

March 8, 2018

Via Certified Mail Return Reciept No. 70162140000038673819

Randy Bayliss New Mexico Energy, Minerals & Natural Resources Dept. Environmental Bureau 1220 South St. Francis Drive Santa Fe, NM 87505



Re: 2017 Annual Report – Former Giant Bloomfield Refinery OCD Discharge Permit GW-040

Dear Mr. Bayliss:

Please find enclosed the 2017 Annual Report for the former Giant Bloomfield Refinery located in the NW quarter of Section 27 and SW quarter of Section 22, Township 29N, Range 12W in San Juan County, New Mexico. This Annual Report contains a summary of groundwater monitoring activities conducted between January, 2017 and December, 2017.

If you should have any questions or require additional information, please do not hesitate to contact me at (915) 534-1483.

Sincerely,

ALLEN S. HAINS

Manager, Remediation Projects Western Refining Southwest, Inc.

Cc: Brandon Powell, NM OCD Aztec District Office

Via Certified Mail Return Receipt No. 70162140000038673840

## 2017 ANNUAL REPORT

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

MAR 09 2018
DISTRICT 111

**FEBRUARY 2018** 



WESTERN REFINING SOUTHWEST, INC. Bloomfield, New Mexico

## 2017 ANNUAL REPORT

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

### **FEBRUARY 2018**

### Prepared for:

WESTERN REFINING SOUTHWEST, INC. 111 County Road 4990 Bloomfield, New Mexico 87413

Prepared by:

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#### **EXECUTIVE SUMMARY**

This 2017 Annual Report summarizes work completed from January 2017 through December 2017 at the former Giant Bloomfield Refinery (Site) in Bloomfield, New Mexico. The scope of work for this project was the continued monitoring of petroleum hydrocarbon impacts to groundwater 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 13 years. Due to these observed conditions, in 2015 Western implemented more intensive monitoring of the groundwater to evaluate background water quality and the extent of any residual impact. 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 phase-separated hydrocarbon (PSH) accumulation for a 5-month period under static conditions. 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 more frequent groundwater monitoring in 2016 to confirm equilibrium conditions and better characterize residual impact. Monthly voluntary monitoring of static groundwater conditions continued throughout 2017. Annual groundwater monitoring was conducted in December 2017. Groundwater samples were analyzed in accordance with 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 wells and recovery wells. Additionally, at the request of the New Mexico Department of Transportation (NMDOT) and with approval from the New Mexico Office of the State Engineer (NMOSE) and the NMOCD, Western plugged and abandoned 5 offsite monitoring wells SHS-1 through SHS-5 that were located in the NMDOT right of way. Prior to plugging and abandonment activities, groundwater samples were collected from the monitoring wells and analytical results did not exceed NMWQCC Standards.



#### 1.0 INTRODUCTION

This 2017 Annual Report summarizes groundwater monitoring activities completed between January 2017 and December 2017 at the former Giant Bloomfield Refinery (Site) in Bloomfield, 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); however, Western did not discharge any water at the Site during 2017. 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 13 years. Due to these observed conditions, in 2015 Western implemented more intensive monitoring of the groundwater to evaluate background water quality and the extent of any residual impact. 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 phase-separated hydrocarbon (PSH) accumulation for a 5-month period under static conditions. 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 more frequent groundwater monitoring. Western monitored monthly static groundwater conditions at the Site during 2017 to confirm those conclusions and conducted annual compliance sampling. Additionally, at the request of the New Mexico Department of Transportation (NMDOT) and with approval by the New Mexico Office of the State Engineer (NMOSE) and the NMOCD, Western plugged and abandoned monitoring wells SHS-1 through SHS-5. Prior to plugging and abandonment activities, groundwater samples were collected from these monitoring wells.

#### 1.1 SITE DESCRIPTION

The Site is on the northeast corner of United States 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). Components of the former remediation system still on site include two control buildings, two carbon filtration tanks, an aboveground storage tank, an infiltration trench, groundwater monitoring wells, and groundwater recovery wells (Figure 2).

#### 1.2 SITE HISTORY

The former refinery, under ownership of Giant Industries (Giant), Arizona, produced leaded and unleaded gasoline, diesel, kerosene, and other refined petroleum products from 1974 to 1982 and is currently 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 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 upgradient 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 upgradient 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 6.0 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 (TCE).

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 monitoring 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 monitoring and recovery 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 reinjected treated groundwater into the subsurface through two infiltration trenches. Western acquired the Site from Giant in June 2007.

As groundwater quality improved over time, the remediation system was gradually simplified and eventually shut down following extensive assessment of site conditions. The air stripper was



eliminated in the 1980s once product accumulation declined. 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 repaired 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.

Western stopped recovering groundwater south of Highway 64 in 2009 as groundwater sampling results indicated no change to contaminant concentrations. Aboveground storage of groundwater was eliminated in 2014 based on reduced groundwater recovery volumes. 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 regular 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. A second sampling and monitoring event was conducted on the same groundwater monitoring wells to compare active groundwater recovery to static conditions. Assessment results suggested the remediation system had successfully remediated the groundwater impact it was originally designed to address, but was no longer an effective method for remediating residual impact at the Site. As such, Western did not turn the recovery system back on, focusing instead on monitoring existing site conditions to better characterize the residual impact. Results of the assessment were included in the 2015 Annual Report.

In August 2015, additional groundwater samples were collected from select monitoring wells in an attempt to establish a reference for groundwater conditions when the remediation system is operational. Historical documentation was reviewed to determine which wells had the most potential to contain impacted groundwater or to exhibit a change in water quality before and after the remediation system was inactivated. 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. Samples from these monitoring wells were collected and analyzed for chloride by Environmental Protection Agency (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. Follow-up samples were collected after the system was turned off and groundwater conditions were allowed to equilibrate. Sampling from these monitoring wells under equilibrium conditions continued in March, July, and October of 2016 and were documented in the 2016 Annual Report.

#### 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 used 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.

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

The scope of work for this project in 2017 included, quarterly and monthly monitoring of groundwater quality and the presence of PSH under equilibrium conditions, an annual compliance groundwater sampling event, and the plugging and abandonment of SHS-1 through SHS-5 which included the collection of additional groundwater samples. A summary of field activities, results, and conclusions, as related to annual discharge permit compliance and monitoring results are presented in the subsequent sections of this report.



#### 2.0 METHODOLOGY

#### 2.1 ANNUAL GROUNDWATER MONITORING COMPLIANCE

Although no discharge occurred during 2017, Western conducted annual compliance sampling of wells specified in Discharge Permit GW-040.

Western measured depth to groundwater quarterly at 53 monitoring wells and 15 former recovery wells with a Keck oil-water interface probe. The interface probe was decontaminated with Alconox<sup>TM</sup> soap and rinsed with de-ionized water before each measurement. Depth to groundwater measurements were used to calculate quarterly groundwater elevations at the Site to determine direction of groundwater flow.

Annual groundwater compliance samples were collected in December 2017. Samples were collected from groundwater monitoring wells and former recovery wells within and south of Highway 64 as specified in Discharge Permit GW-040. 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 collected from 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 were analyzed for VOCs according to EPA Method 8260B and general water chemistry (GWC) parameters including pH by EPA Standard Method 4500, EC by EPA Method 2510B, 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. Groundwater samples collected from monitoring wells GRW-3, GRW-6, GBR-17, GBR-24D, GBR-30, and GBR-31 were also analyzed for polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270C. Groundwater samples collected from GBR-32, GBR-48, GBR-49, and GBR-50 were also analyzed for metals (barium, beryllium, cadmium, chromium, copper, lead, nickel, silver, zinc, antimony, arsenic, selenium, thallium, and mercury).

#### 2.2 VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS

In August 2015, additional monthly monitoring efforts were implemented to assess the effectiveness of remediation activities. These efforts continued in 2017 as part of an additional site investigation to understand remaining impact at the Site. Monthly monitoring activities included measuring depth to water, depth to product, field headspace, and observing for the presence of sheen and odor. Wells included in the monthly monitoring consisted of monitoring wells and former recovery wells within the facility boundary and within the easement located



south of Highway 64. This did not include upgradient monitoring wells, cross-gradient monitoring and recovery wells, and monitoring and former recovery wells located south of monitoring well SHS-19 (Figure 5).

#### 2.3 GROUNDWATER MONITORING OF SHS-1 THROUGH SHS-5

At the request of the NMDOT, Western submitted Well Plugging Plans of Operations to the NMOSE to plug and abandon SHS-1, SHS-2, SHS-3, SHS-4, and SHS-5 on June 5, 2017, approved on June 7, 2017. On June 14, 2017, each well was cemented to the surface and the well vault was removed per the NMOSE requirements. Prior to the plugging and abandonment activities, groundwater samples were collected from monitoring wells SHS-1, SHS-2, SHS-4, and SHS-5 and submitted to HEAL for laboratory analysis of GWC parameters including pH by EPA Standard Method 4500, EC by EPA Method 2510B, TDS by EPA Standard Method 2540C, alkalinity by EPA Standard Method 2320B, hardness by EPA Standard Method 2340B, anions (chloride and sulfate) by EPA Method 300.0, and cations (calcium, magnesium, potassium, and sodium) by EPA Method 200.7, and TPH-GRO, TPH-DRO, and TPH-motor oil range organics (MRO) by EPA Method 8015D. A sample was not collected from monitoring well SHS-3 due to an obstruction in the well.



#### 3.0 RESULTS

#### 3.1 ANNUAL GROUNDWATER MONITORING COMPLIANCE

Groundwater elevations measured in groundwater monitoring and recovery 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 due to the fact that 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 from 2017 as compared to New Mexico Water Quality Control Commission (NMWQCC) standards are summarized below:

- VOCs were detected in the annual groundwater samples in trace concentrations that did not exceed NMWQCC standards;
  - o EDC was detected in groundwater from monitoring well GBR-24D;
  - PCE was detected in groundwater from monitoring wells GBR-30, GBR-32 and GBR-48:
  - o TCE was detected in groundwater from monitoring well GBR-48; and
  - Sec-butylbenzene and tert-butylbenzene were detected in groundwater from monitoring well GRW-3;
- PAHs were detected in the annual groundwater samples in trace concentrations that did not exceed NMWQCC standards;
  - o Naphthalene, Acenaphthene, and Fluorene was detected in groundwater from former recovery well GRW-3;
- Sulfate concentrations exceeded the NMWQCC standard in all samples collected from groundwater monitoring and former recovery wells;
- TDS exceeded the NMWQCC standard in all samples collected from the groundwater monitoring and former recovery wells;
- Chloride concentrations exceeded the NMWQCC standard in groundwater samples collected from up-gradient wells GBR-32, and GBR-48;
- Chromium concentrations in groundwater from GBR-32, GBR-48, and GBR-50 exceeded the NMWQCC standard. Chromium was detected in GBR-49 but did not exceed the NMWQCC standard. These monitoring wells are located within the arroyo adjacent to and upgradient of the Site;
- Iron was detected in concentrations exceeding the NMWQCC standard in annual groundwater samples from all groundwater monitoring and former recovery wells, except GBR-49, GBR-51 and GBR-52;



 Manganese was detected in concentrations exceeding the NMWQCC standard in annual groundwater samples from all groundwater monitoring and former recovery wells, except GBR-51 and GBR-52;

#### 3.2 VOLUNTARY MONITORING OF STATIC GROUNDWATER CONDITIONS

Groundwater elevations and PSH measured in groundwater monitoring and recovery wells and water quality observations are presented in Table 3, monthly potentiometric surface maps are depicted on Figures 10 through 21. PSH was observed in monitoring wells GBR-5, GBR-7, GBR-23, and GBR-41. Results indicate no change from historical results with the exception of depressions around groundwater recovery wells which no are longer in operation following the system shutdown.

#### 3.3 GROUNDWATER MONITORING OF SHS-1 THROUGH SHS-5

Laboratory analytical results from groundwater samples collected at SHS-1, SHS-2, SHS-4, and SHS-5 are presented in Table 4, and the complete laboratory analytical reports are presented in Appendix A.



#### 4.0 CONCLUSIONS

By 2015, Western had documented over 13 years of pumping and treating groundwater that did 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 at the Site. Continued monitoring and sampling conducted under equilibrium conditions suggest the remediation system was not actively remediating contaminants of concern at the Site and Western did not reactivate the system.

Conclusions from the continued monitoring of static groundwater conditions at the Site include:

- PSH accumulation did not change significantly from observations during pumping conditions:
  - Although measurable PSH was observed in monitoring wells GBR-5, GBR-7, GBR-23, and GBR-41, these wells have historically contained PSH;
  - o 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.

Annual Compliance sampling was conducted in December 2017. Contaminants of concern were either not detected in groundwater samples or, if detected, can be attributed to an upgradient source or naturally occurring background conditions. Annual groundwater samples collected from monitoring and recovery wells did not contain VOCs or PAHs exceeding NMWQCC standards.

Annual groundwater monitoring well samples are consistently compliant with standards for general chemistry parameters and metals, with the exception of TDS, chloride, and sulfate. Elevated sulfate, chloride, and TDS are historically characteristic of groundwater at the Site and are most likely related to historic releases at the Lee Acres Landfill reported in 1985. These analytes were identified in earlier studies as constituents within the groundwater contaminant plume that originated from the landfill. Previous investigations at the landfill reported elevated levels of chloride present in the water sampled from the liquid waste lagoons (McQuillan, D. and Longmire, P., Water Quality Investigations at the Lee Acres Landfill and Vicinity, San Juan County, New Mexico), and the landfill accepted produced water from natural gas well operations in the San Juan Basin. During initial landfill investigations, the upgradient area near GBR-32, GBR-48, GBR-49, and GBR-50 was identified as the "northern containment slug." Groundwater representative of this area contained TDS concentrations ranging from 2,125 milligrams per kilogram (mg/kg) to 6,068 mg/kg, sulfate concentrations ranging from 1,920 mg/kg to 5,830 mg/kg, and chloride concentrations ranging from 14.7 mg/kg to 2,110 mg/kg (Roy F. Weston, Inc., Remedial Investigation Report for Lee Acres Landfill, Volume 1).



Heavy metals, including chromium, iron, manganese, and nickel were detected in groundwater monitoring and former recovery wells during the annual sampling in December 2017. Additionally, chromium, iron and manganese concentrations exceeded NMWQCC standards. Previous studies conducted for the Lee Acres Landfill identified chromium, iron, lead, manganese, nickel, and selenium in groundwater sampled upgradient of the Site. *The Remedial Investigation Report for Lee Acres Landfill, Volume 1* states that the upgradient background alluvial aquifer contains elevated levels of chromium and manganese and suggests an unidentified source that is unrelated to the landfill or the Site.

It is apparent that the remediation system successfully remediated petroleum hydrocarbon impacts as designed. Following the reduction in petroleum 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 demonstrated the remediation system has no effect on existing hydrocarbon groundwater impacts or the migration of impacts off site. Residual impacts at the Site consist of PSH accumulations, which based on thicknesses measured and locations consistent with original source areas, are likely to be adsorbed by 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.



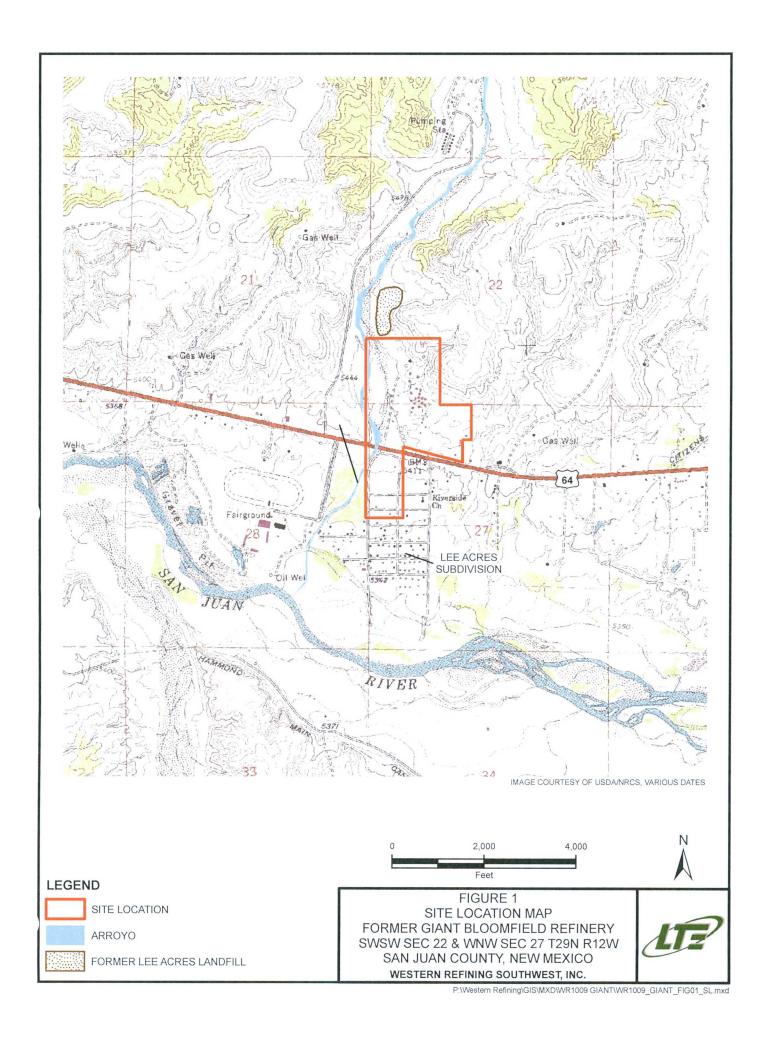
#### 5.0 REFERENCES

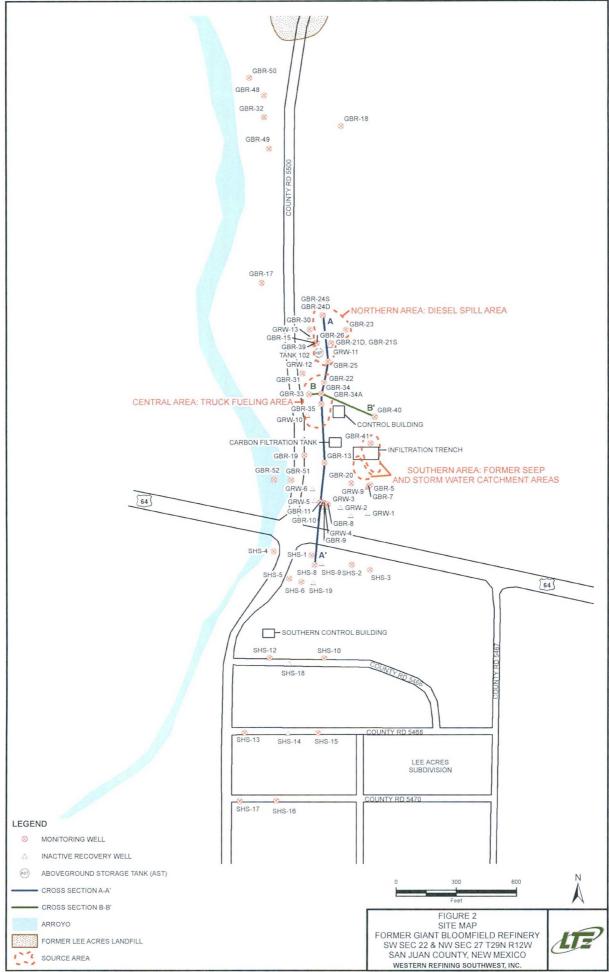
- AEPCO, Inc. Site Investigation Report for Lee Acres Site, San Juan County, New Mexico (Final Report), BLM Contract NO. AA852-Ct5-26, United States Department of the Interior, BLM, Washing D.C., May 1986.
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- Roy F. Weston, Inc. Remedial Investigation Report for Lee Acres Landfill, Volumes 1-3, Albuquerque, NM, September 1992.
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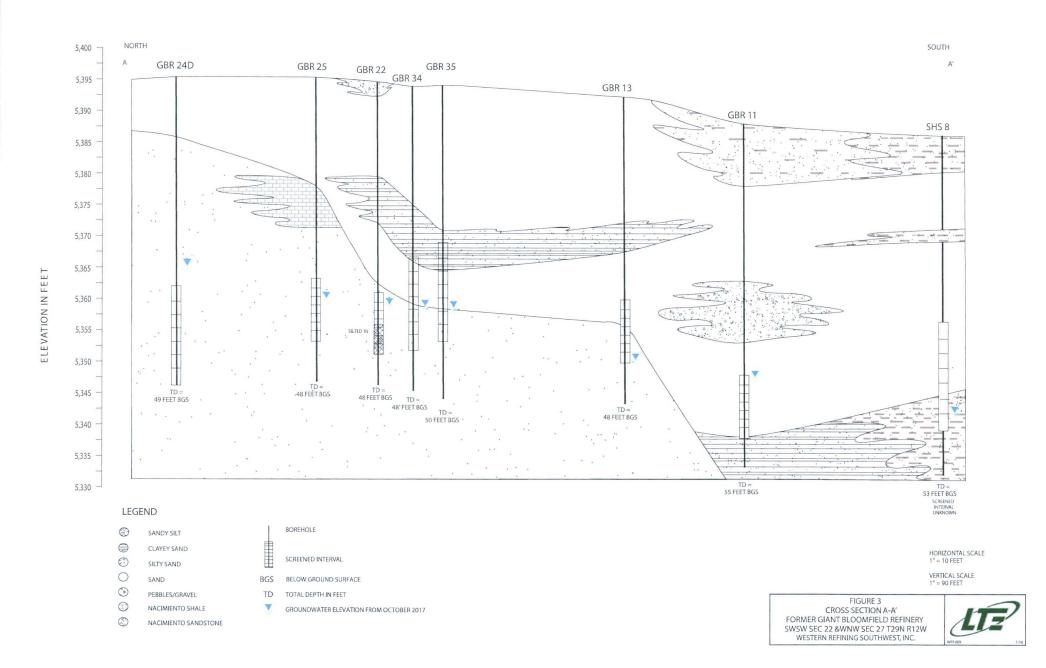


