Yes		No []	NA []	
6. Sample(s) in proper container(s)?	Yes		No 🗔		
7. Sufficient sample volume for indicated test(s)?	Yes		No []		
8. Are samples (except VOA and ONG) properly preserved?	Yes		No []		
9. Was preservative added to bottles?	Yes		No 🛃	NA []]	
0.VOA vials have zero headspace?	Yes		No 1	No VOA Vials	
1. Were any sample containers received broken?	Yes [No 🛃	# of preserved	
2.Does paperwork match bottle labels?	Yes		No []	bottles checked for pH:	
(Note discrepancies on chain of custody)		•	N []	(<2 or >12 unl Adjusted?	ess noted)
3. Are matrices correctly identified on Chain of Custody?	Yes		No []	Adjusted :	
4. Is it clear what analyses were requested?5. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes Ves		No []]	Checked by:	
pecial Handling (if applicable)					
6. Was client notified of all discrepancies with this order?	Yes [<u> </u>	No []	NA 🙋	
Person Notified:	Date	Weik 26. Auf 2 den den migney de l	içan da kurun sera sera da ser		
By Whom: Regarding:	Via: 🗌 eMail	[] Phor	ne [] Fax		
Client Instructions:	ddillatilde)teekorser waadneren, inderkeitild	لنأهد الطقالية فالمنافزة ويودر ويرا	arafindalafikkasistata diribisti	બીલે પેલે મુક્ત કરી છે. આ ગામ કરતા છે. તે પ્રોટી પેલી છે છે છે. તે કે પ્રોટ પ્રેટ કે પ્રોટી, હમ જુવા મ	
7. Additional remarks:					
8. <u>Cooler Information</u> : Cooler No Temp °C Condition Seal Intact Seal	No Seal Date	Sin	ned By		
1 1.0 Good Yes			,		
Page 1 of 1					

Chain-of-Custody Record	Turn-Around Time:	HALL ENVIRONMENTAL								
lient: Welly Publinson	Standard D Rush	ANALYSIS LABORATORY								
Western Refining	Project Name:	www.hallenvironmental.com								
lailing Address: 11 CAL 4990	Project Name: CIBIC Shutdown Project #: WR1007	4901 Hawkins NE - Albuquerque, NM 87109								
Blonkfuld, NM	Project #:	Tel. 505-345-3975 Fax 505-345-4107								
hone #: 970 - 375-1096	- WRIDD I	Analysis Request								
mail or Fax#: () Nen cmann @ / Lenv.com										
A/QC Package: (Standard	Dovin Henemann	TMB's (8021) TPH (Gas only) D / DRO / MRO) 3.1) 2.1) 2.1) 2.1) 2.270 SIMS) 2.270 SIMS) 2.270 SIMS) 2.270 SIMS) 2.1) 3.1) 1.1) 1.1) 1.1) 1.1) 1.1) 1.1) 1								
ccreditation	Sampler: MUX Coording									
NELAP Other	On Ice: XYes INo	+ TME + TPH RO / D 8 / 8270 3,NO 03,NO 03,NO 03,NO 01 N								
EDD (Type)	Sample Temperature: 1,0									
Date Time Matrix Sample Request ID	Container Type and # Preservative Type HEAL No.	BTEX + MTBE + TMB's (8021) BTEX + MTBE + TPH (Gas only) TPH 8015B (GRO / DRO / MRO TPH (Method 418.1) EDB (Method 504.1) PAH's (8310 or 8270 SIMS) PAH's (8310 or 8270 SIMS) RCRA 8 Metals Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄) Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄) 8081 Pesticides / 8082 PCB's 8260B (VOA) 8260B (VOA) 8260B (VOA) BZPP (\mathcal{F} (\mathcal{F} \mathcal{F} \mathcal{F}) \mathcal{F} \mathcal{H} \mathcal{U} \mathcal{H}								
3 945 GW GBR-8	Vanas/4 4/ + 1,72 - 601									
1 1000 1 (182-20	1 -002									
1030 (10K-11	-003									
¥ 1115 ¥ 67BR-34	V V -004									
	· · · · · ·									
ate: Time: Relinquished by:	Received by: / Date Time	Remarks:								
31 1250 Celex ande	Chard Walt 3/1/14 1250									
ate: Time: Relipquisted by: 31/11 1747 Musture Wallers	Pate Time									
If necessary, samples submitted to Hall Environmental may be su	ubcontracted to other accredited laboratories. This serves as notice of thi	s possibility. Any sub-contracted data will be clearly notated on the analytical report.								

1.30



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

March 01, 2017

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

RE: GBR Shutdown

OrderNo.: 1604003

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/1/2016 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued April 05, 2016.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1604003 Date Reported: 3/1/2017

CLIENT: Project:	Western Refining Southwe GBR Shutdown	west, Inc. Client Sample ID: GBR-8 Collection Date: 3/31/2016 9:45:00 AM								
Lab ID:	1604003-001	Matrix: AQUEOUS			Received Date: 4/1/2016 7:50:00 AM					
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed			
EPA MET	HOD 8015M/D: DIESEL RA	NGE			141		Analyst: KJH			
Diesel Ra	inge Organics (DRO)	58	1.0		mg/L	1	4/1/2016 7:25:50 PM			
Surr: D	NOP	111	70-141		%Rec	1	4/1/2016 7:25:50 PM			
EPA MET	HOD 8015D: GASOLINE R	ANGE					Analyst: RAA			
Gasoline	Range Organics (GRO)	ND	0.25	D	mg/L	5	4/2/2016 12:22:36 AM			
Surr: B	FB	85.1	49.5-130	D	%Rec	5	4/2/2016 12:22:36 AM			

Qualifiers: *	Value exceeds Maximum Contaminant Level.
---------------	--

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Date Reported: 3/1/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Project: GBR Shu	-	st, Inc.	Client Sample ID: GBR-20 Collection Date: 3/31/2016 10:00:00 AM								
Lab ID: 1604003	Matrix:	Matrix: AQUEOUS			Date: 4/1/201	6 7:50:00 AM					
Analyses	- 164	Result	PQL	Qual	Units	DF	Date Analyzed				
EPA METHOD 801	5M/D: DIESEL RA	NGE					Analyst: KJH				
Diesel Range Organ	ics (DRO)	6.9	1.0		mg/L	1	4/1/2016 7:47:26 PM				
Surr: DNOP		106	70-141		%Rec	1	4/1/2016 7:47:26 PM				
EPA METHOD 801	5D: GASOLINE R	ANGE					Analyst: RAA				
Gasoline Range Org	anics (GRO)	0.33	0.25	D	mg/L	5	4/2/2016 12:46:58 AM				
Surr: BFB		102	49.5-130	D	%Rec	5	4/2/2016 12:46:58 AM				

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 6 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 3/1/2017

CLIENT: Western Refining Southwest, Inc.

Project: GBR Shutdown

Client Sample ID: GBR-11 Collection Date: 3/31/2016 10:30:00 AM Received Date: 4/1/2016 7:50:00 AM

Lab ID: 1604003-003	Matrix:	AQUEOUS	Receive	Received Date: 4/1/2016 7:50:00 AM							
Analyses	Result	PQL Qua	al Units	DF	Date Analyzed						
EPA METHOD 8015M/D: DIESEL RA	NGE			and the second	Analyst: KJH						
Diesel Range Organics (DRO)	5.0	1.0	mg/L	1	4/1/2016 8:08:49 PM						
Surr: DNOP	105	70-141	%Rec	1	4/1/2016 8:08:49 PM						
EPA METHOD 8015D: GASOLINE R	ANGE				Analyst: RAA						
Gasoline Range Organics (GRO)	0.28	0.25 E	mg/L	5	4/2/2016 1:11:31 AM						
Surr: BFB	87.2	49.5-130 E	%Rec	5	4/2/2016 1:11:31 AM						

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
-------------	---	--

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 3/1/2017

CLIENT:	Western Refining Southwest	t, Inc.	Client Sample ID: GBR-34 Collection Date: 3/31/2016 11:15:00 AM									
Project:	GBR Shutdown											
Lab ID:	1604003-004	Matrix:	AQUEOU	S	Received Date: 4/1/2016 7:50:00 AM							
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed					
EPA MET	HOD 8015M/D: DIESEL RAM	NGE					Analyst: KJH					
Diesel Ra	nge Organics (DRO)	560	10		mg/L	10	4/4/2016 9:01:21 AM					
Surr: D	NOP	0	70-141	S	%Rec	10	4/4/2016 9:01:21 AM					
EPA MET	HOD 8015D: GASOLINE RA	NGE					Analyst: RAA					
Gasoline	Range Organics (GRO)	1.9	0.25	D	mg/L	5	4/2/2016 1:36:05 AM					
Surr: B	FB	154	49.5-130	SD	%Rec	5	4/2/2016 1:36:05 AM					

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

WO#: 1604003

Page 5 of 6

Hall Environmental Analysis Laboratory, Inc.

01-Mar-17

	n Refining So hutdown	outhwe	st, Inc.						n na k	i i A I			
Sample ID LCS-24574	SampT	ype: LC	s	TestCode: EPA Method 8015M/D: Diesel Range									
Client ID: LCSW	Batch	ID: 24	574	F	RunNo: 33232								
Prep Date: 4/1/2016	Analysis D	ate: 4/	1/2016	S	eqNo: 1	020954	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Diesel Range Organics (DRO)	5.0	1.0	5.000	0	99.8	71.3	139						
Surr: DNOP	0.51		0.5000		101	70	141	Libel, (b)					
Sample ID MB-24574	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e				
Client ID: PBW	Batch	ID: 24	574	F	aunNo: 3	3232							
Prep Date: 4/1/2016	Analysis D	ate: 4/	1/2016	S	eqNo: 1	020955	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Diesel Range Organics (DRO)	ND	1.0											
Surr: DNOP	1.1		1.000		108	70	141						

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

WO#: 1604003 01-Mar-17

Hall Environmental Analysis Laboratory, Inc.

Client: Western Project: GBR Sh	Refining S utdown	outhwe	st, Inc.				A.K.	и Ла наради и п		
Sample ID 2.5UG GRO LCS	SampT	SampType: LCS TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch	n ID: R3	3266	F	RunNo: 3	3266				
Prep Date:	Analysis D	Date: 4/	1/2016	S	SeqNo: 1	021770	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	94.3	80	120			
Surr: BFB	19		20.00		95.7	49.5	130			R. Mar
Sample ID 5ML RB	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8015D: Gaso	ine Rang	e	es ve
Client ID: PBW	Batch	h ID: R3	3266	F	RunNo: 3	3266				
Prep Date:	Analysis D	Date: 4/	1/2016	S	SeqNo: 1	021771	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	17		20.00		83.1	49.5	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 6 of 6

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albuq Albuq TEL: 505-345-39754 Website: www.hali	4901 querqu	Hawkins e. NM 87 05-345-4	NE 7109 Sam 7107	ple Log-In C	heck List
Client Name: Western Refining Southw	Work Order Number:	1604	003		RcptNo:	1
Received by/date:	04/01/16					
Logged By: Joe Archuleta	4/1/2016 7:50:00 AM			Welst Welst		
Completed By: Joe Archuleta	4/1/2016 8:33:34 AM			it let		
Reviewed By:	04/01/16					
Chain of Custody		Yes	[]	No []]	Not Present	
 Custody seals intact on sample bottles? Is Chain of Custody complete? 		Yes			Not Present	
 S Chain of Custody complete? How was the sample delivered? 		Cour				
3. How was the sample delivered :		000				
Log In						
4. Was an attempt made to cool the samples	?	Yes		No []]	NA	
5. Were all samples received at a temperatur	e of >0° C to 6.0°C	Yes		No 🗍	NA [.]]	
6. Sample(s) in proper container(s)?		Yes		No [
7. Sufficient sample volume for indicated test	(s)?	Yes		No [.]		
8. Are samples (except VOA and ONG) prope	erly preserved?	Yes		No []]		
9. Was preservative added to bottles?		Yes	[]]	No 🛃	NA	
10.VOA vials have zero headspace?		Yes		No []]	No VOA Vials	
11. Were any sample containers received brok	ken?	Yes	[]]	No 😹	# of preserved	
10 -		Yes		No	bottles checked for pH:	
 Does paperwork match bottle labels? (Note discrepancies on chain of custody) 		Yes		140 L I		or >12 unless noted)
13. Are matrices correctly identified on Chain of	f Custody?	Yes		No []]	Adjusted?	
14. Is it clear what analyses were requested?		Yes		No [_]		
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes		No	Checked by:	
Special Handling (if applicable)						
16. Was client notified of all discrepancies with	this order?	Yes	["]	No []	NA 😹	
Person Notified:	Date	LI DI BIDINA D	ilid in some of a	a agos final a llaboration and international		
By Whom:	Via:	eMa	ail 🗖 F	hone [] Fax	[] In Person	
Regarding:						
Client Instructions:	ntalan karan da Kanatanan da karan Kotanan karan da	idinindurindi ni vi	dibddferwyr y ywd	ร และ ความสาระ เสรามาร์แกร์ ได้เหรีย แล้วไฟร์แก้จะ เข้าว่าม	unal scycolor filologic col scorestingene nerves an accorre	
17. Additional remarks:						
18. Cooler Information						
Cooler No Temp °C Condition S 1 1.0 Good Ye		eal Da	ate	Signed By		

5

Page | of |

С	hain-	of-Cu	stody Record	Turn-Around											20	NIR	ME	ыт			
lient:			binson	Standard	🗆 Rush					_											<i>(</i>
11/				Project Name:				ANALYSIS LABORATORY													
Mistern Refining ailing Address: 111 CR 4990				Kandard Rush Project Name: UBR Shutchown Project #: WR1009				4901 Hawkins NE - Albuquerque, NM 87109													
Bloomfield, NM				Project #: INN INT ?				Tel. 505-345-3975 Fax 505-345-4107													
	hone #: 970-385-1096				- 00101001				Analysis Request												
	Fax#: (ther	Cmann@14envil	Project Mana	iger:		-	only)	(Ô)					04)							
A/QC F	Package:		Level 4 (Full Validation)	Duri	n Henc	mann	TMB's (8021)	TPH (Gas o	/ DRO / MRO)			SIMS)		04,S(PCB's						
ccredi				Sampler: AUX COOPES) H	DR	_		0 SI		0 ₂ ,F	8082						
I NEL	٩P	Othe	r	On Ice: 🙀 Yes i 🗆 No				ії +	²	18.1	04.	827		03,N	-		(A)				or N
EDD	(Type)			Sample Tem	perature:	0	BE	BE	(G	od 4	od 5	0 0	etals	N'IS	cide	A)	i-VC				2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + MTBE	BTEX + MTBE	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
131	945	GW	GBR-8	Vanas 4	+tc/+MA	- 001			\overline{X}		-	-		_		~	~		-	-	\top
1	1000		6-BR-20	1		-00Z															
1	1030		6BR-11			-003															
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ate:	Time:	Relinguish	ed byz	Received by:	1	Date Time	Rer	nark	e.												
31	1250	a	les Gurch	Christ	-Walt	3/31/10/250		nank	5.												
ate: Time: Relinquished by:			Received by: Date Time																		
2114	necessary,	samples sub	mitted to Hall Environmental may be sub	contracted to other a	accredited laboratori	es. This serves as notice of thi	s possi	bility.	Any si	ub-con	tracted	d data	will b	e clear	ly not	ated or	n the a	analytic	al repor	t.	

C



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

August 01, 2016

Kelly Robinson Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: FAX

OrderNo.: 1607E58

Dear Kelly Robinson:

RE: GBR Quarterly

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/27/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1607E58

Date Reported: 8/1/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Quarterly

Client Sample ID: GBR-22 Collection Date: 7/25/2016 6:05:00 PM Received Date: 7/27/2016 8:00:00 AM

Lab ID: 1607E58-001	07E58-001 Matrix: AQUEOUS				Received Date: 7/27/2016 8:00:00 AM							
Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS					1. 12 (2	Analyst	LGT					
Chloride	330	50	*	mg/L	100	7/28/2016 4:11:26 PM	R36069					
EPA METHOD 8021B: VOLATILES						Analyst	RAA					
Benzene	ND	5.0	DP	µg/L	5	7/28/2016 3:42:20 PM	B36094					
Toluene	ND	5.0	DP	µg/L	5	7/28/2016 3:42:20 PM	B36094					
Ethylbenzene	41	5.0	DP	µg/L	5	7/28/2016 3:42:20 PM	B36094					
Xylenes, Total	16	10	DP	µg/L	5	7/28/2016 3:42:20 PM	B36094					
Surr: 4-Bromofluorobenzene	120	87.9-146	DP	%Rec	5	7/28/2016 3:42:20 PM	B36094					

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 5
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order 1607E58

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/1/2016

	tern Refining Southwest, R Quarterly	Inc.		C	Client Samp Collection		BR-25 5/2016 5:25:00 PM	
Lab ID: 160'	7E58-002	Matrix:	AQUEOUS		Received	Date: 7/2	7/2016 8:00:00 AM	
Analyses	and the second second	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD	300.0: ANIONS						Analyst	LGT
Chloride		450	50	*	mg/L	100	7/28/2016 4:36:15 PM	R36069
EPA METHOD	8021B: VOLATILES						Analyst	RAA
Benzene		ND	5.0	DP	µg/L	5	7/28/2016 4:06:52 PM	B36094
Toluene		ND	5.0	DP	µg/L	5	7/28/2016 4:06:52 PM	B36094
Ethylbenzene		16	5.0	DP	µg/L	5	7/28/2016 4:06:52 PM	B36094
Xylenes, Total		ND	10	DP	µg/L	5	7/28/2016 4:06:52 PM	B36094
Surr: 4-Bron	nofluorobenzene	118	87.9-146	DP	%Rec	5	7/28/2016 4:06:52 PM	B36094

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 5
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1607E58

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/1/2016

CLIENT: Western Refining Southwest, Inc.

Project: GBR Quarterly Lab ID: 1607E58-003

Client Sample ID: GBR-21D Collection Date: 7/25/2016 4:25:00 PM Received Date: 7/27/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF Date Analyzed Batcl
EPA METHOD 300.0: ANIONS					Analyst: LGT
Chloride	340	50	*	mg/L	100 7/28/2016 5:01:05 PM R360
EPA METHOD 8021B: VOLATILES					Analyst: RAA
Benzene	ND	5.0	D	µg/L	5 7/28/2016 6:09:22 PM B360
Toluene	ND	5.0	D	µg/L	5 7/28/2016 6:09:22 PM B360
Ethylbenzene	ND	5.0	D	µg/L	5 7/28/2016 6:09:22 PM B360
Xylenes, Total	ND	10	D	µg/L	5 7/28/2016 6:09:22 PM B360
Surr: 4-Bromofluorobenzene	107	87.9-146	D	%Rec	5 7/28/2016 6:09:22 PM B360

Matrix: AQUEOUS

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 5
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1607E58

01-Aug-16

Client: Project:	Western Refining Southwest, Inc. GBR Quarterly					
Sample ID MB	SampType: MBLK	TestCode: EPA Method	300.0: Anions	1		0.2961
Client ID: PBV	Batch ID: R36069	RunNo: 36069				
Prep Date:	Analysis Date: 7/28/2016	SeqNo: 1116921	Units: mg/L			
Analyte	Result PQL SPK valu	e SPK Ref Val %REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND 0.50					
Sample ID LCS	SampType: LCS	TestCode: EPA Method	1 300.0: Anions	-		
Client ID: LCS	W Batch ID: R36069	RunNo: 36069				
Prep Date:	Analysis Date: 7/28/2016	SeqNo: 1116922	Units: mg/L			
Analyte	Result PQL SPK valu	e SPK Ref Val %REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9 0.50 5.00	0 0 97.9 90	110			199

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 4 of 5

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#:	1607E58
	2001200

01-Aug-16

	rn Refining S Quarterly	outhwe	st, Inc.							
Sample ID 100NG BTEX L	.CS Samp1	ype: LC	s	Tes	tCode: E	PA Method	8021B: Volat	iles		12
Client ID: LCSW	Batcl	n ID: B3	6094	F	RunNo: 3	6094				
Prep Date:	Analysis D	ate: 7/	28/2016	S	SeqNo: 1	117971	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.8	80	120			
Toluene	20	1.0	20.00	0	99.5	80	120			
Ethylbenzene	19	1.0	20.00	0	94.8	80	120			
Xylenes, Total	57	2.0	60.00	0	94.7	80	120			
Surr: 4-Bromofluorobenzene	22	.1	20.00		108	87.9	146			
Sample ID RB	SampT	уре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: PBW	Batch	n ID: B3	6094	R	RunNo: 3	6094				
Prep Date:	Analysis D	ate: 7/	28/2016	S	SeqNo: 1	117993	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		99.7	87.9	146			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 5 of 5

HALL	
ENVIRONMENTAL	
ANALYSIS	
LABORATORY	

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Southw Work Order	Number: 1607E58		RcptNo: 1
Received by/date: A 5 07/27/	110		
Logged By: Joe Archuleta 7/27/2016 8:00	0:00 AM	PERT	
Completed By: Joe Archuleta 7/28/2016 9:09	:17 AM	JEllet JEllet	ALL
Reviewed By: and 07/28/	16	/	
Chain of Custody	i i ka	1	
1. Custody seals intact on sample bottles?	Yes	No 🗆	Not Present
2. Is Chain of Custody complete?	Yes 🗹	No 🗌	Not Present
3. How was the sample delivered?	Courier		
Log In			
4. Was an attempt made to cool the samples?	Yes 🖌	No 🗌	
5. Were all samples received at a temperature of >0° C to 6.0	°C Yes 🗹	No 🗌	
6. Sample(s) in proper container(s)?	Yes 🗹	No 🗌	
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗌	
8. Are samples (except VOA and ONG) properly preserved?,	Yes 🗹	No 🗌	
9. Was preservative added to bottles?	Yes 🗖	No 🗹	NA 🗆
10. VOA vials have zero headspace?	Yes 🗹	No 🗌	No VOA Vials
11. Were any sample containers received broken?	Yes	No 🗹	# of preserved bottles checked
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No 🗌	for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes 🗹	No 🗌	Adjusted?
14. Is it clear what analyses were requested?	Yes 🔽	No 🗌	1. 1. 1. 1. 1. 1. 1.
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗌	Checked by:

Special Handling (if applicable)

Person	Notified:			Date	1.01 AND COMPANY AND AND AND		
By Who	m:	r prosec for the Young on and Rad Lucknesked & the or on Schward	nan kana ana ang na 1929 na kapang na manayan	Via:	eMail	Phone Fax	In Person
Regardi	ng:				301.41 N 11 18		
Client In	structions:	All lines are seen to be and the	2004 (A A) 1080 1081				
L							
Additional rer <u>Cooler Infon</u> Cooler No		Condition	Seal Intact	Seal No	Seal Date	Signed By	1

Page 1 of 1

Chain-of-Custody Record	Turn-Around Time:	HALL ENVIRONMENTAL
ient: Western Refining	Standard Rush	ANALYSIS LABORATORY
Kelly Robinson	Project Name:	www.hallenvironmental.com
ailing Address: 111 CR 4990	GBR Quarterly	4901 Hawkins NE - Albuquerque, NM 87109
Bloomfield, NM	Project #:	Tel. 505-345-3975 Fax 505-345-4107
ione #:	PO# 12614068	Analysis Request
nail or Fax#:	Project Manager:	
VQC Package: Standard	Kelly Robinson	H (Gas only) H (Gas only) DRO / MRO)) 0 SIMS) 0 SIMS) 0 SIMS) 82 PCB's
Creditation	Sampler: Michael A Wicker On Ice: Myes Et No	
EDD (Type)	Sample Temperature: 53°C2.	() () () () () () () () () () () () () (
Date Time Matrix Sample Request ID	Container Type and # Preservative Type HEAL No. ////////////////////////////////////	EX # H 801 H
25-16 1805 AQ GBR-22	287 Cool -001	
25-16 1725 AQ GBR-25	500- (00) dX	
25-16/1625 AQ GBR-21D	6 HCI/Cool =00g ~3	
10/		
ate: Time: Relinquished by:	Received by: Date Time 7/24/16 1587 Received by: Date Time	Remarks: Please CC: DHENCMANNELTENV. com MWicker@LTENV. com
ate: Time: Relinquished by: 24/14 1940 Charte Walter	Received by: Date Time	(in D 12)

state many state and state

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

August 02, 2016

Kelly Robinson Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: FAX

OrderNo.: 1607E59

RE: GBR Quarterly

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/27/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1607E59