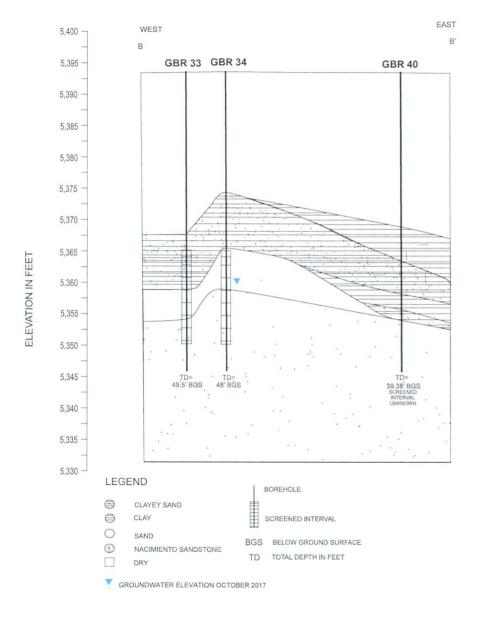
### **FIGURES**









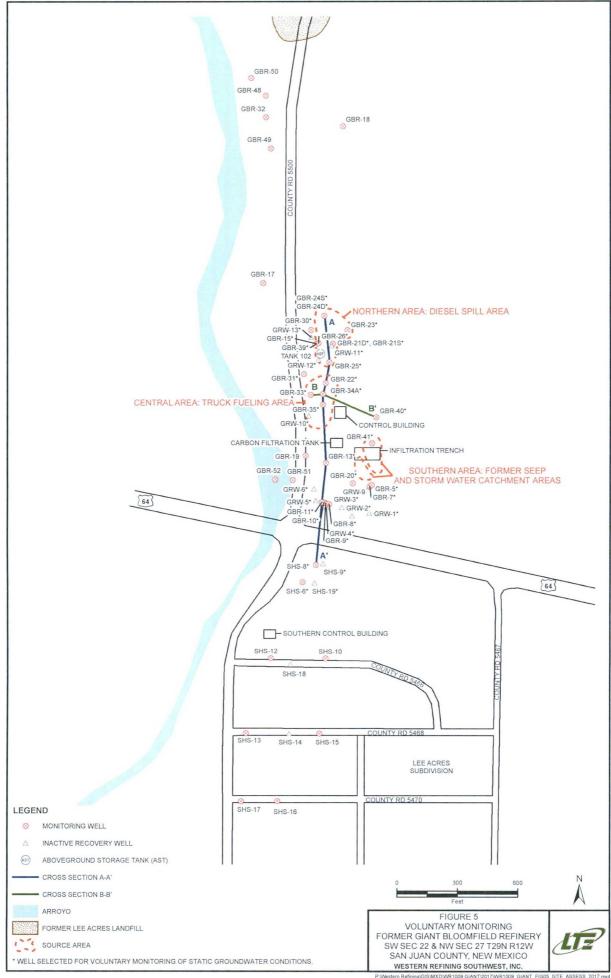


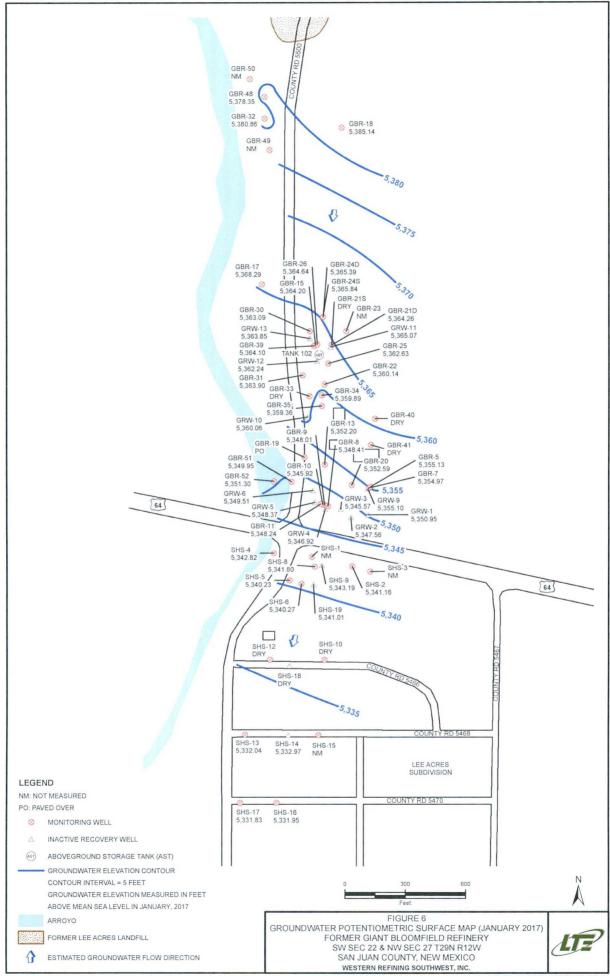
HORIZONTAL SCALE 1" = 10 FEET

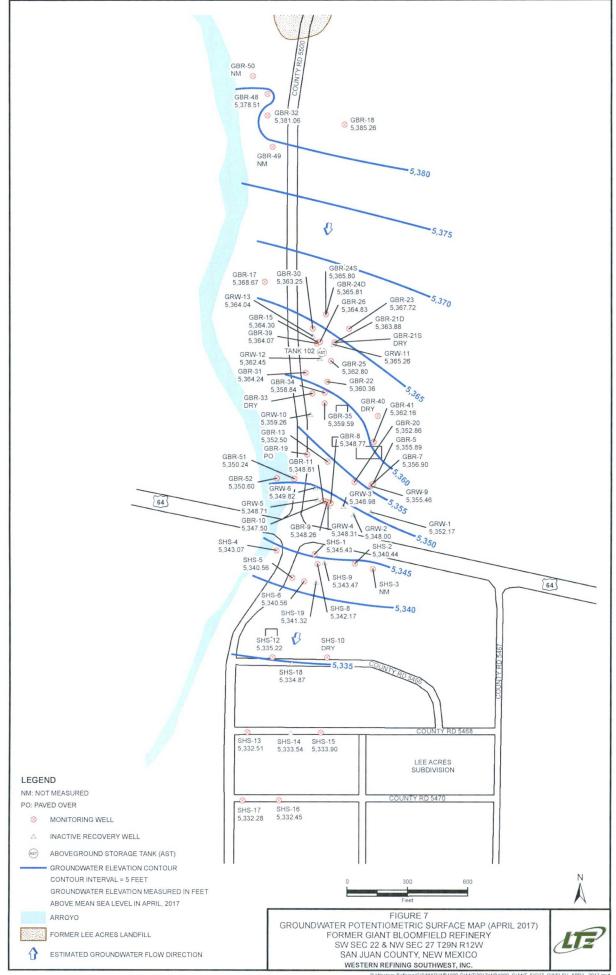
VERTICAL SCALE 1" = 90 FEET

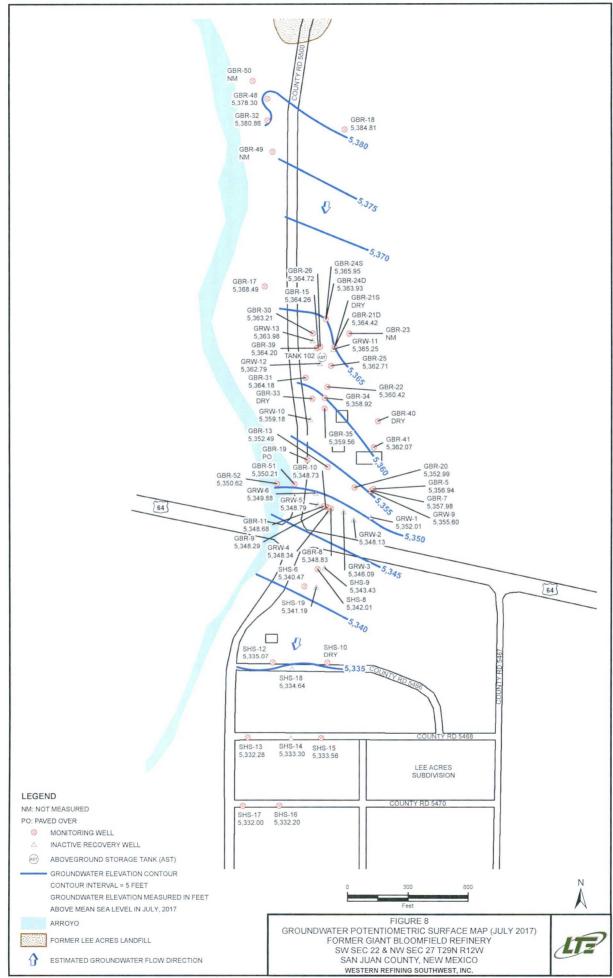
FIGURE 4
CROSS SECTION B-B'
FORMER GIANT BLOOMFIELD REFINERY
SWSW SEC 22 &WW SEC 27 T29N R12W
WESTERN REFINING SOUTHWEST, INC.