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/2/2016

CLIENT:	Western Refining Southwe	est, Inc.		C	lient Sampl	le ID: GB	R-22	
Project:	GBR Quarterly				Collection	Date: 7/2:	5/2016 6:05:00 PM	
Lab ID:	1607E59-001	Matrix:	AQUEOU	S	Received	Date: 7/2	7/2016 8:00:00 AM	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METI	HOD 8015M/D: DIESEL R	ANGE					Analys	t: KJH
Diesel Ra	inge Organics (DRO)	4800	100		mg/L	100	8/1/2016 9:44:07 AM	26687
Surr: D	NOP	0	77.1-144	S	%Rec	100	8/1/2016 9:44:07 AM	26687
EPA MET	HOD 8015D: GASOLINE F	RANGE					Analys	t: RAA
Gasoline	Range Organics (GRO)	0.90	0.25	DP	mg/L	5	7/28/2016 6:33:43 PM	R36094
Surr: B	FB	122	66.4-120	SDP	%Rec	5	7/28/2016 6:33:43 PM	R36094

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 5
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order 1607E59

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/2/2016

CLIENT:	Western Refining Southwest, I	nc.		С	lient Sampl	e ID: GE	3R-25	
Project:	GBR Quarterly				Collection	Date: 7/2	.5/2016 5:25:00 PM	
Lab ID:	1607E59-002	Matrix:	AQUEOUS	5	Received	Date: 7/2	27/2016 8:00:00 AM	
Analyses	A MARK TO A MARK	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015M/D: DIESEL RANG	E					Analyst	TOM
	THOD 8015M/D: DIESEL RANG ange Organics (DRO)	i E 190	10		mg/L	10	Analyst 7/29/2016 4:59:57 PM	:: TOM 26687
	ange Organics (DRO)	_	10 77.1-144	S	mg/L %Rec	10 10	,	
Diesel Ra Surr: [ange Organics (DRO)	190 0		S	0	10	7/29/2016 4:59:57 PM	26687 26687
Diesel R Surr: I EPA MET	ange Organics (DRO) DNOP	190 0		S	0	10	7/29/2016 4:59:57 PM 7/29/2016 4:59:57 PM	26687 26687

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 5
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order **1607E59** Date Reported: **8/2/2016**

7/28/2016 8:11:09 PM R36094

R36094

7/28/2016 8:11:09 PM

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CLIENT:	Western Refining Southwest	t, Inc.	Client Sample ID: GBR-21D							
Project:	GBR Quarterly			Collectio	n Date: 7/2	5/2016 4:25:00 PM				
Lab ID:	1607E59-003	Matrix:	AQUEOUS	Receive	d Date: 7/2	7/2016 8:00:00 AM				
Analyses		Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA MET	HOD 8015M/D: DIESEL RA	NGE			A fam. 14	Analyst	том			
Diesel R	ange Organics (DRO)	21	1.0	mg/L	1	7/29/2016 5:28:08 PM	26687			
Surr: [DNOP	94.0	77.1-144	%Rec	1	7/29/2016 5:28:08 PM	26687			
EPA MET	HOD 8015D: GASOLINE RA	ANGE				Analyst	RAA			

 EPA METHOD 8015D: GASOLINE RANGE

 Gasoline Range Organics (GRO)
 ND
 0.25
 D
 mg/L

 Surr: BFB
 96.8
 66.4-120
 D
 %Rec

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 5
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1607E59

02-Aug-16

	n Refining Southw Quarterly	vest, Inc.							
Sample ID MB-26687	SampType:	IBLK	Tes	tCode: E	PA Method	8015M/D: Die	sel Rang	e	
Client ID: PBW	Batch ID: 2	6687	F	RunNo: 3	6084				
Prep Date: 7/29/2016	Analysis Date:	7/29/2016	S	SeqNo: 1	118338	Units: mg/L			
Analyte	Result PQL	. SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND 1.	0					1		
Surr: DNOP	0.88	1.000		88.1	77.1	144			
Sample ID LCS-26687	SampType: L	.CS	Tes	tCode: E	PA Method	8015M/D: Die	sel Rang	e	
Client ID: LCSW	Batch ID: 2	6687	F	RunNo: 3	6084				
Prep Date: 7/29/2016	Analysis Date:	7/29/2016	S	SeqNo: 1	118339	Units: mg/L			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.0 1.	0 5.000	0	99.5	71.3	139			
Surr: DNOP	0.47	0.5000		93.7	77.1	144			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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QC SUMMARY REPORT

WO#: 1607E59

02-Aug-16

Hall Environmental Analysis Laboratory, Inc.

Client:		Refining S	outhwe	est, Inc.							
Project:	GBR Qua	interly									
Sample ID	1607E59-001A MS	SampT	ype: M	S	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	1.317.1
Client ID:	GBR-22	Batch	ID: R	36094	F	RunNo: 3	6094				
Prep Date:		Analysis D	ate: 7	/28/2016	5	SeqNo: 1	117944	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	2.8	0.25	2.500	0.8970	76.4	70	130		r	DP
Surr: BFB		140		100.0		140	66.4	120			SDP
Sample ID	1607E59-001A MS	D SampT	ype: M	SD	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	101 - DE 1
Client ID:	GBR-22	Batch	ID: R	36094	F	RunNo: 3	6094				
Prep Date:		Analysis D	ate: 7	/28/2016	S	SeqNo: 1	117945	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	2.7	0.25	2.500	0.8970	73.8	70	130	2.34	20	D
Surr: BFB		150		100.0		148	66.4	120	0	0	SD
Sample ID	2.5UG GRO LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	~
Client ID:	LCSW	Batch	ID: R3	6094	F	RunNo: 3	6094				
Prep Date:		Analysis D	ate: 7	/28/2016	5	SeqNo: 1	117956	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	0.50	0.050	0.5000	0	99.9	80	120			
Surr: BFB		19		20.00		93.7	66.4	120			
Sample ID	RB	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8015D: Gaso	ine Rang	e	
Client ID:	PBW	Batch	ID: R3	6094	F	RunNo: 3	6094				
Prep Date:		Analysis D	ate: 7	28/2016	5	SeqNo: 1	117957	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	ND	0.050								
Surr: BFB		17		20.00		83.1	66.4	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range E
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

Page 5 of 5

rebatte, wirw	75 FAX: 505-345- hallenvironmenta	-4107	ple Log-In Ch	eck List
lient Name: Western Refining Southw Work Order Numb	ber: 1607E59		RcptNo: 1	
aceived by/date: AJ 07/27/16		2		
gged By: Joe Archuleta 7/27/2016 8:00:00 A	M	JElst DElst		
ompleted By: Joe Archuleta 7/28/2016 9:19:56 A	M	PEllet		
aviewed By: 0.7 07 28/16				
nain of Custody				
Custody seals intact on sample bottles?	Yes	No 🗌	Not Present	
. Is Chain of Custody complete?	Yes 🗹	No 🗆	Not Present	
How was the sample delivered?	Courier			
og In				
. Was an attempt made to cool the samples?	Yes 🖌	No 🗌		
. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🖌	No 🗌		
. Sample(s) in proper container(s)?	Yes 🗹	No 🗆		
4		_		
Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗌		
Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗌		
. Was preservative added to bottles?	Yes	No 🗹	NA 🗆	
). VOA vials have zero headspace?	Yes 🗹	No 🗌	No VOA Vials	
. Were any sample containers received broken?	Yes	No 🗹		
		_	# of preserved bottles checked	
2. Does paperwork match bottle labels?	Yes 🖌	No 🗌	for pH:	>12 unless note
(Note discrepancies on chain of custody) 3. Are matrices correctly identified on Chain of Custody?	Yes 🗸	No 🗆	Adjusted?	
I is it clear what analyses were requested?	Yes 🗹	No 🗌		3.57
. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗌	Checked by:	
ecial Handling (if applicable)				
5. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🗹	
Person Notified: Date				
By Whom: Via:	eMail	Phone 🗌 Fax	In Person	
Regarding:		an man an photos an		
Client Instructions:	ing shield a subhana			
7. Additional remarks:				
<u>Cooler Information</u> Cooler No Temp °C Condition Seal Intact Seal No 1 2.1 Good Yes	Seal Date	Signed By		

Client:	4		stody Record	Turn-Around	□ Rush																,
			inson	Project Name);					_		v.hal									
Mailing	Address		CR 4990	GBR	Quart	erlu		49	01 H								M 87	109			
	Binn	and the second se	NM	Project #:		/	-		el. 50								4107				
Phone #			<u>, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	PC)井126	514068	Analysis Request														
email or	Fax#:			Project Mana			-	uly)	ЗÂ					04)						0	
QA/QC F				1/ 11	0.1		302	as o				s))4,S(CB's					3	
Stan			Level 4 (Full Validation)		/ Robi		TMB's (8021)	Ő	DRO / MAN)			(SIMS)		PC,	2 P(6	
Accredi		□ Othe	r	Sampler: M	NYes	A Wicker	+ TME	+ TPH (Gas only)		18.1)	04.1)	8270		O3,NO	\$ / 808		(¥		1		or N)
	(Type)			Sample Tem	serature:	539621		B	(GRO	d 4	od 5	0 or	etals	SI'NC	ides	(A)	2				Z
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO HEAL NO 1007/F-59	BTEX + MTBE	BTEX + MTBE	TPH 8015B	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
7-25-16	1805	AQ	GBR-22	1-Amber	Cool	-001			\mathbf{X}												
	1725	AQ	GBR-25	1-Amber	(00)	-002	1		X			1.									2
7-25-16		AQ	GBR-21D	1-Amber	Cool	-003			X												
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Date: 7 <u>-26-16</u> Date: 7 <u>21e/16</u>	Time:	Relinquish	Mal	Received by:	alt	Date Time 7/24/14 1503 Date Time 07/2-7/16.080		mark	s: F	2)ea	se	cl	- 3						e LT		

If necessary, supples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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August 02, 2016

Kelly Robinson Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

RE: GBR Quarterly

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

OrderNo.: 1607E67

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 7/28/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1607E67 Date Reported: 8/2/2016

CLIENT:	Western Refining Southwe	est, Inc.		C	Client Samp	ole ID: GBR-8	
Project:	GBR Quarterly				Collection	Date: 7/26/20	016 5:55:00 PM
Lab ID:	1607E67-001	Matrix:	AQUEOU	S	Received	Date: 7/28/20	016 7:30:00 AM
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA MET	HOD 8015M/D: DIESEL RA	NGE					Analyst: TOM
Diesel Ra	ange Organics (DRO)	280	10		mg/L	10	7/29/2016 5:56:11 PM
Surr: D	NOP	0	77.1-144	S	%Rec	10	7/29/2016 5:56:11 PM
EPA MET	HOD 8015D: GASOLINE R	ANGE					Analyst: RAA
Gasoline	Range Organics (GRO)	0.45	0.25	D	mg/L	5	7/28/2016 8:35:30 PM
Surr: E	BFB	109	66.4-120	D	%Rec	5	7/28/2016 8:35:30 PM

Qualifiers: *	Value exceeds Maximum	Contaminant Level.
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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1607E67

Date Reported: 8/2/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Western Refining Southwest, Ir	ic.	C	lient Sample	ID: GBR-1	1	
Project:	GBR Quarterly			Collection D	ate: 7/26/20	016 6:30:00 PM	
Lab ID:	1607E67-002	Matrix:	AQUEOUS	Received D	ate: 7/28/20	016 7:30:00 AM	
Analyses		Result	PQL Qual	Units	DF	Date Analyzed	
EPA MET	HOD 8015M/D: DIESEL RANGI	E			1.00	Analyst:	гом
Diesel R	ange Organics (DRO)	5.3	1.0	mg/L	1	7/29/2016 6:23:59	PM

Surr: DNOP	94.6	77.1-144		%Rec	1	7/29/2016 6:23:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	0.25	D	mg/L	5	7/28/2016 8:59:46 PM
Surr: BFB	83.9	66.4-120	D	%Rec	5	7/28/2016 8:59:46 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1607E67

Date Reported: 8/2/2016

CLIENT: Western Refining Southwest, Inc. Project: GBR Quarterly

Project: GBR Quarterly Lab ID: 1607E67-003

Client Sample ID: GBR-34 Collection Date: 7/26/2016 4:30:00 PM

Received Date: 7/28/2016 7:30:00 AM

Analyses	Result	PQL (Qual	Units		DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE					1.72.00	-	Analyst: KJH
Diesel Range Organics (DRO)	1400	100		mg/L		100	8/1/2016 10:11:40 AM
Surr: DNOP	0	77.1-144	S	%Rec		100	8/1/2016 10:11:40 AM
EPA METHOD 8015D: GASOLINE RANG	E						Analyst: RAA
Gasoline Range Organics (GRO)	1.7	0.25	DP	mg/L		5	7/28/2016 9:24:01 PM
Surr: BFB	134	66.4-120	SDP	%Rec		5	7/28/2016 9:24:01 PM

Matrix: AQUEOUS

Qualifiers: *	Value exceeds	Maximum	Contaminant Level.
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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1607E67

Date Reported: 8/2/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Project: GBR Qu	0	t, Inc.		(-	e ID: SHS-2 Date: 7/26/20	016 7:05:00 PM	
Lab ID: 1607E6		Matrix:	AQUEOU	JS	como como como como como como como como		016 7:30:00 AM	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD 801	5M/D: DIESEL RA	NGE					Analyst:	TON
Diesel Range Orga	nics (DRO)	47	10)	mg/L	10	7/29/2016 7:19:3	5 PM
Surr: DNOP		0	77.1-144	S	%Rec	10	7/29/2016 7:19:3	5 PM
EPA METHOD 801	5D: GASOLINE R	ANGE					Analyst:	RAA
Gasoline Range Or	ganics (GRO)	0.36	0.25	5 D	mg/L	5	7/28/2016 9:48:14	4 PM
Surr: BFB		95.7	66.4-120	D	%Rec	5	7/28/2016 9:48:14	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1607E67

Date Reported: 8/2/2016

Analyses	cast in all	Desult	POL Our	I Units DE Data A	nalwzod
Lab ID:	1607E67-005	Matrix:	AQUEOUS	Received Date: 7/28/2016 7:30:	00 AM
Project:	GBR Quarterly			Collection Date: 7/26/2016 8:00:	00 PM
CLIENT:	Western Refining Southwest, Inc.	in they be		Client Sample ID: SHS-8	

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANG	BE				1984. 1. 5	Analyst: TOM
Diesel Range Organics (DRO)	92	10		mg/L	10	7/29/2016 7:47:22 PM
Surr: DNOP	0	77.1-144	S	%Rec	10	7/29/2016 7:47:22 PM
EPA METHOD 8015D: GASOLINE RAN	GE					Analyst: RAA
Gasoline Range Organics (GRO)	0.46	0.25	DP	mg/L	5	7/28/2016 10:12:23 PM
Surr: BFB	114	66.4-120	DP	%Rec	5	7/28/2016 10:12:23 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	
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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

WO#: 1607E67 02-Aug-16

Hall Environmental Analysis Laboratory, Inc.

	n Refining So Juarterly	uthwe	st, Inc.							
Sample ID MB-26687	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	sel Rang	e	
Client ID: PBW	Batch	ID: 26	687	R	RunNo: 3	6084				
Prep Date: 7/29/2016	Analysis Da	te: 7/	29/2016	S	SeqNo: 1	118338	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO) Surr: DNOP	ND 0.88	1.0	1.000		88.1	77.1	144			
Sample ID LCS-26687	SampTy	pe: LC	s	Tes	tCode: El	PA Method	8015M/D: Die	sel Range	e	
Client ID: LCSW	Batch	ID: 26	687	R	RunNo: 3	6084				
Prep Date: 7/29/2016	Analysis Da	ite: 7/	29/2016	S	eqNo: 1	118339	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.0	1.0	5.000	0	99.5	71.3	139			
Surr: DNOP	0.47		0.5000		93.7	77.1	144			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 6 of 7

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1607E67

02-Aug-16

Client: Western Project: GBR Qu	Refining So arterly	outhwe	st, Inc.							
Sample ID 2.5UG GRO LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gasol	line Rang	e	F
Client ID: LCSW	Batch	ID: R3	6094	F	RunNo: 3	6094				
Prep Date:	Analysis D	ate: 7/	28/2016	5	SeqNo: 1	117956	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	0.50 19	0.050	0.5000 20.00	0	99.9 93.7	80 66.4	120 120			
Sample ID RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gasol	ine Rang	e	
Client ID: PBW	Batch	ID: R3	6094	F	RunNo: 3	6094				
Prep Date:	Analysis D	ate: 7/	28/2016	5	SeqNo: 1	117957	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	17		20.00		83.1	66.4	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 7 of 7

			RcptNo:	'
Bigged By: Lindsay Mangin 7/28/2016 7:30:00 pompleted By: Lindsay Mangin 7/28/2016 9:56:31 eviewed By: Lindsay Mangin 7/28/2016 9:56:31		July Mago		
nain of Custody	4			1.2
Custody seals intact on sample bottles?	Yes 🗋	No 🗌	Not Present	
. Is Chain of Custody complete?	Yes 🗹	No 🗌	Not Present	
How was the sample delivered?	Courier			
og In				
· Was an attempt made to cool the samples?	Yes 🗹	No 🗌	NA 🗌	
. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗌		
. Sample(s) in proper container(s)?	Yes 🗹	No 🗌		
, Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗆		
Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗆		
. Was preservative added to bottles?	Yes	No 🗹	NA 🗌	
). VOA vials have zero headspace?	Yes 🔽	No 🗆	No VOA Vials	
, Were any sample containers received broken?	Yes	No 🗹	# of preserved bottles checked	
2. Does paperwork match bottle labels?	Yes 🗹	No 🗆	for pH:	
(Note discrepancies on chain of custody)			(<2 or Adjusted?	>12 unless noted)
Are matrices correctly identified on Chain of Custody?	Yes ⊻ Yes ✓	No 🗌		
I, Is it clear what analyses were requested?	Yes ⊻ Yes ⊻		Checked by:	
(If no, notify customer for authorization.)	100 1			
ecial Handling (if applicable)				
Was client notified of all discrepancies with this order?	Yes 🗌	No 🗆	NA 🗹	
Person Notified: Data By Whom: Via: Regarding: Client Instructions:		Phone 🗌 Fax	in Person	
7. Additional remarks:				
· · · · · · · · · · · · · · · · · · ·				

С	hain-	of-Cu	stody Record	Turn-Around	Time:					н	AL		EN	IV	IR	O	NM	IEN	IT/	AL	
Client:	Kelly	Robin	1302	Standard	🗆 Rush													RA			
	Weste	vn Re	Runina	Project Name	:					1	www.	halle	envir	onm	nenta	al.co	m				
Mailing /	Address:	111	CR 4990	GBF	Quar	terk		490)1 H	awkii	ns NE	Ξ-,	Albu	que	rque	, NN	1 871	109			
	Bloom	mfield	NM	Project #:				Те	I. 50	5-34	5-39	75	Fa	ax 5	05-3	345-4	4107			1	1.
Phone #	t:			POŦ	+ 1261	4068				_		An	alys	sis F	Requ	iest	i	a. J. 4			
email or				Project Mana	ger:	1 - 1 ¹	1	(yluo	() ()					04)	S						
QA/QC P			Level 4 (Full Validation)	Kel	1 Robi	nson	TMB's (8021)	TPH (Gas o	RO / M			SIMS)	•	PO4,S	2 PCB's						
Accredit		□ Othe	r	On Ice:	helporel A	No distant	+	HdT +	RO/D	118.1)	504.1)	8270	0	03°NO	s / 808		(Y)				or N)
EDD	(Type)			Sample Terrin	perature Z	H- Coperative	TBE	TBE	0	po	po	00	etal	N	cide	A	2-1				2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL Not 7	BTEX + MTBE	BTEX + MTBE	TPH 8015B (GRO / DRO /	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles
7-26-16	1755	AQ	GBR-8	1-Amber	Cool	-001			1							~					-
1	1830	i	GBR-11	i	i	-002															
	1630		GBR-34			-003														100	
	1915		SHS-2			-004															
V	2000	V	SH3-8		V	-005			V	-	-	_		-		_		_	+		
					· .	1 5' \$			2			-		-	3		-			+	$\left \right $
											-	-	+	-	-	-			+	+	Н
Deter	-	D-llow lab		Dessived by		Date Time	Des				-										
Date: 7-27-78 Date:		Relinquish	Refer	Received by:	neliaet	27/27/12 1140 , Date Time	Rer	narks	5;	Plea	3e	ec:		DH Mu	enci Jickei	mai R	UTE:	€LT	Env	, com	4
7/27/14	1855	Ah	Net Wate	VK		7/28/16 0730					2									114	2
Jf	necessary,	sartipies sub	mitted to Hall Environmental may be sub	contracted to other a	credited laboratori	ies. This serves as notice of th		bility.	Any si	ub-cont	racted	data w	ill be	clearly	y notat	ted on	the an	alytical	eport.		



August 01, 2016

Kelly Robinson Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

RE: GBR Quarterly

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

OrderNo.: 1607E78

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 7/28/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

CLIENT: Western Refining Southwest, Inc. Lab Order: 1607E78 **Project: GBR** Quarterly 1607E78-001 Collection Date: 7/26/2016 5:55:00 PM Lab ID: Matrix: AQUEOUS **Client Sample ID:** GBR-8 Analyses Result PQL Qual Units **DF** Date Analyzed **Batch ID** EPA METHOD 300.0: ANIONS Analyst: LGT Chloride 97 5.0 mg/L 10 7/28/2016 5:13:30 PM R36069 **EPA METHOD 8021B: VOLATILES** Analyst: RAA 5.0 7/28/2016 10:36:30 PM B36094 Benzene ND D µg/L 5 Toluene ND 5.0 D µg/L 5 7/28/2016 10:36:30 PM B36094 Ethylbenzene ND 5.0 D µg/L 5 7/28/2016 10:36:30 PM B36094 Xylenes, Total ND 10 D µg/L 5 7/28/2016 10:36:30 PM B36094 Surr: 4-Bromofluorobenzene 111 87.9-146 D %Rec 5 7/28/2016 10:36:30 PM B36094 Lab ID: 1607E78-002 Collection Date: 7/26/2016 6:30:00 PM Client Sample ID: GBR-11 Matrix: AQUEOUS Analyses Result **PQL** Qual Units **DF** Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: LGT 7/28/2016 11:25:48 PM A36069 Chloride 5.0 93 mg/L 10 EPA METHOD 8021B: VOLATILES Analyst: RAA Benzene ND D 7/28/2016 11:00:44 PM 50 µg/L 5 B36094 D 5 B36094 Toluene ND 5.0 µg/L 7/28/2016 11:00:44 PM Ethylbenzene ND 50 D µg/L 5 7/28/2016 11:00:44 PM B36094 ND 7/28/2016 11:00:44 PM B36094 Xylenes, Total 10 D µg/L 5 Surr: 4-Bromofluorobenzene %Rec 7/28/2016 11:00:44 PM B36094 110 87.9-146 D 5 Collection Date: 7/26/2016 4:30:00 PM Lab ID: 1607E78-003 **Client Sample ID:** GBR-34 Matrix: AQUEOUS Result **PQL** Qual Units **DF** Date Analyzed **Batch ID** Analyses **EPA METHOD 300.0: ANIONS** Analyst: LGT Chloride 180 50 mg/L 100 7/28/2016 6:40:22 PM R36069 **EPA METHOD 8021B: VOLATILES** Analyst: RAA ND 7/28/2016 11:24:58 PM B36094 Benzene 5.0 DP 5 µg/L DP Toluene ND 5.0 µg/L 5 7/28/2016 11:24:58 PM B36094 Ethylbenzene 34 5.0 DP µg/L 5 7/28/2016 11:24:58 PM B36094 Xylenes, Total 43 10 DP µg/L 5 7/28/2016 11:24:58 PM B36094 Surr: 4-Bromofluorobenzene 109 87.9-146 DP %Rec 5 7/28/2016 11:24:58 PM B36094

Hall Environmental Analysis Laboratory, Inc.