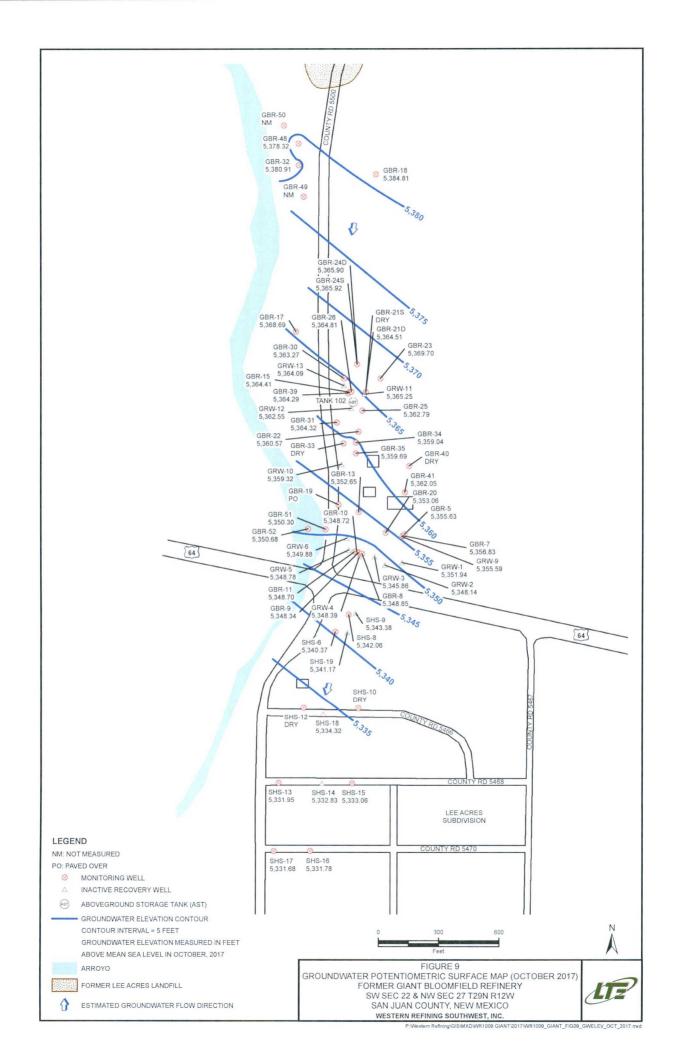


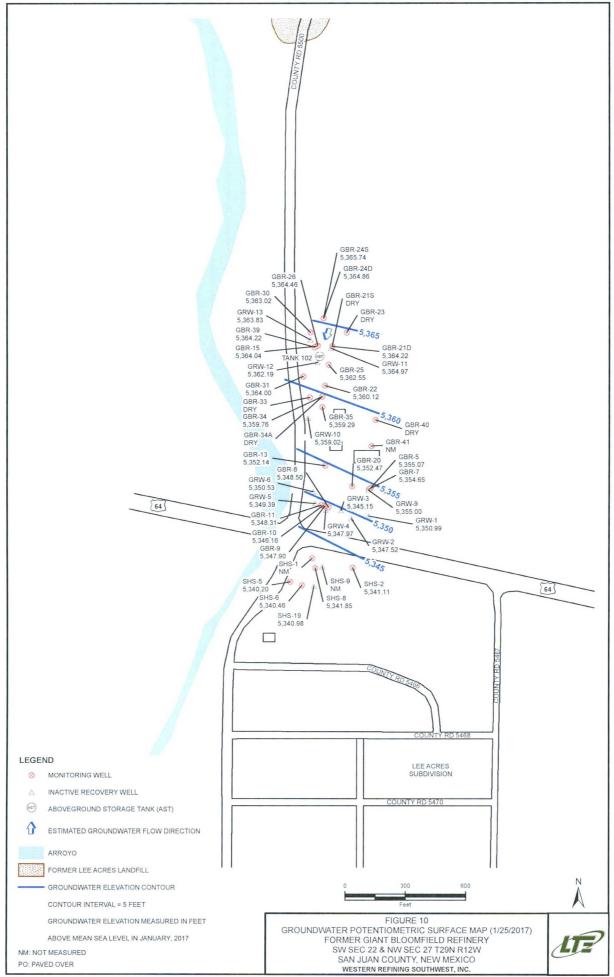


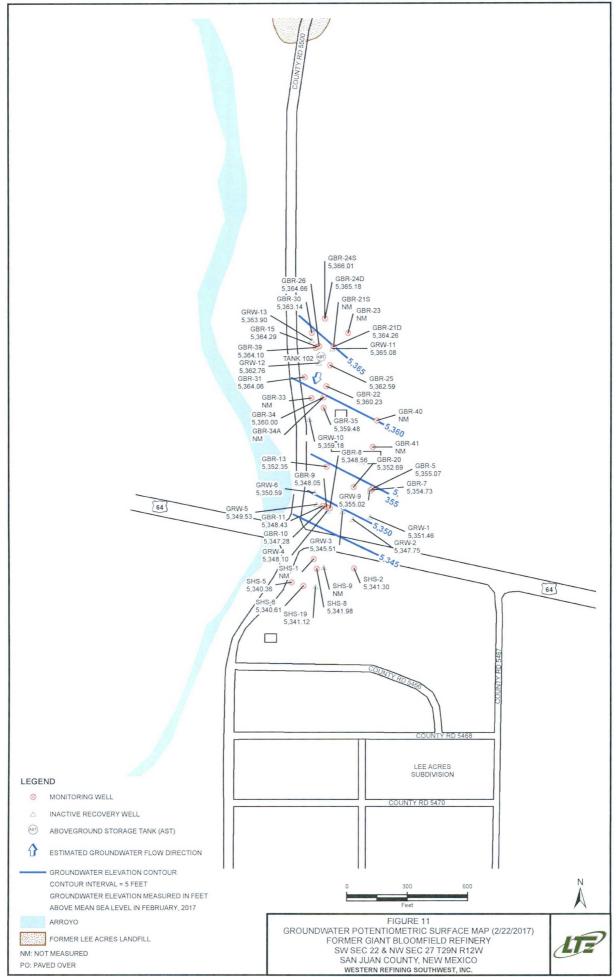


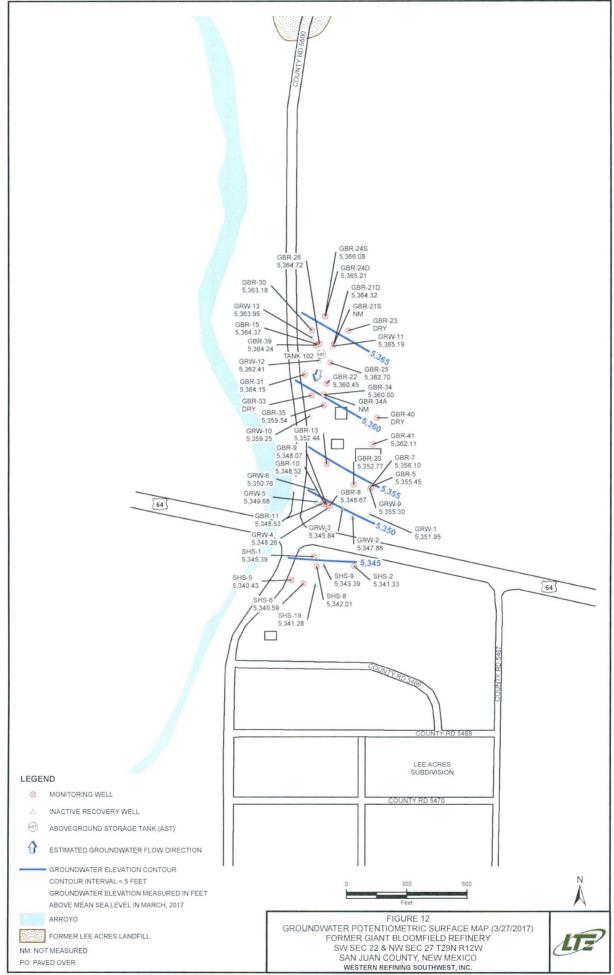


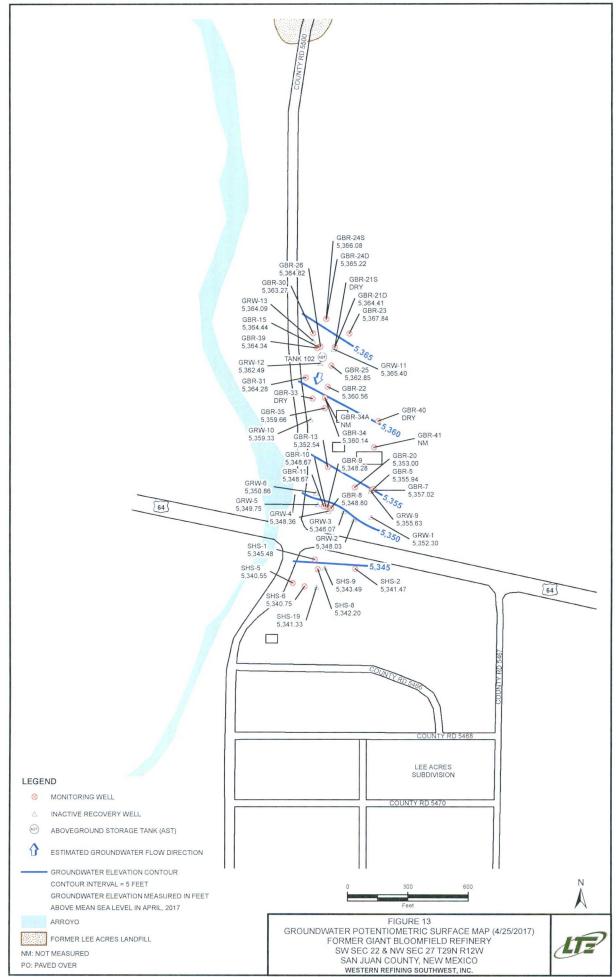


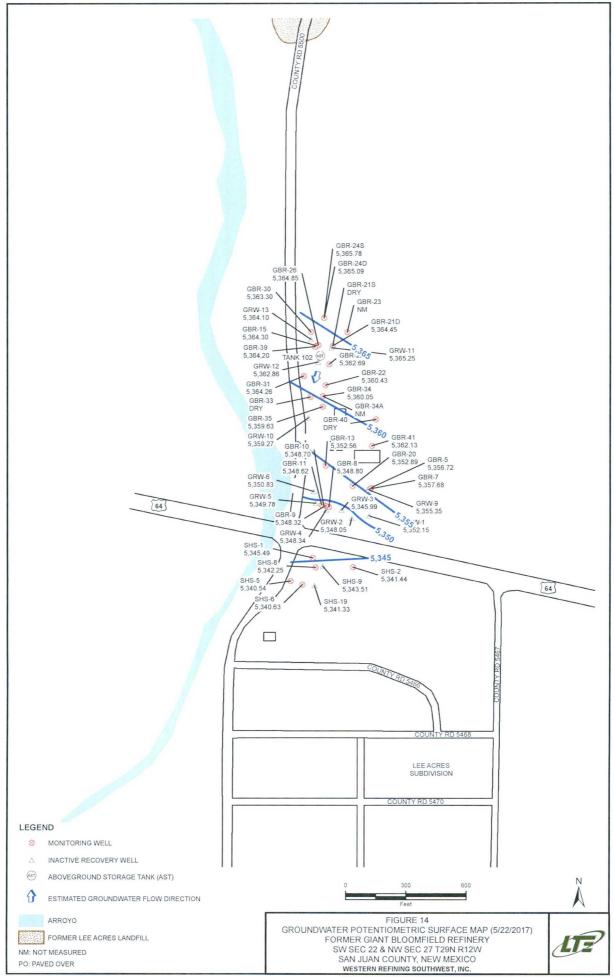


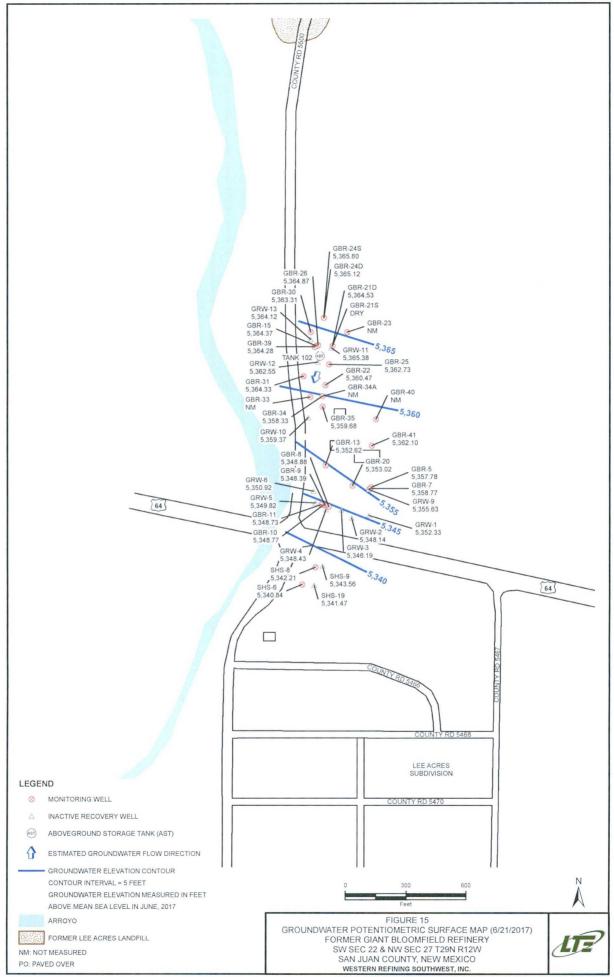


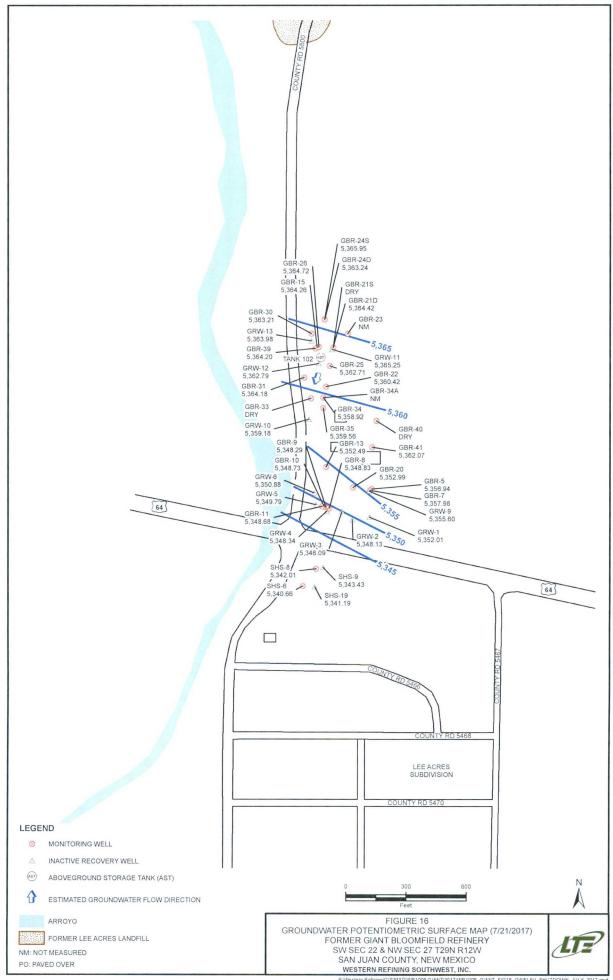


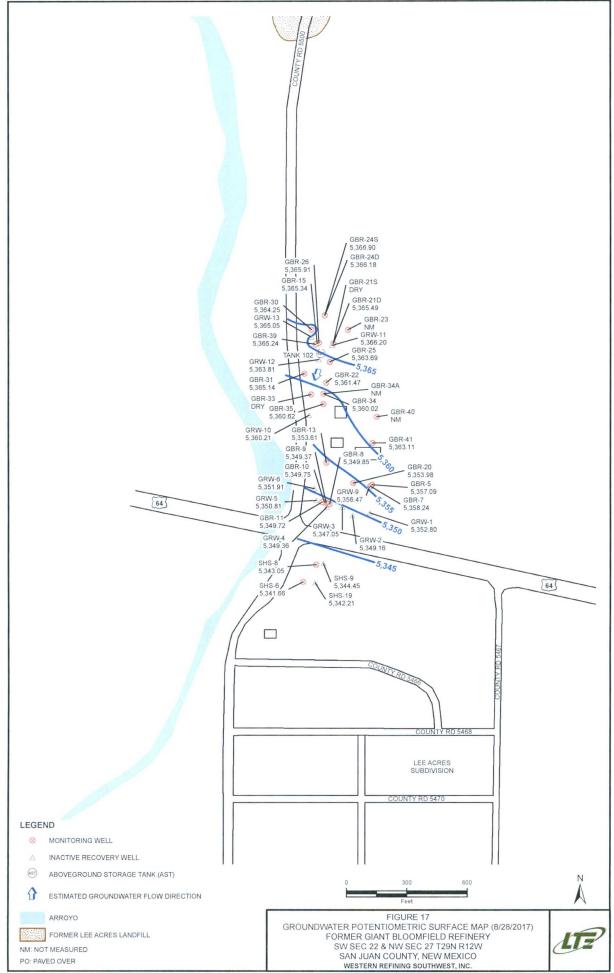


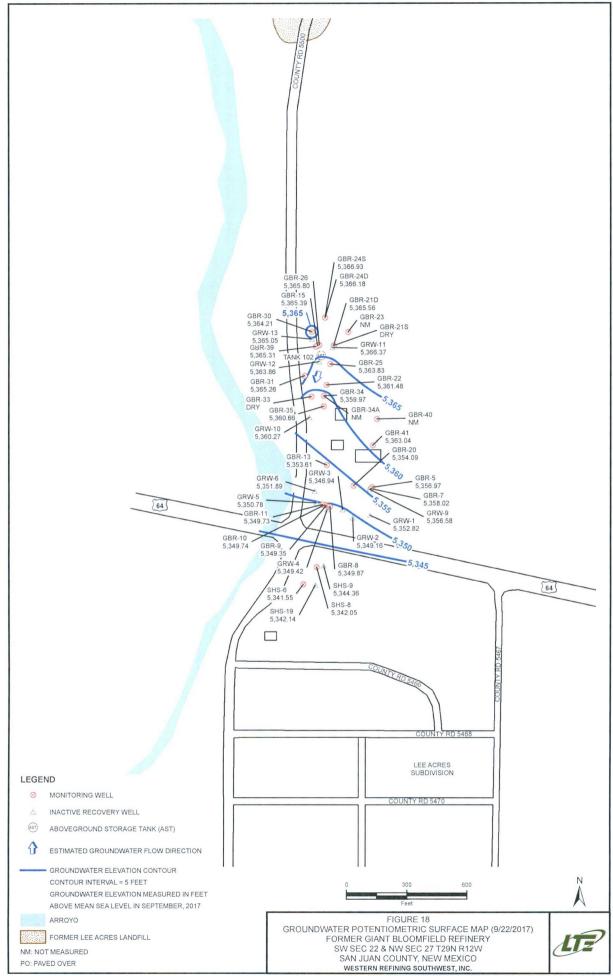


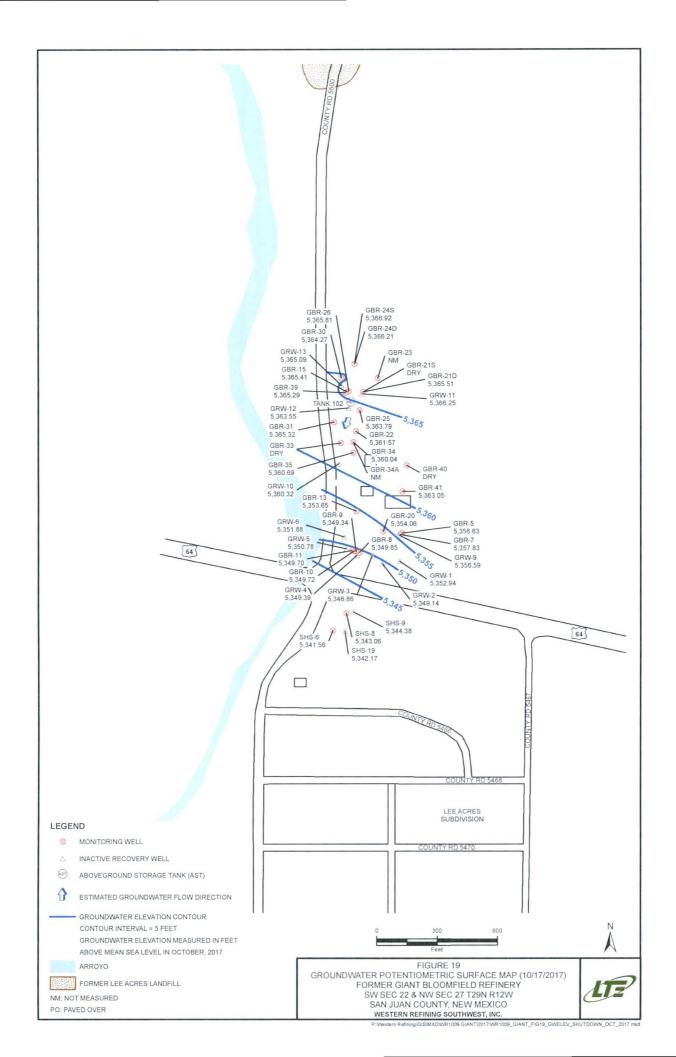


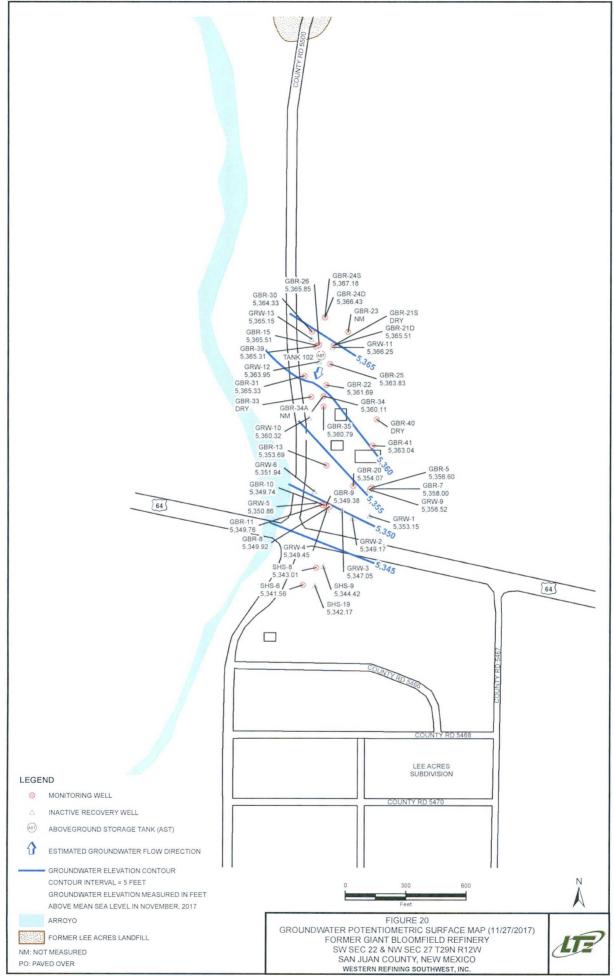


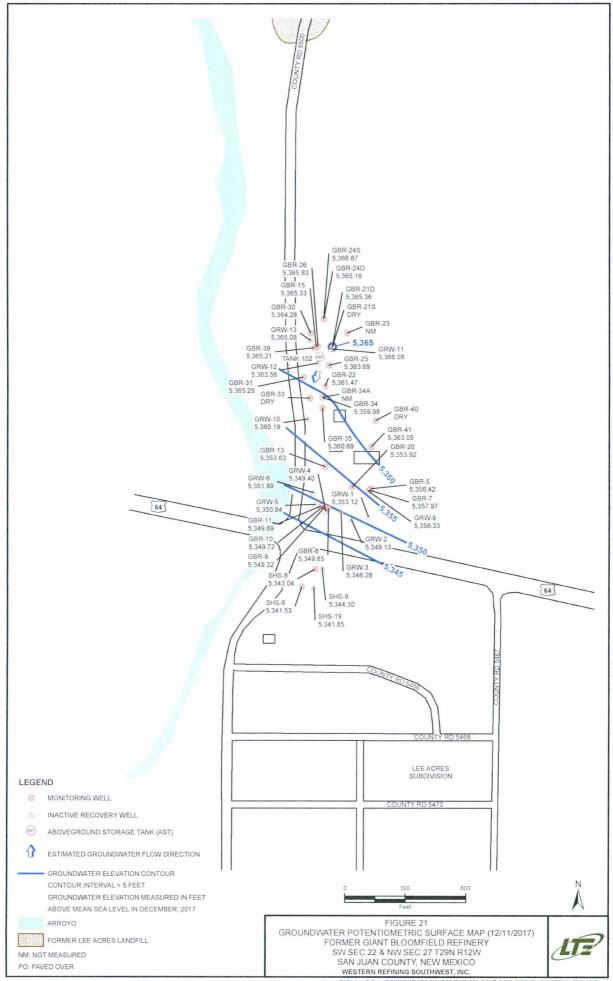














Notes:

D - designates that the well sercen is deep
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| 10 pt his of the control of the cont  |  | 22.495'S 12.795'S 12.  | PSH | o thiqadi (1921) Protocol (192 | 37 00 37 00 37 00 37 00 37 00 37 07 37 07 38 17  | 29 09 09 09 09 09 09 09 09 09 09 09 09 09  | Thickness  | Depth to (feet)   | 68 15 87 00 96 01 97 02 98 02 98 02 98 02 98 02 99 03   | 99 99'S  90 99'S  91 99'S  92 99'S  93 99'S  94 99'S  95 99'S  96 99'S  97   | H2d (rest)  | Depth to Product (feet) | 90 75 90 40 400 90 90 40 90 90 90 90 90 90 90 90 90 90 90 90 90   | 67 1h 67 11 45 67 12 45 67 15 45 67 15 67 67 16  | Wellnead Wellnead Wellnead Wellnead (feet)  (f   | CBR-79  CBR-77  CBR-77  CBR-77  CBR-77  CBR-71  CBR-73  CBR-73  CBR-73  CBR-73  CBR-73  CBR-73  CBR-73  CBR-73  CBR-74   |
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| 91 75 E<br>91 00 E<br>28 00  |  | 12.796'S 56.596'S 66.196'S 77.996'S 77.996'S 67.56'S 67.56'S 18.786'S 98.96'S 98.96'S 88.96'S 88.76'S 88.76'S 88.76'S 88.76'S 88.76'S 88.76'S 68.76'S 88.76'S 68.76'S   |   |  | 7 2 7 E 1 0  | 08 795'S 08 595'S 18 595'S 18 595'S 18 595'S 18 595'S 95 95'S 96 95'S 97 585'S 97 595'S 97 595'S 97 595'S 97 595'S 97 595'S 97 595'S 98 595'S 98 595'S 98 595'S 98 595'S 99 595'S   |  |   | E7 FE 87 OE 96 OE 90 OE 90 OE 80 SE 85 SE 86 OE 15 96 15 96 15 97 18 OF   | E9 759'S  P8 59E'S  F1 90'S  P1 90'S  P1 90'S  P2 90'S  F3 90'S  F4 58E'S  F5 58E'S  F5 58E'S  F6 58E'S  F7 58E'S  F  |   | 50'Tb                   | 0 + + + + + + + + + + + + + + + + + + +   | 71 LE \$0 LE  | E0 L68'S 80 96'S LL 96'S 50 00'S 61 00'S LF 66'S 89 12'S 66 06'S 89 12'S 66 06'S 58 66'S L0 96'S 58 66'S 10 06'S 58 66'S   | CBB-73  CBB-74   |
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| PT YE<br>91'05<br>20 82<br>20 92<br>20 92     |  | 12.796'S \$6595'E \$6595'E  78'096'S  78'096'S  78'1996'S  66.756'S  80.886'S  80.886'S  80.886'S  80.26'S  80.886'S  80.26'S  |   |  | 7 2 7 5 5 10 5 10 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7  | 08 705'S 08 595'S 18 595'S 19 505'S 92 095'S 19 92 095'S 19 87 595'S 19 88 595'S 10 69 59 59 595'S 10 69 59 59 595'S 10 69 59 59 59 59 59 59 59 59 59 59 59 59 59  |  |   | E7 F2 87 OE 87 OE 87 OE 80 OE   | E9 706'S P8 596'S F0 596'S F1 596'S F1 596'S F1 596'S F2   |   | 50'Tb                   | 0   | 71 LE<br>50 LE<br>50 LE<br>50 LE<br>50 No 11s<br>50 No 11s<br>50 No 12s<br>60 LE<br>80 LL 60<br>60 LE<br>80 LD<br>60 LD<br>6     | E0 L66'S 80 966'S L2 96'S L2 96'S S 90 00'S 61'00'S E8 166'S 89 121'S 66 L66'S 66 L66'S 66 L66'S 05 96'S C5 96'S 05 96'S 80 16'S   | CBF-72 CBF-73 CBF-74 CBF-73 CBF-73 CBF-73 CBF-74 CBF-75 CB   |
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| 97 '9E<br>91'05<br>28 '05<br>20 '9E<br>75 '55<br>ANG<br>89 'SE<br>11'04<br>MN<br>28 '9E<br>60'04<br>60'04<br>80'05<br>60'04<br>80'05<br>60'04<br>80'05<br>60'04<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>80'05<br>8  |  | 12/796'S \$6.596'S \$6.596'S \$7.096'S \$7.096'S \$7.096'S \$7.196'S \$7.   |   |  | 75 PE<br>51 OE<br>51 OE<br>51 OE<br>51 OE<br>52 OF<br>52 OF<br>52 OF<br>52 OF<br>52 OF<br>52 OF<br>53 OF<br>54 OF<br>55 OF<br>56 OF<br>57 OF<br>58 OF<br>58 OF<br>58 OF<br>58 OF<br>58 OF<br>58 OF<br>58 OF<br>59 OF<br>50   | 08 795'S 08 595'S 18 595'S 18 595'S 95 095'S 95 095'S 97 585'S  |  |   | E7 FE 87 OE 96 OE 96 OE 10 99 55 55 ANG 1E 99 79 OH NN 71 99 70 FE 95 OF 70 OF  | E9 706"S P8 596"S F1 096"S F1 096"S F1 096"S F1 096"S F1 096"S F2 07 796"S F2 896"S F2 896"S F3 896"S   |   | 50.14                   | 0+ +E   | 71 LE<br>50 | E0 L68'S 80 96'S LL 96'S 16 96'S LL 96'S 59 00'S 61 00'S 89 12'S 89 12'S 89 12'S 89 12'S 62 66'S 89 12'S 56 68'S L0 56'S 76 68'S L0 56'S \$8 66'S   | CBB-72 CBB-730 CBB-731   |
| ## ## ## ## ## ## ## ## ## ## ## ## ##  |  | 12.796'S 56.596'S 66.596'S 77.096'S 77.096'S 77.196'S 66.756'S 18.786'S 97.796'S 97.796'S 97.796'S 97.796'S 97.796'S 98.796'S 98.796'S 86.456'S 86.456'S 86.456'S 86.456'S 86.456'S 86.456'S 86.556'S 86.556'S 86.796'S 87.796'S 87.796'S 87.796'S 87.796'S 87.796'S  |   |  | 75 PE 51 OE 52 OE 52 OE 53 OE 54 OE 55 OE 55 OE 56 OE 57 OE 58 OE  | 08 795'S 08 595'S 18 595'S 18 595'S 18 595'S 95 95'S 96 95'S 97 585'S   | E000   | 00'98   | E7 FE<br>87 OE<br>96 OE<br>96 OE<br>96 OE<br>57 SE<br>ANCI<br>15 96<br>TO FE<br>70 OF<br>70 OF<br>78   | E9 798'S  P8 598'S  P1 908'S  P2 908'S  P3 908'S  P3 908'S  P3 908'S  |   | 50'11                   | 0   PE   TZ 0   OF PE  | 71 LE<br>50 | E0 266'S 80 966'S LL 96'S 80 966'S LL 96'S 80 966'S LL 96'S 80 96'S LL 96'S 80 96'S  | CBB-72 CBB-730   |
| #7 FE<br>91'05<br>2 80 E<br>#6'55<br>4 60 E<br>#6'55<br>89'55<br>11'04<br>WN<br>28 95<br>80'75<br>80'75<br>85'65<br>65'04<br>54'04<br>58'14<br>85'14<br>59'14<br>59'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>66'14<br>6 |  | 12.796'S 56596'S 56596'S 66'E96'S 66'E96'S 66'E96'S 66'E96'S 92'P96'S 66'E96'S 92'P96'S 66'E86'S 98'B86'S 88'B86'S 88'E96'S 68'E96'S 66'E96'S 86'E96'S   |   |  | 75 PE<br>\$1 05<br>\$8 75<br>\$1 06<br>\$8 75<br>\$1 06<br>\$1 06<br>\$2 06<br>\$2 06<br>\$3 06<br>\$4 06<br>\$4 06<br>\$4 06<br>\$4 06<br>\$5 06<br>\$5 06<br>\$6 18<br>\$6   | 08 705'S 08 595'S 18 595'S 19 590'S 92 095'S 92 095'S 92 095'S 92 585'S 05 105'S 06 105'S 07 105'S   |  | 00'98   | E7 PE<br>87 OE<br>96 OE<br>E0 9E<br>SS SE<br>AMCI<br>1E 9E<br>T9 OP<br>MN<br>EP 9E<br>C0 PE<br>E8 OP<br>LO EP<br>PS OP<br>LO EP<br>PS OP<br>E8 O | E9 706"S  P8 596"S  P1 096"S  P1 096"S  P1 096"S  P1 096"S  P1 096"S  P1 086"S  P1 086"S  P2 886"S  P3 886"S  P4 095"S  P5 88 596"S  P7 706"S  P7   |   | \$0.14                  | 00 PE TZ 0E RE 1E   | 71 LE<br>50 | 80 268'S<br>80 968'S<br>2L 968'S<br>59 008'S<br>61 008'S<br>89 128'S<br>99 128'S<br>99 128'S<br>99 128'S<br>99 128'S<br>99 128'S<br>99 128'S<br>99 128'S<br>12 506'S<br>12 66'S<br>12 66'S | CBB*72 CBB*73 CBB*73 CBB*73 CBB*73 CBB*15 CBB*15 CBB*16 CBB*16 CBB*16 CBB*16 CBB*16 CBB*16 CBB*17 CB   |
| #7 FE<br>91'08<br>28'08<br>20'78<br>#6'58<br>AB(0)<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#70'78<br>#   |  | 12 796'S \$6 596'S \$6 596'S \$7 1996'S  77 196'S   |   |  | 75 PE<br>51 OE<br>51 OE<br>51 OE<br>52 OF<br>52 OF<br>53 OF<br>54 OF<br>55 OF<br>55 OF<br>55 OF<br>56 OF<br>57 OF<br>58 OF<br>58 OF<br>58 OF<br>58 OF<br>58 OF<br>58 OF<br>58 OF<br>58 OF<br>59 OF<br>50   | 08 795'S 08 595'S 18 595'S 18 595'S 95 095'S 95 095'S 97 585'S 97 585'S 05 795'S 05 795'S 05 795'S 07 585'S 07 585'S 08 795'S 08 795'S 08 795'S 08 795'S 08 795'S 08 795'S 09 785'S  |  | 00'98   | E7 FE 87 OE 96 OE 96 OE 10 99 55 55 ANG 1E 99 79 OH NN 71 99 70 PE 97 OF 10 OF  | E9 796'S  #8 596'S  65 596'S  #1 096'S  #1 096'S  #1 086'S  #1 086  |   | 50.14                   | 0 + + E + E + E + E + E + E + E + E + E   | 71 LE<br>50 | E0 L68'S 80 966'S LL 966'S 16 566'S 50 906'S LT 566'S 50 900'S 60 100'S   | CBB-72 CBB-730   |
| #7 FE<br>91'05<br>28'05<br>70'75<br>FE'55<br>ANCI<br>89'55<br>11'07<br>MN<br>28'95<br>00'75<br>65'07<br>65'07<br>85'18<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17<br>85'17   |  | 12.796'S 56.596'S 66.596'S 74.096'S 74.096'S 74.696'S   |   |  | 75 PE<br>51 OE<br>58 7E<br>51 OE<br>58 7E<br>58 7E    | 08 795'S<br>08 595'S<br>18 595'S<br>18 595'S<br>95 095'S<br>98 695'S<br>58 755'S<br>97 585'S<br>19 865'S<br>19 865'S<br>10 865   |  | 00'98   | 67 FE<br>87 OE<br>96 OE<br>60 9E<br>55 SE<br>ANCI<br>15 9E<br>70   | E9 796'S  #8 596'S  #8 596'S  #1 096'S  #1 096'S  #1 096'S  #1 586'S  67 896'S  67 896'S  #1 586'S  |   | 50.14                   | 0 + 9 5<br>7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  | 71 LE<br>50 | 80 268'S<br>80 968'S<br>24 968'S<br>   | CBB-78 CBB-770   |
| #7 #E<br>91 08<br>20 88<br>20 98<br>20  |  | 12.796'S \$6.596'S \$6.596'S \$6.596'S \$7.996'S  |   |  | 75 PE<br>51 OE<br>98 7E<br>98 7E<br>MN<br>64 SE<br>84 OF<br>MN<br>48 9E<br>07 PE<br>64 SE<br>90 OF<br>90 OF | 08 795'S<br>08 795'S<br>18 795'S<br>18 795'S<br>95 095'S<br>96 095'S<br>97 585'S<br>97 585'S<br>07 755'S<br>07 755'S<br>97 585'S<br>97 585'S<br>97 585'S<br>97 585'S<br>97 585'S<br>97 585'S<br>97 585'S<br>97 585'S<br>98 585'S<br>98 585'S<br>98 585'S<br>99 585'S<br>90 585   |  | 00'98   | E7 FE 87 OF 96 OE 10 9E 57 SE AMCI 1E 9E 79 OF MN 74 9E 75 OF 76 O  | E9 798'S  #8 998'S  68 998'S  #1 098'S  #1 098'S  #1 1988'S  67 898'S  #1 588'S  #1 58  |   | 50.11                   | 0   | 71 LE<br>50 | 80 268'S 80 968'S LL 968'S - 16'S68'S S9 008'S LL 968'S LL 968'S E8 568'S 89 128'S 66 L68'S 60 268'S C6 688'S 05 068'S 88 568'S LD 968'S E8 868'S LD 968'S   | CBB-72 CBB-73 CBB-74 CB   |
| #7 #8<br>91'08<br>20'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98<br>70'98     |  | 17.296'S 56.596'S 56.596'S 56.596'S 71.096'S 71.096'S 71.196'S 66.756'S 18.186'S 97.196'S 67.756'S 89.816'S 57.816'S 57.  |   |  | 75 FE 51 OE  | 08 795'S<br>08 795'S<br>18 595'S<br>18 595'S<br>95 095'S<br>95 095'S<br>97 585'S<br>97 585'S<br>05 755'S<br>19 585'S<br>05 755'S<br>19 585'S<br>19 585'S<br>10 585   | E0:0   | 00'98   | E7 PE<br>87 OE<br>96 OE<br>E0 96<br>55 SE<br>AMCI<br>1E 96<br>79 OP<br>WN<br>74 96<br>70 PE<br>69 SE<br>PS OP<br>E8 OP<br>E8 OP<br>E9 O | E9 798'S  #8 998'S  66 998'S  #1 098'S  #1 1098'S  #1 1888'S  67 898'S  07 498'S  07 498'S  10 888'S  10 8  | -   |                         | 0 † †5<br>†7 0 5<br>86 15<br>WN<br>LL \$5<br>ANG<br>E6 \$5<br>88 0 †<br>WN<br>b5 95<br>0 † †6<br>61 1 †<br>59 † †<br>16 1 †<br>50 † †<br>60 7 †<br>†  | 71'LE<br>50'LE<br>00'15<br>50'6E<br>6L'8E<br>6L'8E<br>6L'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL'6b<br>LL | \$0.268'S<br>80.968'S<br>24.968'S<br>-16.568'S<br>S9.008'S<br>61.008'S<br>89.128'S<br>89.128'S<br>89.128'S<br>65.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7.66'S<br>\$7   | CBK-72 CBK-73 CBK-74 CBK-74 CBK-73 CBK-73 CBK-73 CBK-73 CBK-73 CBK-73 CBK-73 CBK-74 CB   |
| ## 17 #E ## 17 ##   |  | 11/796'S 56'596'S 66'596'S 70'996'S 70'996'S 70'996'S 18'986'S 66'756'S 99'99'S 99'99'S 99'99'S 67'756'S 89'99'S 99'99'S 67'756'S   |   |  | 75 FE 51 OE 51 OE 58 TE MN 65 SE MN 65 SE MN 65 SE MN 67 SE MO MN 68 SE SE MO MN 68 SE S   | 08 798'S 08 899'S 18 898'S 98 098'S 18 898'S 98 758'S 97 888'S 08 798'S 19 888'S 08 798'S 09 798'S 09 758'S 19 888'S   |  | - 00'98   | 67 FE<br>87 OE<br>96 OE<br>60 '9E<br>55 'SE<br>ANCI<br>16 '9E<br>79 '0†<br>WN<br>76 '9E<br>70 '0†<br>69 '8E<br>75 '0†<br>78 OF<br>78    | # 59'79E'S  # 59E'S  # 59E'S  # 109E'S  # 109E'S  # 109E'S  # 158E'S  | -   |                         | 0+ +E<br>+7:0E<br>8E TE<br>WN<br>LL'SE<br>ANG<br>6:SE<br>88:0+<br>WN<br>+5:9E<br>0+ +E<br>6L'SE<br>+8:0+<br>61:1+<br>59:++<br>16:1+   | 71'LE<br>50'LE<br>00'TS<br>50'EE<br>00'TS<br>50'EE<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL'60<br>LL | 80 966'S 80 966'S 16 966'S 90 00'S 61 000'S 61 000'S 61 000'S 62 90'S 89 175'S 69 70'S 66 266'S 70 66'S 85 68'S 70 66'S 70 66'S 70 66'S 70 66'S 70 66'S  | CBK-73 CBK-74 CBK-71 CBK-73 CBK-73 CBK-73 CBK-73 CBK-73 CBK-73 CBK-73 CBK-73 CBK-74 CB   |
| #7 #8<br>91 08<br>90 18<br>90 18     |  | 11/296'S \$6'596'S \$6'596'S \$6'596'S  ZP'996'S  ZP'996'S  18'496'S  97'496'S  67'75'S  67'75'S  \$9'846'S  \$9'846'S  \$2'846'S   |   |  | 75' FE 51' OE 98' 75' MN 66' 55' AMG 4L' 55' 86' 05' MN 67' 55' 86' 05' MN 68' 55' 68' 05' MN 68' 55' MN 68' 5   | 98 '59E'S 98 '59E'S 98 '59E'S 98 '59E'S 98 '59E'S 97 '58E'S  |  | - 00'98   | 67 FE<br>87 OE<br>96 OE<br>60 '9E<br>55 '5E<br>AMCI<br>16 '9E<br>79 '0F<br>WN<br>76 '9E<br>69 'EE<br>75 '0F<br>69 'EE<br>75 '0F<br>78 '0F<br>78 '0F<br>78 '0F<br>78 '0F   | 5,245,2<br>5,245,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2<br>41,085,2  | -   |                         | 0 † † £<br>† 7 0 £<br>8 £ 1 £<br>WN<br>LL' 5 £<br>AND<br>£ 6 '5 £<br>88 0 †<br>WN<br>† 5 9 £<br>0 † † £<br>6 L' £ £<br>† 8 0 †<br>6 L' 1 ‡<br>† 8 0 †<br>6 L' 1 ‡<br>† 9 0 †<br>6 L' 5 £<br>† 9 0 †<br>8 L' 5 £<br>8 L' 5 £  | 71 LE<br>90 | 80 966'S<br>LL'966'S<br>   | CBK-72 CBK-73-0-0 CBK-74 CBK-75 CBK-75 CBK-75 CBK-71 CBK-71 CBK-71 CBK-71 CBK-71 CBK-71 CBK-16 CBK-16 CBK-16 CBK-16 CBK-17   |
| 91 75 92 92 93 95 95 95 95 95 95 95 95 95 95 95 95 95   |  | 11.796'S<br>56'596'S<br>56'596'S<br>56'596'S<br>70'996'S<br>70'996'S<br>66'756'S<br>18'486'S<br>66'896'S<br>97'496'S<br>66'756'S<br>89'896'S  |   | -  | 25 PE<br>51 OE<br>51 OE<br>51 OE<br>52 OF<br>51 OE<br>52 OF<br>52 OF<br>52 OF<br>52 OF<br>52 OF<br>52 OF<br>52 OF<br>52 OF<br>53 OF<br>54 OF<br>55 OF<br>56 OF<br>56 OF<br>57 OF<br>58   | 98 798'S  19 898'S  19 898'S   |  | 00.98   | 67' #E<br>87'05<br>96'05<br>50'96'<br>50'96'<br>50'96'<br>70'96'<br>70'96'<br>70'96'<br>70'96'<br>70'96'<br>70'96'<br>70'96'<br>70'96'<br>70'96'<br>70'96'<br>70'96'<br>70'96'<br>70'96'  | 62.845,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085,8<br>41.085  | - 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 | 62.886,2<br>41.286,2<br>41.286,2<br>41.006,2<br>  | -   | -                       | 34 40<br>30 74<br>30 74 | 71 LE<br>50 LE<br>0t 15<br>5t 6E<br>EL 8E<br>LL 6t<br>LS tS<br>EZ 9t<br>S8 Lt<br>07 Et<br>7t 85  | E0'L6E'S<br>80'96E'S<br>LL'96E'S<br>-<br>16'56E'S<br>59'00P'S<br>61'00P'S<br>LP'E6E'S<br>89'17P'S<br>69'70P'S<br>66'L6E'S  | CBB-73 CBB-74 CBB-74 CBB-73 CBB-73 CBB-73 CBB-71   |
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62,288;2<br>62,288;2<br>62,288;2<br>63,265;2<br>63,265;2<br>63,265;2<br>63,265;2<br>64,265;2<br>65,265;2<br>66,265;2<br>66,265;2<br>67,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265;2<br>68,265   
   | -<br>-<br>50.0   | 00.98  
  | 87'05<br>96'05<br>96'05<br>96'05<br>96'05<br>55'55<br>AMI<br>16'95<br>70'07<br>WN<br>70'95<br>70'45   | #1.285,2<br>#1.285,2<br>#1.285,2<br>#1.285,2<br>#1.285,2<br>#1.285,2<br>#1.285,2<br>#1.285,2<br>#1.285,2<br>#1.285,2<br>#1.285,2<br>#1.285,2<br>#1.285,2  | -  
  | -                       | 0++E<br>+7:0E<br>86:1E<br>MN<br>LL'SE<br>AMG<br>66:SE<br>88:0+<br>MN<br>+6:9E<br>0++E   | 71'LE<br>50'LE<br>00'LS<br>50'LE<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60 | E07.466'S<br>80'966'S<br>LL'966'S<br>59'00t'S<br>61'00t'S<br>Lt'666'S<br>89'17t'S<br>69'70t'S   
  | CBB-73 CBB-74 CBB-74 CBB-73 CBB-73 CBB-73 CBB-71  |
| \$2,45<br>\$0.87<br>\$4.02<br>\$4.02<br>\$4.02<br>\$4.02<br>\$4.02<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4.04<br>\$4   |  | 18:485,2<br>18:485,2<br>17:255,2<br>18:485,2<br>17:255,2<br>18:485,2<br>18:485,2  | -                                       | -  | 34°35<br>30°13<br>37°46<br>MM<br>38°46<br>DBA<br>38°46<br>10°48<br>38°40<br>MN<br>MN<br>28°84  
   | 88,285,2<br>88,285,2<br>98,685,2<br>18,285,2<br>18,285,2<br>08,285,2<br>08,285,2  
  | -<br>-<br>50.0   | 00.98   
   | 36,23<br>36,23<br>36,03<br>36,03<br>36,03<br>36,03<br>36,03<br>36,03<br>36,03   |
\$1,285,2<br>\$2,495,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005,2<br>\$1,005   | -   |                         | 30°74<br>30°74<br>30°74<br>30°34<br>30°34<br>30°38<br>30°34<br>30°34  |
71'LE<br>50'LE<br>00'LS<br>50'LE<br>00'LS<br>50'LE<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60'LS<br>60 | E07.66°S<br>80°966°S<br>LL°966°S<br>16°566°S<br>59°004°S<br>L4°666°S<br>E8°666°S<br>89°174°S   | CBK-74 CBK-74D CBK-74D CBK-73**** CBK-73 CBK-71 CBK-71 CBK-71 CBK-71 CBK-11 CBK-11 CBK-11  |
| 30,87<br>30,87<br>36,02<br>36,87<br>36,87<br>36,87<br>36,87<br>40,41<br>40,41   |  | 24.495,2<br>24.695,2<br>24.695,2<br>24.695,2<br>24.695,2<br>24.695,2<br>24.695,2<br>24.695,2  | -                                       | -  | 34.37<br>30.13<br>37.84<br>32.49<br>DBA<br>32.77<br>40.48  
   | 88.585,2<br>88.585,2<br>96.036,2<br>  
  | -<br>-<br>-<br>50.0  | 00.98   
   | 34.23<br>36.31<br>10RY<br>35.55<br>36.03<br>40.62<br>40.62  | 65.265,2<br>41.006,2<br>41.006,2<br>41.006,2  
   | -   |                         | 30.24<br>30.24<br>31.38<br>35.33<br>36.34<br>36.33<br>40.88   | 21.76<br>20.76<br>24.66<br>27.86<br>77.64<br>77.64<br>77.46<br>77.46<br>77.46<br>77.46<br>77.46<br>77.46   | 60'Z66'S<br>80'966'S<br>LL'966'S<br>16'566'S<br>59'00t'S<br>61'00t'S<br>Lt'666'S<br>88'666'S   
   | CBB-73 CBB-74D CBB-73+0 CBB-73+0 CBB-73 CBB-71D CBB-71D CBB-71D  |
| 30.16<br>30.87<br>30.87<br>35.34<br>35.34<br>35.34<br>35.34   |  | 11/796'S<br>56'596'S<br>66'696'S<br>75'096'S<br>-<br>75'796'S   | -                                       | -  | 37'35<br>30'13<br>37'84<br>37'84<br>37'43<br>38'43<br>38'43<br>38'43   
   | 08'79E'S<br>08'59E'S<br>18'59E'S<br>-<br>9E'09E'S<br>-<br>88'E9E'S  
  | ε0.0   | -   
   | 30.28<br>30.28<br>30.28<br>36.03<br>36.03<br>36.03<br>36.31   | 65.265,2<br>41.006,2<br>41.006,2<br>41.006,2  
   | -   | -                       | 30.24<br>30.24<br>31.38<br>32.77<br>32.77<br>35.93  | 21.76<br>21.76<br>24.96<br>27.86<br>77.94<br>77.94<br>77.94  | 61.004,8<br>28.004,8<br>77.868,8<br>80.868,8<br>60.798,8   
   | CBB-73 CBB-74D CBB-73*** CBB-73*** CBB-73 CBB-71D CBB-71D  |
| 35.34<br>36.87<br>36.87<br>36.87  |  | 17.28e,8<br>26,88e,8<br>26,88e,8  | -                                       | -  | 34.32<br>30.13<br>37.84<br>37.84<br>37.84<br>37.43   
   | 08'79E'S<br>08'59E'S<br>-<br>9E'09E'S   
  | 50.0   | -   
   | 34,23<br>30,28<br>36,03<br>36,03<br>36,58<br>DRY  | \$9.29£'\$<br>\$1.09£'\$<br>\$1.09£'\$  
   | -   | -                       | 34'40<br>30'54<br>31'38<br>32'33<br>DKA   | 38.73<br>21.76<br>39.78<br>21.76<br>21.76  | 20.79£,2<br>50.79£,2   
   | CBK-73<br>CBK-74D<br>CBK-73<br>CBK-73****<br>CBK-73<br>CBK-712   |
| \$5.26<br>\$0.87<br>\$0.16<br>\$4.02<br>\$4.24  |  | 26.585,2<br>26.285,2  | -                                       | -  | 35.45<br>MN<br>96.132  
   | -<br>18.265,2<br>08.265,2   
  | -  | -   
   | 35.28<br>30.28<br>36.03<br>36.03  | \$8.295,2<br>\$8.295,2<br>\$9.235,2   
   |   | -                       | 04.48<br>42.08<br>88.18<br>MN<br>77.88  | 38,73<br>39,45<br>31,75<br>31,75   | 16.26£,2<br>80.36£,2<br>10.76£,2   
   | CBK-72<br>CBK-74D<br>CBK-73****<br>CBK-73****  |
| 30.45<br>30.16<br>34.24   |  | 26.585,2<br>26.285,2  | -                                       | -  | 32.84<br>30.13<br>34.32  
   | -<br>18.265,2<br>08.265,2   
  | -  | -   
   | 30.98<br>30.98<br>34.23   | \$8.295,2<br>\$8.295,2<br>\$9.235,2   
   | -   | -                       | 34,40<br>30,24<br>34,40   | 39.45<br>51.76<br>31.72  | 80,396£,2<br>77,39£,2  
   | CBB-72<br>CBB-742<br>CBB-74D<br>CBB-73****   |
| 30.87   |  | 17.236,2  | -                                       | -  | 32.84<br>30.13<br>34.32  
   | 08.236,2  
  | -  | -   
   | 30.28   | 5,365.84  
   | -   | -                       | 30.24   | 37.05<br>37.05   | 80.3988,8<br>80.798,8  
   | CBK-72<br>CBK-742<br>CBK-74D   |
| 30.16   |  | 17.236,2  | -                                       | :  | 36.13  
   | 08.236,2  
  |  | -   
   | 30.28   | 5,365.84  
   | -   | -                       | 30.24   | 37.05  | 80.3988,8<br>80.798,8  
   | CBB-72<br>CBB-748  |
|   | $\pm$  |   |   | - :  |  
   |   
  | -  | -   
   |   |   
   | -   | -                       |   |  |  
   |  |
| 16.15   |  | 5,364.72  | -                                       |  | 35.00  
   | 58.436,2  
  | -  | -   
   | 98.1.5  | 49.498,8  
   | (*)   | -                       | 32.08   | 67.14  | 27.396.2   
   | CBB-76   |
|   | _  |   |   |  |  
   |   
  |  |   
   | 20.00   | 00 676 2  
   |   |                         |   |  |  
   |  |
| 32.32   | +  | 12.636,2  | -                                       | -  | 32.38  
   | 42.636,2  
  | -  | -   
   | 32.35   | 60.888,8  
   | -   | -                       | 35.50   | 99.14  | 65.295.2   
   | CBB-30   |
| 32.26   | +  |   | -                                       | -  |  
   |   
  |  | -   
   |   |   
   | -   | -                       |   |  |  
   | CBB-33   |
|   | +  | 08.Uoc,c  | 1                                       | -  |  
   | 90.100,6  
  |  |   
   |   | 08.000,0  
   | -   | -                       |   |  |  
   | CBK-33   |
|   | +  | 26.828.2  | -                                       | -  |  
   | 48.825,2  
  | -  | -   
   |   | 68.625,2  
   | -   | -                       |   |  |  
   | CBB-34   |
| 79.55   | 1  | 95.625,2  | -                                       |  | 34.10  
   | 62.625,2  
  | ·  | -   
   | 70.48   | 9£.62£,2  
   |   | -                       | 34.30   | 42.35  | 99.595,2   
   | CBR-32   |
| 33.26   | T  | 5,364.20  | -                                       | -  | 28.88  
   | 70.485,8  
  | ·  |   
   | 84.88   | 5,364.10  
   |   | -                       | 24.88   | 77.14  | SS.798,2   
   | CBK-39   |
| DKY   |  |   | -                                       | -  | DBA  
   | -   
  | -  | -   
   | DKY   | -   
   | -   | -                       | DKY   | 88.98  | 97.004,8   
   | CBK-40   |
| 34.30   | +  | 70.236,2  | -                                       | -  | 34.28  
   | 13 875 2  
  | 40.0   | 34.19   
   | 34.23   |   
   | -   | -                       | DKY   | 34.28  | 25.895.2   
   | CBB-41   |
|   | +  | 06.8/6,0  | -                                       | -  |  
   | 15.8/ 6,0   
  | -  | -   
   |   | CE.8/E,C  
   | -   | -                       |   |  |  
   | CBK-48   |
|   | +  |   |   |  |  
   | -   
  |  | -   
   |   |   
   | -   |                         |   |  |  
   | CBB-20   |
| 86.98   | 1  | 12.025,2  | -                                       |  | 74.98  
   | 42.025,2  
  | -  | -   
   | \$4.95  | \$6.948,8   
   | -   | -                       | £7.6£   | T0.T2  | 89.688,8   
   | CBR-51   |
| 90.75   | 1  | 29.026,2  | -                                       | -  | 37.12  
   | 09.028,2  
  | ·  | -   
   | 37.14   | 08.188,8  
   | -   | -                       | 36.44   | 52.73  | 47.78E,2   
   | CBK-27   |
| A&q   | $\perp$                                      | -   | -                                       | -  | V&q  
   | 54.245,2  
  | -  | -   
   | 38.11   |   
   | -   | -                       | MN  | 04.02  | 42.585,2   
   | ***** I-SH   |
| A&q   | +  | -   | -                                       | -  | A&q  
   | 44.045,8  
  | -  | -   
   | 41.22   | 91.148,2  
   | -   | -                       | 02.04   | 95.44  | 99.185,2   
   | 7-SHS  |
|   | +  |   | -                                       | -  |  
   | - LU EVE S  
  |  | -   
   |   |   
   | -   | -                       |   | 91 65  |  
   | **E-SHS  |
|   | +  |   | -                                       | -  |  
   |   
  |  | -   
   |   |   
   | -   | -                       |   |  |  
   | S-SHS<br>t-SHS   |
|   | +  | 74.045.2  |   | -  |  
   |   
  | -  | -   
   |   |   
   | -   | -                       |   |  |  
   | 9-SHS  |
| 38.19   | $\perp$                                      | 5,342.01  | -                                       | -  | 38.24  
   | 5,342.17  
  |  | -   
   | 80.8£   | 08.148,8  
   | -   | -                       | 38.45   | 26.02  | 22.086,2   
   | 8-SHS  |
| 14.78   | T  | 5,343.43  | -                                       | -  | 35.75  
   | 74.545,2  
  | -  | -   
   | 37.32   | 61.646,8  
   | -   |                         | 09.75   | 46.25  | 67.086,2   
   | 6-SHS  |
| DKY   | $\top$                                       | -   | -                                       | -  | DKA  
   | -   
  | -  | -   
   | DKY   | -   
   | -   | -                       | DKY   | 45.80  | 08.575,2   
   | 01-SHS   |
| DKY   | +  | 70.255,2  | -                                       | -  | 78.85  
   | 22.255,2  
  | -  | -   
   | 38.72   | -   
   | -   | -                       | DKY   | 12.52  | 46.878,8   
   | 71-SHS   |
|   | +  |   | -                                       | -  |  
   |   
  | -  | -   
   |   |   
   | -   | -                       |   |  |  
   | £1-SHS   |
|   | +  |   | -                                       | -  |  
   |   
  | -  | -   
   |   | 16.755,0  
   |   | -                       |   |  |  
   | *****\$I-SHS   |
|   | +  |   |   | -  |  
   |   
  |  | -   
   |   | 26.155,2  
   | -   | -                       |   |  |  
   | 91-SHS   |
|   | _  |   |   | -  |  
   | _   
  | -  |   
   |   | 58.155,2  
   | -   | -                       |   |  |  
   | LI-SHS   |
| 39.32   | $\perp$                                      | 49.455,2  |   | -  | 39.00  
   | 78.488,2  
  | -  | -   
   | 77.85   | -   
   | -   | -                       | DKY   | 9£.74  | 49.575,2   
   | 81-SHS   |
| 39.32   | Ŧ  | 61,146,64   | -                                       | -  |  
   | 78,455,2  
  | -  | ł   
   | -   | - 77.8E   
   |   |                         |   |  |  
   |  |
|   | 25 65 25 25 25 25 25 25 25 25 25 25 25 25 25 | 25 65 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28  | Teleficial Content                      | 25 65  | ZE 66         F9 FEE'S         -           L9 ZE         00 ZEES         -           L9 ZE         00 ZEES         -           SI ZE         00 ZEES         -           FI ZE         95 ZEES         -           FZ PE         05 ZEES         -           FZ PE         05 ZEES         -           AMCI         L0 SEES         -           AMCI         L0 SEES         -           AMCI         L0 SEES         -           AMCI         L0 SEES         -           C8 LE         L0 DEE'S         -           VWd         -         -           SE 6E         17 OSE'S         -   | 25 65         +9 +5 + 5         -         -         00 65           L9 75         00 75 + 5         -         -         55 75           L9 75         00 75 + 5         -         -         55 75           ST 75         00 75 + 5         -         -         -         59 75           ST 75         00 75 + 5         -         -         -         59 75         - <td>26 66         49 456'S         -         00 66         28 46'S'S           27 66         49 456'S         -         00 66         28 46'S'S           27 62         00 75 65'S         -         -         52 76         88 76'S'S           51 76         00 75 66'S         -         -         88 08         55 76'S         85 76'S'S           51 76         00 75 66'S         -         -         88 76 86'S'S         95 77 86'S'S         96 77 86'S'S         97 86'S'S'S         97 86'S'S'S'S         97 86'S'</td> <td>25 65         49 5655         -         -         00 65         £8 7655         -         -         25 75         -<td>  Tell</td><td>ZE 66         \$9\$ PEES         -         -         00 6C         \$\$\$ PEES         -         -         \$\$\$\$ LO TE           \$\$\$\$ 00         \$\$\$\$\$ -         -         -         \$\$\$\$\$\$ 8\$\$ ZE ES         -         -         \$\$\$\$\$\$ 100         \$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$ 100         \$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$ -         -         \$</td><td>  The content of the</td><td>  Tell</td><td>  Tele</td><td>  Teach   Teac</td><td>  Teach   Particle   P</td><td>  Table   Tabl</td></td> | 26 66         49 456'S         -         00 66         28 46'S'S           27 66         49 456'S         -         00 66         28 46'S'S           27 62         00 75 65'S         -         -         52 76         88 76'S'S           51 76         00 75 66'S         -         -         88 08         55 76'S         85 76'S'S           51 76         00 75 66'S         -         -         88 76 86'S'S         95 77 86'S'S         96 77 86'S'S         97 86'S'S'S         97 86'S'S'S'S         97 86'S' | 25 65         49 5655         -         -         00 65         £8 7655         -         -         25 75         - <td>  Tell</td> <td>ZE 66         \$9\$ PEES         -         -         00 6C         \$\$\$ PEES         -         -         \$\$\$\$ LO TE           \$\$\$\$ 00         \$\$\$\$\$ -         -         -         \$\$\$\$\$\$ 8\$\$ ZE ES         -         -         \$\$\$\$\$\$ 100         \$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$ 100         \$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$ -         -         \$</td> <td>  The content of the</td> <td>  Tell</td> <td>  Tele</td> <td>  Teach   Teac</td> <td>  Teach   Particle   P</td> <td>  Table   Tabl</td> | Tell  | ZE 66         \$9\$ PEES         -         -         00 6C         \$\$\$ PEES         -         -         \$\$\$\$ LO TE           \$\$\$\$ 00         \$\$\$\$\$ -         -         -         \$\$\$\$\$\$ 8\$\$ ZE ES         -         -         \$\$\$\$\$\$ 100         \$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$ 100         \$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$ -         -         \$ -         -         \$   | The content of the | Tell                    | Tele  | Teach   Teac   | Teach   Particle   P   | Table   Tabl   |