Lab Order: 1607E78

Analytical Report

Date Reported: 8/1/2016

- **Oualifiers:** Value exceeds Maximum Contaminant Level.
 - D Sample Diluted Due to Matrix
 - Η Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit
 - RPD outside accepted recovery limits R
 - % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 4
- P Sample pH Not In Range
- **Reporting Detection Limit** RL
- W Sample container temperature is out of limit as specified

Hall Environmental Ana	lysis Laborat	tory, Ir	ıc.				b Order: 1 te Reporte			
CLIENT:Western RefiningProject:GBR Quarterly	Southwest, Inc.				Lat	o Or	der:	16071	E 78	
Lab ID: 1607E78-004				Collection	Date:	7/26	/2016 7:	15:00 PI	M	B
Client Sample ID: SHS-2				M	atrix:	AQU	JEOUS			
Analyses	Result	PQL	Qual	Units	Ι	DF I	Date Ana	lyzed	Ba	tch ID
EPA METHOD 300.0: ANIONS							i.	Ana	alyst:	LGT
Chloride	250	50		mg/L		100	7/28/2016	7:05:11	PM	R36069
EPA METHOD 8021B: VOLATILES	5							Ana	alyst:	RAA
Benzene	ND	5.0	D	µg/L		5	7/28/2016	11:49:11	I PM	B36094
Toluene	ND	5.0		µg/L		5	7/28/2016	11:49:11	1 PM	B36094
Ethylbenzene	ND	5.0		µg/L		5	7/28/2016	11:49:11	I PM	B36094
Xylenes, Total	ND	10	D	µg/L		5	7/28/2016	11:49:11	I PM	B36094
Surr: 4-Bromofluorobenzene	108	87.9-146	D	%Rec		5	7/28/2016	11:49:11	I PM	B36094
Lab ID: 1607E78-005				Collection	Date:	7/26	/2016 8:0	00:00 PI	M	
Client Sample ID: SHS-8				M	atrix:	AQU	JEOUS			
Analyses	Result	PQL	Qual	Units	Ι	DF I	Date Ana	lyzed	Ba	tch ID
EPA METHOD 300.0: ANIONS								Ana	alyst:	LGT
Chloride	120	5.0		mg/L		10	7/28/2016	7:17:36	PM	R36069
EPA METHOD 8021B: VOLATILES								Ana	alyst:	RAA
Benzene	ND	5.0	DP	µg/L		5	7/29/2016	12:13:17	AM	B36094
Toluene	ND	5.0	DP	µg/L	!	5	7/29/2016	12:13:17	AM	B36094
Ethylbenzene	ND	5.0	DP	µg/L		5	7/29/2016	12:13:17	AM	B36094
Xylenes, Total	ND	10	DP	µg/L		5	7/29/2016	12:13:17	AM	B36094
Surr: 4-Bromofluorobenzene	104	87.9-146	DP	%Rec		5	7/29/2016	12:13:17	AM	B36094

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 4

Analytical Report

- P Sample pH Not In Range
- RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1607E78

01-Aug-16

Client: Project:		Western Refining Southwest, Inc GBR Quarterly							By ILS Spins
Sample ID	MB	SampType: MBLK	Tes	tCode: E	PA Method	300.0: Anions	5		
Client ID:	PBW	Batch ID: R36069	F	RunNo: 3	6069				
Prep Date:		Analysis Date: 7/28/201	6	SeqNo: 1	116921	Units: mg/L			
Analyte		Result PQL SPK	value SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	104	ND 0.50					2b.C	e substitution de	ाज्य ्रिस
Sample ID	LCS	SampType: LCS	Tes	tCode: E	PA Method	300.0: Anions	5		
Client ID:	LCSW	Batch ID: R36069	F	RunNo: 3	6069				
Prep Date:		Analysis Date: 7/28/201	6	SeqNo: 1	116922	Units: mg/L			
Analyte		Result PQL SPK	value SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		4.9 0.50 5	5.000 0	97.9	90	110			1.5
Sample ID	МВ	SampType: MBLK	Tes	tCode: El	PA Method	300.0: Anions	5		
Client ID:	PBW	Batch ID: A36069	F	RunNo: 3	6069				
Prep Date:		Analysis Date: 7/28/201	6 5	SeqNo: 1	116969	Units: mg/L			
Analyte		Result PQL SPK	value SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND 0.50							
Sample ID	LCS	SampType: LCS	Tes	tCode: El	PA Method	300.0: Anions	5		
Client ID:	LCSW	Batch ID: A36069	F	RunNo: 3	6069				
Prep Date:		Analysis Date: 7/28/201	6 5	SeqNo: 1	116970	Units: mg/L			
Analyte		Result PQL SPK	value SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		4.7 0.50 5	5.000 0	93.8	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

- Page 3 of 4
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Client:

WO#: 1607E78

01-Aug-16

Hall Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc.

Project:	GBR Qua	rterly					1.1%	1.	× .		
Sample ID	100NG BTEX LCS	Samp	Type: LC	s	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batc	h ID: B3	6094	F	RunNo: 3	6094				
Prep Date:		Analysis [Date: 7/	28/2016	S	SeqNo: 1	117971	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		20	1.0	20.00	0	98.8	80	120		25	RECORD
Toluene		20	1.0	20.00	0	99.5	80	120			
Ethylbenzene		19	1.0	20.00	0	94.8	80	120			
Xylenes, Total		57	2.0	60.00	0	94.7	80	120			
Surr: 4-Bromo	ofluorobenzene	22		20.00		108	87.9	146	1.2.4	allest test ful	t agin adar in
Sample ID	RB	Samp	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	PBW	Batc	h ID: B3	6094	F	RunNo: 3	6094				
Prep Date:		Analysis D	Date: 7/	28/2016	S	SeqNo: 1	117993	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 4 of 4

LABORATORY TEL: 505-345-39	4901 Hav Albuquerque, N	wkins NE M 87109 S 845-4107							
Client Name: Western Refining Southw Work Order Numb	ber: 1607E78			RcptNo:	1				
Received by/date: AS 87 28 110									
Logged By: Lindsay Mangin 7/28/2016 7:30:00 A	MA	0 th	Hap						
Completed By: Lindsay Mangin 7/28/2016 10:23:22	AM	Andig	H		1.				
Reviewed By: AA 07/28/11	Ø	V							
Chain of Custody									
1. Custody seals intact on sample bottles?	Yes	No		Not Present 🗹					
2. Is Chain of Custody complete?	Yes 🗹	No		Not Present					
3. How was the sample delivered?	Courier								
Log In									
4. Was an attempt made to cool the samples?	Yes 🔽	No		NA 🗆					
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No							
6. Sample(s) in proper container(s)?	Yes 🗹	No							
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No							
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No							
9. Was preservative added to bottles?	Yes	No	\checkmark	na 🗆					
0.VOA vials have zero headspace?	Yes 🖌	No		No VOA Vials					
1. Were any sample containers received broken?	Yes	No	\checkmark						
				# of preserved bottles checked					
2. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No		for pH:	>12 unless noted)				
3. Are matrices correctly identified on Chain of Custody?	Yes 🖌	No		Adjusted?					
4. Is it clear what analyses were requested?	Yes 🖌	No	·						
5. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No		Checked by:					
pecial Handling (if applicable)									
6. Was client notified of all discrepancies with this order?	Yes	M-		NA 🗹					
		No		NA 🕑	1				
Person Notified: Date									
By Whom: Via:	eMail	Phone	Fax						
Client Instructions:				A MARKAN GUISA SACAS					
17. Additional remarks:]				
18. <u>Cooler Information</u> Cooler No Temp °C Condition Seal Intact Seal No	Seal Date	Signed	Bv	1					
1 1.7 Good Yes	- Sui Puico	grioù							

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С	hain-	-of-Cu	stody Record	Turn-Around	Time:				y 1									1EN			
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	1 1 1	1100-1-	Refining	Project Name												al.co					
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	Bloom	nBald	NM	Project #:	a avart	<u>Criy</u>			el. 50								4107				
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VQC I Stan	Package: dard		Level 4 (Full Validation)	Kell	1 Robin	Son	\$ (8021)	+ TPH (Gas only)	SO / MI			SIMS)		PO4,S	PCB's						
credi		□ Othe	r	Sampler: N	Archael A	Wicker No		HdT +	SO / DI	18.1)	04.1)	8270 \$		03,NO2	\$ / 8082		(A)				or N)
EDD	(Type)		· · ·	Sample Tenf	perature: Zr	era Ouesher	HH I	H	G	d 4	od 5	0 or	etals	N,N	sides	(A	2-10	7	191		2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAD No	BTEX + WITBE	BTEX + MTBE	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	1 1 4	Chloride		Air Bubbles (Y or N)
26-16	1755	AQ	G-BR-8	7	HCI/Looi	-001	1												1		
1	1830	.1	GBR-11	1	HCI/Cool	-002															Π
	1630		GBR-34		Cool	-OR	T	•													
	1915		SHS-2		HCI/Cool	-004	IT														П
V	2000	V	SHS-8	V	HCI/Cooi	-005	V											N	4		Ħ
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							-				-		_					-	+	+	Н
				-			-				+	-								+	\square
ate: <u>27-16</u> ate:	Time:	Relinquish	la /	Received by:	Watt	Date Time	Rei	nark	s: p	eas	૧	co	1					elt Ten			n
5/10	1855	Rin	stre Walte	Received by:		8/16 0731)		~	BR	1			1.0		He			Serv			
li	f necessary,	samples sub	mitted to Hall Environmental may be sub	contracted to other a	ccredited laboratori	es. This serves as notice of this	s possi	bility.	Any su	b-contr	acted	data v	vill be	clear	ly nota	ated on	the ar	nalytical	report.		



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

October 26, 2016

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

RE: GBR Quarterly

OrderNo.: 1610A95

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/21/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Han Environmental Analysis		itory, n	IC.			L	Date Reported:	10/26/20	16
CLIENT:Western Refining SouthwProject:GBR Quarterly	est, Inc.				La	ıb C	order: 1	610A95	
Lab ID: 1610A95-001 Client Sample ID: GBR-26				Collecti			/20/2016 10:1 QUEOUS	5:00 AM	[
Analyses	Result	PQL	Qual	Units		DF	Date Analyz	zed Ba	atch ID
EPA METHOD 8015M/D: DIESEL RANGE								Analyst	том
Diesel Range Organics (DRO) Surr: DNOP	1.4 128	1.0 77.1-144		mg/L %Rec		1 1	10/25/2016 1 10/25/2016 1		
EPA METHOD 8015D: GASOLINE RANGE								Analyst	NSB
Gasoline Range Organics (GRO) Surr: BFB	ND 86.4	0.25 66.4-120		mg/L %Rec		5 5	10/24/2016 7 10/24/2016 7		
Lab ID: 1610A95-002				Collecti	on Date:	10/	/20/2016 10:4	0:00 AM	[
Client Sample ID: GBR-21D					Matrix:	AQ	QUEOUS		
Analyses	Result	PQL	Qual	Units		DF	Date Analyz	zed Ba	atch ID
EPA METHOD 8015M/D: DIESEL RANGE								Analyst	TOM
Diesel Range Organics (DRO) Surr: DNOP	11 133	1.0 77.1-144		mg/L %Rec		1 1	10/25/2016 1 10/25/2016 1		
EPA METHOD 8015D: GASOLINE RANGE								Analyst	NSB
Gasoline Range Organics (GRO) Surr: BFB	ND 92.2	0.25 66.4-120		mg/L %Rec		5 5	10/24/2016 8 10/24/2016 8		
Lab ID: 1610A95-003 Client Sample ID: GBR-25				Collecti	on Date: Matrix:		/20/2016 11:1 QUEOUS	0:00 AM	
Analyses	Result	PQL	Qual	Units		DF	Date Analyz	zed Ba	atch ID
EPA METHOD 8015M/D: DIESEL RANGE								Analyst	том
Diesel Range Organics (DRO) Surr: DNOP	96 136	1.0 77.1-144		mg/L %Rec		1 1	10/25/2016 1 10/25/2016 1		
EPA METHOD 8015D: GASOLINE RANGE								Analyst	NSB
Gasoline Range Organics (GRO) Surr: BFB	0.73 116	0.25 66.4-120		mg/L %Rec		5 5	10/24/2016 8: 10/24/2016 8:	:56:26 PM	G38157

Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order: 1610A95

Date Reported: 10/26/2016

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
 - J Analyte detected below quantitation limits Page 1 of 6
 - P Sample pH Not In Range
 - RL Reporting Detection Limit
 - W Sample container temperature is out of limit as specified

Hall Environmental Analysis	Labora	tory, In	c.			ab Order: 1610A95 Date Reported: 10/2	6/2016
CLIENT:Western Refining SouthweightProject:GBR Quarterly	est, Inc.			L	ab O	Order: 1610 <i>A</i>	195
Lab ID: 1610A95-004			(Collection Date:	10/	/20/2016 11:45:00	AM
Client Sample ID: GBR-22				Matrix:	AÇ	QUEOUS	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE						Ana	alyst: TOM
Diesel Range Organics (DRO)	260	10		mg/L	10	10/25/2016 3:15:19	PM 28230
Surr: DNOP	0	77.1-144	S	%Rec	10	10/25/2016 3:15:19	PM 28230
EPA METHOD 8015D: GASOLINE RANGE						Ana	alyst: NSB
Gasoline Range Organics (GRO)	0.44	0.25		mg/L	5	10/24/2016 9:20:32	PM G3815
Surr: BFB	105	66.4-120		%Rec	5	10/24/2016 9:20:32	PM G3815
Lab ID: 1610A95-005			(Collection Date:	10/	/20/2016 12:25:00	PM
Client Sample ID: GBR-34				Matrix:	AÇ	QUEOUS	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE						Ana	alyst: TOM
Diesel Range Organics (DRO)	2700	100		mg/L	100	10/25/2016 3:36:59	PM 28230
Surr: DNOP	0	77.1-144	S	%Rec	100	10/25/2016 3:36:59	PM 28230
EPA METHOD 8015D: GASOLINE RANGE						Ana	alyst: NSB
Questing Dense Oracity (ODO)							
Gasoline Range Organics (GRO)	2.0	0.25		mg/L	5	10/24/2016 11:21:0	4 PM G3815
Gasoline Range Organics (GRO) Surr: BFB	158	0.25 66.4-120	S	mg/L %Rec	5 5	10/24/2016 11:21:0 10/24/2016 11:21:0	
			-	%Rec	5		4 PM G3815
Surr: BFB			-	%Rec Collection Date:	5 10/	10/24/2016 11:21:0	4 PM G3815
Surr: BFB 1610A95-006			(%Rec Collection Date: Matrix:	5 10/ AQ	10/24/2016 11:21:0 /20/2016 2:10:00 F	4 PM G3815
Surr: BFB Lab ID: 1610A95-006 Client Sample ID: GBR-20	158	66.4-120	(%Rec Collection Date: Matrix:	5 10/ AQ	10/24/2016 11:21:0 /20/2016 2:10:00 F QUEOUS Date Analyzed	94 PM G3815 PM
Surr: BFB Lab ID: 1610A95-006 Client Sample ID: GBR-20 Analyses	158	66.4-120	(%Rec Collection Date: Matrix:	5 10/ AQ	10/24/2016 11:21:0 /20/2016 2:10:00 F QUEOUS Date Analyzed	PM G3815 PM Batch ID
Surr: BFB Lab ID: 1610A95-006 Client Sample ID: GBR-20 Analyses EPA METHOD 8015M/D: DIESEL RANGE	158 Result	66.4-120 PQL	(%Rec Collection Date: Matrix: Units	5 10/ AQ DF	10/24/2016 11:21:0 20/2016 2:10:00 F QUEOUS Date Analyzed Ana	PM G3815 PM Batch ID Ilyst: TOM PM 28230
Surr: BFB Lab ID: 1610A95-006 Client Sample ID: GBR-20 Analyses EPA METHOD 8015M/D: DIESEL RANGE Diesel Range Organics (DRO)	158 Result 22 139	66.4-120 PQL 1.0	(%Rec Collection Date: Matrix: Units mg/L	5 10/ AQ DF	10/24/2016 11:21:0 /20/2016 2:10:00 F QUEOUS Date Analyzed Ana 10/25/2016 2:32:01 10/25/2016 2:32:01	PM G3815 PM Batch ID Ilyst: TOM PM 28230
Surr: BFB Lab ID: 1610A95-006 Client Sample ID: GBR-20 Analyses EPA METHOD 8015M/D: DIESEL RANGE Diesel Range Organics (DRO) Surr: DNOP	158 Result 22 139	66.4-120 PQL 1.0	(%Rec Collection Date: Matrix: Units mg/L	5 10/ AQ DF	10/24/2016 11:21:0 /20/2016 2:10:00 F QUEOUS Date Analyzed Ana 10/25/2016 2:32:01 10/25/2016 2:32:01	A PM G3815 PM Batch ID Nyst: TOM PM 28230 PM 28230 Nyst: NSB

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
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- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 6

Analytical Report

- P Sample pH Not In Range
- RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order: 1610A95

Date Reported: 10/26/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT:Western Refining SouthwesternProject:GBR Quarterly	west, Inc.				Lab C	order:	1610A95	* 14 - 2 - 14 - 2
Lab ID: 1610A95-007 Client Sample ID: GBR-8					on Date: 10, Matrix: AQ		5:00 PM	
Analyses	Result	PQL	Qual	Units	DF	Date Analy	zed Ba	tch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst:	том
Diesel Range Organics (DRO)	190	10		mg/L	10	10/25/2016	3:58:31 PM	28230
Surr: DNOP	0	77.1-144	S	%Rec	10	10/25/2016	3:58:31 PM	28230
EPA METHOD 8015D: GASOLINE RANG	E						Analyst:	NSB
Gasoline Range Organics (GRO)	ND	0.25	D	mg/L	5	10/25/2016	1:29:16 PM	G38203
Surr: BFB	85.2	66.4-120	D	%Rec	5	10/25/2016	1:29:16 PM	G38203

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

WO#: 1610A95 26-Oct-16

Hall Environmental Analysis Laboratory, Inc.

	n Refining Southwes Quarterly	st, Inc.							
Sample ID LCS-28230	SampType: LC	S	Tes	tCode: El	PA Method	8015M/D: Die	sel Rang	e	
Client ID: LCSW	Batch ID: 282	230	F	RunNo: 3	8182				
Prep Date: 10/24/2016	Analysis Date: 10	/25/2016	S	SeqNo: 1	191909	Units: mg/L			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7 1.0	5.000	0	114	63.2	155	1.1		1 Same
Surr: DNOP	0.57	0.5000		113	77.1	144			
Sample ID MB-28230	SampType: MB	BLK	Tes	tCode: El	PA Method	8015M/D: Die	sel Range	e	85. J.
Client ID: PBW	Batch ID: 282	230	F	RunNo: 3	8182				
Prep Date: 10/24/2016	Analysis Date: 10	/25/2016	S	SeqNo: 1	191910	Units: mg/L			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND 1.0			0		r			
Surr: DNOP	1.2	1.000		118	77.1	144			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
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- Sample pH Not In Range Р
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W
- Page 4 of 6

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1610A95

26-Oct-16

Client: Project:	Western I GBR Qua	Refining S arterly	outhwe	st, Inc.							
Sample ID	5ML RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gaso	ine Rang	e	
Client ID:	PBW	Batch	n ID: G3	8157	F	RunNo: 38157					
Prep Date:		Analysis D	ate: 10	0/24/2016	5	SeqNo: 1	191191	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang Surr: BFB	ge Organics (GRO)	ND 19	0.050	20.00		92.6	66.4	120			
Sample ID	2.5UG GRO LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gasol	ine Rang	e	. 1
Client ID:	LCSW	Batch	n ID: G3	8157	F	RunNo: 3	8157				
Prep Date:		Analysis D	ate: 10	0/24/2016	S	SeqNo: 1	191192	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	0.50	0.050	0.5000	0	100	80	120			
Surr: BFB		18		20.00		89.4	66.4	120			
Sample ID	1610A95-001AMS	SampT	ype: MS	3	Tes	tCode: EF	PA Method	8015D: Gasol	ine Rang	e	
Client ID:	ient ID: GBR-26 Batch ID: G38157 RunNo: 38157										
Prep Date:		Analysis D	ate: 10)/24/2016	S	SeqNo: 1	191197	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	2.6	0.25	2.500	0	104	70	130			
Surr: BFB		97		100.0		96.8	66.4	120			
Sample ID	1610A95-001AMS	D SampT	ype: MS	SD	Tes	tCode: EF	PA Method	8015D: Gasol	ine Rang	e	
Client ID:	GBR-26	Batch	n ID: G3	8157	F	RunNo: 38	8157				
Prep Date:						unite. J	0101				
rop Date.		Analysis D	ate: 10	0/24/2016		SeqNo: 1		Units: mg/L			
Analyte		Analysis D Result	ate: 10			SeqNo: 1		Units: mg/L HighLimit	%RPD	RPDLimit	Qual
Analyte	e Organics (GRO)				S	SeqNo: 1	191198		%RPD 2.68	RPDLimit 20	Qual
Analyte	e Organics (GRO)	Result	PQL	SPK value	SPK Ref Val	SeqNo: 1 %REC	191198 LowLimit	HighLimit		and a minimum	Qual
Analyte Gasoline Rang		Result 2.5 99	PQL	SPK value 2.500 100.0	SPK Ref Val 0	SeqNo: 1 %REC 101 98.6	191198 LowLimit 70 66.4	HighLimit 130	2.68 0	20 0	Qual
Analyte Gasoline Rang Surr: BFB Sample ID		Result 2.5 99 SampT	PQL 0.25	SPK value 2.500 100.0 BLK	SPK Ref Val 0 Tes	SeqNo: 1 %REC 101 98.6	191198 LowLimit 70 66.4 PA Method	HighLimit 130 120	2.68 0	20 0	Qual
Analyte Gasoline Rang Surr: BFB Sample ID	5ML RB	Result 2.5 99 SampT	PQL 0.25 Type: ME n ID: G3	SPK value 2.500 100.0 BLK 8203	SPK Ref Val 0 Tes F	SeqNo: 1 %REC 101 98.6 tCode: EF	191198 LowLimit 70 66.4 PA Method 8203	HighLimit 130 120	2.68 0	20 0	Qual
Analyte Gasoline Rang Surr: BFB Sample ID Client ID:	5ML RB	Result 2.5 99 SampT Batch	PQL 0.25 Type: ME n ID: G3	SPK value 2.500 100.0 BLK 8203 0/25/2016	SPK Ref Val 0 Tes F	SeqNo: 1 %REC 101 98.6 tCode: EF RunNo: 38 SeqNo: 1	191198 LowLimit 70 66.4 PA Method 8203	HighLimit 130 120 8015D: Gasol	2.68 0	20 0	Qual
Analyte Gasoline Rang Surr: BFB Sample ID Client ID: Prep Date: Analyte Gasoline Rang	5ML RB	Result 2.5 99 SampT Batch Analysis D	PQL 0.25 Type: ME n ID: G3 Date: 10	SPK value 2.500 100.0 3LK 8203 0/25/2016 SPK value	SPK Ref Val 0 Tes F	SeqNo: 1 %REC 101 98.6 tCode: EF RunNo: 38 SeqNo: 1 %REC	191198 LowLimit 70 66.4 PA Method 8203 192307 LowLimit	HighLimit 130 120 8015D: Gasol Units: mg/L HighLimit	2.68 0	20 0	
Analyte Gasoline Rang Surr: BFB Sample ID Client ID: Prep Date: Analyte	5ML RB PBW	Result 2.5 99 SampT Batch Analysis D Result	PQL 0.25 Type: ME n ID: G3 Date: 10 PQL	SPK value 2.500 100.0 BLK 8203 0/25/2016	SPK Ref Val 0 Tes F	SeqNo: 1 %REC 101 98.6 tCode: EF RunNo: 38 SeqNo: 1	191198 LowLimit 70 66.4 PA Method 8203 192307	HighLimit 130 120 8015D: Gasol Units: mg/L	2.68 0	20 0	
Analyte Gasoline Rang Surr: BFB Sample ID Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB	5ML RB PBW	Result 2.5 99 SampT Batch Analysis D Result ND 17	PQL 0.25 Type: ME n ID: G3 Date: 10 PQL	SPK value 2.500 100.0 3LK 8203 0/25/2016 SPK value 20.00	SPK Ref Val 0 Tes F SPK Ref Val	SeqNo: 1 %REC 101 98.6 tCode: EF RunNo: 38 SeqNo: 1 %REC 82.5	191198 LowLimit 70 66.4 PA Method 8203 192307 LowLimit 66.4	HighLimit 130 120 8015D: Gasol Units: mg/L HighLimit	2.68 0 ine Rang %RPD	20 0 e RPDLimit	
Analyte Gasoline Rang Surr: BFB Sample ID Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB	5ML RB PBW e Organics (GRO) 2.5UG GRO LCS	Result 2.5 99 SampT Batch Analysis D Result ND 17 SampT	PQL 0.25 Type: ME D ID: G3 Date: 10 PQL 0.050	SPK value 2.500 100.0 3LK 8203 3/25/2016 SPK value 20.00 S	SPK Ref Val 0 Tes 5 SPK Ref Val Tes	SeqNo: 1 %REC 101 98.6 tCode: EF RunNo: 38 SeqNo: 1 %REC 82.5	191198 LowLimit 70 66.4 PA Method 8203 192307 LowLimit 66.4 PA Method	HighLimit 130 120 8015D: Gasol Units: mg/L HighLimit 120	2.68 0 ine Rang %RPD	20 0 e RPDLimit	
Analyte Gasoline Rang Surr: BFB Sample ID Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID	5ML RB PBW e Organics (GRO) 2.5UG GRO LCS	Result 2.5 99 SampT Batch Analysis D Result ND 17 SampT	PQL 0.25 Type: ME DID: G3 Date: 10 PQL 0.050 Type: LC DID: G3	SPK value 2.500 100.0 3LK 8203 0/25/2016 SPK value 20.00 S 8203	SPK Ref Val 0 Tes SPK Ref Val SPK Ref Val	SeqNo: 1 %REC 101 98.6 tCode: EF RunNo: 38 SeqNo: 1 %REC 82.5 tCode: EF	191198 LowLimit 70 66.4 PA Method 8203 192307 LowLimit 66.4 PA Method 8203	HighLimit 130 120 8015D: Gasol Units: mg/L HighLimit 120	2.68 0 ine Rang %RPD	20 0 e RPDLimit	

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
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- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 5 of 6

- Sample pH Not In Range
- RL Reporting Detection Limit

Р

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:	1610A95

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26-Oct-16

Client: Project:	Western I GBR Qua	Refining So arterly	outhwe	st, Inc.							
Sample ID	2.5UG GRO LCS	SampTy	pe: LC	S	Tes	tCode: El	PA Method	8015D: Gasol	line Rang	e	
Client ID:	LCSW	Batch	ID: G3	8203	F	RunNo: 3	8203				
Prep Date:	p Date: Analysis Date: 10/25/2016 SeqNo: 1192308 Units: mg/L										
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	0.50	0.050	0.5000	0	99.6	80	120			
Surr: BFB		18		20.00		90.9	66.4	120	_	1 - Star	and the second
Sample ID 1610A95-006AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range											
Client ID:	Client ID: GBR-20 Batch ID: G38203 RunNo: 38203										
Prep Date:		Analysis Da	ate: 10	0/25/2016	S	eqNo: 1	192310	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	2.9	0.25	2.500	0.4640	99.4	64.8	129			D
Surr: BFB		120		100.0		116	66.4	120			D
Sample ID	1610A95-006AMS	D SampTy	pe: MS	SD	Tes	tCode: El	PA Method	8015D: Gasol	line Rang	e	
Client ID:	GBR-20	Batch	ID: G3	8203	F	unNo: 3	8203				
Prep Date:		Analysis Da	ate: 10	0/25/2016	S	eqNo: 1	192312	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	3.0	0.25	2.500	0.4640	102	64.8	129	2.11	20	D
Surr: BFB		120		100.0		118	66.4	120	0	0	D

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- В Analyte detected in the associated Method Blank
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- Sample pH Not In Range Р
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 6 of 6

ENVIRONMENTAL ANALYSIS	lall Environmental A Albuq FEL: 505-345-3975 F Website: www.hall	4901 H uerque, AX: 50	lawkins NE NM 87109 5-345-4107	S	amp	ole Log-In Ch	eck List
Client Name: Western Refining Southw Wo	rk Order Number:	1610A9	95			RcptNo: 1	
Received by/date: LC 10/21	116						
Logged By: Lindsay Mangin 10/21/	/2016 8:15:00 AM		6	the set	these		
	2016 2:08:23 PM		C	-finday#	Hego .		
Chain of Custody							
1. Custody seals intact on sample bottles?		Yes		No		Not Present	
2. Is Chain of Custody complete?		Yes	×	No	[.]	Not Present	
3. How was the sample delivered?		Courie	ſ				
Log In							
4. Was an attempt made to cool the samples?		Yes		No	["]	NA	
5. Were all samples received at a temperature of >0°	° C to 6.0°C	Yes		No		NA []	
6. Sample(s) in proper container(s)?		Yes	\checkmark	No			
7. Sufficient sample volume for indicated test(s)?		Yes	×	No	[]		
8. Are samples (except VOA and ONG) properly prese	erved?	Yes		No	[_]		
9. Was preservative added to bottles?		Yes	Ĵ	No		NA	
10.VOA vials have zero headspace?		Yes		No		No VOA Vials	
11. Were any sample containers received broken?		Yes		No		# of preserved]
12.Does paperwork match bottle labels?		Yes		No	[.]	bottles checked for pH:	
(Note discrepancies on chain of custody)		Yes h	(a)	No		(<2 or 3) Adjusted?	>12 unless noted)
13 Are matrices correctly identified on Chain of Custod 14. Is it clear what analyses were requested?				No			
15.Were all holding times able to be met? (If no, notify customer for authorization.)		Yes		No		Checked by:	
Special Handling (if applicable)							
16. Was client notified of all discrepancies with this ord	er?	Yes	.1	No		NA M	
Person Notified:	Date:				a subset		
By Whom:	Via:	eMail	[] Phor	ne [_]	Fax [In Person	
Regarding:							
Client Instructions:							
17. Additional remarks:							
18. Cooler Information							
Cooler No Temp °C Condition Seal Inter	ct Seal No Se	al Date	Sig	ned B	y .		

Page 1 of 1

	Chain-of-Custody Record			Turn-Around	Time:					н				VT	RO		1E	NT	AL	
Client:	NISH	ern R	egning	Standard	C Rush	·								-				TO		
(cer	WR	obins	AIA	Project Name						_					ntal.c					
Mailing	Address:	111	0n CR 4990	GBR	Draner	14		490	1 H						ue, N		109			
RI	and 6	ield,	NM	Project #:	q)	1													
Phone #		Lein 1		BR Quartery Project #: # 12.614068			Tel. 505-345-3975 Fax 505-345-4107 Analysis Request													
email or		Dhen	cmann & Henv.com																	
QA/QC F	Package:			Devin Hencmann			TMB's (8021)	Sas only)	/ DRO / MEO)			MS)	0.50	PCB's						
Accredit			Level 4 (Full Validation)	Sampler:	RONTIN	DILE	IB's) H	DR			IS O		82.1						
		□ Othe	r					+ TPH (Gas	0	8.1)	4.1	827(N	/ 80		8				or N)
	(Type)			On Ice: XIYes and No			3E +	Щ+	(GR	d 41	d 50	o	NO	des des		0				ž
Date	Time	Matrix	Sample Request ID		Preservative Type		BTEX + MTBE	BTEX + MTBE	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	ADIONS (F CI NO, NO, PO, SO.)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y
10/20	1015	AQ	GB12-24	1-Amber	Cosi	-001			X											
1	1040		6-BR-21D		1	-002			1											
	ill D		(JBR-25			-003			\square											
	1143		GBR-22			-004														
	1225		GBR-34			-005														
	14/0		6BR-20			-006			T											
	1543	V	GBR-8	V	X	-007			Y											
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Defe	-	D-I'm C-h		Deschool hum		Data Time	_													Ц
10/20/16	1517	Relindushe	lefbulk	Received by:	u Weet	Date Time	Rer	narks	5:											
Date: Time: Ratinguished by:			Received by: Date Time Windyey (Jonetha 10/21/16 08/5																	
lf	necessary,	amples subr	nitted to Hall Environmental may be sub	contracted to other ad	ccredited laboratori	ies. This serves as notice of this	s possi	bility. A	Any su	b-contr	racted	data wi	ll be cle	early no	otated o	on the a	nalytica	al report		



October 31, 2016

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

RE: GBR Quarterly

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

OrderNo.: 1610A99

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/21/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order 1610A99

Date Reported: 10/31/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, I	nc.		(Client Sam	ple ID: GI	3R-26	
Project: GBR Quarterly				Collection	n Date: 10	/20/2016 10:15:00 AM	
Lab ID: 1610A99-001	Matrix:	AQUEOU	S	Received	d Date: 10	/21/2016 9:15:00 AM	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	MRA
Chloride	67	2.5		mg/L	5	10/24/2016 8:45:39 PM	R38161
EPA METHOD 8021B: VOLATILES						Analyst:	NSB
Benzene	ND	5.0	D	µg/L	5	10/24/2016 7:19:43 PM	B38157
Toluene	ND	5.0	D	µg/L	5	10/24/2016 7:19:43 PM	B38157
Ethylbenzene	ND	5.0	D	µg/L	5	10/24/2016 7:19:43 PM	B38157
Xylenes, Total	ND	10	D	µg/L	5	10/24/2016 7:19:43 PM	B38157
Surr: 4-Bromofluorobenzene	101	87.9-146	D	%Rec	5	10/24/2016 7:19:43 PM	B38157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1610A99

Date Reported: 10/31/2016

Hall Environmental Analysis Laboratory, Inc.

 CLIENT:
 Western Refining Southwest, Inc.
 Client Sample ID: GBR-21D

 Project:
 GBR Quarterly
 Collection Date: 10/20/2016 10:40:00 AM

 Lab ID:
 1610A99-002
 Matrix: AQUEOUS
 Received Date: 10/21/2016 9:15:00 AM

 Analyses
 Result
 PQL Qual
 Units
 DF Date Analyzed
 Batch

 EPA METHOD 300.0: ANIONS
 Analyst:
 MRA

	FA METHOD 300.0. ANIONS						Analyst.	INITA
	Chloride	390	10	*	mg/L	20	10/24/2016 9:22:52 PM	R38161
E	PA METHOD 8021B: VOLATILES						Analyst:	NSB
	Benzene	ND	5.0	D	µg/L	5	10/24/2016 8:32:18 PM	B38157
	Toluene	ND	5.0	D	µg/L	5	10/24/2016 8:32:18 PM	B38157
	Ethylbenzene	ND	5.0	D	µg/L	5	10/24/2016 8:32:18 PM	B38157
	Xylenes, Total	ND	10	D	µg/L	5	10/24/2016 8:32:18 PM	B38157
	Surr: 4-Bromofluorobenzene	109	87.9-146	D	%Rec	5	10/24/2016 8:32:18 PM	B38157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1610A99

Date Reported: 10/31/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT:Western Refining Southwest,Project:GBR QuarterlyLab ID:1610A99-003		AQUEOU			Date: 10	3R-25 /20/2016 11:10:00 AN /21/2016 9:15:00 AM	1
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	t: LGT
Chloride	630	25	*	mg/L	50	10/27/2016 4:43:46 AM	A38228
EPA METHOD 8021B: VOLATILES						Analys	t: NSB
Benzene	ND	5.0	D	µg/L	5	10/24/2016 8:56:26 PM	B38157
Toluene	ND	5.0	D	µg/L	5	10/24/2016 8:56:26 PM	B38157
Ethylbenzene	11	5.0	D	µg/L	5	10/24/2016 8:56:26 PM	B38157
Xylenes, Total	ND	10	D	µg/L	5	10/24/2016 8:56:26 PM	B38157
Surr: 4-Bromofluorobenzene	111	87.9-146	D	%Rec	5	10/24/2016 8:56:26 PM	B38157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report Lab Order 1610A99

Date Reported: 10/31/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest,	Inc.		(Client Samp	ple ID: GH	3R-22	
Project: GBR Quarterly				Collection	Date: 10	/20/2016 11:45:00 A	М
Lab ID: 1610A99-004	Matrix:	AQUEOU	S	Received	Date: 10	/21/2016 9:15:00 AN	1
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analy	st: MRA
Chloride	400	10	*	mg/L	20	10/24/2016 10:37:19	PM R38161
EPA METHOD 8021B: VOLATILES						Analy	st: NSB
Benzene	ND	5.0	D	µg/L	5	10/24/2016 9:20:32 P	M B38157
Toluene	ND	5.0	D	µg/L	5	10/24/2016 9:20:32 P	M B38157
Ethylbenzene	15	5.0	D	µg/L	5	10/24/2016 9:20:32 P	M B38157
Xylenes, Total	ND	10	D	µg/L	5	10/24/2016 9:20:32 P	M B38157
Surr: 4-Bromofluorobenzene	104	87.9-146	D	%Rec	5	10/24/2016 9:20:32 P	M B38157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order **1610A99** Date Reported: **10/31/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID: GBR-34 Project:** GBR Quarterly Collection Date: 10/20/2016 12:25:00 PM Lab ID: 1610A99-005 Matrix: AQUEOUS Received Date: 10/21/2016 9:15:00 AM **PQL** Qual Units Analyses Result **DF** Date Analyzed Batch **EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 180 10/24/2016 11:02:09 PM R38161 10 mg/L 20 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 5.0 D 5 10/24/2016 11:21:04 PM B38157 µg/L Toluene ND 5.0 D µg/L 5 10/24/2016 11:21:04 PM B38157 Ethylbenzene 160 5.0 D µg/L 10/24/2016 11:21:04 PM B38157 5 Xylenes, Total 60 10 D µg/L 5 10/24/2016 11:21:04 PM B38157 Surr: 4-Bromofluorobenzene 128 87.9-146 D %Rec 5 10/24/2016 11:21:04 PM B38157

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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Lab Order 1610A99

Date Reported: 10/31/2016

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-20 **Project: GBR** Quarterly Collection Date: 10/20/2016 2:10:00 PM Lab ID: 1610A99-006 Matrix: AQUEOUS Received Date: 10/21/2016 9:15:00 AM PQL Qual Units Analyses Result **DF** Date Analyzed Batch **EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 72 10/24/2016 11:26:57 PM R38161 10 mg/L 20 **EPA METHOD 8021B: VOLATILES** Analyst: NSB 10/25/2016 12:16:12 PM B38203 Benzene 5.7 5.0 D µg/L 5 Toluene ND D µg/L 5 10/25/2016 12:16:12 PM B38203 5.0 Ethylbenzene 24 D µg/L 10/25/2016 12:16:12 PM B38203 5.0 5 5 10/25/2016 12:16:12 PM B38203 Xylenes, Total ND 10 D µg/L Surr: 4-Bromofluorobenzene 104 87.9-146 D %Rec 5 10/25/2016 12:16:12 PM B38203

Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 6 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1610A99

Batch

Analyst: NSB

10/25/2016 1:29:16 PM B38203

Date Reported: 10/31/2016

Hall Environmental Analysis Laboratory, Inc.

EPA METHOD 8021B: VOLATILES

Surr: 4-Bromofluorobenzene

Benzene

Toluene

Ethylbenzene

Xylenes, Total

CLIENT: Western Refining Southwest, Inc. **Client Sample ID: GBR-8 Project:** GBR Quarterly Collection Date: 10/20/2016 3:45:00 PM Lab ID: 1610A99-007 Matrix: AQUEOUS Received Date: 10/21/2016 9:15:00 AM PQL Qual Units Analyses Result **DF** Date Analyzed EPA METHOD 300.0: ANIONS Analyst: MRA Chloride 95 10 mg/L 20 10/25/2016 12:41:25 AM R38179

5.0

5.0

5.0

10

87.9-146

D

D

D

D

D

µg/L

µg/L

µg/L

µg/L

%Rec

5

5

5

5

5

ND

ND

ND

ND

94.7

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 7 of 10
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

WO#: 1610A99

31-Oct-16

Hall Environmental Analysis Laboratory, Inc.

Client: Project:		Western Refining Southwest, Inc. GBR Quarterly		
Sample ID	МВ	SampType: mblk	TestCode: EPA Method 300.0: Anions	11. 15
Client ID:	PBW	Batch ID: R38161	RunNo: 38161	
Prep Date:		Analysis Date: 10/24/2016	SeqNo: 1191003 Units: mg/L	
Analyte			SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Chloride		ND 0.50		
Sample ID	LCS	SampType: Ics	TestCode: EPA Method 300.0: Anions	
Client ID:	LCSW	Batch ID: R38161	RunNo: 38161	
Prep Date:		Analysis Date: 10/24/2016	SeqNo: 1191004 Units: mg/L	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Chloride		4.8 0.50 5.000	0 96.3 90 110	n'an i
Sample ID	MB	SampType: mblk	TestCode: EPA Method 300.0: Anions	34-7
Client ID:	PBW	Batch ID: R38179	RunNo: 38179	
Prep Date:		Analysis Date: 10/24/2016	SeqNo: 1191729 Units: mg/L	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Chloride		ND 0.50		
Sample ID	LCS	SampType: Ics	TestCode: EPA Method 300.0: Anions	
Client ID:	LCSW	Batch ID: R38179	RunNo: 38179	
Prep Date:		Analysis Date: 10/24/2016	SeqNo: 1191730 Units: mg/L	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Chloride		4.7 0.50 5.000	0 93.9 90 110	
Sample ID	MB	SampType: mblk	TestCode: EPA Method 300.0: Anions	
Client ID:	PBW	Batch ID: A38228	RunNo: 38228	
Prep Date:		Analysis Date: 10/26/2016	SeqNo: 1194068 Units: mg/L	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Chloride		ND 0.50		56
	LCS	SampType: Ics	TestCode: EPA Method 300.0: Anions	
Sample ID	200			
	LCSW	Batch ID: A38228	RunNo: 38228	
		Batch ID: A38228 Analysis Date: 10/26/2016	RunNo: 38228 SeqNo: 1194069 Units: mg/L	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 8 of 10

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1610A99

Page 9 of 10

31-Oct-16

	n Refining uarterly	Southwe	est, Inc.							
Sample ID 5ML RB	Samp	Туре: М	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBW	Bato	ch ID: B3	38157	F	RunNo: 3	8157				
Prep Date:	Analysis	Date: 1	0/24/2016	5	SeqNo: 1	191208	Units: µg/L			
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5	OF IX Value	OF ICTICE Val	/IIIIO	LOWEIIIII	Tigricinii	70111 0		Quui
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Surr: 4-Bromofluorobenzene	22		20.00		112	87.9	146			
Sample ID 100NG BTEX LC	SB Samp	Type: LC	cs	Tes	tCode: El	PA Method	8021B: Volat	iles		1.34
Client ID: LCSW		ch ID: B3			RunNo: 3					
Prep Date:			0/24/2016		SeqNo: 1		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	16	2.5	20.00	0	81.8	80	120			
Benzene	18	1.0	20.00	0	88.0	80	120			
Toluene	18	1.0	20.00	0	88.3	80	120			
Ethylbenzene	17	1.0	20.00	0	85.5	80	120			
Xylenes, Total	55	2.0	60.00	0	91.6	80	120			
I,2,4-Trimethylbenzene	19	1.0	20.00	0	95.0	80	120			
1,3,5-Trimethylbenzene	18	1.0	20.00	0	88.4	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		108	87.9	146			
Sample ID 5ML RB	Samp	Туре: МІ	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBW	Bato	h ID: B3	38203	F	RunNo: 3	8203				
Prep Date:	Analysis	Date: 1	0/25/2016	S	SeqNo: 1	192321	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5								
Benzene	ND	1.0								
	ND	1.0								
Toluene		1.0								
	ND	1.0								
Ethylbenzene	ND ND	2.0								
Foluene Ethylbenzene Kylenes, Total 1,2,4-Trimethylbenzene										
Ethylbenzene Xylenes, Total	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

В

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1610A99 31-Oct-16

Client: Western Refining Southwest, Inc.

Project:

GBR Quarterly

Sample ID 100NG BTEX LC	S Samp	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSW	Batc	h ID: B3	8203	F	RunNo: 3	8203				
Prep Date:	Analysis D	Date: 10	0/25/2016	S	SeqNo: 1	192322	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	16	2.5	20.00	0	80.3	80	120		1.1	1.1
Benzene	18	1.0	20.00	0	88.3	80	120			
Toluene	18	1.0	20.00	0	88.8	80	120			
Ethylbenzene	18	1.0	20.00	0	90.5	80	120			
Kylenes, Total	59	2.0	60.00	0	98.4	80	120			
1,2,4-Trimethylbenzene	20	1.0	20.00	0	101	80	120			
1,3,5-Trimethylbenzene	19	1.0	20.00	0	95.1	80	120			
Surr: 4-Bromofluorobenzene	19		20.00		96.1	87.9	146			
Sample ID 1610A99-007AMS	S Samp	ype: MS	3	Tes	tCode: El	PA Method	8021B: Volati	iles		
Client ID: GBR-8	Batc	h ID: B3	8203	F	RunNo: 3	8203				
Prep Date:	Analysis E	Date: 10)/25/2016	S	SeqNo: 1	192327	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	82	12	100.0	0	81.9	63.4	127			D
Benzene	86	5.0	100.0	0	86.1	63	126			D
Toluene						00	100			D
	86	5.0	100.0	0	86.5	80	120			D
	86 91	5.0 5.0	100.0 100.0	0	86.5 91.5	80	120			D
Ethylbenzene										
Ethylbenzene Kylenes, Total	91	5.0	100.0	0	91.5	80	120			D
Ethylbenzene Kylenes, Total I,2,4-Trimethylbenzene	91 290	5.0 10	100.0 300.0	0 0	91.5 97.3	80 80	120 120			D D
Ethylbenzene Xylenes, Total 1,2,4-Trimethylbenzene	91 290 110	5.0 10 5.0	100.0 300.0 100.0	0 0 3.780	91.5 97.3 102	80 80 80	120 120 120			D D D
Ethylbenzene Kylenes, Total I,2,4-Trimethylbenzene I,3,5-Trimethylbenzene	91 290 110 97 97	5.0 10 5.0	100.0 300.0 100.0 100.0 100.0	0 0 3.780 1.420	91.5 97.3 102 95.4 97.3	80 80 80 80 87.9	120 120 120 120	iles		D D D D
Ethylbenzene Kylenes, Total I,2,4-Trimethylbenzene I,3,5-Trimethylbenzene Surr: 4-Bromofluorobenzene	91 290 110 97 97 SD Samp ⁻¹	5.0 10 5.0 5.0	100.0 300.0 100.0 100.0 100.0	0 0 3.780 1.420 Tes	91.5 97.3 102 95.4 97.3	80 80 80 87.9 PA Method	120 120 120 120 146	iles		D D D
Ethylbenzene (ylenes, Total ,2,4-Trimethylbenzene ,3,5-Trimethylbenzene Surr: 4-Bromofluorobenzene Sample ID 1610A99-007AM	91 290 110 97 97 SD Samp ⁻¹	5.0 10 5.0 5.0 Type: MS	100.0 300.0 100.0 100.0 100.0 5D 8203	0 0 3.780 1.420 Tes F	91.5 97.3 102 95.4 97.3 tCode: EF	80 80 80 87.9 PA Method 8203	120 120 120 120 146	iles		D D D D
Ethylbenzene Xylenes, Total 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Surr: 4-Bromofluorobenzene Sample ID 1610A99-007AMS Client ID: GBR-8	91 290 110 97 97 SD Samp ^T Batcl	5.0 10 5.0 5.0 Type: MS	100.0 300.0 100.0 100.0 100.0 5D 8203 0/25/2016	0 0 3.780 1.420 Tes F	91.5 97.3 102 95.4 97.3 tCode: EF RunNo: 38 SeqNo: 11	80 80 80 87.9 PA Method 8203	120 120 120 120 146 8021B: Volati	iles %RPD	RPDLimit	D D D D
Ethylbenzene Kylenes, Total 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Surr: 4-Bromofluorobenzene Sample ID 1610A99-007AMS Client ID: GBR-8 Prep Date:	91 290 110 97 97 SD SampT Batcl Analysis E	5.0 10 5.0 5.0 Type: MS h ID: B3 Date: 10	100.0 300.0 100.0 100.0 100.0 5D 8203 0/25/2016	0 0 3.780 1.420 Tes F	91.5 97.3 102 95.4 97.3 tCode: EF RunNo: 38 SeqNo: 11	80 80 80 87.9 PA Method 8203 192328	120 120 120 120 146 8021B: Volati		RPDLimit 20	D D D D

Qualifiers:

Toluene

Ethylbenzene

Xylenes, Total

1,2,4-Trimethylbenzene

1,3,5-Trimethylbenzene

Surr: 4-Bromofluorobenzene

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Η Holding times for preparation or analysis exceeded

89

96

310

110

100

100

5.0

5.0

10

5.0

5.0

100.0

100.0

300.0

100.0

100.0

100.0

- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range

89.4

96.4

102

107

101

103

0

0

0

3.780

1.420

Р

80

80

80

80

80

87.9

120

120

120

120

120

146

3.29

5.22

4.92

5.20

5.42

0

J Analyte detected below quantitation limits Page 10 of 10

20

20

20

20

20

0

D

D

D

D

D

D

- Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

HALL Hall Environment ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-345-39 Website: www.	4901 Ibuquerqu 075 FAX: 5	Hawkin e, NM 8 05-345-	ns NE 37109 S -4107	am	ple Log-In Check List
Client Name: Western Refining Southw Work Order Number	er: 1610A	99			ReptNo: 1
Received by/date: IC 10/21/16				• •	
Logged By: Lindsay Mangin 10/21/2016 9:15:00 /	AM		Andy	Harrys	
Completed By: لِمُرْمَعَ Mangin 10/2/1/2016/2:17:38 ا	PM		Frenchard	Hapo	84 (PB)
Reviewed By: 12 as 10 zcf/16			VV	U	
chain of Custody			· · · · · · · · · · · · · · ·		
1. Custody seals intact on sample bottles?	Yes	[1]	No	["]	Not Present
2. Is Chain of Custody complete?	Yes		No	[]]	Not Present
3. How was the sample delivered?	Couri				
S. The was the sample denoted.	00001				
Log In					
4. Was an attempt made to cool the samples?	Yes		No		NA [.]
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes		No	[]]	NA
		1		11	
6. Sample(s) in proper container(s)?	Yes	\checkmark	No	1	
7. Sufficient sample volume for indicated test(s)?	Yes		No		
8. Are samples (except VOA and ONG) properly preserved?	Yes		No		
9. Was preservative added to bottles?	Yes		No	\checkmark	NA
		1.1		[1	·· ····· [7]
0.VOA vials have zero headspace?	Yes		No		No VOA Vials
1. Were any sample containers received broken?	Yes	I]	No		# of preserved
12.Does paperwork match bottle labels?	Yes	~	No	[]	bottles checked for pH:
(Note discrepancies on chain of custody)	103	12.1			(<2 or >12 unless noted)
3. Are matrices correctly identified on Chain of Custody?	Yes		No	[7]	Adjusted?
4. Is it clear what analyses were requested?			No		
5. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes		No		Checked by:
pecial Handling (if applicable)					
16. Was client notified of all discrepancies with this order?	Yes		No		NA 🖌

 Person Notified:
 Date:

 By Whom:
 Via:

 Regarding:
 Client Instructions:

.....