SVN 10VN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

### $$T_{\rm K}$$ , $$z_{\rm C}$$ 2017 ANNUAL COMPLIANCE - 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	8-Dec	7-Dec	8-Dec	7-Dec	12-Dec	8-Dec	7-Dec						
USEPA Method 8260B - Volatiles	Standard		0-Dec	7-500	D-Dec	7-1000	12-000	0-Dec	7-000	7-000	7-1000	/-Bcc	/-Dec	/-Dec	7-1000
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	<1.0
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 <1.0	<1.0 <1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dibromoethane (EDB) naphthalene	NE NE	μg/L μg/L	<2.0	<2.0	<2.0	<2.0	<1.0 <2.0								
1-methylnaphthalene	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
2-methylnaphthalene	NE	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
acetone	NE	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.()	<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 chloroethane	NE NE	μg/L	<1.0	<1.0 <2.0	<1.0 <2.0	<1.0 <2.0	<1.0 <2.0	<1.0 <2.0	<1.0	<1.0 <2.0	<1.0 <2.0	<1.0 <2.0	<1.0 <2.0	<1.0 <2.0	<1.0 <2.0
chloroform	NE 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
chloromethane	NE 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-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
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 dichlorodifluoromethane	NE NE	μg/L μg/L	<1.0 <1.0												
1.1-dichloroethane	25	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-dichloroethene	5	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-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	<1()	<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 4-methyl-2-pentanone	NE NE	μg/L	<1.0 <10	<1.0	<1.0 <10										
methylene chloride	100	μg/L μg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<10	<3.0
n-butylbenzene	NE 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
n-propylbenzene	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
sec-butylbenzene	NE	μg/L	1.5	<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	3.4	<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-tetrachioroethane	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	1.1	<1.0	1.1	1.3	<1.0	<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 1,2,3-trichlorobenzene	NE 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	<1.0	<1.0	<1.0	<1.0
1,2,4-trichlorobenzene	NE NE	μg/L μg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 <1.0							
1.1.1-trichloroethane	60	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
1,1,2-trichloroethane	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
trichloroethene (TCE)	100	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	<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



### ${\bf 1.} \\ {\bf 2017~ANNUAL~COMPLIANCe-GROUNDWATER~LABORATORY~ANALYTICAL~RESULTS} \\$

# 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
	Standard		8-Dec	7-Dec	8-Dec	7-Dec	12-Dec	8-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec	7-Dec
USEPA Method 8270C:															
Polycylic Aromatic Hydrocarbons	10		0.06	×0.50	>0.60	20.50	40.70	W) 50	N PTP	N. C.	N.P.P.	N. Pre	N FFF	N PP	N FFF
naphthalene	30	µд∕І.	0.96	<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 NE	μg/L	<0.50	<0.50	< 0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
acenaphthene fluorene	NE NE	μg/L	0.82	< 0.50	<1.0	<0.50	<0.50 <0.50	<0.50 <0.50	NT	NT	NT	NT	NT	NT	NT
		μg/L.			_				NT	NT	NT	NT	NT	NT	NT
phenanthrene anthracene	NE NE	μg/L	<0.50	<0.50	<1.0 <1.0	<0.50	<0.50	<0.50	NT NT	NT NT	NT NT	NT NT	NT	NT	NT
fluoranthene		μg/L	<0.50	<0.50	<0.50								NT	NT	NT
The second secon	NE	μg/L				<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
pyrene	NE	μg/I.	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50	NT	NT	NT	NT	NT	NT	NT
benz(a)anthracene	NE NE	μg/1.		<0.50	<0.50	<0.50	<0.50	< 0.50	NT	NT	NT	NT	NT	NT	NT
chrysene		μg/L	<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	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	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
benzo(g,h,i)perylene	NE.	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.	<().5()	< 0.50	<0.50	<0.50	<(1.5()	<0.50	NT	NT	NT	NT	NT	NT	NT
USEPA Method 300.0: Anions															
bromide	NE	mg/L	0.38	0.77	0.21	0.79	0.83	0.41	0.87	1.4	0.50	0.24	0.25	0.33	0.78
chloride	250	mg/L	74	120	50	140	220	93	290	350	150	54	51	54	110
sulfate	600	mg/L	1,400	1,200	1,000	1,800	1,300	1,700	1,600	1,900	1,300	1,500	1,200	1,500	1,200
fluoride	1.6	mg/L	< 0.10	1.5	0.57	1.5	0.86	0.34	0.18	0.19	0.37	0.48	0.65	0.53	0.37
nitrate + nitrite as N	NE	mg/L	<1.0	< 0.10	3.8	< 0.10	5.1	3.4	1.2	3.0	0.59	5.9	7.6	7.2	<1.0
phosphorus, orthophosphate (As P)	NE	mg/L	<10	<10	<10	<10	<1()	<10	<10	<10	<10	<10	<10	<10	<10
USEPA Method 200.7: Total Metals															
barium	NE	mg/L	NT	NT	NT	NT	NT	NT	0.025	0.28	0.015	0.036	NT	NT	NT
beryllium	NE	mg/L	NT	NT	NT	NT	NT	NT	< 0.0020	0.0028	< 0.0020	< 0.0020	NT	NT	NT
cadmium	0.01	mg/L	NT	NI	NT	NT	NT	NT	<0.0020	< 0.0020	< 0.0020	< 0.0020	NT	NT	NT
calcium	NE	mg/L	320	340	370	440	400	430	510	550	390	440	420	460	320
chromium	0.05	mg/L	NT	NT	NT	NT	NT	NT	0.13	0.13	0.018	0.16	NT	NT	NT
iron	1.0	mg/L	54	40	9.3	11	38	21	2.3	40	0.44	5.8	0.080	0.048	10
magnesium	NE	mg/L	62	54	30	39	38	40	49	55	3.2	33	29	33	49
manganese	0.2	mg/L	1.9	9.1	0.25	1.8	1.4	4.2	1.2	1.7	0.30	0.32	< 0.020	< 0.0020	3.6
nickel	0.2	mg/L	NT	NT	NT	NT	NT	NT	0.14	0.10	0.056	0.083	NT	NT	NT
potassium	NE	mg/L	1.3	2.1	2.0	7.9	6.2	6.0	2.6	8.9	1.3	2.4	<1,0	1.1	2.1
silver	0.05	mg/L	NT	NT	NT	NT	NT	NT	0.0070	< 0.0050	0.0057	0.0057	NT	NT	NT
sodium	NE	mg/L	520	390	260	420	380	430	560	620	430	320	300	300	520
zinc	10	mg/L	NT	NT	NT	NT	NT	NT	0.012	0.081	< 0.010	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	0.0080	< 0.0010	0.0057	NT	NT	NT
copper	1.0	mg/L	NT	NT	NT	NT	NT	NT	0.0062	0.040	0.0023	0.0082	NT	NT	NT
lead	0.05	mg/L	NT	NT	NT	NT	NT	NT	0.00082	0.022	< 0.00050	0.0024	NT	NT	NT
selenium	0.05	mg/L	NT	NT	NT	NT	NT	NT	0.0055	0.018	0.0027	0.0085	NT	NT	NT
thallium	NE	mg/L	NT	NT	NT	NT	NT	NT	< 0.00050	< 0.00050	< 0.00050	< 0.00050	NT	NT	NT
USEPA Method 245.1: Mercury													-	•	
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		-													
hardness (as CaCO3)	NE.	mg/L	1,100	1,100	1,000	1,200	1,200	1,200	1,500	1,600	1,100	1,200	1,200	1,300	1000
USEPA Method SM 2320B:			.,,,,,,	1,100	1,000	1,500	1,200	1,200	1,200	1,000	1,100	1,200	1,200	1 19090/	1000
alkalinity, total (As CaCO3)	NE	mg/L CaCO3	761.1	388.3	220.8	243.2	222.5	239.1	294.1	297.4	274.8	208.0	208.3	218.4	751.8
carbonate	NE.	mg/L CaCO3	<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	761.1	388.3	220.8	243.2	222.5	239.1	294.1	297.4	274.8	208.0	208.3	218.4	751.8
USEPA Method 120.1:	N.D.	mgr cacos	7,05153	300.3	220.0	29,3.2	444.3	237.1	2.74.1	297.4	274.0	200.0	200.3	210.4	731.8
specific conductance	NE	umbos/or-	3,600	2.000	2.600	4,000	2.200	3,400	4.000	4.600	2.400	2.100	2 700	2.100	2 500
USEPA Method SM4500-H+B: pH	NE.	μmhos/cm	3,000	3,000	2,600	4,000	3,200	3,400	4,000	4,600	3,400	3,100	2,700	3,100	3,500
USEPA Memod SM4500-H+B; pH		-11	7.22	7.0	7.00	7.00	7.17	7.24	7.04	7.01	7.05	7.01	2.75	7.05	7.00
pii	6-9	pH units	7.32	7.65	7.90	7.90	7.47	7.34	7.84	7.84	7.86	7.81	7.65	7.86	7.22
USEPA Method SM2540C Modified: total dissolved solids															
	1.000	mg/L	2,920	2,570	2,110	3,560	2,770	2,940	3,210	3,690	2,720	2.590	2,250	2,640	2,730

Notes:

µg/L - micrograms per liter

BOLD - indicates concentration exceeds the NMWQCC standard mg/L - miligrams per liter

NE - not established

NMWQCC - New Mexico Water Quality Control Commission

NT - not tested

USEPA - United States Environmental Protection Agency



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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,395.07	5,355.07	40.00			No	Yes	179.8	Clear, Product droplets observed
	2/22/2017	5,395.07	5,355.07	40.00			No	No	134.1	Clear
	3/27/2017	5,395.07	5,355.45	39.62			No	No	95.8	Clear no odor
	4/25/2017	5,395.07	5,355.94	39.13			Yes	Yes	290	Clear
	5/22/2017	5,395.07	5,356.72	38.35			No	Yes	0.3	light grey, HC odor
GBR-5	6/21/2017	5,395.07	5,357.78	37.29			Yes	Yes	1.6	Clear, Orange and black flakes present
GDR-3	7/21/2017	5,395.07	5,356.94	38.13			No	No	1.8	Clear
	8/28/2017	5,395.07	5,356.09	38.98			No	No	22.1	Clear
	9/22/2017	5,395.07	5,355.97	39.10			No	No	0.0	Clear
	10/27/2017	5,395.07	5,355.63	39.44			Slight	Yes	10.3	Clear with gray flakes.
	11/27/2017	5,395.07	5,355.60	39.47			No	No	775	Clear
	12/11/2017	5,395.07	5,355.42	39.65			Slight	Yes	793	Clear, small white flakes

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,395.85	5,354.65	41.20	41.00	0.20	Yes	Yes	68.6	black on top with golden brown below (two distinct layers) Product observed
	2/22/2017	5,395.85	5,354.73	41.12	40.95	0.17	Yes	Yes	362.5	black on top with golden brown below (two distinct layers) Product observed
	3/27/2017	5,395.85	5,356.10	39.75	39.66	0.09	Yes	Yes	266.6	black on top with golden brown below (two distinct layers) Product observed
	4/25/2017	5,395.85	5,357.02	38.83			Yes	Yes	131.0	Clear with product droplets present
GBR-7	5/22/2017	5,395.85	5,357.68	38.17			No	Yes	4.0	Clear, HC odor
	6/21/2017	5,395.85	5,358.77	37.08			Yes	Yes	42.1	Clear, slight brown tint
	7/21/2017	5,395.85	5,357.98	37.87			Yes	Yes	98.6	Clear with HC odor, 1/16th in of golden brown product on top
	8/28/2017	5,395.85	5,357.24	38.61			Yes	Yes	2.0	Clear with HC odor
	9/22/2017	5,395.85	5,357.02	38.83	38.78	0.05	Yes	Yes	36.2	orange/golden brown product on top of Clear water, HC odor
	10/27/2017	5,395.85	5,356.83	39.02	38.98	0.04	Yes	Yes	312	Clear gray with orange product on surface
	11/27/2017	5,395.85	5,357.00	38.85			Yes	Yes	369	Clear, PSH drops observered, HC odor
	12/11/2017	5,395.85	5,356.97	38.88			Yes	Yes	381	Clear, Small yellow droplets observered

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,390.50	5,348.50	42.00			No	No	0.0	light grey cloudy
	2/22/2017	5,390.50	5,348.56	41.94			No	No	49.3	light grey cloudy
	3/27/2017	5,390.50	5,348.67	41.83			No	Yes	14.0	light grey, degraded HC odor
	4/25/2017	5,390.50	5,348.80	41.70			Yes	Yes	0.0	Clear with sulfur smell
	5/22/2017	5,390.50	5,348.80	41.70			No	Yes	3.4	Clear with sulfur smell
	6/21/2017	5,390.50	5,348.88	41.62			Yes	Yes	0.0	Cloudy grey/black with flakes
GBR-8	7/21/2017	5,390.50	5,348.83	41.67			Yes	Yes	0.7	grey, PSH observed
GDR-0	8/28/2017	5,390.50	5,348.85	41.65			Yes	Yes	0.8	cloudy grey/yellow with HC odor
	9/22/2017	5,390.50	5,348.87	41.63			Yes	Yes	0.2	light grey with black flakes, sulfur smell
	10/27/2017	5,390.50	5,348.85	41.65			Yes	Yes	0.0	Clear/black. Heavy oder (sulfur) and sheen
	11/27/2017	5,390.50	5,348.92	41.58			No	Yes	30.6	light grey, sulfur odor
	12/11/2017	5,390.50	5,348.85	41.65			Yes	Yes		Clear/black, heavy sheen, sulfur odor

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,389.92	5,347.90	42.02			No	No	0.0	Clear
	2/22/2017	5,389.92	5,348.05	41.87			No	No	0.0	Clear
	3/27/2017	5,389.92	5,348.07	41.85			No	No	0.0	Clear
	4/25/2017	5,389.92	5,348.28	41.64			No	Slight	0.0	Clear
	5/22/2017	5,389.92	5,348.32	41.60			No	No	0.0	Clear
	6/21/2017	5,389.92	5,348.39	41.53			No	Slight	0.0	Clear, slight grey tint
GBR-9	7/21/2017	5,389.92	5,348.29	41.63			No	No	0.0	Clear
	8/28/2017	5,389.92	5,348.37	41.55			No	No	0.0	Clear
	9/22/2017	5,389.92	5,348.35	41.57			No	No	0.0	Clear
	10/27/2017	5,389.92	5,348.34	41.58			No	No	0.0	Clear
	11/27/2017	5,389.92	5,348.38	41.54			No	No	0.0	Clear
	12/11/2017	5,389.92	5,348.32	41.60			No	No	No 1 ()()	Clear, sulfur smell, small black flakes

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,390.57	5,346.16	44.41			No	No	0.0	Clear
	2/22/2017	5,390.57	5,347.28	43.29			No	No	0.0	Clear
	3/27/2017	5,390.57	5,348.52	42.05			No	No	0.0	Clear
	4/25/2017	5,390.57	5,348.67	41.90			No	No	0.0	Clear
	5/22/2017	5,390.57	5,348.70	41.87			No	No	0.0	Clear
	6/21/2017	5,390.57	5,348.77	41.80			No	No	0.0	Clear, small black flakes
GBR-10	7/21/2017	5,390.57	5,348.73	41.84			No	No	0.0	Clear
	8/28/2017	5,390.57	5,348.75	41.82			No	No	0.0	Clear
	9/22/2017	5,390.57	5,348.74	41.83			No	No	0.0	Clear
	10/27/2017	5,390.57	5,348.72	41.85			No	No	0.0	Clear, small black flakes
	11/27/2017	5,390.57	5,348.74	41.83			No	No	0.0	Clear
	12/11/2017	5,390.57	5,348.72	41.85			No	No	0.0	Clear, Invertebrate larva

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,389.43	5,348.31	41.12			No	No	0.0	Clear
	2/22/2017	5,389.43	5,348.43	41.00			No	No	0.6	light grey/black
	3/27/2017	5,389.43	5,348.53	40.90			No	No	1.6	light brown
	4/25/2017	5,389.43	5,348.67	40.76			No	Yes	0.0	Clear, Orange flakes present
	5/22/2017	5,389.43	5,348.62	40.81			No	No	0.0	Clear
CDD 11	6/21/2017	5,389.43	5,348.73	40.70			Yes	Yes	0.0	Clear with small black and orange flakes
GBR-11	7/21/2017	5,389.43	5,348.68	40.75			No	No	0.8	light grey
	8/28/2017	5,389.43	5,348.72	40.71			No	No	0.0	light grey
	9/22/2017	5,389.43	5,348.73	40.70			No	No	0.0	Clear
	10/27/2017	5,389.43	5,348.70	40.73			Slight	Slight	0.0	Clear/black, small black flakes
	11/27/2017	5,389.43	5,348.76	40.67			No	No	0.0	Clear
	12/11/2017	5,389.43	5,348.69	40.74			No	No	0.0	Clear, small orange flakes, plant debris
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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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,393.04	5,352.14	40.90			No	No	0.0	Clear
	2/22/2017	5,393.04	5,352.35	40.69			No	No	0.0	Clear, slight brown hue
	3/27/2017	5,393.04	5,352.44	40.60			No	No	0.0	light brown
	4/25/2017	5,393.04	5,352.54	40.50			No	No	0.0	Clear
	5/22/2017	5,393.04	5,352.56	40.48			No	No	0.0	Clear
	6/21/2017	5,393.04	5,352.62	40.42			No	No	0.0	Clear, slight brown hue
GBR-13	7/21/2017	5,393.04	5,352.49	40.55			No	No	0.0	Clear
	8/28/2017	5,393.04	5,352.61	40.43			No	No	0.0	Clear
	9/22/2017	5,393.04	5,352.61	40.43			No	No	0.0	Clear
	10/27/2017	5,393.04	5,352.65	40.39			No	No	0.0	Clear, small black flakes
	11/27/2017	5,393.04	5,352.69	40.35			No	No	0.0	Clear, small black flakes
	12/11/2017	5,393.04	5,352.63	40.41			No	No No 0.0	Clear, sandy, sulfur smell	

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,397.99	5,364.04	33.95			No	No	0.0	Clear
	2/22/2017	5,397.99	5,364.29	33.70			No	No	0.0	Clear
	3/27/2017	5,397.99	5,364.37	33.62			No	No	0.0	Clear
	4/25/2017	5,397.99	5,364.44	33.55			No	No	0.0	Clear
	5/22/2017	5,397.99	5,364.30	33.69			No	No	0.0	Clear
	6/21/2017	5,397.99	5,364.37	33.62			No	No	0.0	Clear
GBR-15	7/21/2017	5,397.99	5,364.26	33.73			No	No	0.0	Clear
	8/28/2017	5,397.99	5,364.34	33.65			No	No	0.0	Clear
	9/22/2017	5,397.99	5,364.39	33.60			No	No	0.0	Clear
	10/27/2017	5,397.99	5,364.41	33.58			No	No	0.0	Clear, plant matter present
	11/27/2017	5,397.99	5,364.51	33.48			No	No	0.0	Clear
	12/11/2017 5,397.99 5,364.33 33.66 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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,393.47	5,352.47	41.00			No	Yes	232.7	Clear, PSH Observed
	2/22/2017	5,393.47	5,352.69	40.78			No	Yes	184.1	Clear
	3/27/2017	5,393.47	5,352.77	40.70			yes	Yes	399.0	black, PSH observered degraded HC odor, TD=44.60, attempt fish recovered nothing
	4/25/2017	5,393.47	5,353.00	40.47			yes	Yes	152.0	Clear with dark hue present, Sulfer smell
GBR-20	5/22/2017	5,393.47	5,352.89	40.58			yes	Yes	106.0	Clear, HC odor
GBR-20	6/21/2017	5,393.47	5,353.02	40.45			yes	Yes	154	Clear with slight grey tinge, small black flakes, sulfer smell
	7/21/2017	5,393.47	5,352.99	40.48			yes	Yes	173.8	Clear, HC odor
	8/28/2017	5,393.47	5,352.98	40.49			yes	Yes	185.4	Clear, HC odor
	9/22/2017	5,393.47	5,353.09	40.38			No	No	125.0	Clear, sulfur smell
	10/27/2017	5,393.47	5,353.06	40.41			No	No	322	Clear, sulfur smell
	11/27/2017	5,393.47	5,353.07	40.40			No	Yes	296	Clear, sulfur smell
	12/11/2017	5,393.47	5,352.92	40.55		-	Slight	Yes	242	Clear, strong sulfur smell

Dry Dry Dry Dry Dry	NM NM 0.0	NM NM 0.0 Dry a	
			at 34.90
Dry Dry	NM NM 0.0	NM NM 0.0 Dry 8	at 34.90
Diy	NM NM 0.0	NM NM 0.0 Dry a	at 34.90
Dry Dry	NM NM 0.0	NM NM 0.0 Dry 8	at 34.90
Dry Dry	NM NM 0.0	NM NM 0.0 Dry a	at 34.90
Dry Dry	NM NM 0.0	NM NM 0.0 Dry a	at 34.90
Dry Dry	NM NM 0.0	NM NM 0.0 Dry a	at 34.90
Dry Dry	NM NM 0.0	NM NM 0.0 Dry 8	at 34.90
Dry Dry	NM NM 0.0	NM NM 0.0 Dry a	at 34.90
Dry Dry	NM NM 1.6	NM NM 1.6 Dry a	at 34.87
D. D.	NM NM 0.0	NM NM 0.0 Dry 8	at 34.88
Dry Dry	NM NM 0.0	NM NM 0.0 Dry :	at 34.92
_	Dry Dry	Dry Dry	Dry Dry NM NM 0.0 Dry a

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,400.19	5,364.22	35.97			No	No	0.0	Clear
	2/22/2017	5,400.19	5,364.26	35.93			No	Yes	11.4	light brown
	3/27/2017	5,400.19	5,364.32	35.87			No	No	0.0	Clear
	4/25/2017	5,400.19	5,364.41	35.78			No	No	0.0	Clear
	5/22/2017	5,400.19	5,364.45	35.74			No	No	0.0	Clear
	6/21/2017	5,400.19	5,364.53	35.66			No	Yes	0.6	Clear with large white stringy chunks
GBR-21D	7/21/2017	5,400.19	5,364.42	35.77			No	Yes	0.0	Clear
GBR-21D	8/28/2017	5,400.19	5,364.49	35.70			No	Yes	0.0	Clear with slight HC odor
	9/22/2017	5,400.19	5,364.56	35.63			Yes	Yes	0.8	Clear, brown PSH observered
	10/27/2017	5,400.19	5,364.51	35.68			No	No	1.4	Clear, White chunks present, Sulfur smell
	11/27/2017	5,400.19	5,364.51	35.68			No	Yes	0.0	Clear, White and black chunks present, Sulfur smell
	12/11/2017	5,400.19	5,364.36	35.83			No	Yes	0.0	Clear, Sulfur smell

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5395.91	5,360.12	35.79		-	Yes	Yes	0.0	Light brown, PSH observed
	2/22/2017	5395.91	5,360.23	35.68		-	Yes	Yes	1.3	Light brown, PSH observed
	3/27/2017	5395.91	5,360.45	35.46		-	Yes	Yes	0.0	Golden brown, PSH observed, HC odor
	4/25/2017 5395.91	5395.91	5,360.56	35.35		-	Yes	Yes	0.0	Clear, Orange product droplets present
	6/21/2017 539	5395.91	5,360.43	35.48		-	Yes	Yes	0.0	light brown, PSH observed
GBR-22		5395.91	5,360.47	35.44		-	Yes	Yes	0.0	Clear light brown, small black flakes
GDR-22	7/21/2017	5395.91	5,360.42	35.49		-	Yes	Yes	0.0	grey, PSH observed, HC odor
	8/28/2017	5395.91	5,360.47	35.44		-	Yes	Yes	0.5	grey with HC odor
	9/22/2017	5395.91	5,360.48	35.43		-	Yes	Yes	5.6	light brown, PSH observered
		5395.91	5,360.57	35.34		-	Yes	Yes	0.0	Clear/brown, small black flakes
		5395.91	5,360.69	35.22		-	Yes	Yes	0.0	light brown, PSH droplets, HC odor
12/11/2017	5395.91	5,360.47	35.44		-	Yes	Yes	0.0	Clear/yellow, yellow/orange product droplets	

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,403.72	NM	NM			NM	NM	0.0	Bent casing
	2/22/2017	5,403.72	NM	NM			NM	NM	0.0	Bent casing
	3/27/2017	5,403.72	NM	NM			NM	NM	0.0	Bent casing
	4/25/2017	5,403.72	NM	35.88			NM	NM	0.0	Bent casing
	5/22/2017	5,403.72	NM	NM			NM	NM	0.0	Bent casing
	6/21/2017	5,403.72	NM	36.24	36.21	0.03	NM	NM	224	Bent casing
	7/21/2017	5,403.72	NM	NM			NM	NM	NM	Bent casing
	8/28/2017	5,403.72	NM	NM			NM	NM	NM	Bent casing
GBR-23	9/22/2017	5,403.72	NM	NM					0.00	Bent casing
	10/27/2017	5,403.72	NM	34.02					0.00	Bent casing
	11/27/2017	5,403.72	NM	NM					NM	Bent casing
1	12/11/2017	5,403.72	NM	33.58			Yes	Yes	0.00	Thick and white, yellow/orange product droplets. Casing slightly bent, pushed bailer past bend and was able to bail well.

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,396.08	5,365.74	30.34			No	No	0.0	Clear
	2/22/2017	5,396.08	5,366.01	30.07			No	No	0.0	Clear
	3/27/2017	5,396.08	5,366.08	30.00			No	No	0.0	Clear
	4/25/2017	5,396.08	5,366.08	30.00			No	No	0.0	Clear
	5/22/2017	5,396.08	5,365.78	30.30			No	No	0.0	Clear
	6/21/2017	5,396.08	5,365.80	30.28			Yes	Yes	0.0	Cloudy grey, excess plant material
GBR-24S	7/21/2017	5,396.08	5,365.95	30.13			No	No	0.0	light brown
	8/28/2017	5,396.08	5,365.90	30.18			No	No	0.0	light brown
	9/22/2017	5,396.08	5,365.93	30.15			No	No	0.0	Clear, plant debris
	10/27/2017	5,396.08	5,365.92	30.16			No	Yes	0.0	Clear/gray, plant debri and invertabrate larva present
	11/27/2017 5,396.08 12/11/2017 5,396.08	5,366.18	29.90			No	No	0.0	light grey, plant debris	
		5,365.87	30.21		-	No	No	0.0	Light grey, plant debris	

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,396.08	5,364.86	31.22			No	No	0.0	Clear
	2/22/2017	5,396.08	5,365.18	30.90			No	No	0.0	Clear
	3/27/2017	5,396.08	5,365.21	30.87			No	No	0.0	Clear
	4/25/2017	5,396.08	5,365.22	30.86			No	No	0.0	Clear
	5/22/2017	5,396.08	5,365.09	30.99			No	No	0.0	Clear
	6/21/2017	5,396.08	5,365.12	30.96			No	No	0.0	Clear with large white chunks and excess plant material
GBR-24D	7/21/2017	5,396.08	5,363.24	32.84			No	No	0.0	light grey
	8/28/2017	5,396.08	5,365.18	30.90			No	No	0.0	light grey
	9/22/2017	5,396.08	5,365.18	30.90			No	Yes	0.0	light grey, sulfur smell
	10/27/2017	5,396.08	5,365.21	30.87	-		No	No	0.0	Clear, sulfur smell, Plant debris
	11/27/2017	5,396.08	5,365.43	30.65			No	No	0.0	Clear, Plant debris
	12/11/2017	5,396.08	5,364.16	31.92			No	No	0.0	Clear, excess plant debris

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,397.03	5,362.55	34.48			Yes	Yes	9.0	light grey PSH observed
	2/22/2017	5,397.03	5,362.59	34.44			Yes	Yes	24.2	light brown PSH observed
	3/27/2017	5,397.03	5,362.70	34.33		-	Yes	Yes	13.4	light brown, strong suflur/HC odor
	4/25/2017	5,397.03	5,362.85	34.18			No	Yes	1.6	Clear, Orange flakes present, slufer smell
	5/22/2017	5,397.03	5,362.69	34.34			Yes	Yes	7.2	grey, PSH observed
GBR-25	6/21/2017	5,397.03	5,362.73	34.30			Yes	Yes	6.6	Clear light brown hue, small white chunks
GBR-25	7/21/2017	5,397.03	5,362.71	34.32	-		Yes	Yes	17.0	light brown, PSH observed, white
	8/28/2017	5,397.03	5,362.69	34.34			Yes	Yes	20.2	light brown, with floating debris, HC
	9/22/2017	5,397.03	5,362.83	34.20			No	Yes	4.6	light brown, sulfer smell
	10/27/2017	5,397.03	5,362.79	34.24			Yes	Yes	4.6	Clear with a light orange hue.
	11/27/2017	5,397.03	5,362.83	34.20			No	Yes	0.0	light brown, sulfur smell
	12/11/2017	5,397.03	5,362.69	34.34			No	Yes	0.0	Clear/light brown, sulfur smell

### ${\bf TABLE~3} \\ {\bf VOLUNTARY~MONITORING~OF~STATIC~GROUNDWATER~CONDITIONS-MONTHLY~GROUNDWATER~OBSERVATIONS}$

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,396.72	5,364.46	32.26			NM	NM	0.0	could not bail
	2/22/2017	5,396.72	5,364.66	32.06			NM	NM	0.0	could not bail
	3/27/2017	5,396.72	5,364.72	32.00			NM	NM	0.0	could not bail
	4/25/2017	5,396.72	5,364.82	31.90			NM	NM	0.0	Bent casing, could not bail
	5/22/2017	5,396.72	5,364.85	31.87			NM	NM	0.0	Bent casing, could not bail
	6/21/2017	5,396.72	5,364.87	31.85			NM	NM	0.0	Bent casing, could not bail
GBR-26	7/21/2017	5,396.72	5,364.72	32.00			NM	NM	0.0	Bent casing, could not bail
	8/28/2017	5,396.72	5,364.91	31.81			NM	NM	0.0	Bent casing, could not bail
	9/22/2017	5,396.72	5,364.80	31.92			NM	NM	0.0	Bent casing, could not bail
	10/27/2017	5,396.72	5,364.81	31.91			NM	NM	0.0	Bent casing, could not bail
	11/27/2017	5,396.72	5,364.85	31.87			NM	NM	0.0	Bent casing, could not bail
	12/11/2017	5,396.72	5,364.83	31.89			NM	NM	0.0	Bent casing, could not bail

Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarb on Odor	Headspace (ppm)	Comments
1/25/2017	5,395.59	5,363.02	32.57			No	No	0.0	Clear
2/22/2017	5,395.59	5,363.14	32.45			No	No	0.0	Clear
3/27/2017	5,395.59	5,363.18	32.41			No	No	0.0	Clear
4/25/2017	5,395.59	5,363.27	32.32			No	No	0.0	Clear
5/22/2017	5,395.59	5,363.30	32.29			No	No	0.0	Clear
6/21/2017	5,395.59	5,363.31	32.28			No	No	0.0	light brown, plant material present
7/21/2017	5,395.59	5,363.21	32.38			No	No	0.0	light brown
8/28/2017	5,395.59	5,363.25	32.34			No	No	0.0	light brown
9/22/2017	5,395.59	5,363.21	32.38			No	No	0.0	Clear
10/27/2017	5,395.59	5,363.27	32.32			No	No	0.0	Clear/light brown, plant matter present
11/27/2017	5,395.59	5,363.33	32.26			No	No	0.0	light brown, plant debris
12/11/2017	5,395.59	5,363.28	32.31			No	No	0.0	Clear/brown, plant debris
	1/25/2017 2/22/2017 3/27/2017 4/25/2017 5/22/2017 6/21/2017 7/21/2017 8/28/2017 9/22/2017 10/27/2017	Date         Casing Elevation           1/25/2017         5,395.59           2/22/2017         5,395.59           3/27/2017         5,395.59           4/25/2017         5,395.59           5/22/2017         5,395.59           6/21/2017         5,395.59           7/21/2017         5,395.59           8/28/2017         5,395.59           9/22/2017         5,395.59           10/27/2017         5,395.59           11/27/2017         5,395.59	Date         Casing Elevation         Groundwater Elevation           1/25/2017         5,395.59         5,363.02           2/22/2017         5,395.59         5,363.14           3/27/2017         5,395.59         5,363.18           4/25/2017         5,395.59         5,363.27           5/22/2017         5,395.59         5,363.30           6/21/2017         5,395.59         5,363.31           7/21/2017         5,395.59         5,363.21           8/28/2017         5,395.59         5,363.25           9/22/2017         5,395.59         5,363.21           10/27/2017         5,395.59         5,363.27           11/27/2017         5,395.59         5,363.33	Date         Casing Elevation         Groundwater (feet BTOC)           1/25/2017         5,395.59         5,363.02         32.57           2/22/2017         5,395.59         5,363.14         32.45           3/27/2017         5,395.59         5,363.18         32.41           4/25/2017         5,395.59         5,363.27         32.32           5/22/2017         5,395.59         5,363.30         32.29           6/21/2017         5,395.59         5,363.21         32.38           8/28/2017         5,395.59         5,363.21         32.38           8/28/2017         5,395.59         5,363.21         32.38           10/27/2017         5,395.59         5,363.21         32.38           10/27/2017         5,395.59         5,363.21         32.38           11/27/2017         5,395.59         5,363.27         32.32	Date         Casing Elevation         Groundwater (feet BTOC)         Product (feet BTOC)           1/25/2017         5,395.59         5,363.02         32.57            2/22/2017         5,395.59         5,363.14         32.45            3/27/2017         5,395.59         5,363.18         32.41            4/25/2017         5,395.59         5,363.27         32.32            5/22/2017         5,395.59         5,363.30         32.29            6/21/2017         5,395.59         5,363.31         32.28            7/21/2017         5,395.59         5,363.21         32.38            8/28/2017         5,395.59         5,363.25         32.34            9/22/2017         5,395.59         5,363.21         32.38            10/27/2017         5,395.59         5,363.21         32.38            11/27/2017         5,395.59         5,363.27         32.32            5,395.59         5,363.27         32.32	Date         Casing Elevation         Groundwater (feet BTOC)         Groundwater (feet BTOC)         Product (feet BTOC)         Product Thickness (feet)           1/25/2017         5,395.59         5,363.02         32.57             2/22/2017         5,395.59         5,363.14         32.45             3/27/2017         5,395.59         5,363.18         32.41             4/25/2017         5,395.59         5,363.27         32.32             5/22/2017         5,395.59         5,363.30         32.29             6/21/2017         5,395.59         5,363.31         32.28             7/21/2017         5,395.59         5,363.21         32.38             8/28/2017         5,395.59         5,363.21         32.38             9/22/2017         5,395.59         5,363.21         32.38             10/27/2017         5,395.59         5,363.27         32.32             11/27/2017         5,395.59         5,363.33         32.26	Date         Casing Elevation         Groundwater (feet BTOC)         Groundwater (feet BTOC)         Product (feet BTOC)         Sheen           1/25/2017         5,395.59         5,363.02         32.57           No           2/22/2017         5,395.59         5,363.14         32.45           No           3/27/2017         5,395.59         5,363.18         32.41           No           4/25/2017         5,395.59         5,363.27         32.32           No           5/22/2017         5,395.59         5,363.30         32.29           No           6/21/2017         5,395.59         5,363.31         32.28           No           7/21/2017         5,395.59         5,363.21         32.38           No           8/28/2017         5,395.59         5,363.25         32.34           No           9/22/2017         5,395.59         5,363.21         32.38           No           10/27/2017         5,395.59         5,363.27         32.32           No	Date         Casing Elevation         Groundwater Elevation         Groundwater (feet BTOC)         Product (feet BTOC)         Thickness (feet)         Sheen         Hydrocarb on Odor           1/25/2017         5,395.59         5,363.02         32.57           No         No           2/22/2017         5,395.59         5,363.14         32.45           No         No           3/27/2017         5,395.59         5,363.18         32.41           No         No           4/25/2017         5,395.59         5,363.27         32.32           No         No           5/22/2017         5,395.59         5,363.30         32.29           No         No           6/21/2017         5,395.59         5,363.31         32.28           No         No           7/21/2017         5,395.59         5,363.21         32.38           No         No           8/28/2017         5,395.59         5,363.21         32.38           No         No           10/27/2017         5,395.59         5,363.27         32.32	Date         Casing Elevation         Groundwater Elevation         Groundwater (feet BTOC)         Product (feet BTOC)         Product Thickness (feet)         Sheen         Hydrocarb on Odor         Headspace (ppm)           1/25/2017         5,395.59         5,363.02         32.57           No         No         0.0           2/2/2/2017         5,395.59         5,363.14         32.45           No         No         0.0           3/27/2017         5,395.59         5,363.18         32.41           No         No         0.0           4/25/2017         5,395.59         5,363.27         32.32           No         No         0.0           5/22/2017         5,395.59         5,363.30         32.29           No         No         0.0           6/21/2017         5,395.59         5,363.31         32.28           No         No         0.0           8/28/2017         5,395.59         5,363.21         32.38           No         No         0.0           9/22/2017         5,395.59         5,363.21         32.38           N