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Page 1 of 1

С	hain-	of-Cu	stody Record	Turn-Around	Time:	· .										20		AF	NT	. A I	
lient:	Wash	en P	efining	Standard	□ Rush																
Ke		Lobins	. ,	Project Name	Froject Name:					ANALYSIS LABORATORY									-		
the second se	Address			FBR Winnery																	
		111 1	R 4990	Project #:	GBR Warrywww.nallenvironmentalProject #:4901 Hawkins NE - Albuquerque,Tel. 505-345-3975Fax 505-34Analysis RequireAnalysis Require																
		reid ,	NNI	10,001 #.	17/21/	n/		Te	el. 50	5-34	5-39		-				4107	7			
hone #		, 	(mana C) (land som							naly		Req	uest								
		CINENC	mann al fenvicom	Project Mana	nn Henc	mann	1)	TPH (Gas only)	RO					304	S						
1	Package:			De	/11 mora	0.00001	(80	sas	NIC			(SIMS)		04%	PCB!						
XStan ccredi			Level 4 (Full Validation)		1. 1 C 16	2011	B	U) H	NS N			SIL		D2,P	82 F						
] NEL		□ Office	r	Sampler: F	Mex Cro	らいろ EINO	+ TMB's (8021)		(GRO / DRO / MRO)	8.1)	4.1	3270		3,NC	/ 80		-				Î
	(Type)			Will State and a sub-	perature. 1.1			+ Щ	GR	41	1 50	or	als	Ň	des		VOA	2			Ν
	(.),,,,,						+ MEBE	MTBE		TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)	10			Air Bubbles (Y or N)
Date	Time	Matrix	Sample Request ID	Container	Preservative	HEAL No.		+	TPH 8015B	(Me	(Me	s (8	A 8	l) st	Pe	B	(Se	Phlon			qqn
			earripie i requeet in	Type and #	Туре	11.mag	BTEX	BTEX	H	H		AH	SCR	nioi	081	260	270	J.			ir B
2/20	1015	NO	1-BR-26	3 V 06 1 250ml	Hel COOL	$-\infty$	X		-		<u> </u>	<u> </u>	<u>II</u>	A	8	8	00	X	-	+	4
1	1040	FIG.	BBR-ZID	1 4301111	1	-007	1			-	-+							1	+	+	
+						mz				+		-	-						+	+	++
	IIID.		6BR-25			-005	\square			-								+	-	-+-	+
-	1145		GBR-22			-10-1				_								+		+	++
1	1225		(-BR-34			-005	\square												_	\rightarrow	
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1	1545	Y	GBR-8		V	-007		r										Y			
40						- ,															
				and the second se																	
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ate:	Time:	Relinguishe	ed/by:	Received by:		Date Time	Rei	nark	s:												
L.	1517	100	10 VI Tank	Ahr. to	1611	10/20/ 1517															
Zo/iL	Time:	Relinquishe	ed by:	Received by:	Ulland	Date Time	1														
	2nic	Din	11/01	Finder	Conde	iala la male															
1010	CUUS		hitted to Hall Environmental may be sub-	wenen	wheng	10/21/16 09/5		h lite -	A	h		- dat-			les e -t	1	4	a a h a h	al acces		
	, a a a a a a a a a a a a a a a a a a a					sa. This serves as house of this	possi	onity.	runy su	5-cont	acted	udia	WIII DE	Gear	iy nota	ated of	i tile a	nanyuC	a repor	٤.	



October 27, 2016

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

RE: GBR Quarterly

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

OrderNo.: 1610B77

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/22/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

CLIENT: Western Refining Southwest, Inc. Lab Order: 1610B77 **Project: GBR** Quarterly Lab ID: 1610B77-001 Collection Date: 10/21/2016 10:10:00 AM Matrix: AQUEOUS **Client Sample ID:** GBR-11 Analyses Result **POL Oual Units DF** Date Analyzed **Batch ID** EPA METHOD 8015M/D: DIESEL RANGE Analyst: TOM Diesel Range Organics (DRO) 10/26/2016 3:32:42 PM 28286 2.6 1.0 mg/L 1 Surr: DNOP 115 77.1-144 %Rec 1 10/26/2016 3:32:42 PM 28286 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) 10/25/2016 2:42:05 PM G38203 ND 0.25 D mg/L 5 Surr: BFB 83.8 D %Rec 10/25/2016 2:42:05 PM G38203 66.4-120 5 Collection Date: 10/21/2016 11:30:00 AM Lab ID: 1610B77-002 Client Sample ID: SHS-8 Matrix: AQUEOUS PQL Qual Units Analyses Result **DF** Date Analyzed **Batch ID** Analyst: TOM EPA METHOD 8015M/D: DIESEL RANGE **Diesel Range Organics (DRO)** 2.2 10/26/2016 3:54:23 PM 28286 1.0 mg/L 1 Surr: DNOP 10/26/2016 3:54:23 PM 28286 112 77.1-144 %Rec 1 EPA METHOD 8015D: GASOLINE RANGE Analyst: NSB Gasoline Range Organics (GRO) ND 0.25 5 10/25/2016 3:06:18 PM G3820: D mg/L Surr: BFB 81.6 66.4-120 D %Rec 5 10/25/2016 3:06:18 PM G38203 Collection Date: 10/21/2016 12:30:00 PM Lab ID: 1610B77-003 **Client Sample ID:** Matrix: AQUEOUS SHS-2 **DF** Date Analyzed Analyses Result **PQL** Qual Units **Batch ID** EPA METHOD 8015M/D: DIESEL RANGE Analyst: TOM Diesel Range Organics (DRO) 15 1.0 mg/L 1 10/26/2016 4:16:00 PM 28286 Surr: DNOP 114 77.1-144 %Rec 1 10/26/2016 4:16:00 PM 28286 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 0.25 D mg/L 5 10/25/2016 3:30:27 PM G38203 Surr: BFB 87.7 66.4-120 D %Rec 5 10/25/2016 3:30:27 PM G38203

Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order: 1610B77

Date Reported: 10/27/2016

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

WO#: 1610B77 27-Oct-16

Hall Environmental Analysis Laboratory, Inc.

	n Refining Sc Quarterly	outhwe	st, Inc.	ş.						
Sample ID LCS-28286	SampTy	/pe: LC	S	Tes	tCode: E	PA Method	8015M/D: Die	sel Range)	
Client ID: LCSW	Batch	ID: 28	286	F	RunNo:	38209				
Prep Date: 10/26/2016	Analysis Da	ate: 10	0/26/2016	S	SeqNo:	1193527	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.8	1.0	5.000	0	135	63.2	155		- OR.	A L during
Surr: DNOP	0.62		0.5000		124	77.1	144			
Sample ID MB-28286	SampTy	/pe: ME	BLK	Tes	tCode: E	PA Method	8015M/D: Die	sel Range)	a me
Client ID: PBW	Batch	ID: 28	286	F	RunNo:	38209				
Prep Date: 10/26/2016	Analysis Da	ate: 10	/26/2016	S	SeqNo:	1193528	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0							1	- instance
Surr: DNOP	1.0		1.000		104	77.1	144			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified W

Page 2 of 3

QC SUMMARY REPORT

WO#: 1610B77

27-Oct-16

Hall	Envir	onmental	Analysis	Laboratory,	Inc.
			•	,	

	stern Refining So R Quarterly	outhwe	st, Inc.							
Sample ID 5ML RB	SampTy	pe: ME	BLK	Tes	tCode: E	PA Method	8015D: Gasol	ine Rang	e	1.5
Client ID: PBW	Batch	ID: G3	88203	F	RunNo: 3	8203				
Prep Date:	Analysis Da	ate: 10	0/25/2016	:	SeqNo: 1	192307	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GR	D) ND	0.050					10			and the second second
Surr: BFB	17		20.00		82.5	66.4	120			
Sample ID 2.5UG GRO	LCS SampTy	pe: LC	s	Tes	tCode: E	PA Method	8015D: Gasol	ine Rang	e	14 (14 (14 (14 (14 (14 (14 (14 (14 (14 (
Client ID: LCSW	Batch	ID: G3	8203	F	RunNo: 3	8203				
Prep Date:	Analysis Da	ate: 10	0/25/2016	5	SeqNo: 1	192308	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GR	0.50	0.050	0.5000	0	99.6	80	120			and should
Surr: BFB	18		20.00		90.9	66.4	120			

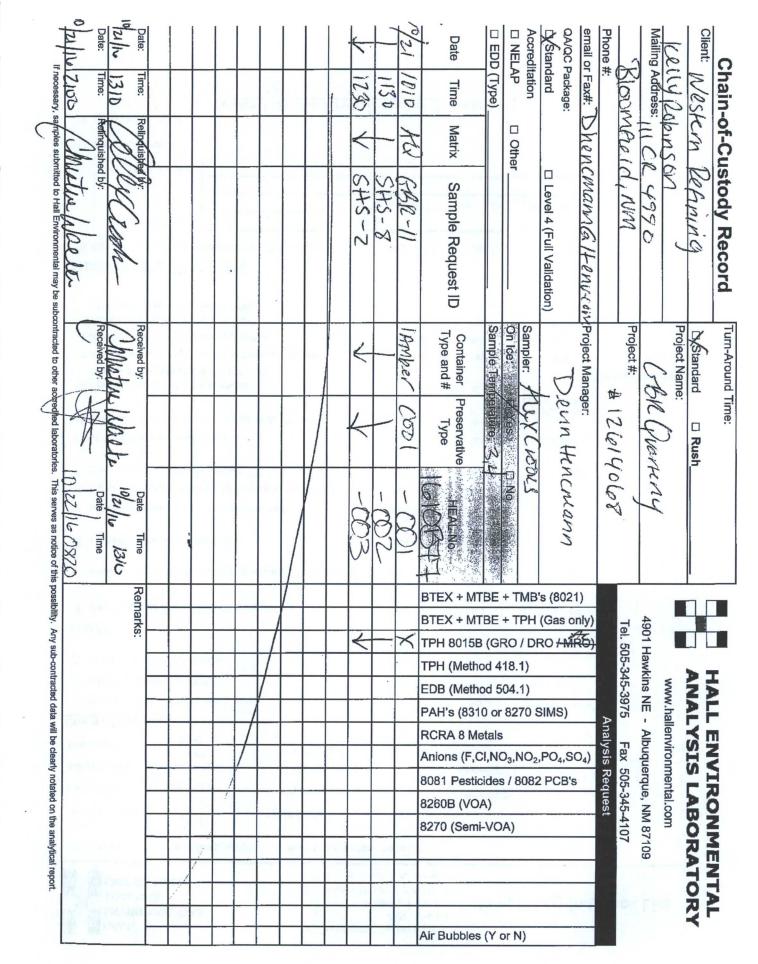
Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified W

Page 3 of 3

LABORATORY TEL: 505-345-397	al Analysis Labord 4901 Hawkin Ibuquerque, NM 8 75 FAX: 505-345-4 hallenvironmental	s NE 7109 Sam	ole Log-In Check I	ist
Client Name: Western Refining Southw Work Order Number	er: 1610877		RcptNo: 1	
Received by/date:				
Logged By: Lindsay Mangin 10/22/2016 8:20:00 A	M	Junky Harpo		
Completed By: Lindsay Mangin 10/25/2016 9:25:38 A	M	Andy Alapo		
Reviewed By: aJ 10/25/16	,			
Chain of Custody				
1. Custody seals intact on sample bottles?	Yes	No	Not Present	
2. Is Chain of Custody complete?	Yes 🔀	No []	Not Present	
3. How was the sample delivered?	Courier			
Log In				
 Was an attempt made to cool the samples? 	Yes 🔽	No	NA	
	103 123			
5. Were all samples received at a temperature of ${>}0^\circC$ to $6.0^\circ C$	Yes 🖌	No 📋	NA []	
6. Sample(s) in proper container(s)?	Yes 🖌	No [.]		
7. Sufficient sample volume for indicated test(s)?	Yes 🖌	No []]		
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗌		
9. Was preservative added to bottles?	Yes	No 🗹	NA	
10.VOA vials have zero headspace?	Yes V	No []	No VOA Vials	
11. Were any sample containers received broken?	Yes	No V		
			# of preserved bottles checked	
12.Does paperwork match bottle labels?	Yes 🖌	No []]	for pH: (<2 or >12 unle	ee note
(Note discrepancies on chain of custody) 13. Are matrices correctly identified on Chain of Custody?	Yes	No 1.1	Adjusted?	ss note
14. Is it clear what analyses were requested?	Yes 🖌	No 1		
15. Were all holding times able to be met?	Yes 🖌	No []	Checked by:	
(If no, notify customer for authorization.)		l		
16. Was client notified of all discrepancies with this order?	Yes	No []]	NA V	
Person Notified: Date:				
By Whom: Via:	•	Phone 🗍 Fax	In Person	
Regarding:				
Client Instructions:			CALCULATION DE DESERVATION DE DESERVATION DE DESERVATION DE DESERVATION DE DE DESERVATION DE DE DE DE DE DE DE	
17. Additional remarks:		······································		
18. <u>Cooler Information</u> Cooler No Temp °C Condition Seal Intact Seal No	Seal Date	Signed By		
1 3.4 Good Yes				

Page 1 of 1





Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

October 27, 2016

Devin Hencmann Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

OrderNo.: 1610B78

Dear Devin Hencmann:

RE: GBR Quarterly

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/22/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1610B78

Date Reported: 10/27/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Quarterly Lab ID: 1610B78-001

Client Sample ID: GBR-11 Collection Date: 10/21/2016 10:10:00 AM Received Date: 10/22/2016 8:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	5.0	D	µg/L	5	10/25/2016 2:42:05 PM
Toluene	ND	5.0	D	µg/L	5	10/25/2016 2:42:05 PM
Ethylbenzene	ND	5.0	D	µg/L	5	10/25/2016 2:42:05 PM
Xylenes, Total	ND	10	D	µg/L	5	10/25/2016 2:42:05 PM
Surr: 4-Bromofluorobenzene	95.7	87.9-146	D	%Rec	5	10/25/2016 2:42:05 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	92	10		mg/L	20	10/25/2016 10:53:22 PM

Matrix: AQUEOUS

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	Н	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	R	RPD outside accepted recovery limits

- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 5
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1610B78

Date Reported: 10/27/2016

Hall Environmental Analysis Laboratory, Inc.

5

-

CLIENT: Western Refining Southwest, Inc. Project: GBR Quarterly	west, Inc. Client Sample ID: SHS-8 Collection Date: 10/21/2016 11:30:						
Lab ID: 1610B78-002	Matrix:	AQUEOU	S	Received	Date: 10/22/2	016 8:20:00 AM	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD 8021B: VOLATILES					Case i de d	Analyst: NSB	
Benzene	ND	5.0	D	µg/L	5	10/25/2016 3:06:18 PM	
Toluene	ND	5.0	D	µg/L	5	10/25/2016 3:06:18 PM	
Ethylbenzene	ND	5.0	D	µg/L	5	10/25/2016 3:06:18 PM	
Xylenes, Total	ND	10	D	µg/L	5	10/25/2016 3:06:18 PM	
Surr: 4-Bromofluorobenzene	95.4	87.9-146	D	%Rec	5	10/25/2016 3:06:18 PM	
EPA METHOD 300.0: ANIONS						Analyst: MRA	
Chloride	110	10		mg/L	20	10/25/2016 11:43:01 PM	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	Н	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	R	RPD outside accepted recovery limits

- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 5
- P Sample pH Not In Range
- RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Lab Order 1610B78

Date Reported: 10/27/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID: SHS-2 GBR** Quarterly Collection Date: 10/21/2016 12:30:00 PM **Project:** 1610B78-003 Lab ID: Matrix: AQUEOUS Received Date: 10/22/2016 8:20:00 AM Analyses Result PQL Qual Units DF **Date Analyzed EPA METHOD 8021B: VOLATILES** Analyst: NSB

						randiyot. HOD
Benzene	ND	5.0	D	µg/L	5	10/25/2016 3:30:27 PM
Toluene	ND	5.0	D	µg/L	5	10/25/2016 3:30:27 PM
Ethylbenzene	ND	5.0	D	µg/L	5	10/25/2016 3:30:27 PM
Xylenes, Total	ND	10	D	µg/L	5	10/25/2016 3:30:27 PM
Surr: 4-Bromofluorobenzene	100	87.9-146	D	%Rec	5	10/25/2016 3:30:27 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	280	10	*	mg/L	20	10/26/2016 12:07:50 AM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank B
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 5 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- Sample container temperature is out of limit as specified W

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#:	1610B78

27-Oct-16

Client: Project:		Western Refin GBR Quarter	U	outhwe	st, Inc.							
Sample ID	МВ		SampTy	ype: ml	olk	Tes	tCode: E	PA Method	300.0: Anions	;		
Client ID:	PBW		Batch	ID: R3	8215	F	RunNo:	38215				
Prep Date:		Ana	alysis Da	ate: 10	0/25/2016	5	SeqNo:	1192825	Units: mg/L			
Analyte		R	esult	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride			ND	0.50								
Sample ID	LCS		SampTy	ype: Ics	5	Tes	tCode: E	PA Method	300.0: Anions	;		
Client ID:	LCSW		Batch	ID: R3	8215	F	RunNo:	38215				
Prep Date:		Ana	alysis Da	ate: 10	0/25/2016	S	SeqNo:	1192826	Units: mg/L			
Analyte		R	esult	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride			5.0	0.50	5.000	0	100	90	110			2

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 4 of 5

-

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1610B78

27-Oct-16

	n Refining S Quarterly	outhwe	st, Inc.							
Sample ID 5ML RB	SampT	ype: ME	BLK	Test	Code: E	PA Method	8021B: Volat	iles		
Client ID: PBW	Batch	ID: B3	8203	R	unNo: 3	8203				
Prep Date:	Analysis D	ate: 10	0/25/2016	S	eqNo: 1	192321	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5								
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								

Surr: 4-Bromofluorobenzene	19		20.00		97.0	87.9	146			
Sample ID 100NG BTEX LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSW	Batch	ID: B3	8203	R	RunNo: 3	8203				
Prep Date:	Analysis D	ate: 10)/25/2016	S	SeqNo: 1	192322	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	16	2.5	20.00	0	80.3	80	120			
Benzene	18	1.0	20.00	0	88.3	80	120			
Toluene	18	1.0	20.00	0	88.8	80	120			
Ethylbenzene	18	1.0	20.00	0	90.5	80	120			
Xylenes, Total	59	2.0	60.00	0	98.4	80	120			
1,2,4-Trimethylbenzene	20	1.0	20.00	0	101	80	120			
1,3,5-Trimethylbenzene	19	1.0	20.00	0	95.1	80	120			
Surr: 4-Bromofluorobenzene	19		20.00		96.1	87.9	146			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 5 of 5

ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-345-35	ntal Analysis Labor 4901 Hawkii Albuquerque, NM & 975 FAX: 505-345 v.hallenvironmenta	ns NE 87105 Sam	ple Log-In Cł	neck List
Client Name: Western Refining Southw Work Order Numb	per: 1610B78		RcptNo:	1
Received by/date:				
Logged By: Lindsay Mangin 10/22/2016 8:20:00	AM	Julyther		
Completed By: Lindsay Mangin 10/25/2016 9:29:23	AM	Andy Happ		
Reviewed By: a_{1} $0/25/1$	6			
Chain of Custody	• • • • •		*** **	•••
1. Custody seals intact on sample bottles?	Yes	No []]	Not Present	
2. Is Chain of Custody complete?	Yes 🖌	No [.]	Not Present	
3. How was the sample delivered?	Courier			
<u>Log In</u>				
4. Was an attempt made to cool the samples?	Yes 🖌	No []	NA	
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ⊻	No 🗌	NA	
6. Sample(s) in proper container(s)?	Yes 🗹	No []]		
7. Sufficient sample volume for indicated test(s)?	Yes 🖌	No []]		
8. Are samples (except VOA and ONG) properly preserved?	Yes 🖌	No []]		
9. Was preservative added to bottles?	Yes	No 🗹	NA	
10.VOA vials have zero headspace?	Yes 🖌	No [.]	No VOA Vials	
11. Were any sample containers received broken?	Yes	No 🗹		·
			# of preserved bottles checked	
12. Does paperwork match bottle labels?	Yes M	No []]	for pH:	
(Note discrepancies on chain of custody)	Yes	No [.]	Adjusted?	r >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?14. Is it clear what analyses were requested?	Yes V	No .		
15. Were all holding times able to be met?	Yes M	No []	Checked by:	
(If no, notify customer for authorization.)				
Special Handling (if applicable)				
16. Was client notified of all discrepancies with this order?	Yes	No [.]	NA M	
Person Notified: Date		Dhane III Farr	In Demo-	
By Whom: Via:	eMail]	Phone [_] Fax	In Person	
Regarding: Client Instructions:		The second is building to the second second		

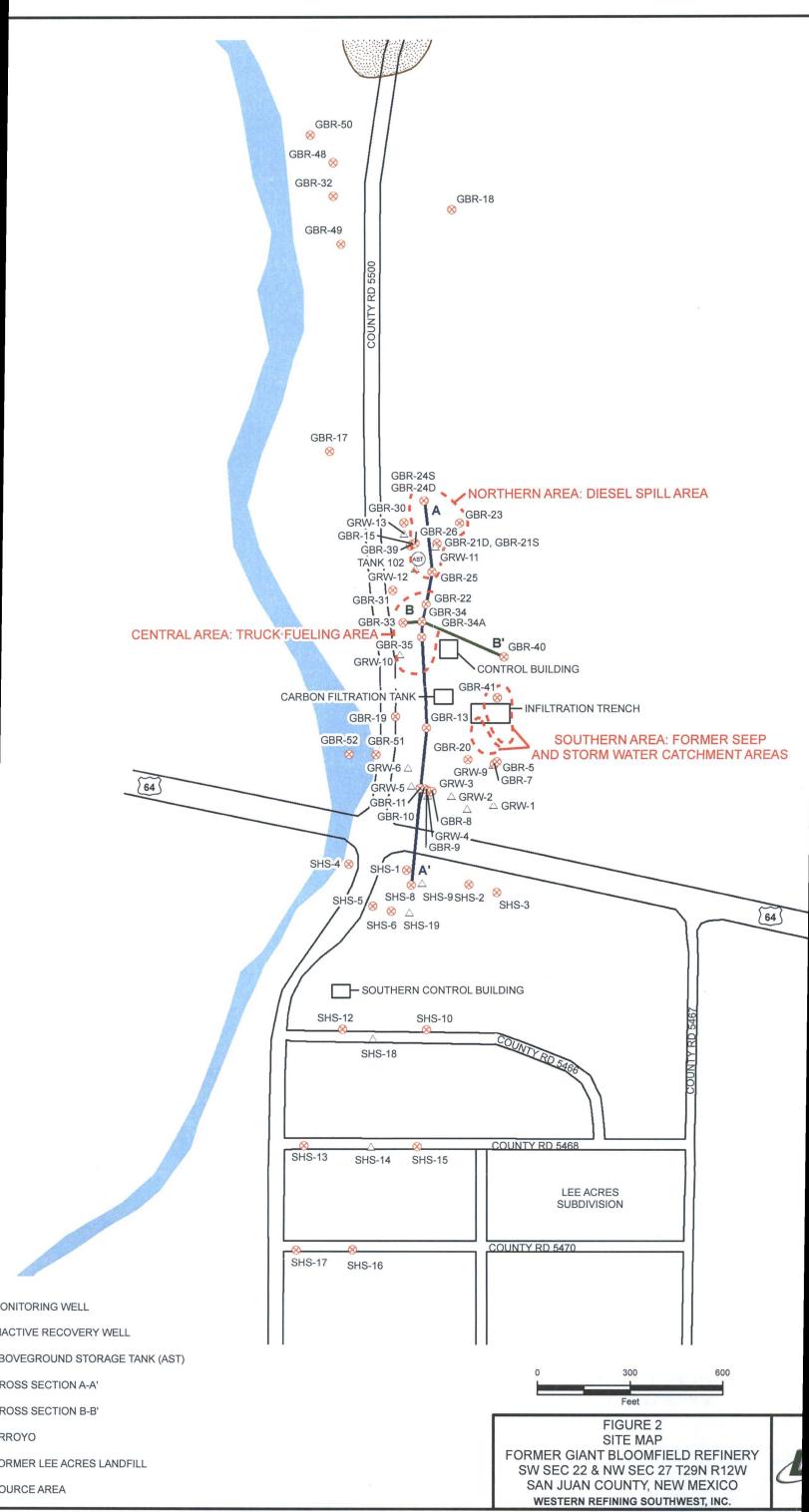
17. Additional remarks:

18. Cooler Information

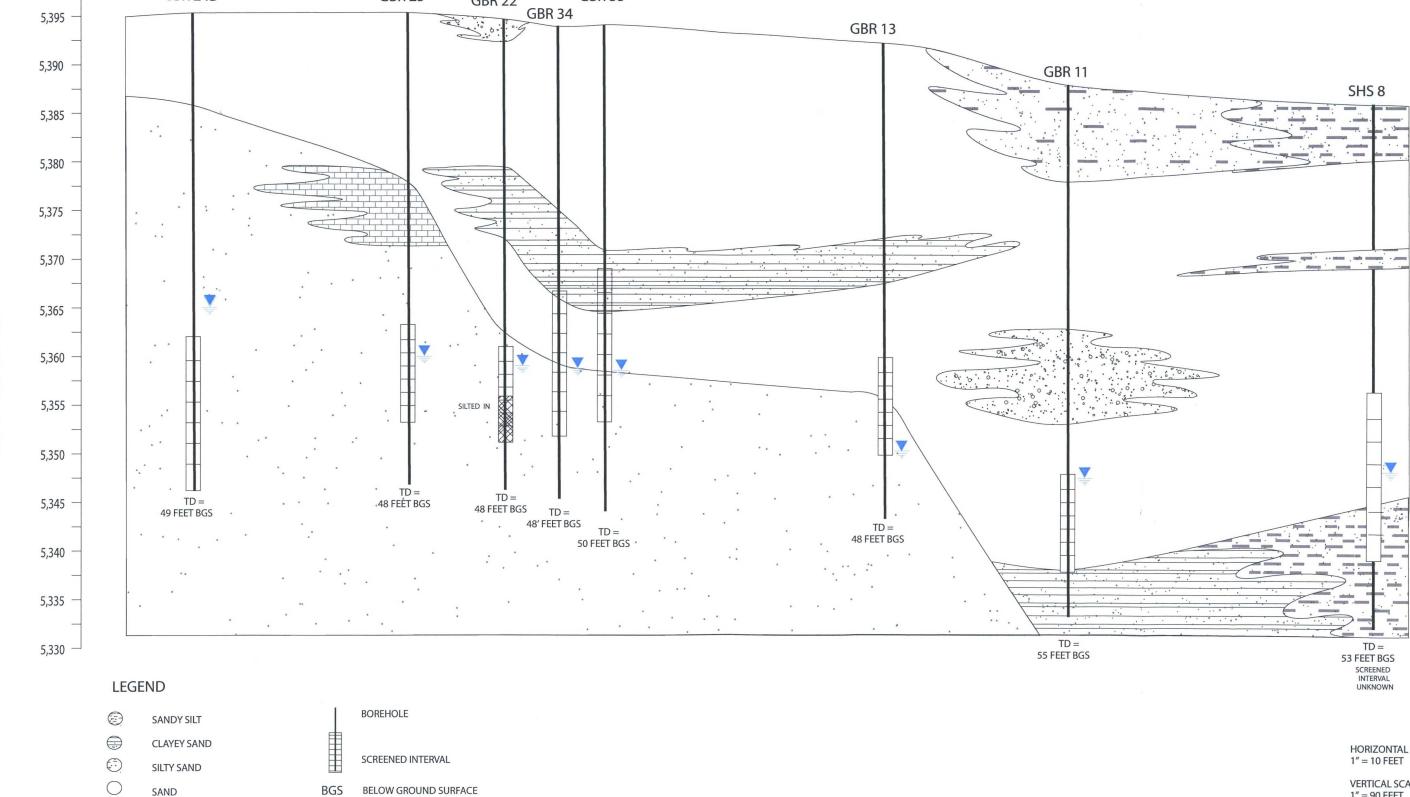
Cooler No	Temp °C	Condition .	Seal Intact	Seal No	Seal Date	Signed By
1	3.4	Good	Yes			

Page 1 of 1

Chain-of-Custody Record			Turn-Around Time: Standard Rush Project Name: GABK QVanerly Project #: # 12614067			HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com													
Mailing Address: III CR 4990																			
		4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107																	
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Phone		*.						2			4	Analy		Req	uest			1	
		Dhenc	mannaltenulor	Project Mana	iger:	1	5	VINO	ARO				S04	ŝ					
QA/QC	Package:				eunst	encmann	TMB's (8021)	Sas	40		SIMS)		04,	PCB's					
Accredi	the second se		Level 4 (Full Validation)	Complex H	14.46.		JE I	H	DR				02,F	82					
		□ Other		Sampler: A	LLY CMO		NF	F	0	8.1)	8270		3,NG	/ 80		2			or N)
				Sample Tem	perature: <			÷	GR	d 41	or	als	N	des	-	Ń	2		×
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type		BTEX +MTBE	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1) EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)	Chlorid.		Air Bubbles (Y
10/21	ipid	AQ	6BR-11	1250ml 360A	CGOI HE	-001	X		-								X		
1	1130	T I	SHS-8	1 1	ſ	-000	11				+	-					1		
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Date:	Time:	Relinguish	ed by	Received by:	I	Date Time	Ren	narks	 S:	_	-								
10/2.1.	1310	100	lerdendo	Charle	libot.	10/21/16 BID													
Date:	Time:	Relinquishe	ed by:	Received by:	price	, Date Time	1												-
0/21/10	7166	Cha	ntol. laston	Y W	4	10/77/11/ 0820													- Lung
		samples subn	nitted to Hall Environmental may be sub	contracted to other a	ccredited laborator		s possit	oility. /	Any sub	-contrac	ted data	will be	e clear	ly nota	ated or	the a	nalytica	l report.	



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ELEVATION IN FEET

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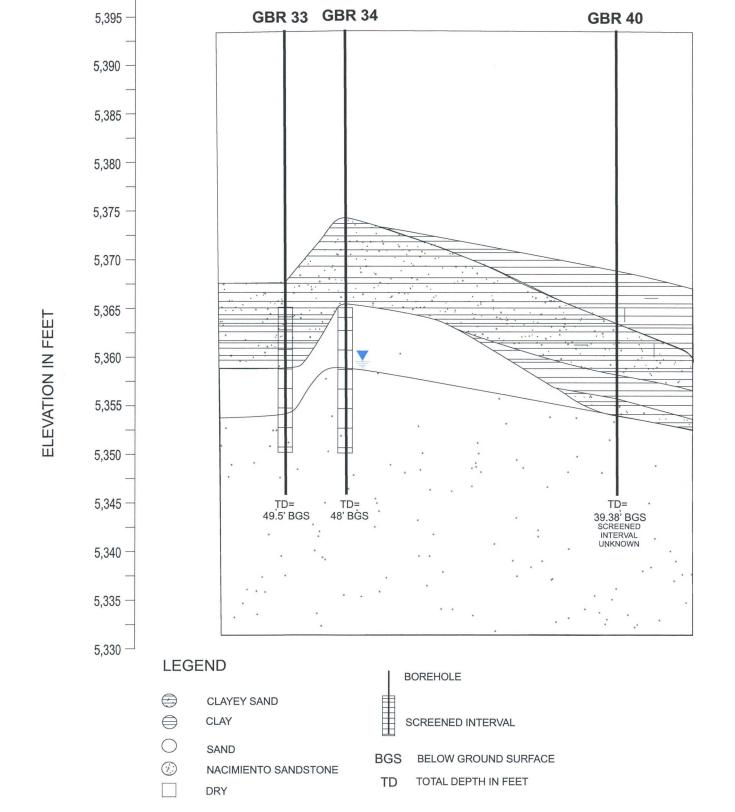
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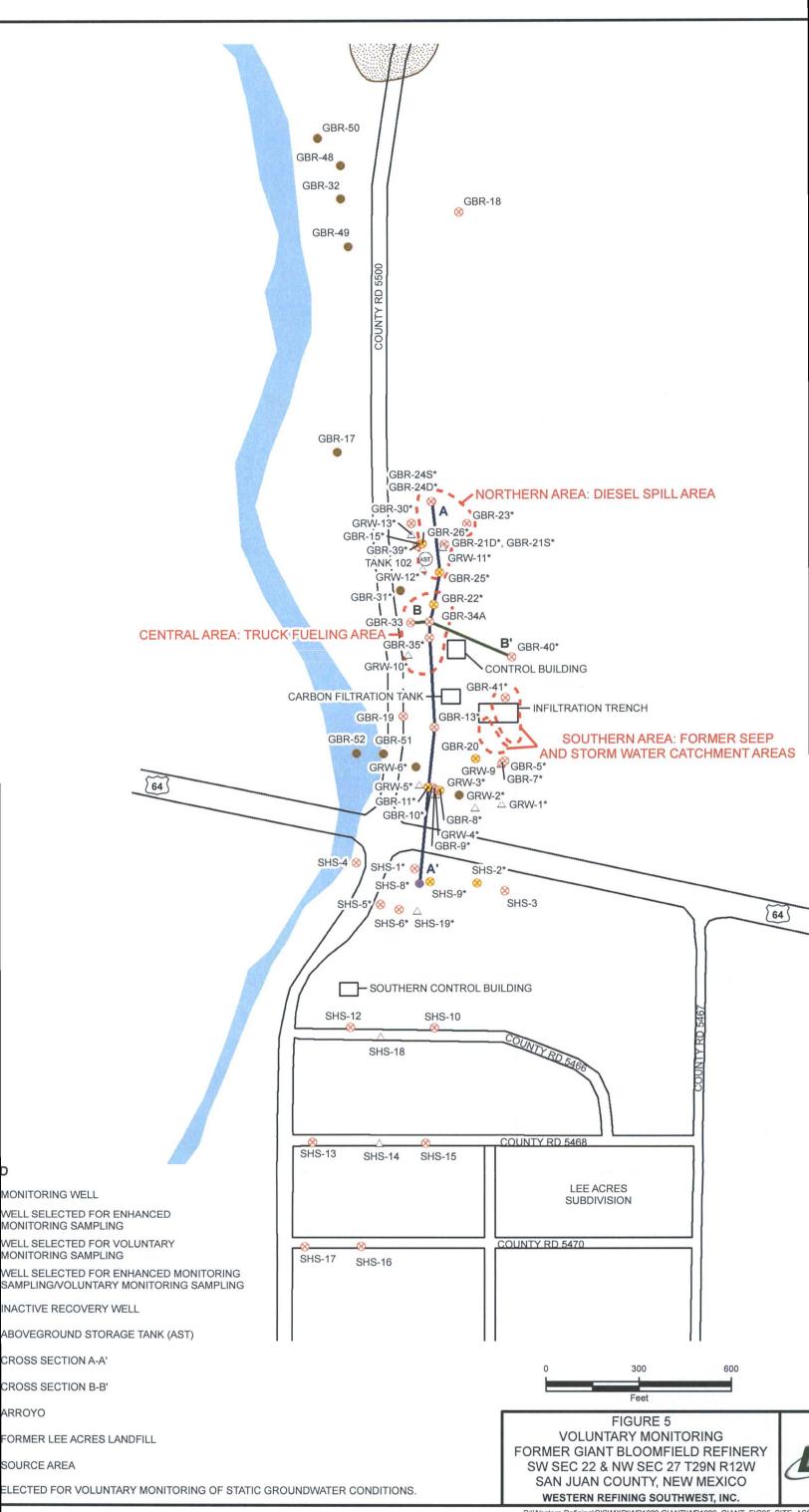
HORIZONTAL SCALE 1" = 10 FEET

VERTICAL SCALE 1" = 90 FEET



HORIZONTAL SCALE 1" = 10 FEET

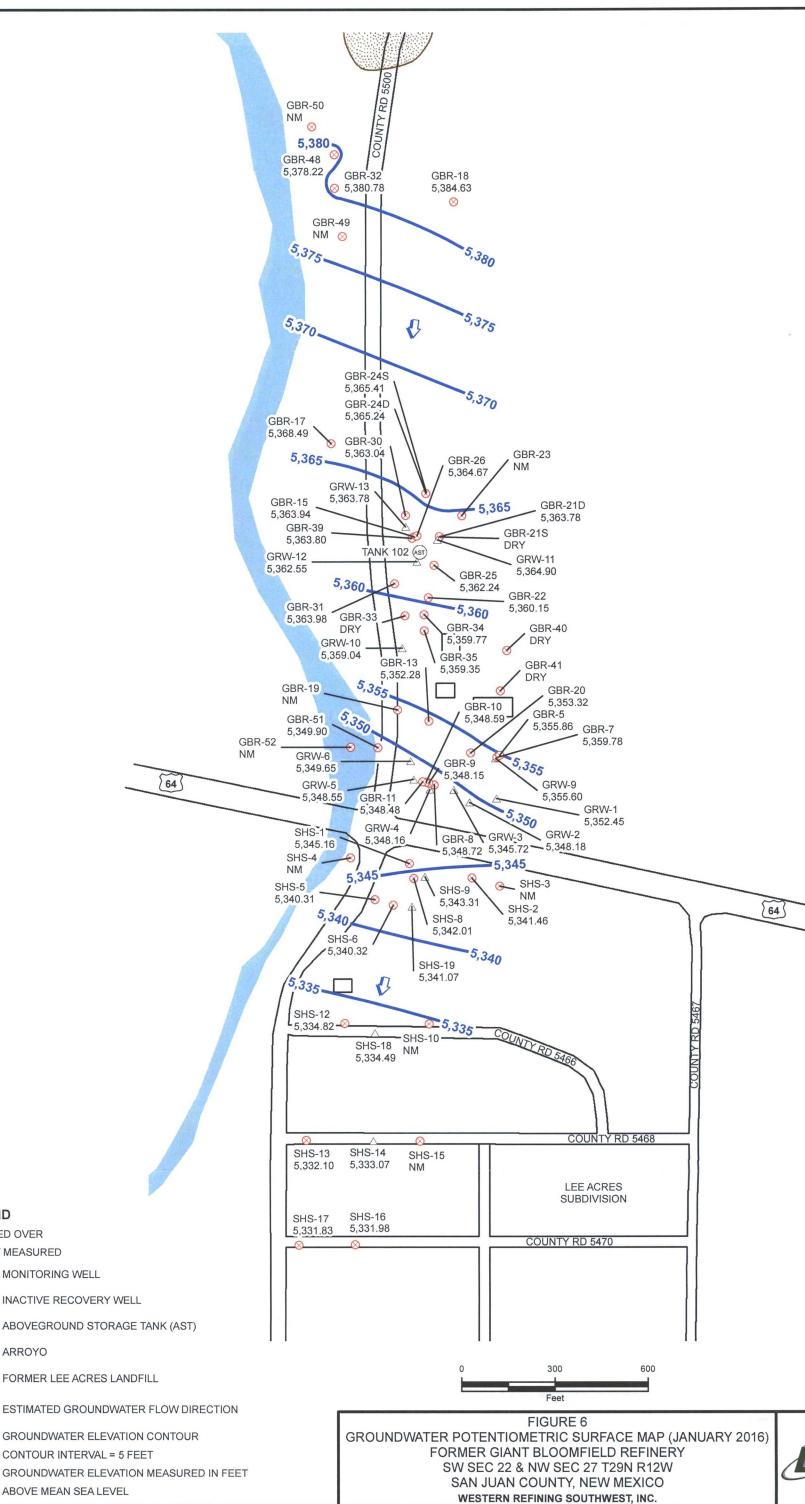
VERTICAL SCALE 1" = 90 FEET



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- MONITORING WELL
- WELL SELECTED FOR ENHANCED MONITORING SAMPLING
- WELL SELECTED FOR VOLUNTARY MONITORING SAMPLING
- WELL SELECTED FOR ENHANCED MONITORING SAMPLING/VOLUNTARY MONITORING SAMPLING
- INACTIVE RECOVERY WELL
- ABOVEGROUND STORAGE TANK (AST)
- CROSS SECTION A-A'
- CROSS SECTION B-B'
- ARROYO
- FORMER LEE ACRES LANDFILL
- SOURCE AREA

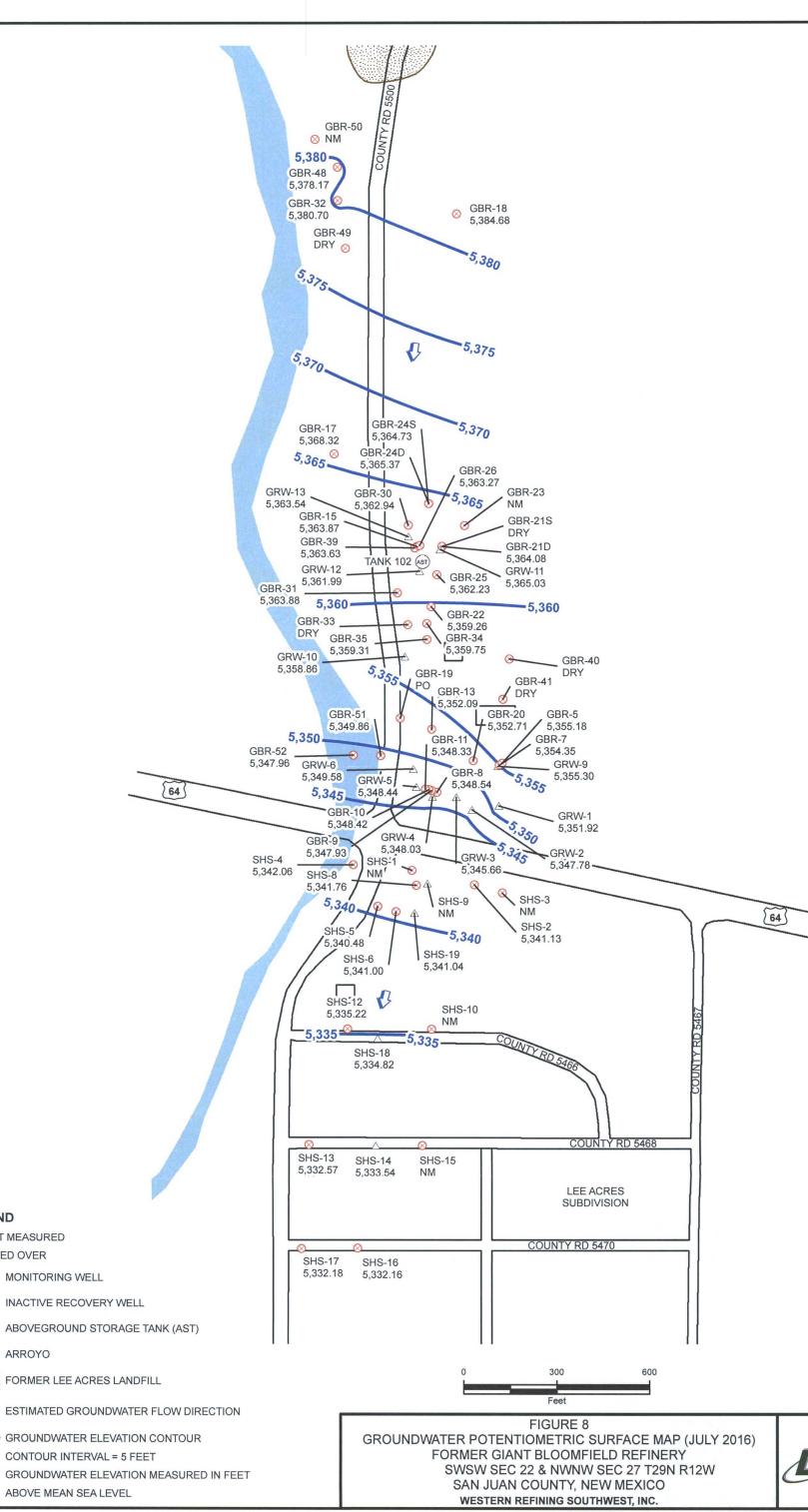
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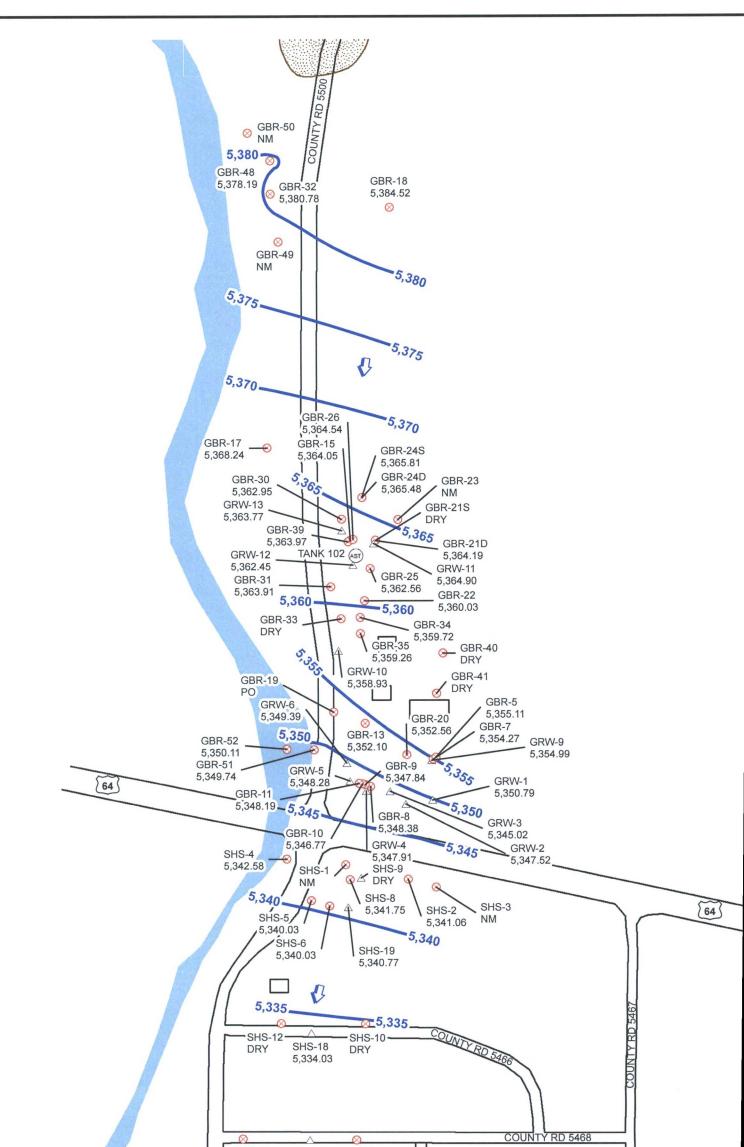
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- /ED OVER
- T MEASURED
- MONITORING WELL
- INACTIVE RECOVERY WELL
- ABOVEGROUND STORAGE TANK (AST)
- ARROYO
- FORMER LEE ACRES LANDFILL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR CONTOUR INTERVAL = 5 FEET
- ABOVE MEAN SEA LEVEL

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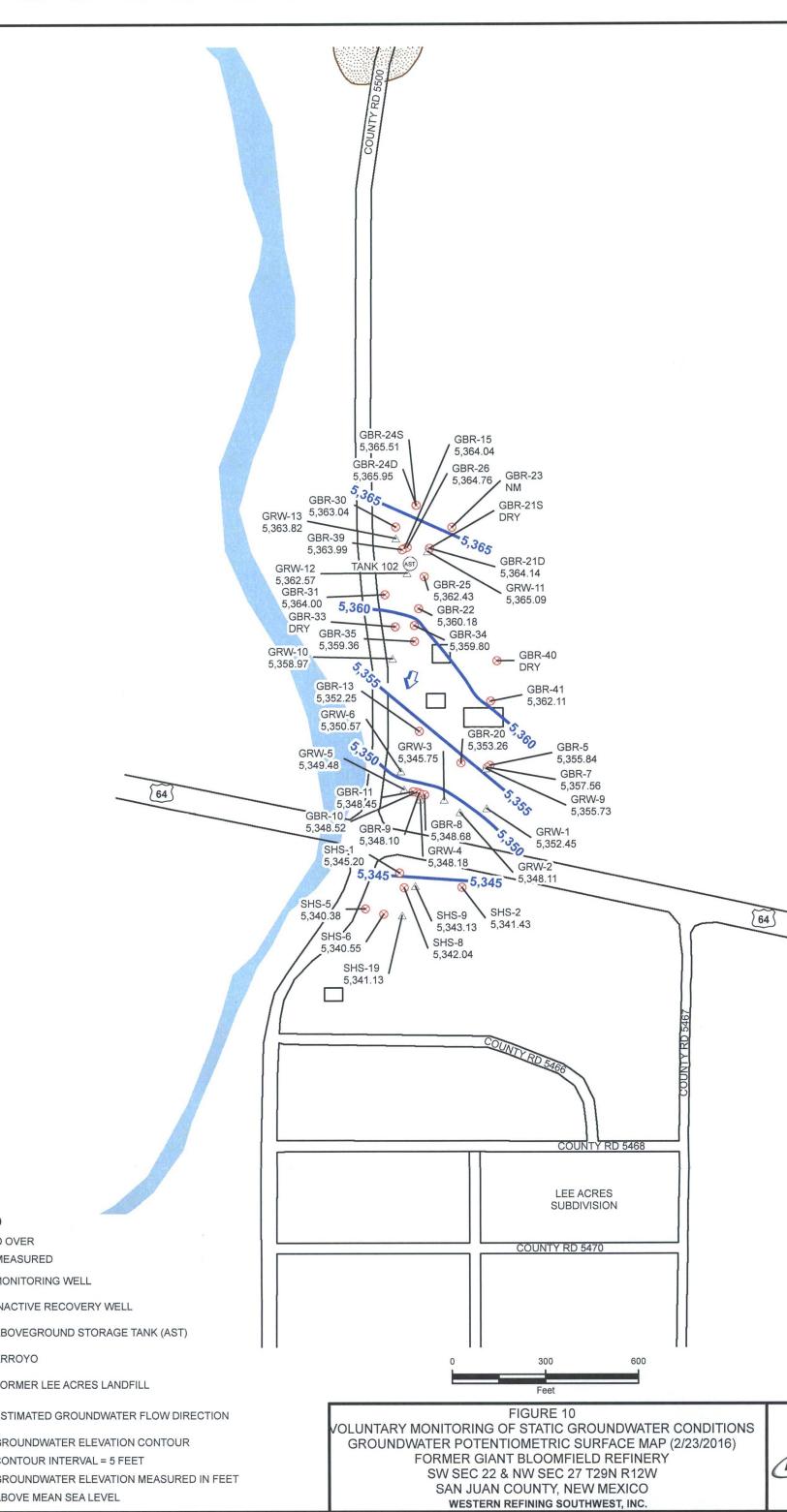