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,396.58	5,364.00	32.58			No	No	0.0	Clear
	2/22/2017	5,396.58	5,364.06	32.52			No	No	0.0	Clear
	3/27/2017	5,396.58	5,364.15	32.43			No	No	0.0	Clear
	4/25/2017	5,396.58	5,364.28	32.30		-	No	No	0.7	Clear
	5/22/2017	5,396.58	5,364.26	32.32	-	-	No	No	0.0	Clear
GBR-31	6/21/2017	5,396.58	5,364.33	32.25			No	No	0.0	Clear, insect larva swimming in water
GBK-31	7/21/2017	5,396.58	5,364.18	32.40			No	No	0.0	Clear
	8/28/2017	5,396.58	5,364.14	32.44		0	No	No	0.0	Clear
	9/22/2017	5,396.58	5,364.26	32.32	-		No	No	0.0	Clear
	10/27/2017	5,396.58	5,364.32	32.26		-	No	No	0.0	Clear/light brown, small yellow flakes
	11/27/2017	5,396.58	5,364.33	32.25			No	No	0.0	Clear
	12/11/2017	5,396.58	5,364.29	32.29			No	No	0.0	Clear
	12/11/2017	5,570.50	2,231,23	So one, that I			1 171		3.0	Cicai

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,396.28	Dry	Dry			NM	NM	0.0	Dry
	2/22/2017	5,396.28	Dry	Dry			NM	NM	0.0	Dry
	3/27/2017	5,396.28	Dry	Dry			NM	NM	0.0	Dry@33.43
	4/25/2017	5,396.28	Dry	Dry			NM	NM	0.9	Dry@33.43 !!!!!Possible obstruction in well!!!!!
	5/22/2017	5,396.28	Dry	Dry			NM	NM	0.0	Dry@33.48
GBR-33	6/21/2017	5,396.28	Dry	Dry			NM	NM	0.0	Dry@33.43
	7/21/2017	5,396.28	Dry	Dry			NM	NM	0.0	Dry@33.43
	8/28/2017	5,396.28	Dry	Dry			NM	NM	0.0	Dry @33.43
	9/22/2017	5,396.28	Dry	Dry	-		NM	NM	0.0	Dry @33.43
	10/27/2017	5,396.28	Dry	Dry			NM	NM	0.0	Dry @33.43
	11/27/2017	5,396.28	Dry	Dry			NM	NM	0.0	Dry @33.43
	12/11/2017	5,396.28	Dry	Dry			NM	NM	0.0	Dry @33.43
				12.00						

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,394.00	5,359.76	34.24			Yes	Yes	0.0	grey PSH observed
	2/22/2017	5,394.00	5,360.00	34.00			No	Yes	3.0	light grey, slight degraded HC odor
	3/27/2017	5,394.00	5,360.00	34.00			Yes	Yes	0.0	grey/black, PSH, HC odor
	4/25/2017	5,394.00	5,360.14	33.86	-		Yes	Yes	0.0	grey/black, PSH, HC odor
GBR-34	5/22/2017	5,394.00	5,360.05	33.95		-	Yes	Yes	0.0	grey/black, PSH, HC odor
GBR-54	6/21/2017	5,394.00	5,358.33	35.67			No	No	0.0	Cloudy grey, tiny black flakes
	7/21/2017	5,394.00	5,358.92	35.08			No	No	0.0	Clear
	8/28/2017	5,394.00	5,359.02	34.98			No	No	0.0	Clear
	9/22/2017	5,394.00	5,358.97	35.03			No	No	0.0	Clear w/ orange flakes
	10/27/2017	5,394.00	5,359.04	34.96	-		No	No	0.0	Clear, small orange and black flakes
	11/27/2017 5,394.00	5,394.00	5,359.11	34.89			No	No	0.0	Clear, orange flakes
	12/11/2017	5,394.00	5,358.98	35.02			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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	NM	NM	35.35			Yes	Yes	0.0	grey PSH observed
	2/22/2017	NM	NM	35.20			No	No	0.0	light brown
	3/27/2017	NM	NM	35.07			No	No	0.0	light brown
	4/25/2017	NM	NM	35.00			No	Yes	0.0	Clear
	5/22/2017	NM	NM	35.12			No	No	0.0	light brown
	6/21/2017	NM	NM	35.03			No	Slight	0.0	Clear, light brown, tiny brown flakes
GBR-34A	7/21/2017	NM	NM	33.93			Yes	Yes	0.3	black, PSH observed, degraded HC odor
GBR-54A	8/28/2017	NM	NM	34.09			Yes	Yes	0.7	light black with HC odor
	9/22/2017	NM	NM	33.89			Yes	Yes	0.0	grey, PSH, dead bugs
	10/27/2017	NM	NM	33.84			Yes	Yes	0.0	Clear/grey, dead bugs and a lizard present in bailer
	11/27/2017	NM	NM	33.79			No	Yes	0.0	light grey, sulfur ordor
	12/11/2017	NM	NM	33.85			No	Yes	0.0	Light brown, lizard tail in bailer, invertebrates

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,393.66	5,359.29	34.37			No	No	0.0	Light Brown
	2/22/2017	5,393.66	5,359.48	34.18			No	No	0.0	Light Brown
	3/27/2017	5,393.66	5,359.54	34.12			No	No	0.0	Light Brown, plant debris
	4/25/2017	5,393.66	5,359.66	34.00			Yes	Yes	0.0	Clear, dirt/debries present
	5/22/2017	5,393.66	5,359.63	34.03			No	No	0.0	Clear, plant debris
	6/21/2017	5,393.66	5,359.68	33.98	-		Yes	Slight	0.0	Clear/light brown tint, plant debris
GBR-35	7/21/2017	5,393.66	5,359.56	34.10			Yes	Yes	0.0	light brown cloudy, PSH observered
	8/28/2017	5,393.66	5,359.62	34.04			Yes	Yes	0.0	light brown cloudy
	9/22/2017	5,393.66	5,359.66	34.00			No	No	0.0	light grey hue, plant debris
	10/27/2017	5,393.66	5,359.69	33.97			No	No	0.0	Clear, heavy plant matter present
	11/27/2017	5,393.66	5,359.79	33.87			Yes	Yes	0.0	light brown, plant debris, sulfur odor
	12/11/2017	5,393.66	5,359.69	33.97			Yes	Yes	0.0	Light brown, plant debris, sulfur smell

Date	Top of Casing Elevation	Adjusted Groundwater Elevation	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Sheen	Hydrocarb on Odor	Headspace (ppm)	Comments
1/25/2017	5,397.55	5,364.22	33.33			No	No	0.0	Clear
2/22/2017	5,397.55	5,364.10	33.45			No	No	0.0	Clear
3/27/2017	5,397.55	5,364.24	33.31			No	No	0.0	Clear
4/25/2017	5,397.55	5,364.34	33.21			No	No	0.0	Clear
5/22/2017	5,397.55	5,364.20	33.35			No	No	0.0	Clear
6/21/2017	5,397.55	5,364.28	33.27			No	No	0.0	Clear, insect debris
7/21/2017	5,397.55	5,364.20	33.35			No	No	0.0	light brown
8/28/2017	5,397.55	5,364.24	33.31			No	No	0.0	light brown
9/22/2017	5,397.55	5,364.31	33.24			No	No	0.0	Clear
10/27/2017	5,397.55	5,364.29	33.26			No	No	0.0	Clear, Plant and invertabrate matter present
11/27/2017	5,397.55	5,364.31	33.24			No	No	0.0	Clear, plant debris
12/11/2017	5,397.55	5,364.21	33.34			No	No	0.0	Clear, excess plant debris
	1/25/2017 2/22/2017 3/27/2017 4/25/2017 5/22/2017 6/21/2017 7/21/2017 8/28/2017 9/22/2017 10/27/2017	Date         Casing Elevation           1/25/2017         5,397.55           2/22/2017         5,397.55           3/27/2017         5,397.55           4/25/2017         5,397.55           5/22/2017         5,397.55           6/21/2017         5,397.55           7/21/2017         5,397.55           8/28/2017         5,397.55           9/22/2017         5,397.55           10/27/2017         5,397.55           11/27/2017         5,397.55	Date         Casing Elevation         Groundwater Elevation           1/25/2017         5,397.55         5,364.22           2/22/2017         5,397.55         5,364.10           3/27/2017         5,397.55         5,364.24           4/25/2017         5,397.55         5,364.34           5/22/2017         5,397.55         5,364.20           6/21/2017         5,397.55         5,364.20           7/21/2017         5,397.55         5,364.20           8/28/2017         5,397.55         5,364.24           9/22/2017         5,397.55         5,364.31           10/27/2017         5,397.55         5,364.31           11/27/2017         5,397.55         5,364.31	Date         Casing Elevation         Groundwater (feet BTOC)           1/25/2017         5,397.55         5,364.22         33.33           2/22/2017         5,397.55         5,364.10         33.45           3/27/2017         5,397.55         5,364.24         33.31           4/25/2017         5,397.55         5,364.34         33.21           5/22/2017         5,397.55         5,364.20         33.35           6/21/2017         5,397.55         5,364.28         33.27           7/21/2017         5,397.55         5,364.20         33.35           8/28/2017         5,397.55         5,364.24         33.31           9/22/2017         5,397.55         5,364.31         33.24           10/27/2017         5,397.55         5,364.29         33.26           11/27/2017         5,397.55         5,364.31         33.24	Date         Casing Elevation         Groundwater (feet BTOC)         Groundwater (feet BTOC)         Product (feet BTOC)           1/25/2017         5,397.55         5,364.22         33.33            2/22/2017         5,397.55         5,364.10         33.45            3/27/2017         5,397.55         5,364.24         33.31            4/25/2017         5,397.55         5,364.24         33.21            5/22/2017         5,397.55         5,364.20         33.35            6/21/2017         5,397.55         5,364.28         33.27            7/21/2017         5,397.55         5,364.20         33.35            8/28/2017         5,397.55         5,364.24         33.31            9/22/2017         5,397.55         5,364.24         33.31            10/27/2017         5,397.55         5,364.24         33.31            10/27/2017         5,397.55         5,364.29         33.24            11/27/2017         5,397.55         5,364.31         33.24	Date         Casing Elevation         Groundwater (feet BTOC)         Product (feet BTOC)         Product (feet BTOC)           1/25/2017         5,397.55         5,364.22         33.33             2/22/2017         5,397.55         5,364.10         33.45             3/27/2017         5,397.55         5,364.24         33.31             4/25/2017         5,397.55         5,364.24         33.21             5/22/2017         5,397.55         5,364.20         33.35             6/21/2017         5,397.55         5,364.28         33.27             7/21/2017         5,397.55         5,364.20         33.35             8/28/2017         5,397.55         5,364.24         33.31             9/22/2017         5,397.55         5,364.24         33.31             10/27/2017         5,397.55         5,364.24         33.24             11/27/2017         5,397.55         5,364.29         33.26             11/27/2017         5,397.55         5,364.	Date         Casing Elevation         Groundwater (feet BTOC)         Product (feet BTOC)         Product Thickness (feet)         Sheen           1/25/2017         5,397.55         5,364.22         33.33           No           2/22/2017         5,397.55         5,364.10         33.45           No           3/27/2017         5,397.55         5,364.24         33.31           No           4/25/2017         5,397.55         5,364.24         33.21           No           5/22/2017         5,397.55         5,364.20         33.35           No           6/21/2017         5,397.55         5,364.28         33.27          No         No           8/28/2017         5,397.55         5,364.20         33.35           No           8/28/2017         5,397.55         5,364.24         33.31           No           9/22/2017         5,397.55         5,364.24         33.31           No           10/27/2017         5,397.55         5,364.24         33.31           No	Date         Casing Elevation         Groundwater (feet BTOC)         Product (feet BTOC)         Product Thickness (feet)         Sheen         Hydrocarb on Odor           1/25/2017         5,397.55         5,364.22         33.33           No         No           2/22/2017         5,397.55         5,364.10         33.45           No         No           3/27/2017         5,397.55         5,364.24         33.31           No         No           4/25/2017         5,397.55         5,364.34         33.21           No         No           5/22/2017         5,397.55         5,364.20         33.35           No         No           6/21/2017         5,397.55         5,364.28         33.27           No         No           7/21/2017         5,397.55         5,364.20         33.35           No         No           8/28/2017         5,397.55         5,364.21         33.31           No         No           9/22/2017         5,397.55         5,364.31         33.24           No	Date         Casing Elevation         Groundwater (feet BTOC)         Product (feet BTOC)         Product Thickness (feet)         Sheen         Hydrocarb on Odor         Headspace (ppm)           1/25/2017         5,397.55         5,364.22         33.33           No         No         0.0           2/22/2017         5,397.55         5,364.10         33.45           No         No         0.0           3/27/2017         5,397.55         5,364.24         33.31           No         No         0.0           4/25/2017         5,397.55         5,364.24         33.21           No         No         0.0           5/22/2017         5,397.55         5,364.20         33.35           No         No         0.0           6/21/2017         5,397.55         5,364.28         33.27           No         No         0.0           8/28/2017         5,397.55         5,364.20         33.35           No         No         0.0           9/22/2017         5,397.55         5,364.24         33.31           No         No         0

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,400.76	Dry	Dry		-	NM	NM	0.0	Dry
	2/22/2017	5,400.76	Dry	Dry			NM	NM	0.0	Dry @ 39.40
	3/27/2017	5,400.76	Dry	Dry			NM	NM	0.4	Dry @ 39.40
	4/25/2017	5,400.76	Dry	Dry			NM	NM	0.0	Dry @ 39.40
GDD 40	5/22/2017	5,400.76	Dry	Dry			NM	NM	0.0	Dry @ 39.40
GBR-40	6/21/2017	5,400.76	Dry	Dry			NM	NM	0.0	Dry @ 39.40
	8/28/2017	5,400.76	Dry	Dry			NM	NM	0.0	Dry @ 39.40
	9/22/2017	5,400.76	Dry	Dry			NM	NM	0.0	Dry @ 39.40
11/27	10/27/2017	5,400.76	Dry	Dry			NM	NM	0.7	Dry @ 39.46
	11/27/2017	5,400.76	Dry	Dry			NM	NM	0.0	Dry @ 39.42
	12/11/2017	5,400.76	Dry	Dry			NM	NM	0.0	Dry @ 39.39
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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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,396.35	DRY	DRY			NM	NM	328.4	Dry
	2/22/2017	5,396.35	DRY	DRY			NM	NM	241.4	Dry @ 34.37
	3/27/2017	5,396.35	5,362.11	34.24	34.20	0.04	Yes	Yes	248.4	Dry @ 34.35, bailer stained with PSH, no water recovered strong HC odor on bailer
	4/25/2017	5,396.35	DRY	DRY			NM	NM	9.7	Dry @ 32.60
	5/22/2017	5,396.35	5,362.13	34.22	34.18	0.04	NM	NM	22.6	no water recovered bailer stained with product
	6/21/2017	5,396.35	5,362.10	34.25	34.20	0.05	Yes	Yes	13.6	Tiny bit of product bailed. Thick and deep yellow color. Stained bailer.
GBR-41	7/21/2017	5,396.35	5,362.07	34.28	34.22	0.06	NM	NM	47.5	no water recovered, bailer stained with product, HC odor
	8/28/2017	5,396.35	5,362.11	34.24	34.21	0.03	NM	slight	64.0	No H20 recoverd, black product on tip of bailor, slight odor
	9/22/2017	5,396.35	5,362.04	34.31	34.25	0.06	NM	NM	0.3	no h2o recovered, bailer stained with product
	10/27/2017	5,396.35	5,362.05	34.30	34.26	0.04	NM	NM	140	no H2O recovered, bailer stained with product
	11/27/2017	5,396.35	5,362.04	34.31	34.28	0.03	NM	NM	324	no H2O recovered, bailer stained with product, HC odor, TD @ 34.38
	12/11/2017	5,396.35	5,362.05	34.30	34.28	0.02	NM	NM	343	No H2O recovered, bailer stained yellow with product

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,394.30	5,350.99	43.31			No	No	0.0	Clear
	2/22/2017	5,394.30	5,351.46	42.84			No	No	0.0	Clear
	3/27/2017	5,394.30	5,351.95	42.35			No	No	0.0	Clear
	4/25/2017	5,394.30	5,352.30	42.00			No	No	0.0	Clear
	5/22/2017	5,394.30	5,352.15	42.15			No	No	0.0	Clear
GRW-1	6/21/2017	5,394.30	5,352.33	41.97			No	No	0.0	Clear, small black flakes
	7/21/2017	5,394.30	5,352.01	42.29			No	No	0.0	Clear
	8/28/2017	5,394.30	5,351.80	42.50			No	No	0.0	Clear
	9/22/2017	5,394.30	5,351.82	42.48			No	No	0.0	Clear
	10/27/2017	5,394.30	5,351.94	42.36			No	No	0.0	Clear
	11/27/2017	5,394.30	5,352.15	42.15			No	No	0.0	Clear
	12/11/2017	5,394.30	5,352.12	42.18			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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,391.28	5,347.52	43.76			No	No	0.0	Clear
	2/22/2017	5,391.28	5,347.75	43.53			No	No	0.0	Clear
	3/27/2017	5,391.28	5,347.88	43.40			No	No	0.0	Clear, floating white debris
	4/25/2017	5,391.28	5,348.03	43.25	-		No	Yes	0.0	Clear
	5/22/2017	5,391.28	5,348.05	43.23			No	No	0.0	Clear
	6/21/2017	5,391.28	5,348.14	43.14			No	Yes	0.0	Clear, Orange flakes. Sulfur smell
GRW-2	7/21/2017	5,391.28	5,348.13	43.15			No	No	0.0	Clear, red floaters, maybe rust
	8/28/2017	5,391.28	5,348.16	43.12			No	No	0.0	Clear, red flakes, possibly rust
	9/22/2017	5,391.28	5,348.16	43.12			No	No	0.0	Clear, floating debris
	10/27/2017	5,391.28	5,348.14	43.14	-		No	No	0.0	Clear, sulfur smell, small orange flakes
	11/27/2017	5,391.28	5,348.17	43.11	-		No	No	0.0	Clear, orange flakes
	12/11/2017	5,391.28	5,348.13	43.15			No	No	0.0	Clear, orange flakes, sulfur smell

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,388.77	5,345.15	43.62	-		Yes	Yes	0.0	Clear, white debris and black flecks
	2/22/2017	5,388.77	5,345.51	43.26			Yes	Yes	0.1	Clear, white debris and black flecks
	3/27/2017	5,388.77	5,345.84	42.93			No	yes	0.0	Clear, white debris and black flecks
	4/25/2017	5,388.77	5,346.07	42.70			Yes	Yes	0.0	Clear, black flecks, sulfer smell
	5/22/2017	5,388.77	5,345.99	42.78			Yes	Yes	0.0	grey, white debris and black flakes
	6/21/2017	5,388.77	5,346.19	42.58			Yes	Yes	0.0	Clear with large black and white flakes. Sulfur smell
GRW-3	7/21/2017	5,388.77	5,346.09	42.68			Yes	Yes	0.0	grey, black flakes, white debris, degraded HC odor, sulfur smell
	8/28/2017	5,388.77	5,346.05	42.72			Yes	Yes	0.0	light grey, strong sulfar odor with white debri
	9/22/2017	5,388.77	5,345.94	42.83			No	Yes	0.0	black product with white alga matter, sulfur smell
	10/27/2017	5,388.77	5,345.86	42.91			Slight	No	0.0	Clear, large white chunks, sulfur smell
	11/27/2017	5,388.77	5,346.05	42.72			Slight	Yes	0.0	Clear, large white and black chunks, sulfur smell
	12/11/2017	5,388.77	5,345.28	43.49			Slight	Yes	0.0	Clear, large black and white chunks, sulfur smell

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,390.02	5,347.97	42.05			No	No	0.0	Clear
	2/22/2017	5,390.02	5,348.10	41.92			No	No	0.0	Clear, slightly turbid
	3/27/2017	5,390.02	5,348.26	41.76			No	No	0.0	light brown
	4/25/2017	5,390.02	5,348.36	41.66			No	Yes	0.0	Clear
ı	5/22/2017	5,390.02	5,348.34	41.68			No	No	0.0	Clear
	6/21/2017	5,390.02	5,348.43	41.59			No	Yes	0.0	Clear/slightly brown, black flakes
GRW-4	7/21/2017	5,390.02	5,348.34	41.68			No	No	0.0	light brown
	8/28/2017	5,390.02	5,348.36	41.66			No	No	0.0	light brown
	9/22/2017	5,390.02	5,348.42	41.60			No	No	0.0	grey hue, orange flakes
	10/27/2017	5,390.02	5,348.39	41.63			No	No	0.0	Clear/black, sulfur smell
	11/27/2017	5,390.02	5,348.45	41.57			No	No	0.0	light brown, orange flakes
	12/11/2017	5,390.02	5,348.40	41.62			No	Yes	0.0	Clear/light brown, orange flakes

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,391.56	5,349.39	42.17			No	No	0.0	Clear
	2/22/2017	5,391.56	5,349.53	42.03			No	No	0.0	Clear
	3/27/2017	5,391.56	5,349.68	41.88			No	No	0.0	Clear
	4/25/2017	5,391.56	5,349.75	41.81			No	No	0.0	Clear
	5/22/2017	5,391.56	5,349.78	41.78			No	No	0.0	Clear
GRW-5	6/21/2017	5,391.56	5,349.82	41.74			No	No	0.0	Clear, Insect larva in water
GRW-5	7/21/2017	5,391.56	5,349.79	41.77			No	No	0.0	Clear
	8/28/2017	5,391.56	5,349.81	41.75			No	No	0.0	Clear
	9/22/2017	5,391.56	5,349.78	41.78			No	No	0.0	Clear
	10/27/2017	5,391.56	5,349.78	41.78			No	No	0.0	Clear, small black flakes
	11/27/2017	5,391.56	5,349.86	41.70			No	No	0.0	Clear
	12/11/2017	5,391.56	5,349.84	41.72			No	No	0.0	Clear, plant debris

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,391.81	5,350.53	41.28			No	No	0.0	Clear
i	2/22/2017	5,391.81	5,350.59	41.22			No	No	0.0	Clear
	3/27/2017	5,391.81	5,350.76	41.05			No	No	0.0	Clear
	4/25/2017	5,391.81	5,350.86	40.95			No	Slight	0.0	Clear
	5/22/2017	5,391.81	5,350.83	40.98			No	No	0.0	Clear
	6/21/2017	5,391.81	5,350.92	40.89			No	No	0.0	Clear
GRW-6	7/21/2017	5,391.81	5,350.88	40.93			No	No	0.0	Clear
GATT U	8/28/2017	5,391.81	5,350.91	40.90			No	No	0.0	Clear
	9/22/2017	5,391.81	5,350.89	40.92			No	No	0.0	Clear, red flakes
	10/27/2017	5,391.81	5,350.88	40.93			No	No	0.0	Clear, small orange flakes
	11/27/2017	5,391.81	5,350.94	40.87			No	No	0.0	Clear, small orange flakes
	12/11/2017	5,391.81	5,350.89	40.92			No	No	0.0	Clear, small orange flakes
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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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,395.70	5,355.00	40.70			No	Yes	1.2	Clear
	2/22/2017	5,395.70	5,355.02	40.68			No	Yes	10.4	Clear
	3/27/2017	5,395.70	5,355.30	40.40			No	Yes	14.9	Clear, sulfur smell
	4/25/2017	5,395.70	5,355.63	40.07			No	Yes	1.9	Clear, sulfur smell
	5/22/2017	5,395.70	5,355.35	40.35			No	Yes	0.0	Clear, sulfur smell
	6/21/2017	5,395.70	5,355.63	40.07			No	Yes	0.0	Clear, large black flakes, sulfur smell
GRW-9	7/21/2017	5,395.70	5,355.60	40.10			No	Yes	0.0	Clear, degraded HC odor, sulfur smell
	8/28/2017	5,395.70	5,355.47	40.23			No	Yes	0.0	Clear with sulfur odor
	9/22/2017	5,395.70	5,355.58	40.12			No	Yes	0.2	Clear with sulfur odor
	10/27/2017	5,395.70	5,355.59	40.11			No	Yes	0.0	Clear, large black flakes, sulfur smell
	11/27/2017	5,395.70	5,355.52	40.18			No	Yes	0.0	Clear, slight sulfur odor
	12/11/2017	5,395.70	5,355.33	40.37			No	No	0.0	Clear, large white flakes, sulfur smell
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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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,395.02	5,359.02	36.00	-		No	No	0.0	Clear
	2/22/2017	5,395.02	5,359.18	35.84	-		No	No	0.0	Clear
	3/27/2017	5,395.02	5,359.25	35.77			No	No	0.0	Clear, plant debris
	4/25/2017	5,395.02	5,359.33	35.69			No	No	2.1	Clear, plant debris
	5/22/2017	5,395.02	5,359.27	35.75			No	No	0.0	Clear
GRW-10	6/21/2017	5,395.02	5,359.37	35.65	-		No	No	0.0	Clear
GRW-10	7/21/2017	5,395.02	5,359.18	35.84			No	No	0.0	Clear
	8/28/2017	5,395.02	5,359.21	35.81			No	No	0.0	Clear
	9/22/2017	5,395.02	5,359.27	35.75			No	No	0.0	Clear
	10/27/2017	5,395.02	5,359.32	35.70	-		No	No	0.0	Clear
	11/27/2017	5,395.02	5,359.32	35.70			No	No	0.0	Clear
	12/11/2017	5,395.02	5,359.19	35.83			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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,397.85	5,364.97	32.88			No	No	0.0	Clear
	2/22/2017	5,397.85	5,365.08	32.77			No	No	0.0	Clear, slight grey hue
	3/27/2017	5,397.85	5,365.19	32.66			No	No	0.0	Clear
	4/25/2017	5,397.85	5,365.40	32.45			No	No	0.0	Clear
	5/22/2017	5,397.85	5,365.25	32.60			No	No	0.0	Clear
	6/21/2017	5,397.85	5,365.38	32.47			No	No	0.0	Clear, Small plant debris
GRW-11	7/21/2017	5,397.85	5,365.25	32.60			No	No	0.0	Clear
	8/28/2017	5,397.85	5,365.20	32.65			No	No	0.0	Clear
	9/22/2017	5,397.85	5,365.37	32.48			No	No	0.0	light grey
	10/27/2017	5,397.85	5,365.25	32.60			No	No	0.0	Clear/light brown, heavy plant material present
	11/27/2017	5,397.85	5,365.25	32.60			No	No	0.0	light brown, plant debris
	12/11/2017	5,397.85	5,365.08	32.77			No	No	0.0	Clear/brown, plant debris

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,397.24	5,362.19	35.05			No	No	0.0	Clear
	2/22/2017	5,397.24	5,362.76	34.48			No	No	0.0	Clear, slight brown hu
	3/27/2017	5,397.24	5,362.41	34.83			No	No	0.0	Light Brown
	4/25/2017	5,397.24	5,362.49	34.75			Yes	Yes	0.0	Clear, Black and Orange flakes
	5/22/2017	5,397.24	5,362.86	34.38			No	No	0.7	light brown
	6/21/2017	5,397.24	5,362.55	34.69			No	No	0.7	Orange flakes
GRW-12	7/21/2017	5,397.24	5,362.79	34.45			No	No	0.7	light brown
	8/28/2017	5,397.24	5,362.81	34.43			No	No	0.0	light brown with red flakes, possibly rust
	9/22/2017	5,397.24	5,362.86	34.38			No	No	0.0	light brown
	10/27/2017	5,397.24	5,362.55	34.69			Yes	No	0.0	Clear/light brown, small orange flakes
	11/27/2017	5,397.24	5,362.95	34.29			No	No	0.0	light brown, small orange flakes
	12/11/2017	5,397.24	5,362.56	34.68			No	No	0.0	Clear/light brown, small orange flakes
								462		

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,396.90	5,363.83	33.07			No	No	0.0	Clear
	2/22/2017	5,396.90	5,363.90	33.00			No	No	0.0	Clear
	3/27/2017	5,396.90	5,363.95	32.95			No	No	0.0	Clear
	4/25/2017	5,396.90	5,364.09	32.81			No	No	0.0	Clear
	5/22/2017	5,396.90	5,364.10	32.80			No	No	0.0	Clear
CDW 12	6/21/2017	5,396.90	5,364.12	32.78			No	No	0.0	Clear
GRW-13	7/21/2017	5,396.90	5,363.98	32.92			No	No	0.0	Clear
	8/28/2017	5,396.90	5,364.05	32.85			No	No	0.0	Clear
	9/22/2017	5,396.90	5,364.05	32.85			No	No	0.0	Clear plant debris
	10/27/2017	5,396.90	5,364.09	32.81			No	No	0.0	Clear
	11/27/2017	5,396.90	5,364.15	32.75			No	No	0.0	Clear
	12/11/2017	5,396.90	5,364.08	32.82		-	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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,383.54		NM			NM	NM	0.0	Buried
	2/22/2017	5,383.54		NM			NM	NM	0.0	Buried
	3/27/2017	5,383.54	5,345.39	38.15			No	No	0.0	Clear
	4/25/2017	5,383.54	5,345.48	38.06			No	No	0.0	Clear, Bugs and plant material present
	5/22/2017	5,383.54	5,345.49	38.05			No	No	1.6	Clear
SHS-1	6/21/2017	5,383.54		NM			NM	NM	NM	Well plugged
	7/21/2017	5,383.54		NM		-	NM	NM	NM	Well plugged
	8/28/2017	5,383.54		NM			NM	NM	NM	Well plugged
	9/22/2017	5,383.54		NM			NM	NM	NM	Well plugged
	10/27/2017	5,383.54		NM			NM	NM	NM	Well plugged
	11/27/2017	5,383.54		NM			NM	NM	NM	Well plugged
	12/11/2017	5,383.54		NM			NM	NM	NM	Well plugged
			N PULL		, - Ju	The state of				

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,381.66	5,341.11	40.55			No	No	0.0	Clear
	2/22/2017	5,381.66	5,341.30	40.36			No	No	0.0	Clear
	3/27/2017	5,381.66	5,341.33	40.33			No	No	0.0	Clear
	4/25/2017	5,381.66	5,341.47	40.19			Yes	Yes	0.0	Clear, Orange hue
	5/22/2017	5,381.66	5,341.44	40.22			No	No	0.0	Clear
SHC 2	6/21/2017	5,381.66		NM			NM	NM	NM	Well plugged
SHS-2	7/21/2017	5,381.66		NM			NM	NM	NM	Well plugged
	8/28/2017	5,381.66		NM			NM	NM	NM	Well plugged
	9/22/2017	5,381.66		NM			NM	NM	NM	Well plugged
	10/27/2017	5,381.66		NM			NM	NM	NM	Well plugged
	11/27/2017	5,381.66		NM			NM	NM	NM	Well plugged
	12/11/2017	5,381.66		NM			NM	NM	NM	Well plugged
								in Albert		

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,378.36	5,340.20	38.16			No	No	0.0	Clear
	2/22/2017	5,378.36	5,340.36	38.00			No	No	0.0	Clear
	3/27/2017	5,378.36	5,340.43	37.93			No	No	0.0	Clear
	4/25/2017	5,378.36	5,340.55	37.81			No	No	0.0	Clear
	5/22/2017	5,378.36	5,340.54	37.82			No	No	2.4	Clear
SHS-5	6/21/2017	5,378.36		NM			NM	NM	NM	Well plugged
	8/28/2017	5,378.36		NM			NM	NM	NM	Well plugged
	9/22/2017	5,378.36		NM			NM	NM	NM	Well plugged
	10/27/2017	5,378.36		NM			NM	NM	NM	Well plugged
	11/27/2017	5,378.36		NM			NM	NM	NM	Well plugged
	12/11/2017	5,378.36		NM			NM	NM	NM	Well plugged
			11-1-11-1	100	376	1 1 1 1 1 1 1				

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,378.36	5,340.46	37.90			No	No	0.0	Clear
	2/22/2017	5,378.36	5,340.61	37.75			No	No	0.0	Clear
	3/27/2017	5,378.36	5,340.59	37.77			No	No	0.0	Clear
	4/25/2017	5,378.36	5,340.75	37.61			No	No	0.0	Clear
	5/22/2017	5,378.36	5,340.63	37.73			No	No	2.2	Clear
	6/21/2017	5,378.36	5,340.84	37.52			No	No	0.0	Clear
SHS-6	7/21/2017	5,378.36	5,340.66	37.70			No	No	0.0	Clear
	8/28/2017	5,378.36	5,340.66	37.70			No	No	0.0	Clear
	9/22/2017	5,378.36	5,340.55	37.81			No	No	0.0	Clear
	10/27/2017	5,378.36	5,340.56	37.80			No	No	0.0	Clear/light brown, Insect larva present
	11/27/2017	5,378.36	5,340.56	37.80			No	No	0.0	Clear
	12/11/2017	5,378.36	5,340.53	37.83			No	No	0.0	Clear, plant debris, Invertebrates
							Sill Sill			

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,380.25	5,341.85	38.40			No	No	0.0	Clear
	2/22/2017	5,380.25	5,341.98	38.27			No	No	0.0	Clear
	3/27/2017	5,380.25	5,342.01	38.24			No	No	0.0	Clear
	4/25/2017	5,380.25	5,342.20	38.05		-	No	No	0.0	Clear
	5/22/2017	5,380.25	5,342.25	38.00			No	No	0.0	Clear
	6/21/2017	5,380.25	5,342.21	38.04			No	No	0.0	Clear
SHS-8	7/21/2017	5,380.25	5,342.01	38.24			No	No	0.0	Clear
	8/28/2017	5,380.25	5,342.05	38.20			No	No	0.0	Clear
	9/22/2017	5,380.25	5,342.05	38.20			No	No	0.0	Clear
	10/27/2017	5,380.25	5,342.06	38.19		-	Yes	Yes	0.0	Clear/light brown, small orange flakes
	11/27/2017	5,380.25	5,342.01	38.24			Yes	Yes	0.0	Clear, plant debris
	12/11/2017	5,380.25	5,342.04	38.21			Yes	Yes	0.0	Clear, plant debris
						The state of				

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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,380.79	NM	NM			NM	NM	0.0	Obstruction in well
	2/22/2017	5,380.79	NM	NM			NM	NM	0.0	Obstruction in well
	3/27/2017	5,380.79	5,343.39	37.40			NM	NM	0.0	root ball in well, meter stopped at 37.45
	4/25/2017	5,380.79	5,343.49	37.30			No	Yes	0.0	Root ball in well
	5/22/2017	5,380.79	5,343.51	37.28			No	No	2.0	Clear, half bailer full
SHS-9	6/21/2017	5,380.79	5,343.56	37.23			No	Yes	0.0	Rootball removed. Cloudy black with excessive plant matter
	7/21/2017	5,380.79	5,343.43	37.36			No	Yes	28.5	no water recoverted, obstruction in well, bailer smelled
	8/28/2017	5,380.79	5,343.45	37.34			No	Yes	10.2	No H20 recoverd, HC odor
	9/22/2017	5,380.79	5,343.36	37.43			No	No	0.0	No H20 recoverd
	10/27/2017	5,380.79	5,343.38	37.41			Yes	Yes	0.0	Clear/black, heavy plant matter present
	11/27/2017	5,380.79	5,343.42	37.37			No	No	0.0	Clear, plant debris
	12/11/2017	5,380.79	5,343.30	37.49			No	No	0.0	Clear, plant debris

#### 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	Hydrocarb on Odor	Headspace (ppm)	Comments
	1/25/2017	5,378.89	5,340.98	37.91			No	No	0.0	Clear
	2/22/2017	5,378.89	5,341.12	37.77	-		No	No	0.0	Clear
	3/27/2017	5,378.89	5,341.28	37.61			No	No	0.0	Clear
	4/25/2017	5,378.89	5,341.33	37.56			No	No	0.0	Clear
	5/22/2017	5,378.89	5,341.33	37.56			No	No	1.8	Clear
CHC 10	6/21/2017	5,378.89	5,341.47	37.42			No	No	0.0	Clear
SHS-19	7/21/2017	5,378.89	5,341.19	37.70			No	No	0.0	Clear
	8/28/2017	5,378.89	5,341.21	37.68			No	No	0.0	Clear
	9/22/2017	5,378.89	5,341.14	37.75			No	No	0.0	Clear
	10/27/2017	5,378.89	5,341.17	37.72			No	No	0.0	Clear, plant matter present
	11/27/2017	5,378.89	5,341.17	37.72			No	No	0.0	Clear, plant matter present
	12/11/2017	5,379.89	5,341.85	38.04			No	No	0.0	Clear, plant debris

#### NOTES:

μS - microseimens

-- No Measurement

#### **BOLD - Measured Product**

BTOC - Below top of casing

mg/L - Milligrams per liter mV - Millivolt

NM - Not Measured

ORP - Oxidation reduction potential

ppm -Parts per million

### 

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

A I t	NMWQCC	¥1:4	SHS-1	SHS-2	SHS-4	SHS-5
Analyte	Standard	Unit	6/1/2017	6/1/2017	6/1/2017	6/1/2017
GRO	NE	mg/L	< 0.10	0.11	< 0.10	< 0.050
DRO	NE	mg/L	1.5	24	< 0.20	< 0.20
MRO	NE	mg/L	<2.5	2.8	<2.5	<2.5
General Chemistry					and the	TIN.
Total Alkalinity	NE	mg/L	752.4	298.4	202.8	231.2
Carbonate	NE	mg/L	< 2.000	< 2.000	< 2.000	< 2.000
Bicarbonate	NE	mg/L	752.4	298.4	202.8	231.2
Specific Conductance	NE	μmhos/cm	3,500	4,600	2,900	2,600
PH	6-9	pH Units	7.55	6.90	7.63	7.68
Total Dissolved Solids	1,000	mg/L	2,400	4,100	2,270	2,030
Chloride	250	mg/L	100	310	59	50
Sulfate	600	mg/L	1,300	2,200	1,600	1,200
Cations - Method 6010B					711111111111111111111111111111111111111	
Calcium	NE	mg/L	610	560	520	380
Magnesium	NE	mg/L	150	160	68	32
Potassium	NE	mg/L	39	23	23	7.4
Sodium	NE	mg/L	490	500	280	270

#### Notes:

BOLD - indicates concentration exceeds the NMWQCC standard

DRO - diesel range organics

GRO - gasoline range organics

μmhos/cm - micromhos per centimeter

mg/L - milligrams per liter

MRO - motor oil range organics

NE - not established

NMWQCC - New Mexico Water Quality Control Commission



### APPENDIX A

LABORATORY ANALYTICAL REPORTS





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

January 31, 2018

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

RE: GBR Annual Sampling OrderNo.: 1712475

#### Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 7 sample(s) on 12/8/2017 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued January 12, 2018.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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 Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1712475

Date Reported: 1/31/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-51

Project: GBR Annual Sampling Collection Date: 12/7/2017 11:58:00 AM Lab ID: 1712475-001 Matrix: AQUEOUS Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst	pmf
Hardness (As CaCO3)	1200	6.6		mg/L	1	12/26/2017	R48016
EPA METHOD 300.0: ANIONS						Analyst	MRA
Fluoride	0.65	0.10		mg/L	1	12/8/2017 5:47:25 PM	R47664
Chloride	51	10		mg/L	20	12/8/2017 5:59:50 PM	R47664
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/8/2017 5:47:25 PM	R47664
Bromide	0.25	0.10		mg/L	1	12/8/2017 5:47:25 PM	R47664
Nitrogen, Nitrate (As N)	7.6	0.10		mg/L	1	12/8/2017 5:47:25 PM	R47664
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	12/8/2017 5:59:50 PM	R47664
Sulfate	1200	25	*	mg/L	50	12/26/2017 4:33:43 PM	R48034
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	2700	5.0		µmhos/cm	1	12/12/2017 2:16:17 AM	R47724
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	208.3	20.00		mg/L CaCO3	1	12/12/2017 2:16:17 AM	R47724
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/12/2017 2:16:17 AM	R47724
Total Alkalinity (as CaCO3)	208.3	20.00		mg/L CaCO3	1	12/12/2017 2:16:17 AM	R47724
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst	KS
Total Dissolved Solids	2250	20.0	*	mg/L	1	12/13/2017 9:25:00 AM	35443
SM4500-H+B: PH						Analyst	JRR
рН	7.65		Н	pH units	1	12/12/2017 2:16:17 AM	R47724
EPA METHOD 200.7: METALS						Analyst	pmf
Calcium	420	10		mg/L	10	12/26/2017 5:58:58 PM	B48016
Iron	0.080	0.020		mg/L	1	12/26/2017 4:06:47 PM	B48016
Magnesium	29	1.0		mg/L	1	12/26/2017 4:06:47 PM	B48016
Manganese	ND	0.020		mg/L	10	12/26/2017 5:58:58 PM	B48016
Potassium	ND	1.0		mg/L	1	12/26/2017 4:06:47 PM	B48016
Sodium	300	10		mg/L	10	12/26/2017 5:58:58 PM	B48016
EPA METHOD 8260B: VOLATILES						Analyst	RAA
Benzene	ND	1.0		μg/L	1	12/15/2017 6:39:00 PM	R47832
Toluene	ND	1.0		μg/L	1	12/15/2017 6:39:00 PM	R47832
Ethylbenzene	ND	1.0		μg/L	1	12/15/2017 6:39:00 PM	R47832
Methyl tert-butyl ether (MTBE)	ND	1.0		μg/L	1	12/15/2017 6:39:00 PM	R47832
1,2,4-Trimethylbenzene	ND	1.0		μg/L	1	12/15/2017 6:39:00 PM	R47832
1,3,5-Trimethylbenzene	ND	1.0		μg/L	1	12/15/2017 6:39:00 PM	R47832
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	12/15/2017 6:39:00 PM	R47832
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	12/15/2017 6:39:00 PM	R47832
Naphthalene	ND	2.0		μg/L	1	12/15/2017 6:39:00 PM	R47832

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

- 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
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 39 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-51

Project: GBR Annual Sampling

Collection Date: 12/7/2017 11:58:00 AM

**Lab ID:** 1712475-001

Matrix: AQUEOUS

Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst:	RAA
1-Methylnaphthalene	ND	4.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
2-Methylnaphthalene	ND	4.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Acetone	ND	10	μg/L	1	12/15/2017 6:39:00 PM	R47832
Bromobenzene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Bromodichloromethane	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Bromoform	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Bromomethane	ND	3.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
2-Butanone	ND	10	μg/L	1	12/15/2017 6:39:00 PM	R47832
Carbon disulfide	ND	10	μg/L	1	12/15/2017 6:39:00 PM	R47832
Carbon Tetrachloride	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Chlorobenzene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Chloroethane	ND	2.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Chloroform	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Chloromethane	ND	3.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
2-Chlorotoluene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
4-Chlorotoluene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
cis-1,2-DCE	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Dibromochloromethane	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Dibromomethane	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
1,2-Dichlorobenzene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
1,3-Dichlorobenzene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Dichlorodifluoromethane	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
1,1-Dichloroethane	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
1,1-Dichloroethene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
1,2-Dichloropropane	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
1,3-Dichloropropane	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
2,2-Dichloropropane	ND	2.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
1,1-Dichloropropene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
Hexachlorobutadiene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
2-Hexanone	ND	10	μg/L	1	12/15/2017 6:39:00 PM	R47832
Isopropylbenzene	ND	1.0	µg/L	1	12/15/2017 6:39:00 PM	R47832
4-Isopropyltoluene	ND	1.0	µg/L	1	12/15/2017 6:39:00 PM	R47832
4-Methyl-2-pentanone	ND	10	μg/L	1	12/15/2017 6:39:00 PM	R47832
Methylene Chloride	ND	3.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
n-Butylbenzene	ND	3.0	μg/L	1	12/15/2017 6:39:00 PM	R47832
n-Propylbenzene	ND	1.0	μg/L	1	12/15/2017 6:39:00 PM	R47832

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

- \* 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
- PQL Practical Quanitative Limit
- 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 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-51

Project: GBR Annual Sampling

Collection Date: 12/7/2017 11:58:00 AM

Lab ID: 1712475-001 Matrix: AQUEOUS

Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analy	st: RAA
sec-Butylbenzene	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
Styrene	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
tert-Butylbenzene	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
Tetrachloroethene (PCE)	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
trans-1,2-DCE	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
trans-1,3-Dichloropropene	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
1,1,1-Trichloroethane	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
1,1,2-Trichloroethane	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
Trichloroethene (TCE)	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
Trichlorofluoromethane	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
1,2,3-Trichloropropane	ND	2.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
Vinyl chloride	ND	1.0	μg/L	1 12/15/2017 6:39:00 F	PM R47832
Xylenes, Total	ND	1.5	μg/L	1 12/15/2017 6:39:00 F	PM R47832
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec	1 12/15/2017 6:39:00 F	PM R47832
Surr: 4-Bromofluorobenzene	99.0	70-130	%Rec	1 12/15/2017 6:39:00 F	PM R47832
Surr: Dibromofluoromethane	100	70-130	%Rec	1 12/15/2017 6:39:00 F	M R47832
Surr: Toluene-d8	99.7	70-130	%Rec	1 12/15/2017 6:39:00 F	PM R47832

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

- \* 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
- PQL Practical Quanitative Limit
- 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 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-52

 Project:
 GBR Annual Sampling
 Collection Date: 12/7/2017 12:00:00 PM

 Lab ID:
 1712475-002
 Matrix: AQUEOUS
 Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst:	pmf
Hardness (As CaCO3)	1300	6.6		mg/L	1	12/26/2017	R48016
EPA METHOD 300.0: ANIONS						Analyst:	MRA
Fluoride	0.53	0.10		mg/L	1	12/8/2017 6:12:15 PM	R47664
Chloride	54	10		mg/L	20	12/8/2017 6:24:39 PM	R47664
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/8/2017 6:12:15 PM	R47664
Bromide	0.33	0.10		mg/L	1	12/8/2017 6:12:15 PM	R47664
Nitrogen, Nitrate (As N)	7.2	0.10		mg/L	1	12/8/2017 6:12:15 PM	R47664
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	12/8/2017 6:24:39 PM	R47664
Sulfate	1500	25	*	mg/L	50	12/26/2017 4:46:08 PM	R48034
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	3100	5.0		µmhos/cm	1	12/12/2017 2:32:34 AM	R47724
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	218.4	20.00		mg/L CaCO3	1	12/12/2017 2:32:34 AM	R47724
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/12/2017 2:32:34 AM	R47724
Total Alkalinity (as CaCO3)	218.4	20.00		mg/L CaCO3	1	12/12/2017 2:32:34 AM	R47724
SM2540C MOD: TOTAL DISSOLVED SO	DLIDS					Analyst:	KS
Total Dissolved Solids	2640	20.0	*	mg/L	1	12/13/2017 9:25:00 AM	35443
SM4500-H+B: PH						Analyst:	JRR
рН	7.86		Н	pH units	1	12/12/2017 2:32:34 AM	R47724
EPA METHOD 200.7: METALS						Analyst:	pmf
Calcium	460	5.0		mg/L	5	12/26/2017 2:50:02 PM	35567
Iron	0.048	0.020		mg/L	1	12/21/2017 7:58:14 PM	35567
Magnesium	33	1.0		mg/L	1	12/21/2017 7:58:14 PM	35567
Manganese	ND	0.0020		mg/L	1	12/26/2017 2:47:54 PM	35567
Potassium	1.1	1.0		mg/L	1	12/21/2017 7:58:14 PM	35567
Sodium	300	5.0		mg/L	5	12/26/2017 2:50:02 PM	35567
EPA METHOD 8260B: VOLATILES						Analyst:	RAA
Benzene	ND	1.0		μg/L	1	12/15/2017 7:03:00 PM	R47832
Toluene	ND	1.0		μg/L	1	12/15/2017 7:03:00 PM	R47832
Ethylbenzene	ND	1.0		μg/L	1	12/15/2017 7:03:00 PM	R47832
Methyl tert-butyl ether (MTBE)	ND	1.0		μg/L	1	12/15/2017 7:03:00 PM	R47832
1,2,4-Trimethylbenzene	ND	1.0		μg/L	1	12/15/2017 7:03:00 PM	R47832
1,3,5-Trimethylbenzene	ND	1.0		μg/L	1	12/15/2017 7:03:00 PM	R47832
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	12/15/2017 7:03:00 PM	R47832
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	12/15/2017 7:03:00 PM	R47832
Naphthalene	ND	2.0		μg/L	1	12/15/2017 7:03:00 PM	R47832

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

- \* 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
- PQL Practical Quanitative Limit
- 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 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-52

 Project:
 GBR Annual Sampling
 Collection Date: 12/7/2017 12:00:00 PM

 Lab ID:
 1712475-002
 Matrix: AQUEOUS
 Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst:	RAA
1-Methylnaphthalene	ND	4.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
2-Methylnaphthalene	ND	4.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Acetone	ND	10	μg/L	1	12/15/2017 7:03:00 PM	R47832
Bromobenzene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Bromodichloromethane	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Bromoform	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Bromomethane	ND	3.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
2-Butanone	ND	10	μg/L	1	12/15/2017 7:03:00 PM	R47832
Carbon disulfide	ND	10	μg/L	1	12/15/2017 7:03:00 PM	R47832
Carbon Tetrachloride	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Chlorobenzene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Chloroethane	ND	2.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Chloroform	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Chloromethane	ND	3.0	µg/L	1	12/15/2017 7:03:00 PM	R47832
2-Chlorotoluene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
4-Chlorotoluene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
cis-1,2-DCE	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Dibromochloromethane	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Dibromomethane	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,2-Dichlorobenzene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,3-Dichlorobenzene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Dichlorodifluoromethane	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,1-Dichloroethane	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,1-Dichloroethene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,2-Dichloropropane	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,3-Dichloropropane	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
2,2-Dichloropropane	ND	2.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,1-Dichloropropene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Hexachlorobutadiene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
2-Hexanone	ND	10	μg/L	1	12/15/2017 7:03:00 PM	R47832
Isopropylbenzene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
4-Isopropyltoluene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
4-Methyl-2-pentanone	ND	10	μg/L	1	12/15/2017 7:03:00 PM	R47832
Methylene Chloride	ND	3.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
n-Butylbenzene	ND	3.0	µg/L	1	12/15/2017 7:03:00 PM	R47832
n-Propylbenzene	ND	1.0	µg/L	1	12/15/2017 7:03:00 PM	R47832