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COUNTY RD 5468								
SHS-13 SHS-14 SHS-15 5,331.69 5,332.55 NM LEE ACRES SUBDIVISION								
SHS-17 SHS-16								
5,331.38 5,331.48								
0 300 600								
GROUNDWATER POTENTIOMETRIC SURFACE MAP (OCTOBE	R 2016)							
FORMER GIANT BLOOMFIELD REFINERY								
	0							
WESTERN REFINING SOUTHWEST, INC.								
	SHS-13 SHS-14 SHS-15 5,331.69 5,332.55 NM LEE ACRES SUBDIVISION COUNTY RD 5470 COUNTY RD 5470 SHS-17 SHS-16 5,331.38 5,331.48 GROUNDWATER POTENTIOMETRIC SURFACE MAP (OCTOBE FORMER GIANT BLOOMFIELD REFINERY SWSW SEC 22 & NWNW SEC 27 T29N R12W SAN JUAN COUNTY, NEW MEXICO							

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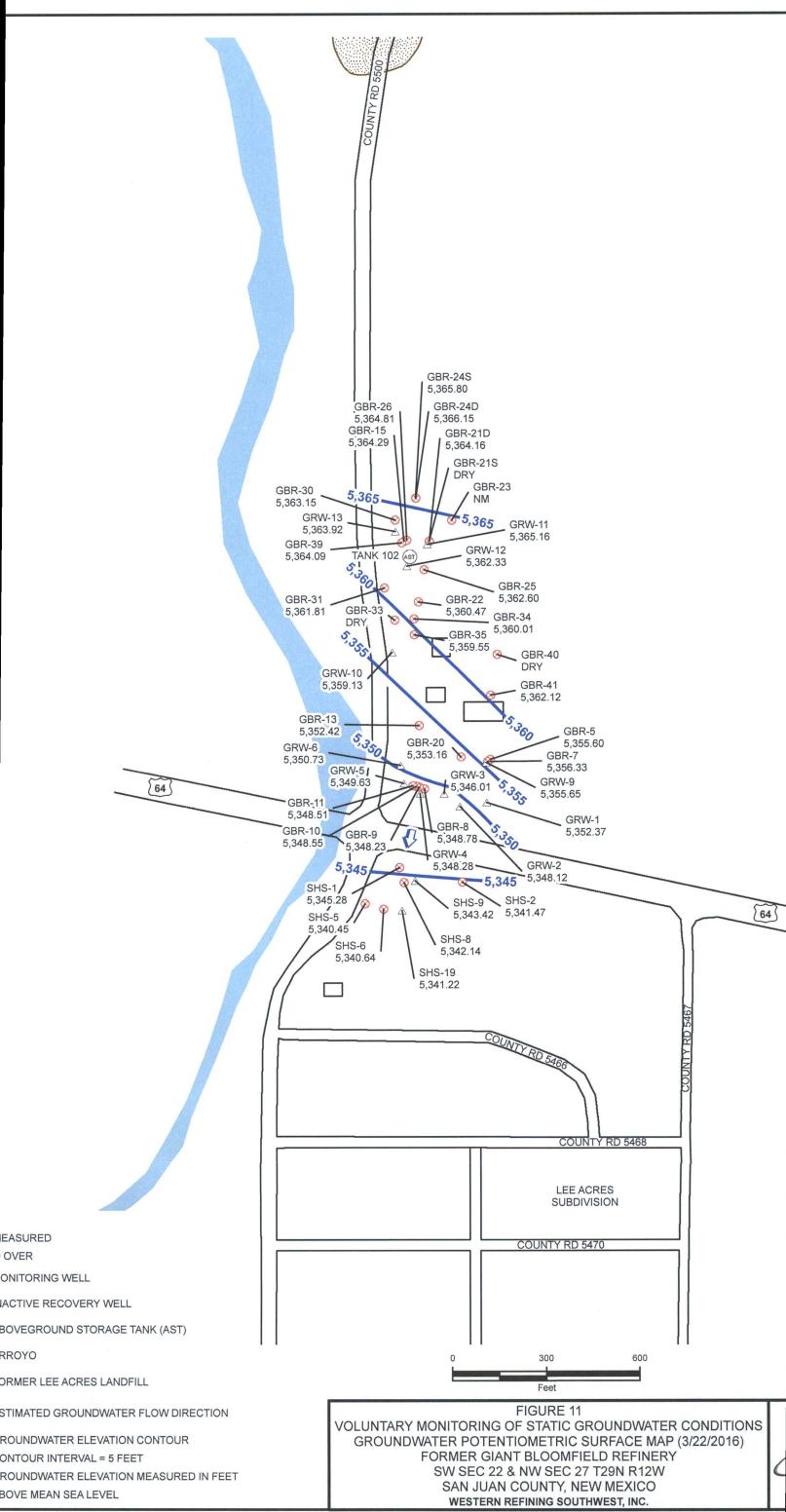


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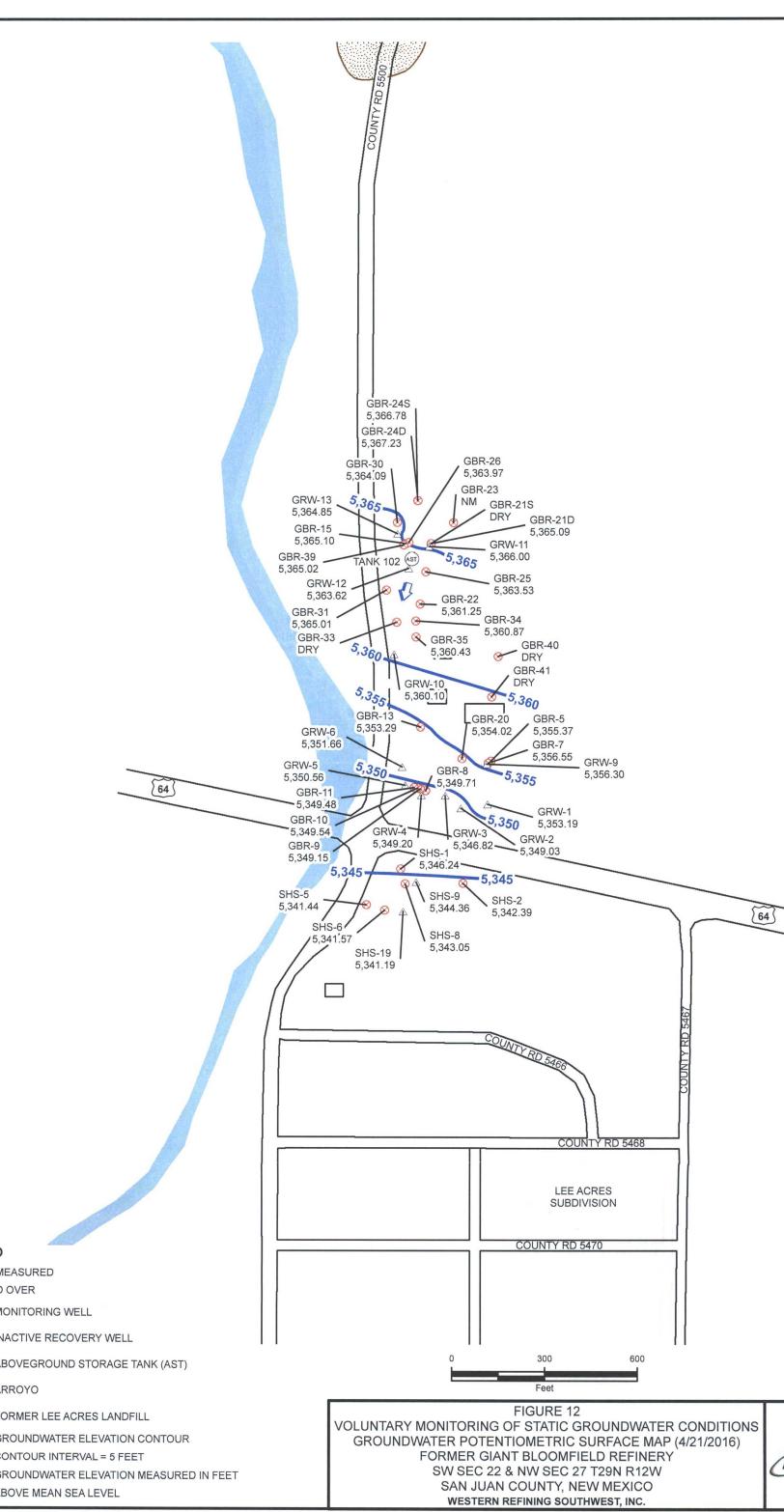
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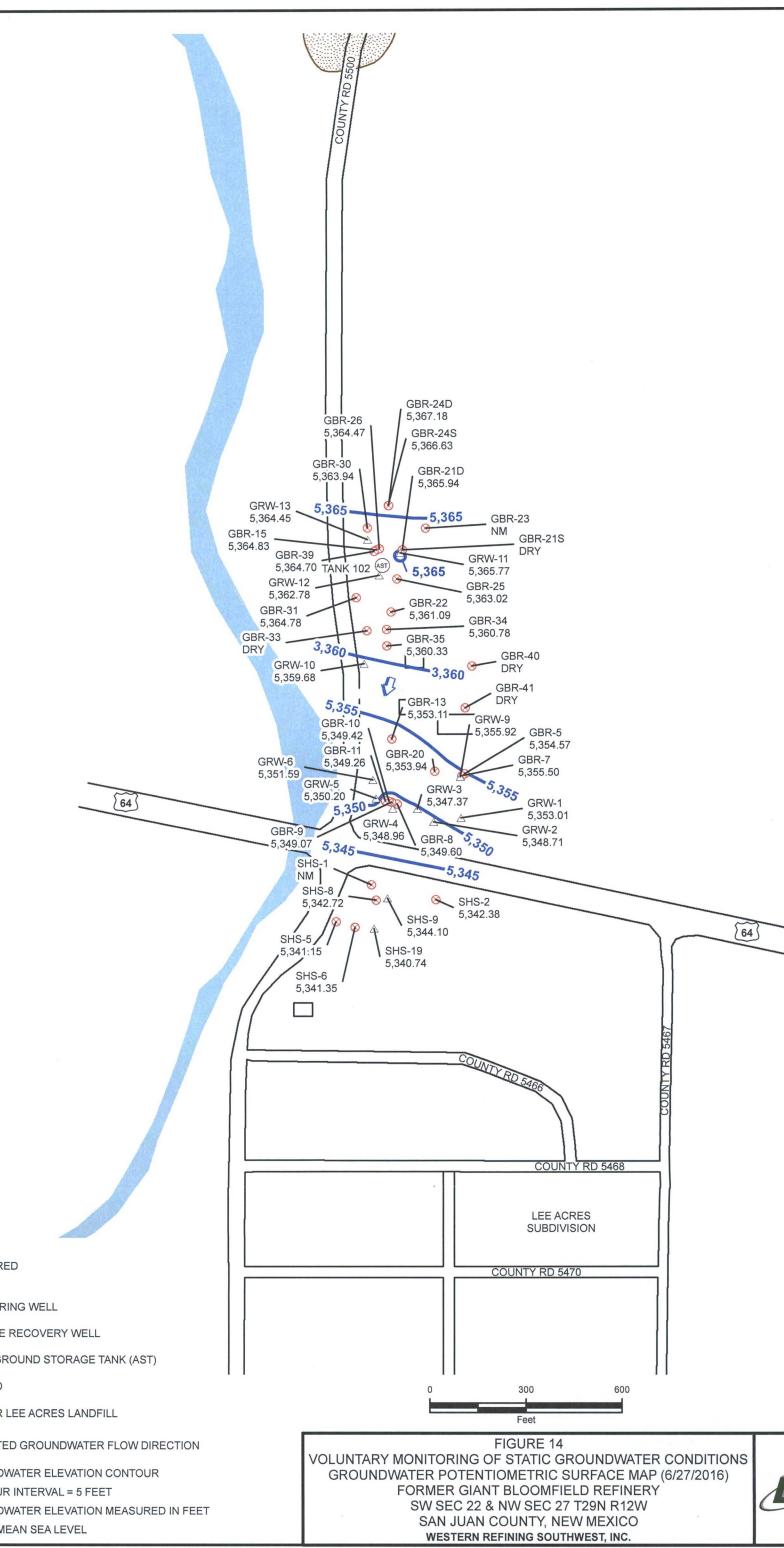
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- EASURED OVER
- ACTIVE RECOVERY WELL
- BOVEGROUND STORAGE TANK (AST)
- RROYO
- ORMER LEE ACRES LANDFILL
- STIMATED GROUNDWATER FLOW DIRECTION
- ROUNDWATER ELEVATION CONTOUR
- ONTOUR INTERVAL = 5 FEET
- ROUNDWATER ELEVATION MEASURED IN FEET
- BOVE MEAN SEA LEVEL

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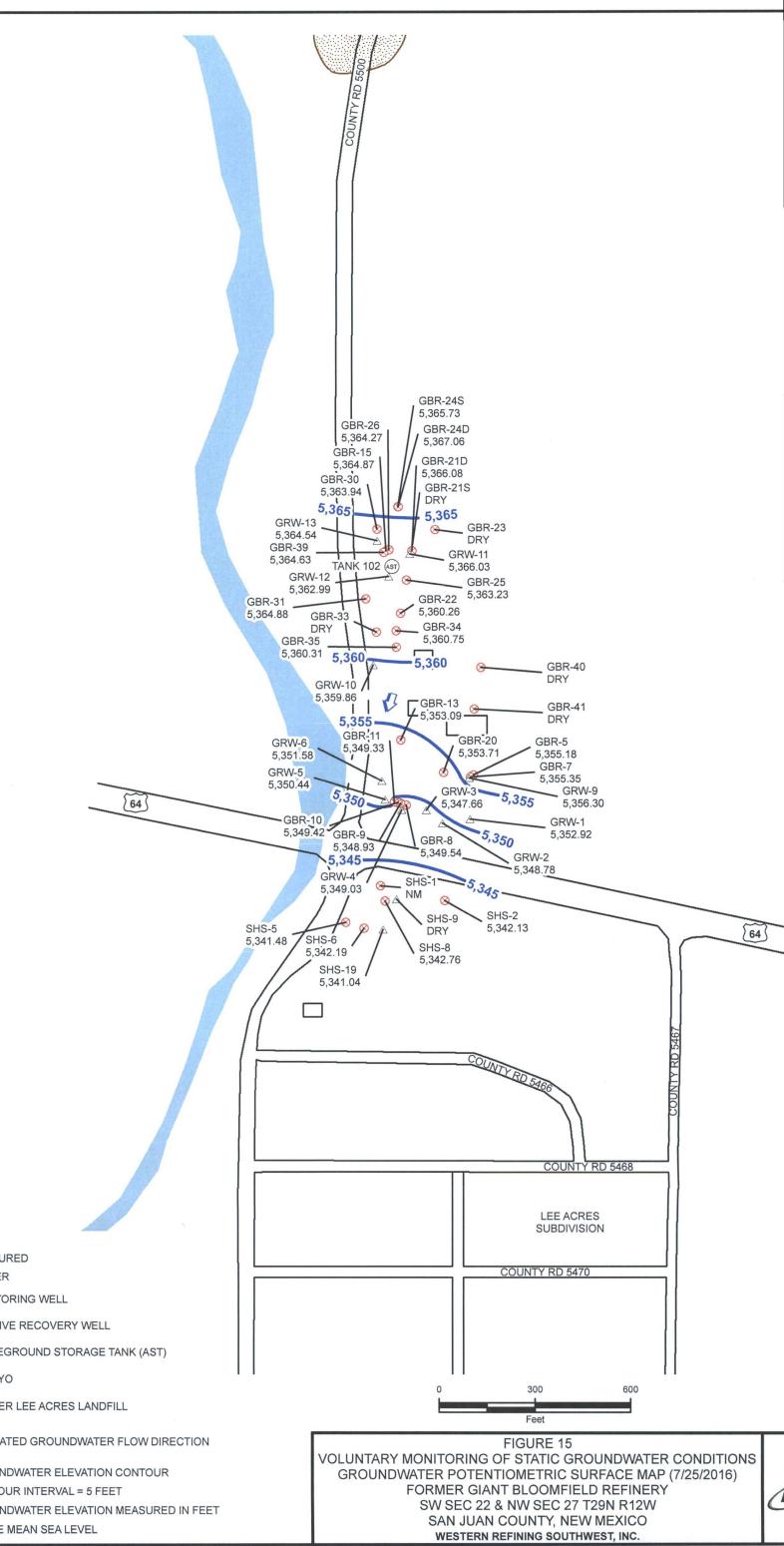


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- CTIVE RECOVERY WELL
- OVEGROUND STORAGE TANK (AST)
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- TIMATED GROUNDWATER FLOW DIRECTION
- OUNDWATER ELEVATION CONTOUR
- NTOUR INTERVAL = 5 FEET
- OUNDWATER ELEVATION MEASURED IN FEET
- OVE MEAN SEA LEVEL

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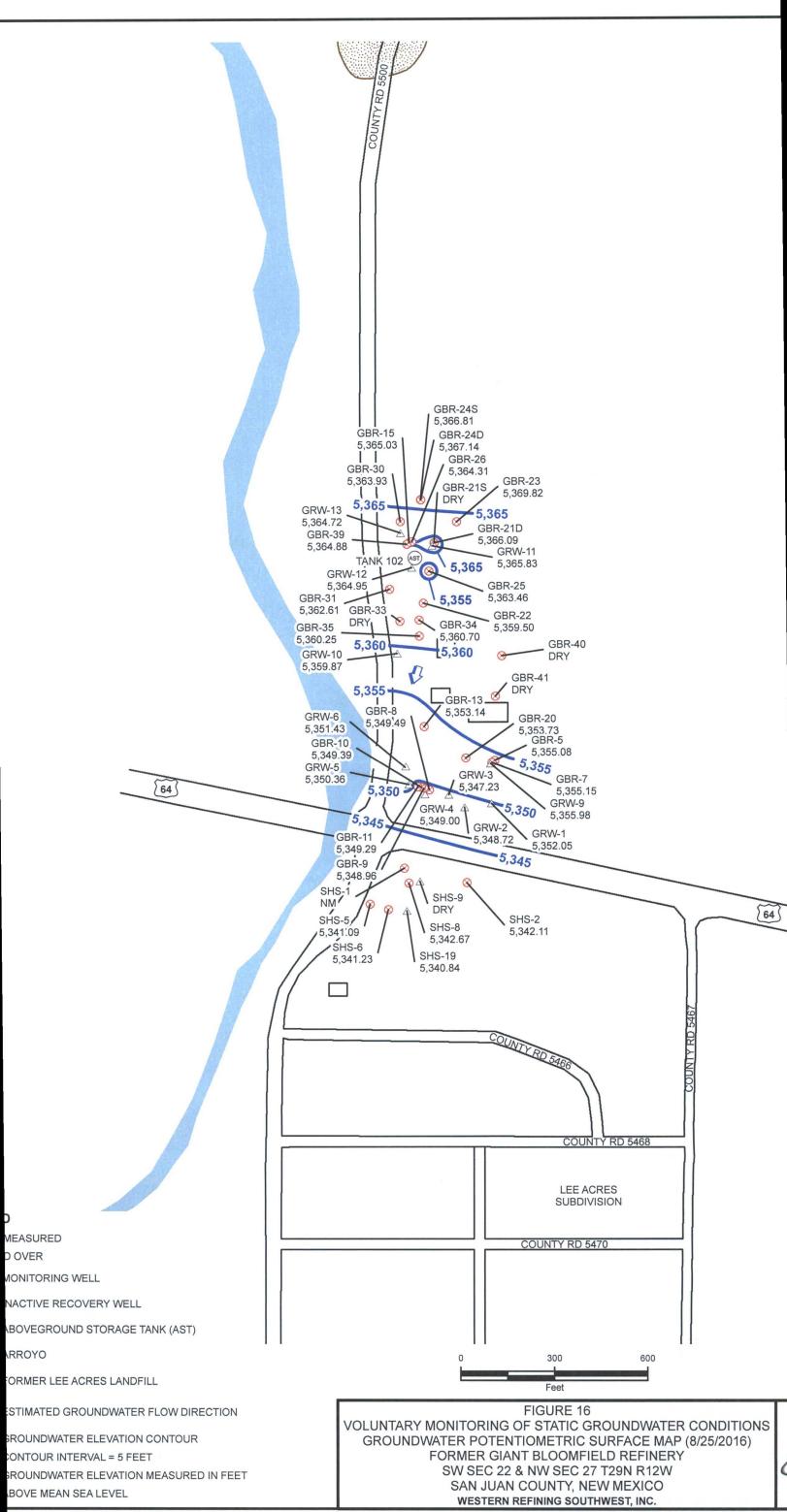
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- OVER
- ONITORING WELL
- ACTIVE RECOVERY WELL
- BOVEGROUND STORAGE TANK (AST)
- RROYO
- ORMER LEE ACRES LANDFILL
- STIMATED GROUNDWATER FLOW DIRECTION
- ROUNDWATER ELEVATION CONTOUR
- ONTOUR INTERVAL = 5 FEET
- ROUNDWATER ELEVATION MEASURED IN FEET
- BOVE MEAN SEA LEVEL

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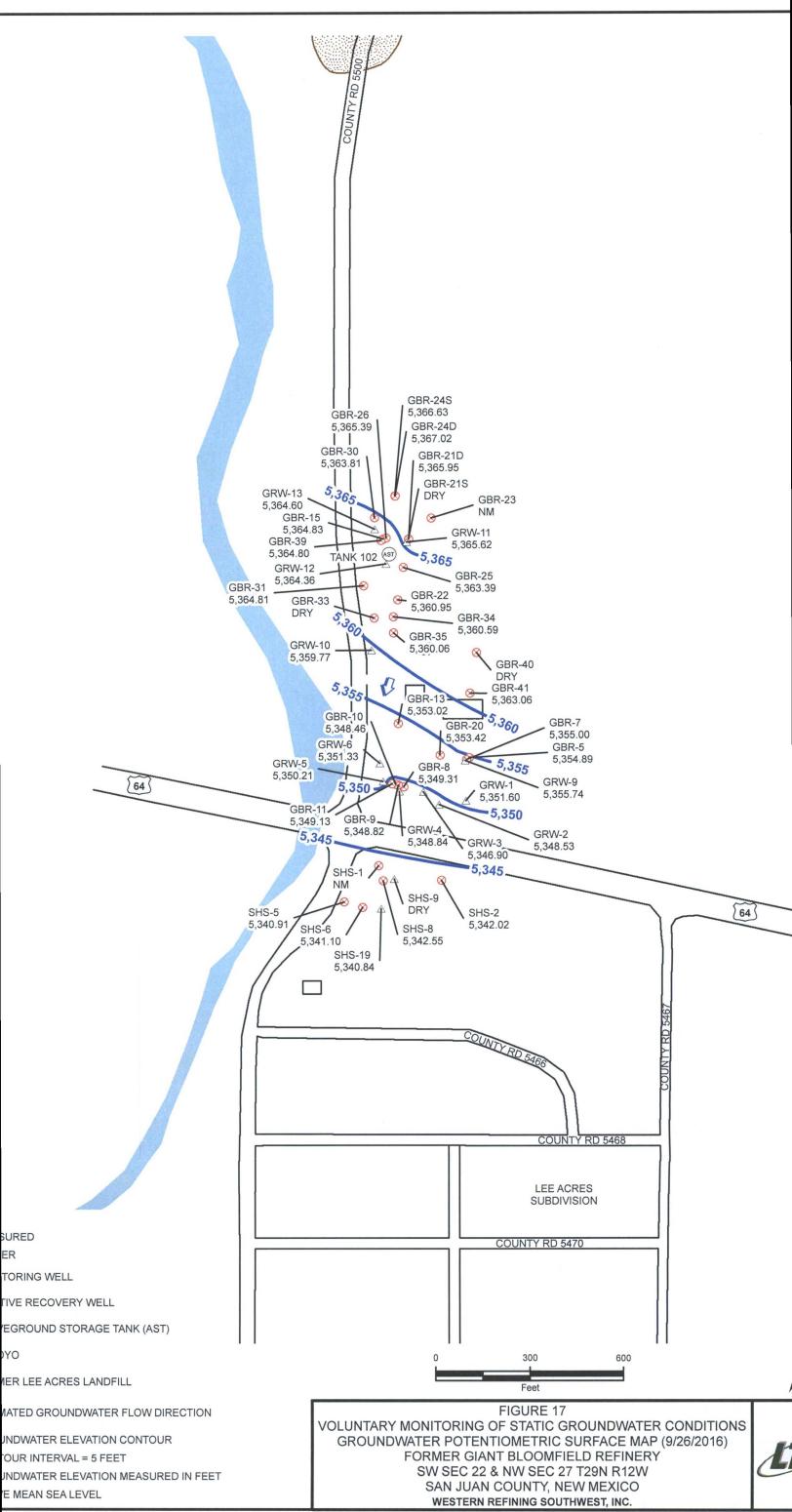


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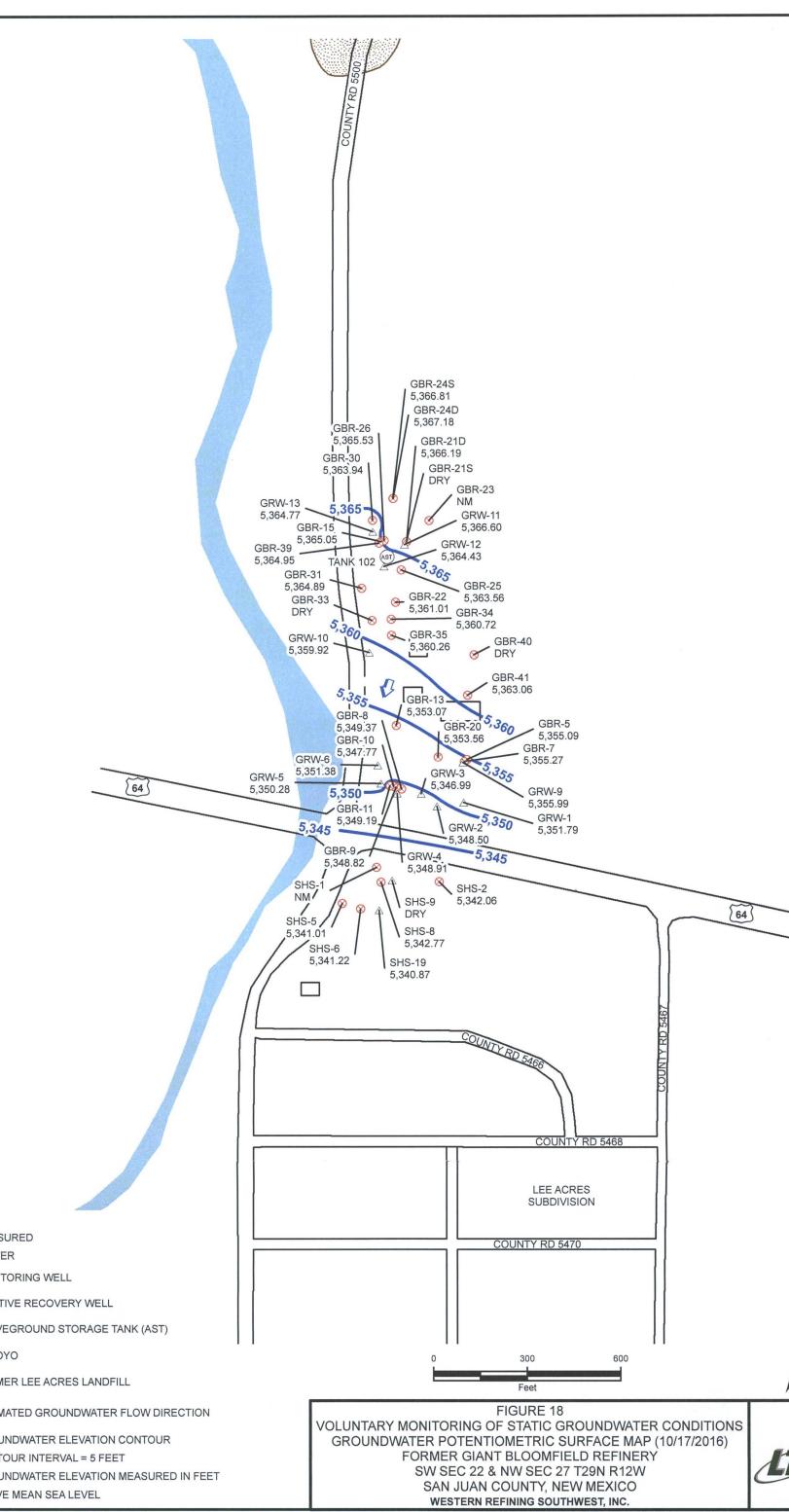
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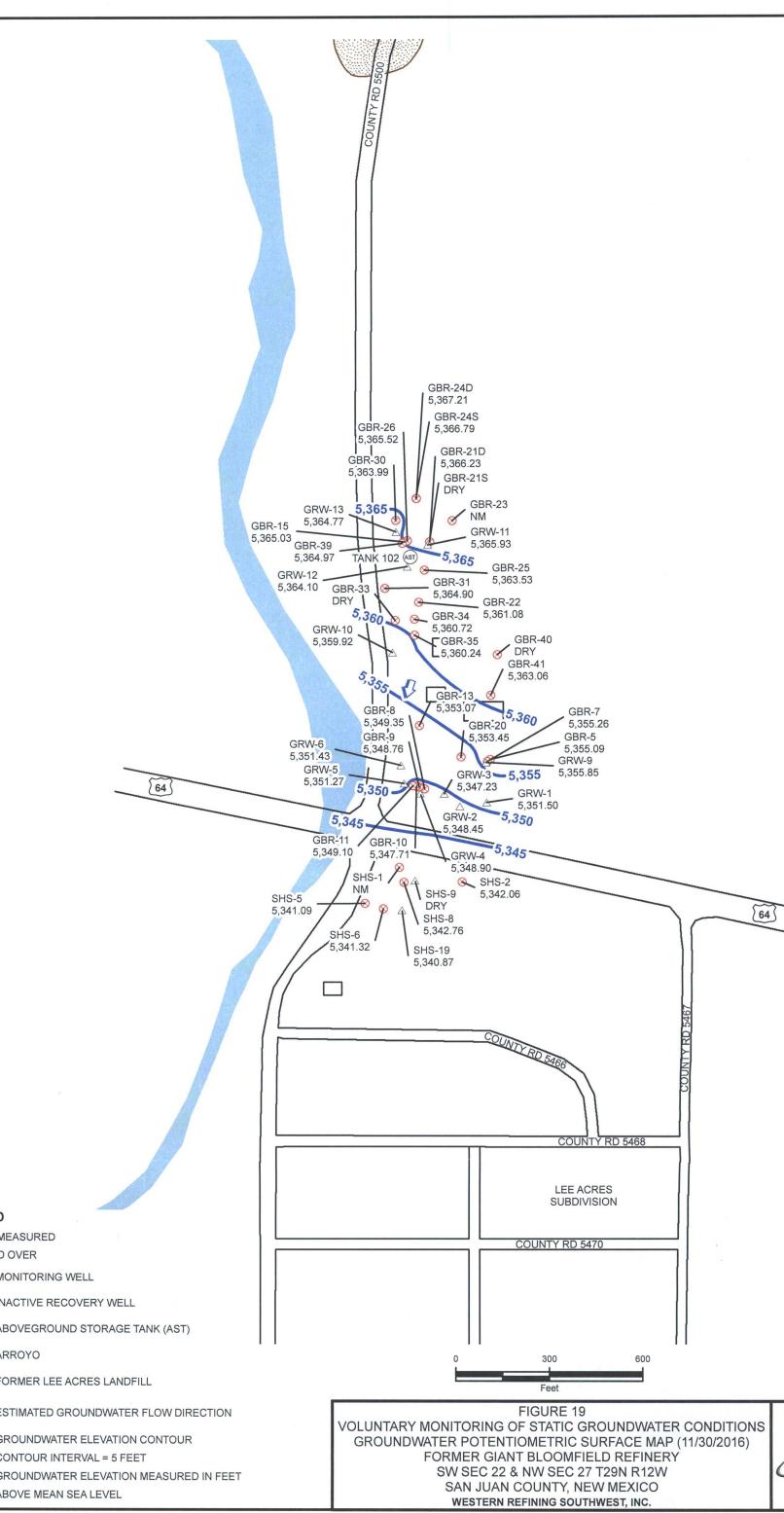
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MEASURED

IONITORING WELL

NACTIVE RECOVERY WELL

BOVEGROUND STORAGE TANK (AST)

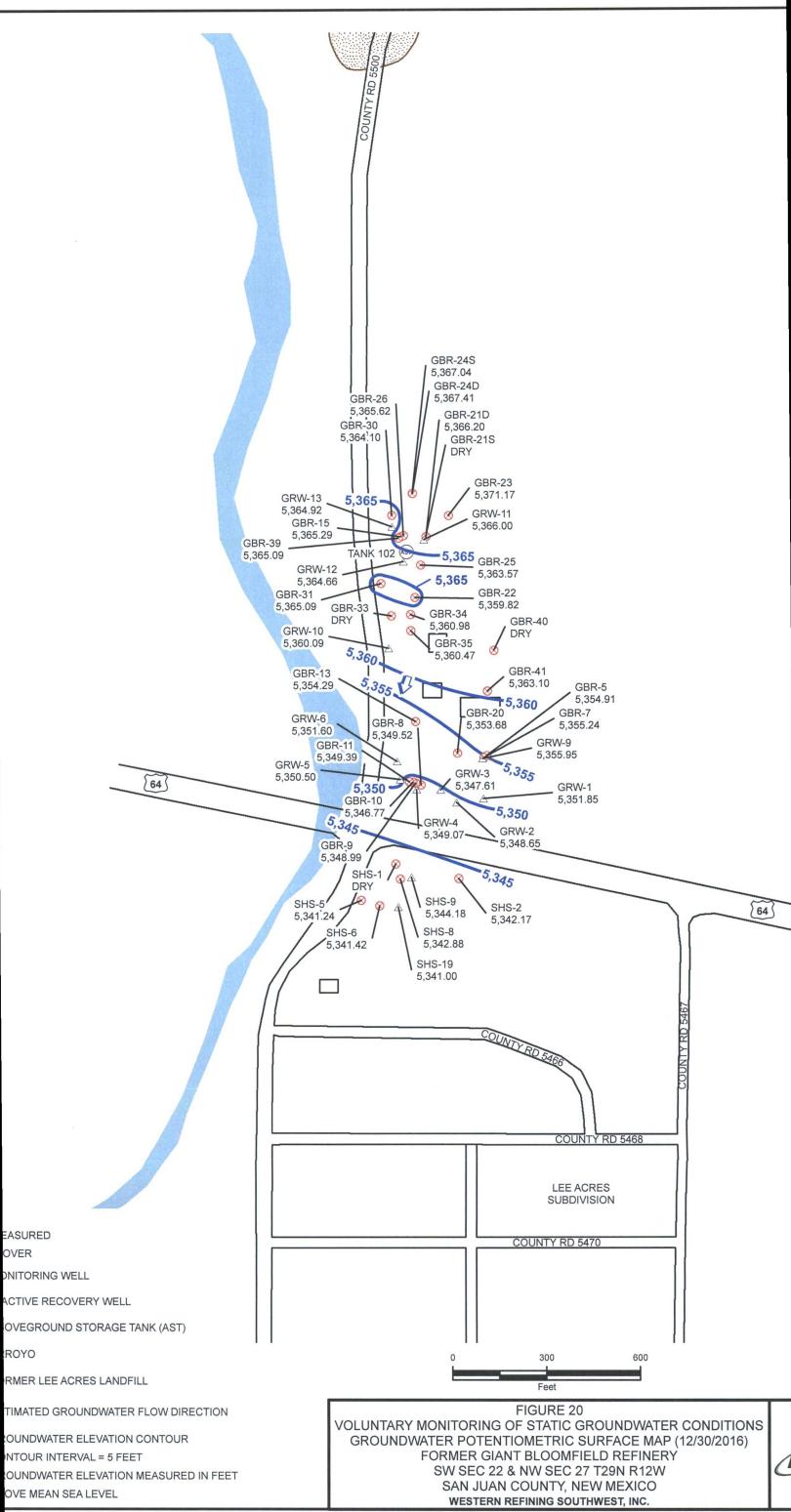
RROYO

STIMATED GROUNDWATER FLOW DIRECTION

GROUNDWATER ELEVATION CONTOUR

BOVE MEAN SEA LEVEL

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GROUNDWATER ELEVATIONS AND THICKNESS OF PHASE-SEPARATED HYDROCARBONS

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Well Number	Wellhead Elevation (feet)		January 2016				April 2016					July	2016		October 2016			
		Total Depth (feet)	Depth to Water (feet BTOC)	Depth to PSH (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	Depth to Water (feet BTOC)	Depth to PSH (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	Depth to Water (feet BTOC)	Depth to PSH (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	Depth to Water (feet BTOC)	Depth to PSH (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)
GRW-1	5,394.30	73.35	41.85	-	-	5,352.45	42.10	-	-	5,352.20	42.38	-	-	5,351.92	43.51	-	-	5,350.79
GRW-2	5,391.28	61.00	43.10	-	-	5,348.18	43.20	-	-	5,348.08	43.50	-	-	5,347.78	43.76	-	-	5,347.52
GRW-3	5,388.77	58.30	43.05	-	-	5,345.72	42.87	-		5,345.90	43.11	-	-	5,345.66	43.75	-	-	5,345.02
GRW-4	5,390.02	60.00	41.86	-		5,348.16	41.78	-	-	5,348.24	41.99	-	-	5,348.03	42.11	-	-	5,347.91
GRW-5	5,390.56	68.30	42.01	-	-	5,348.55	41.98	-	-	5,348.58	42.12	-	-	5,348.44	42.28	-	-	5,348.28
GRW-6	5,390.81	53.80	41.16	-	-	5,349.65	41.12	-	-	5,349.69	41.23	-	-	5,349.58	41.42	-	-	5,349.39
GRW-9	5,395.70	54.40	40.10	-	-	5,355.60	40.22	-	-	5,355.48	40.40	-	-	5,355.30	40.71	-	-	5,354.99
GRW-10	5,395.02	66.02	35.98	-	-	5,359.04	35.93	-	-	5,359.09	36.16	-	-	5,358.86	36.09	-	-	5,358.93
GRW-11	5,397.85	64.00	32.95	-	-	5,364.90	32.73	-	-	5,365.12	32.82	-	-	5,365.03	32.95	-	-	5,364.90
GRW-12	5,397.24	48.00	34.69	-	-	5.362.55	34.59	-	-	5.362.65	35.25	-	-	5,361.99	34.79	-	-	5,362.45
GRW-13	5,396.90	61.30	33.12	-	-	5,363.78	33.05	-	-	5,363.85	33.36	-	-	5,363.54	33.13	-	-	5,363.77
GBR-5	5,395.07	47.08	39.21	-		5,355.86	39.46	-	-	5,355.61	39.89	-	-	5,355.18	39.96		-	5,355.11
GBR-7	5.395.85	51.65	36.07	-		5,359.78	40.20	39.83	0.37	5,355.98	41.50	41.08	0.42	5.354.72	41.58	41.39	0.19	5,395.83
GBR-8	5,390.50	50.90	41.78	-	-	5,348.72	41.80	-	-	5,348.70	41.96		-	5.348.54	42.12	-	-	5,348.38
GBR-9	5,389.92	67.22	41.77	-	-	5,348.15	41.75	-		- 5,348.17	41.99	-	-	5,347.93	42.08		-	5,347.84
GBR-10	5,390.57	47.56	41.98	-	-	5,348.59	42.05	-	-	5,348.52	42.15	-	-	5,348.42	43.80	-		5,346.77
		51.87	40.95	-	-	5,348.48	42.03	-	-	5,347.53	41.10	-	-	5,348.33	43.80	-	-	
GBR-11	5,389.43				-			-	-							-	-	5,348.19
GBR-13	5,393.04	45.47	40.76	-	-	5,352.28	40.69			5,352.35	40.95	-	-	5,352.09	40.94	-	-	5,352.10
GBR-15	5,397.99	58.42	34.05	-	-	5,363.94	33.85	-	-	5,364.14	34.12	-	-	5,363.87	33.94	-	-	5,364.05
GBR-17	5,402.69	43.20	34.20	-	-	5,368.49	34.20	-	-	5,368.49	34.37	-	-	5,368.32	34.45	-	-	5,368.24
GBR-18	5,421.68	47.85	37.05	-	-	5,384.63	36.89	-	-	5,384.79	37.00	-	-	5,384.68	37.16	-	-	5,384.52
GBR-19	5,393.83	46.23	***		-	-		-	-	-		-	-	-	***	-	-	-
GBR-20	5,393.47	54.57	40.15	-	-	5,353.32	40.37	-	-	5,353.10	40.76	-	-	5,352.71	40.91	-	-	5,352.56
GBR-21D	5,400.19	49.77	36.41	-	-	5,363.78	36.05	-	-	5,364.14	36.11	-	-	5,364.08	36.00	-	-	5,364.19
GBR-21S	5,400.65	49.77	Dry		-	-	Dry	-	-	-	Dry	-	-	-	Dry	-	-	-
GBR-22	5,395.91	38.73	35.76	-	-	5,360.15	34.62	-	-	5,361.29	36.65	-	-	5,359.26	35.88	-	-	5,360.03
GBR-23	5,403.72	39.45	****	-	-	-	****	-	-	-	****	-	-	-	35.28	35.27	0.01	5,368.45
GBR-24D	5,396.77	51.40	31.53	-	-	5,365.24	31.33	-	-	5,365.44	31.40	-	-	5,365.37	31.29	-	-	5,365.48
GBR-24S	5,396.08	37.05	30.67	-	-	5,365.41	30.23	-	-	5,365.85	31.35	-	-	5,364.73	30.27	-	-	5,365.81
GBR-25	5,397.03	37.12	34.79	-		5,362.24	34.46	-	-	5,362.57	34.80	-	-	5,362.23	34.47	-	-	5,362.56
GBR-26	5,396.72	41.29	32.05	-	-	5,364.67	32.48	-	-	5,364.24	33.45	-	-	5,363.27	32.18	-	-	5,364.54
GBR-30	5,395.59	41.66	32.55	-		5,363.04	32.50	-	-	5,363.09	32.65	-	-	5,362.94	32.64	-	-	5,362.95
GBR-31	5,396.58	43.50	32.60	-	-	5,363.98	32.63	-	-	5,363.95	32.70	-	-	5,363.88	32.67	-	-	5,363.91
GBR-32	5,414.86	47.83	34.08	-	-	5,380.78	33.95	-	-	5,380.91	34.16	-		5,380.70	34.08	-	-	5,380.78
GBR-33	5,396.28	45.72	Dry	-	-	-												
GBR-34	5,394.00	42.20	34.23	-	-	5,359.77	34.10	-	-	5,359.90	34.25	-	-	5.359.75	34.28	-	-	5,359.72
GBR-35	5,393.66	42.35	34.31	-	-	5.359.35	34.20	-	-	5,359.46	34.35	-	-	5,359.31	34.40	-	-	5.359.26
GBR-39	5,397.55	41.42	33.75	-	-	5,363.80	33.51	-	-	5,364.04	33.92	-	· -	5,363.63	33.58	-	-	5,363.97
GBR-40	5,400.76	39.38	Dry	_		-	Drv	-	-	-	Drv	-	-	-	Dry	-	-	
GBR-40 GBR-41	5,396.35	34.28	Dry	-		-	Dry	-		-	Dry	-	-	-	Dry	-	-	
GBR-48	5,413.90	43.54	35.68	-		5,378.22	35.53		-	5,378.37	35.73	-		5,378.17	35.71	-	-	5,378.19
GBR-48 GBR-49	3,413.90	40.30	32.26	-	-	5,578.22	32.18	-	-	-	32.25	-	-	-	34.76	-	-	5,578.15
	*										31.23	-	-	-	31.31			
GBR-50		44.37	31.30	-	-	-	31.18	-	-	-					31.31	-	-	-
GBR-51	5,389.68	57.07	39.78	-	-	5,349.90	39.75	-	-	5,349.93	39.82	-	-	5,349.86		-	-	5,349.74
GBR-52	5,387.74	52.73	SCW	-	-	-	SCW	-	-	-	39.78	-	-	5,347.96	37.63	-	-	5,350.11

TABLE 1 GROUNDWATER ELEVATIONS AND THICKNESS OF PHASE-SEPARATED HYDROCARBONS

FORMER GIANT BLOOMFIELD REFINERY SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Well Number	Wellhead Elevation (feet)		January 2016					Apr	il 2016		July 2016				October 2016			
		Total Depth (feet)	Depth to Water (feet BTOC)	Depth to PSH (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	Depth to Water (feet BTOC)	Depth to PSH (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	Depth to Water (feet BTOC)	Depth to PSH (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	Depth to Water (feet BTOC)	Depth to PSH (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)
SHS-1	5,383.54	50.40	38.38	-	-	5,345.16	38.24	-	-	5,345.30	*****	-	-	-	*****	-	-	-
SHS-2	5,381.66	44.56	40.20	-	-	5,341.46	40.24	-	-	5,341.42	40.53	-	-	5,341.13	40.60	-	-	5,341.06
SHS-3	5,383.33	-	**	-	-	-	**	-	-		**		-		**			-
SHS-4	5,383.62	52.16	ICW	-	-	-	40.70	-	-	5,342.92	41.56	-	-	5,342.06	41.04	-	-	5,342.58
SHS-5	5,378.36	47.85	38.05	-	-	5,340.31	37.95	-	-	5,340.41	37.88	-	-	5,340.48	38.33	-	-	5,340.03
SHS-6	5,378.17	52.78	37.85	-	-	5,340.32	37.70	-	-	5,340.47	37.17	-	-	5,341.00	38.14	-	-	5,340.03
SHS-8	5,380.25	50.92	38.24	-	-	5,342.01	38.16	-	-	5,342.09	38.49	-	-	5,341.76	38.50	-	-	5,341.75
SHS-9	5,380.79	46.25	37.48	-	-	5,343.31	37.42	-	-	5,343.37	OBS	-	-	-	OBS	-	-	-
SHS-10	5,373.80	45.80	OBS	-	-	-												
SHS-12	5,373.94	52.41	39.12	-	-	5,334.82	38.87	-	-	5,335.07	38.72	-		5,335.22	Dry	-	-	-
SHS-13	5,367.81	47.51	35.71	-	-	5,332.10	35.44	-	-	5,332.37	35.24	-	-	5,332.57	36.12	-	-	5,331.69
SHS-14	5,367.07	52.71	34.00	-	-	5,333.07	33.68	-	-	5,333.39	33.53	-	-	5,333.54	34.52	-	-	5,332.55
SHS-15	5,366.21	47.78	****	-	-	-	****	-	-	-	****	-	-	-	****	-	-	-
SHS-16	5,362.58	42.20	30.60	-	-	5,331.98	30.35	-	-	5,332.23	30.42	-	-	5,332.16	31.10	-	-	5,331.48
SHS-17	5,364.35	46.21	32.52	-	-	5,331.83	32.25	-	-	5,332.10	32.17	-	-	5,332.18	32.97	-	-	5,331.38
SHS-18	5,373.64	47.36	39.15	-	-	5,334.49	38.90	-	-	5,334.74	38.82	-	-	5,334.82	39.61	-	-	5,334.03
SHS-19	5,378.89	52.40	37.82	-	-	5,341.07	37.70	-	-	5,341.19	37.85	-	-	5,341.04	38.12	-	-	5,340.77

Notes:

BTOC - below top of casing

D - designates the well screen is deep

DES - destroyed

GWEL - groundwater elevation PSH - phase-separated hydrocarbon

S - designates the well screen is shallow

ICW - indicates the well was covered in ice and inaccessible at time of measurement

SCW - indicates the well was covered with sand and inaccessible at time of measurement

SC w = indicates the well was covered with sand and inaccessible at time of measurement

OBS - indicates an obstruction in the well, inaccessible at time of measurement

* Top-of-casing elevation is unknown

** Well is damaged by a tree root

*** Well was paved over in June 2010 **** Well hit by a vehicle May 2014

***** Well visibly broken/buried January 2016

****** Well buried and unable to locate May 2016

- indicates no GWEL or PSH measured

When PSH is detected, the GWEL is corrected using an estimated density correction factor of 0.88.