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

- \* 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
- PQL Practical Quanitative Limit
  - 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 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712475

Date Reported: 1/31/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-52

**GBR** Annual Sampling Collection Date: 12/7/2017 12:00:00 PM Project: Received Date: 12/8/2017 7:55:00 AM Lab ID: 1712475-002 Matrix: AQUEOUS

Analyses	Result	PQL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst:	RAA
sec-Butylbenzene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Styrene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
tert-Butylbenzene	ND	1.0	µg/L	1	12/15/2017 7:03:00 PM	R47832
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
trans-1,2-DCE	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,1,1-Trichloroethane	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,1,2-Trichloroethane	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Trichloroethene (TCE)	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Trichlorofluoromethane	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
1,2,3-Trichloropropane	ND	2.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Vinyl chloride	ND	1.0	μg/L	1	12/15/2017 7:03:00 PM	R47832
Xylenes, Total	ND	1.5	μg/L	1	12/15/2017 7:03:00 PM	R47832
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec	1	12/15/2017 7:03:00 PM	R47832
Surr: 4-Bromofluorobenzene	98.3	70-130	%Rec	1	12/15/2017 7:03:00 PM	R47832
Surr: Dibromofluoromethane	100	70-130	%Rec	1	12/15/2017 7:03:00 PM	R47832
Surr: Toluene-d8	100	70-130	%Rec	1	12/15/2017 7:03:00 PM	R47832

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
  - % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 39 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

## Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-49

**Project:** GBR Annual Sampling Collection Date: 12/7/2017 1:40:00 PM Lab ID: 1712475-003 Matrix: AQUEOUS Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst	DBK
Antimony	ND	0.0010		mg/L	1	1/3/2018 6:55:11 PM	35567
Arsenic	ND	0.0010		mg/L	1	1/2/2018 6:43:54 PM	35567
Copper	0.0023	0.0010		mg/L	1	12/29/2017 12:50:30 PM	A 35567
Lead	ND	0.00050		mg/L	1	12/29/2017 12:50:30 PM	Л 35567
Selenium	0.0027	0.0010		mg/L	1	1/3/2018 6:55:11 PM	35567
Thallium	ND	0.00050		mg/L	1	12/29/2017 12:50:30 PM	A 35567
SM2340B: HARDNESS						Analyst	pmf
Hardness (As CaCO3)	1100	6.6		mg/L	1	12/26/2017	R48016
EPA METHOD 300.0: ANIONS						Analyst	MRA
Fluoride	0.37	0.10		mg/L	1	12/8/2017 6:37:03 PM	R47664
Chloride	150	10		mg/L	20	12/8/2017 6:49:27 PM	R47664
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/8/2017 6:37:03 PM	R47664
Bromide	0.50	0.10		mg/L	1	12/8/2017 6:37:03 PM	R47664
Nitrogen, Nitrate (As N)	0.59	0.10		mg/L	1	12/8/2017 6:37:03 PM	R47664
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	12/8/2017 6:49:27 PM	R47664
Sulfate	1300	25	*	mg/L	50	12/26/2017 4:58:33 PM	R48034
SM2510B: SPECIFIC CONDUCTANCE	Ξ					Analyst:	JRR
Conductivity	3400	5.0		µmhos/cm	1	12/12/2017 2:44:23 AM	R47724
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	274.8	20.00		mg/L CaCO3	1	12/12/2017 2:44:23 AM	R47724
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/12/2017 2:44:23 AM	R47724
Total Alkalinity (as CaCO3)	274.8	20.00		mg/L CaCO3	1	12/12/2017 2:44:23 AM	R47724
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst:	KS
Total Dissolved Solids	2720	20.0	*	mg/L	1	12/13/2017 9:25:00 AM	35443
SM4500-H+B: PH						Analyst:	JRR
рН	7.86		Н	pH units	1	12/12/2017 2:44:23 AM	R47724
EPA METHOD 200.7: METALS						Analyst:	JLF
Barium	0.015	0.0020		mg/L	1	12/21/2017 8:10:58 PM	35567
Beryllium	ND	0.0020		mg/L	1	12/26/2017 2:52:10 PM	35567
Cadmium	ND	0.0020		mg/L	1	12/26/2017 2:52:10 PM	35567
Calcium	390	5.0		mg/L	5	12/26/2017 2:53:59 PM	35567
Chromium	0.018	0.0060		mg/L	1	12/26/2017 2:52:10 PM	35567
Iron	0.44	0.020	*	mg/L	1	12/21/2017 8:10:58 PM	35567
Magnesium	32	1.0		mg/L	1	12/21/2017 8:10:58 PM	35567
Manganese	0.30	0.0020	*	mg/L	1	12/26/2017 2:52:10 PM	35567
Nickel	0.056	0.010		mg/L	1	12/21/2017 8:10:58 PM	35567

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 7 of 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-49

 Project:
 GBR Annual Sampling
 Collection Date: 12/7/2017 1:40:00 PM

 Lab ID:
 1712475-003
 Matrix: AQUEOUS
 Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst:	JLF
Potassium	1.3	1.0		mg/L	1	12/21/2017 8:10:58 PM	35567
Silver	0.0057	0.0050		mg/L	1	12/26/2017 2:52:10 PM	35567
Sodium	430	5.0		mg/L	5	12/26/2017 2:53:59 PM	35567
Zinc	ND	0.010		mg/L	1	12/26/2017 2:52:10 PM	35567
EPA METHOD 245.1: MERCURY						Analyst:	MED
Mercury	ND	0.00020	Н	mg/L	1	1/30/2018 3:00:20 PM	36255
EPA METHOD 8260B: VOLATILES						Analyst:	RAA
Benzene	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
Toluene	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
Ethylbenzene	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
Methyl tert-butyl ether (MTBE)	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
1,2,4-Trimethylbenzene	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
1,3,5-Trimethylbenzene	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
Naphthalene	ND	2.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
1-Methylnaphthalene	ND	4.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
2-Methylnaphthalene	ND	4.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
Acetone	ND	10		µg/L	1	12/15/2017 7:26:00 PM	R47832
Bromobenzene	ND	1.0		µg/L	1	12/15/2017 7:26:00 PM	R47832
Bromodichloromethane	ND	1.0		µg/L	1	12/15/2017 7:26:00 PM	R47832
Bromoform	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
Bromomethane	ND	3.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
2-Butanone	ND	10		μg/L	1	12/15/2017 7:26:00 PM	R47832
Carbon disulfide	ND	10		μg/L	1	12/15/2017 7:26:00 PM	R47832
Carbon Tetrachloride	ND	1.0		µg/L	1	12/15/2017 7:26:00 PM	R47832
Chlorobenzene	ND	1.0		µg/L	1	12/15/2017 7:26:00 PM	R47832
Chloroethane	ND	2.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
Chloroform	ND	1.0		µg/L	1	12/15/2017 7:26:00 PM	R47832
Chloromethane	ND	3.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
2-Chlorotoluene	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
4-Chlorotoluene	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
cis-1,2-DCE	ND	1.0		µg/L	1	12/15/2017 7:26:00 PM	R47832
cis-1,3-Dichloropropene	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/15/2017 7:26:00 PM	R47832
Dibromochloromethane	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
Dibromomethane	ND	1.0		μg/L	1	12/15/2017 7:26:00 PM	R47832
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/15/2017 7:26:00 PM	R47832

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

- 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
- PQL Practical Quanitative Limit
- 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 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-49

 Project:
 GBR Annual Sampling
 Collection Date: 12/7/2017 1:40:00 PM

 Lab ID:
 1712475-003
 Matrix: AQUEOUS
 Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	RAA
1,3-Dichlorobenzene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
Dichlorodifluoromethane	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,1-Dichloroethane	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,1-Dichloroethene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,2-Dichloropropane	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,3-Dichloropropane	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
2,2-Dichloropropane	ND	2.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,1-Dichloropropene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
Hexachlorobutadiene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
2-Hexanone	ND	10	μg/L	1	12/15/2017 7:26:00 PM	R47832
Isopropylbenzene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
4-Isopropyltoluene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
4-Methyl-2-pentanone	ND	10	μg/L	1	12/15/2017 7:26:00 PM	R47832
Methylene Chloride	ND	3.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
n-Butylbenzene	ND	3.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
n-Propylbenzene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
sec-Butylbenzene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
Styrene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
tert-Butylbenzene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
trans-1,2-DCE	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,1,1-Trichloroethane	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,1,2-Trichloroethane	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
Trichloroethene (TCE)	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
Trichlorofluoromethane	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
1,2,3-Trichloropropane	ND	2.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
Vinyl chloride	ND	1.0	μg/L	1	12/15/2017 7:26:00 PM	R47832
Xylenes, Total	ND	1.5	μg/L	1	12/15/2017 7:26:00 PM	R47832
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec	1	12/15/2017 7:26:00 PM	R47832
Surr: 4-Bromofluorobenzene	97.4	70-130	%Rec	1	12/15/2017 7:26:00 PM	R47832
Surr: Dibromofluoromethane	101	70-130	%Rec	1	12/15/2017 7:26:00 PM	R47832
Surr: Toluene-d8	99.3	70-130	%Rec	1	12/15/2017 7:26:00 PM	R47832

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

- \* 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
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 9 of 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-17

Project: GBR Annual Sampling

Collection Date: 12/7/2017 2:30:00 PM

**Lab ID:** 1712475-004

Matrix: AQUEOUS Received Date: 12/8/2017 7:55:00 AM

EPA METHOD 300.0: ANIONS         Analyst: MRA           Fluoride         0.57         0.10         mg/L         1         12/8/2017 7:01:52 PM         R47664           Chloride         50         10         mg/L         20         12/8/2017 7:14:16 PM         R47664           Nitrogen, Nitrite (As N)         ND         0.10         mg/L         1         12/8/2017 7:01:52 PM         R47664           Nitrogen, Nitrate (As N)         3.8         0.10         mg/L         1         12/8/2017 7:01:52 PM         R47664           Phosphorus, Orthophosphate (As P)         ND         10         mg/L         20         12/8/2017 7:14:16 PM         R47664	Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
Fluoride	SM2340B: HARDNESS						Analyst	pmf
Fluoride	Hardness (As CaCO3)	1000	6.6		mg/L	1	12/26/2017	R48016
Fluoride	EPA METHOD 300.0: ANIONS						Analyst	MRA
Chloride	Fluoride	0.57	0.10		ma/L	1		
Nitrogen, Nitrite (As N)	Chloride							R47664
Nitrogen, Nitrate (As N)	Nitrogen, Nitrite (As N)	ND	0.10		9	1		R47664
Phosphorus, Orthophosphate (As P)         ND         10         mg/L         20         12/8/2017 7:14:16 PM         R47664 R48034           SM2510B: SPECIFIC CONDUCTANCE         Figure 10         12/12/2017 5:10:57 PM         R48034           SM2310B: ALKALINITY         JRR           Bicarbonate (As CaCO3)         220.8         20.00         mg/L CaCO3         1         12/12/2017 2:57:56 AM         R47724           Carbonate (As CaCO3)         ND         2.000         mg/L CaCO3         1         12/12/2017 2:57:56 AM         R47724           Total Alkalinity (as CaCO3)         20.8         20.00         mg/L CaCO3         1         12/12/2017 2:57:56 AM         R47724           SM2540C MOD: TOTAL DISSOLVED SOLIDS         Figure 1         Figure 1         Tall Dissolved Solids         2110         10         ¹D         mg/L         1         12/13/2017 2:57:56 AM         R47724           SM4500-H+B: PH         Figure 1         7.90         H         PH units         1         12/13/2017 2:57:56 AM         R47724           Calcium         370         10         mg/L         10         12/26/2017 2:57:56 AM         R47724           Calcium         370         10         mg/L	Bromide	0.21	0.10		mg/L	1	12/8/2017 7:01:52 PM	R47664
Sulfate 1000 25 ° mg/L 50 12/26/2017 5:10:57 PM R48034 SM2510B: SPECIFIC CONDUCTANCE Conductivity 2600 5.0 µmhos/cm 1 12/12/2017 2:57:56 AM R47724 SM2320B: ALKALINITY Bicarbonate (As CaCO3) 220.8 20.00 mg/L CaCO3 1 12/12/2017 2:57:56 AM R47724 Carbonate (As CaCO3) ND 2.000 mg/L CaCO3 1 12/12/2017 2:57:56 AM R47724 Total Alkalinity (as CaCO3) 220.8 20.00 mg/L CaCO3 1 12/12/2017 2:57:56 AM R47724 SM2540C MOD: TOTAL DISSOLVED SOLIDS Total Dissolved Solids 2110 100 °D mg/L a 1 12/13/2017 2:57:56 AM R47724 SM4500-H+B: PH PH 7.90 H PH units 1 12/12/2017 2:57:56 AM R47724 EPA METHOD 200.7: METALS Calcium 370 10 mg/L 10 12/26/2017 2:57:56 PM R47724 Magnesium 30 1.0 mg/L 10 12/26/2017 2:57:56 PM 35567 Manganese 0.25 0.0020 ° mg/L 1 12/12/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 1.0 mg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 0.50 µg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 0.50 µg/L 1 12/26/2017 2:57:56 PM 35567 Potassium 2.0 0.50 µg/L 1 12/26/2017 2:94:941 PM 35504 Acenaphthalene ND 0.50 µg/L 1 12/15/2017 9:49:41 PM 35504 Acenaphthene ND 0.50 µg/L 1 12/15/2017 9:49:41 PM 35504 Acenaphthene ND 0.50 µg/L 1 12/15/2017 9:49:41 PM 35504 Acenaphthene ND 0.50 µg/L 1 12/15/2017 9:49:41 PM 35504 Acenaphthene ND 0.50 µg/L 1 12/15/2017 9:49:41 PM 35504 Acenaphthene ND 0.50 µg/L 1 12/15/2017 9:49:41 PM 35504 Acenaphthene ND 0.50 µg/L 1 12/15/2017 9:49:41 PM 35504	Nitrogen, Nitrate (As N)	3.8	0.10		mg/L	1	12/8/2017 7:01:52 PM	R47664
SM2510B: SPECIFIC CONDUCTANCE         Analysis JR Part Conductivity         Analy	Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	12/8/2017 7:14:16 PM	R47664
Conductivity         2600         5.0         μmhos/cm         1         12/12/2017 2:57:56 AM         R47724 R4722 SM2320B: ALKALINITY           SM2320B: ALKALINITY         Analyst: JRR           Bicarbonate (As CaCO3)         220.8         20.00         mg/L CaCO3         1         12/12/2017 2:57:56 AM         R47724 R47220	Sulfate	1000	25	*	mg/L	50	12/26/2017 5:10:57 PM	R48034
SM2320B: ALKALINITY	SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Bicarbonate (As CaCO3)	Conductivity	2600	5.0		µmhos/cm	1	12/12/2017 2:57:56 AM	R47724
Carbonate (As CaCO3)         ND         2.000         mg/L CaCO3         1         12/12/2017 2:57:56 AM         R47724           Total Alkalinity (as CaCO3)         220.8         20.00         mg/L CaCO3         1         12/12/2017 2:57:56 AM         R47724           SM2540C MOD: TOTAL DISSOLVED SOLIDS         Analyst: KS           Total Dissolved Solids         2110         100         *D         mg/L         1         12/13/2017 9:25:00 AM         35443           SM4500-H+B: PH         Analyst: JRR           pH         7.90         H         pH units         1         12/12/2017 2:57:56 AM         R47724           EPA METHOD 200.7: METALS         Analyst: Pmf           Calcium         370         10         mg/L         10         12/26/2017 2:57:56 AM         R47724           EPA METHOD 200.7: METALS         Analyst: Pmf           Calcium         370         10         mg/L         10         12/26/2017 2:57:56 AM         R47724           EPA METHOD 200.7: METALS         Analyst: Pmf           Calcium         370         10         mg/L         10         12/26/2017 2:57:56 PM         35567           Magnesium         30         1.0         mg/L         1	SM2320B: ALKALINITY						Analyst	JRR
Total Alkalinity (as CaCO3)         220.8         20.00         mg/L CaCO3         1         12/12/2017 2:57:56 AM         R47724           SM2540C MOD: TOTAL DISSOLVED SOLIDS         Analyst: KS           Total Dissolved Solids         2110         100         *D mg/L         1         12/13/2017 9:25:00 AM         35443           SM4500-H+B: PH         FM         PH units         1         12/12/2017 2:57:56 AM         R47724           EPA METHOD 200.7: METALS         FM         PH units         1         12/12/2017 2:57:56 AM         R47724           Calcium         370         10         mg/L         10         12/26/2017 2:57:56 PM         35567           Lon         9.3         0.20         * mg/L         10         12/26/2017 2:57:56 PM         35567           Magnesium         30         1.0         mg/L         1         12/21/2017 8:12:48 PM         35567           Manganese         0.25         0.0020         * mg/L         1         12/26/2017 2:57:56 PM         35567           Potassium         2.0         1.0         mg/L         1         12/21/2017 8:12:48 PM         35567	Bicarbonate (As CaCO3)	220.8	20.00		mg/L CaCO3	1	12/12/2017 2:57:56 AM	R47724
SM2540C MOD: TOTAL DISSOLVED SOLIDS         Analyst: KS           Total Dissolved Solids         2110         100         *D         mg/L         1         12/13/2017 9:25:00 AM         35443           SM4500-H+B: PH         FM         PH units         1         12/12/2017 2:57:56 AM         R47724           EPA METHOD 200.7: METALS         FM         PH units         1         12/26/2017 2:57:56 PM         35567           Iron         9.3         0.20         * mg/L         10         12/26/2017 2:57:56 PM         35567           Magnesium         30         1.0         mg/L         1         12/26/2017 2:57:56 PM         35567           Magnesium         30         1.0         mg/L         1         12/26/2017 2:57:56 PM         35567           Magnesium         20         1.0         mg/L         1         12/21/2017 8:12:48 PM         35567	Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/12/2017 2:57:56 AM	R47724
Total Dissolved Solids         2110         100         *D         mg/L         1         12/13/2017 9:25:00 AM         354343           SM4500-H+B: PH         Analyst: JRR           pH         7.90         H         pH units         1         12/12/2017 9:257:56 AM         R47724           EPA METHOD 200.7: METALS         Figure 10         Malyst: pmf           Calcium         370         10         mg/L         10         12/26/2017 2:57:56 PM         35567           Iron         9.3         0.20         * mg/L         10         12/26/2017 2:57:56 PM         35567           Magnesium         30         1.0         mg/L         1         12/26/2017 2:56:06 PM         35567           Manganese         0.25         0.0020         * mg/L         1         12/21/2017 8:12:48 PM         35567           Potassium         2.0         1.0         mg/L         1         12/21/2017 8:12:48 PM         35567           Sodium         260         1.0         mg/L         1         12/21/2017 8:12:48 PM         35567           EPA METHOD 8270C: PAHS           Naphthalene         ND         0.50         µg/L	Total Alkalinity (as CaCO3)	220.8	20.00		mg/L CaCO3	1	12/12/2017 2:57:56 AM	R47724
SM4500-H+B: PH         Analyst: JRR           pH         7.90         H pH units         1 12/12/2017 2:57:56 AM R47724           EPA METHOD 200.7: METALS         Figure 1         1 12/26/2017 2:57:56 AM R47724           Calcium         370         10         mg/L         10         12/26/2017 2:57:56 PM 35567         In ph mg/L         10         12/26/2017 2:57:56 PM 35567         Magnesium         30         1.0         mg/L         1         12/26/2017 2:57:56 PM 35567         MM 35567           Magnesse         0.25         0.0020         mg/L         1         12/26/2017 2:57:56 PM 35567         S6567           METHOD 8270C: PAHS         FINA METHOD 8270C: PAHS         Analyst: DAM           Naphthalene         ND         0.50         µg/L         1         12/15/2017 9:49:41 PM 35504         35504           I-Methylnaphthalene         ND         0.50         µg/L         1         12/15/2017 9:49:41 PM 35504         36504           Acenaphthylene	SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst	KS
pH         7.90         H         pH units         1 12/12/2017 2:57:56 AM         R47724           EPA METHOD 200.7: METALS         Figure 1.0         Analyst: pmf           Calcium         370         10         mg/L         10         12/26/2017 2:57:56 PM         35567           Iron         9.3         0.20         mg/L         10         12/26/2017 2:57:56 PM         35567           Manganese         0.25         0.0020         mg/L         1 12/26/2017 2:57:56 PM         35567           Potassium         2.0         1.0         mg/L         1 12/26/2017 2:57:56 PM         35567           Potassium         2.0         1.0         mg/L         1 12/26/2017 2:57:56 PM         35567           Sodium         2.0         1.0         mg/L         1 12/15/2017 9:49:41 PM         35504           Naphthalene         ND         0.50         µg/L	Total Dissolved Solids	2110	100	*D	mg/L	1	12/13/2017 9:25:00 AM	35443
Part   Part	SM4500-H+B: PH						Analyst	JRR
Calcium         370         10         mg/L         10         12/26/2017 2:57:56 PM         35567           Iron         9.3         0.20         * mg/L         10         12/26/2017 2:57:56 PM         35567           Magnesium         30         1.0         mg/L         1         12/26/2017 2:56:66 PM         35567           Manganese         0.25         0.0020         * mg/L         1         12/26/2017 2:56:06 PM         35567           Potassium         2.0         1.0         mg/L         1         12/26/2017 2:57:56 PM         35567           Sodium         260         10         mg/L         1         12/26/2017 2:57:56 PM         35567           EPA METHOD 8270C: PAHS         Analyst: DAM           Naphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           1-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           2-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthylene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504 <tr< td=""><td>рН</td><td>7.90</td><td></td><td>Н</td><td>pH units</td><td>1</td><td>12/12/2017 2:57:56 AM</td><td>R47724</td></tr<>	рН	7.90		Н	pH units	1	12/12/2017 2:57:56 AM	R47724
Iron	EPA METHOD 200.7: METALS						Analyst	pmf
Magnesium         30         1.0         mg/L         1         12/21/2017 8:12:48 PM         35567           Manganese         0.25         0.0020         * mg/L         1         12/26/2017 2:56:06 PM         35567           Potassium         2.0         1.0         mg/L         1         12/21/2017 8:12:48 PM         35567           Sodium         260         10         mg/L         10         12/26/2017 2:57:56 PM         35567           EPA METHOD 8270C: PAHS	Calcium	370	10		mg/L	10	12/26/2017 2:57:56 PM	35567
Manganese         0.25         0.0020         * mg/L         1         12/26/2017 2:56:06 PM         35567           Potassium         2.0         1.0         mg/L         1         12/21/2017 8:12:48 PM         35567           Sodium         260         10         mg/L         10         12/26/2017 2:57:56 PM         35567           EPA METHOD 8270C: PAHS         Analyst: DAM           Naphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           1-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           2-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthylene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Fluorene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Phenanthrene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504	Iron	9.3	0.20	*	mg/L	10	12/26/2017 2:57:56 PM	35567
Potassium Sodium         2.0         1.0         mg/L mg/L         1         12/21/2017 8:12:48 PM         35567 35567           EPA METHOD 8270C: PAHS           Analyst: DAM           Naphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           1-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           2-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthylene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Fluorene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Phenanthrene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Anthracene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504	Magnesium	30	1.0		mg/L	1	12/21/2017 8:12:48 PM	35567
Sodium         260         10         mg/L         10         12/26/2017 2:57:56 PM         35567           EPA METHOD 8270C: PAHS           Naphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Naphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           1-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           2-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthylene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Fluorene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Phenanthrene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Anthracene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504	Manganese	0.25	0.0020	*	mg/L	1	12/26/2017 2:56:06 PM	35567
EPA METHOD 8270C: PAHS         Analyst: DAM           Naphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           1-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           2-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthylene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Fluorene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Phenanthrene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Anthracene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504	Potassium	2.0	1.0		mg/L	1	12/21/2017 8:12:48 PM	35567
Naphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           1-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           2-Methylnaphthalene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthylene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Fluorene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Phenanthrene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Anthracene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504	Sodium	260	10		mg/L	10	12/26/2017 2:57:56 PM	35567
1-Methylnaphthalene       ND       0.50       μg/L       1       12/15/2017 9:49:41 PM       35504         2-Methylnaphthalene       ND       0.50       μg/L       1       12/15/2017 9:49:41 PM       35504         Acenaphthylene       ND       0.50       μg/L       1       12/15/2017 9:49:41 PM       35504         Acenaphthene       ND       0.50       μg/L       1       12/15/2017 9:49:41 PM       35504         Fluorene       ND       1.0       μg/L       1       12/15/2017 9:49:41 PM       35504         Phenanthrene       ND       1.0       μg/L       1       12/15/2017 9:49:41 PM       35504         Anthracene       ND       1.0       μg/L       1       12/15/2017 9:49:41 PM       35504	EPA METHOD 8270C: PAHS						Analyst	DAM
2-Methylnaphthalene       ND       0.50       μg/L       1       12/15/2017 9:49:41 PM       35504         Acenaphthylene       ND       0.50       μg/L       1       12/15/2017 9:49:41 PM       35504         Acenaphthene       ND       0.50       μg/L       1       12/15/2017 9:49:41 PM       35504         Fluorene       ND       1.0       μg/L       1       12/15/2017 9:49:41 PM       35504         Phenanthrene       ND       1.0       μg/L       1       12/15/2017 9:49:41 PM       35504         Anthracene       ND       1.0       μg/L       1       12/15/2017 9:49:41 PM       35504	Naphthalene	ND	0.50		μg/L	1	12/15/2017 9:49:41 PM	35504
Acenaphthylene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Acenaphthene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Fluorene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Phenanthrene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Anthracene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504	1-Methylnaphthalene	ND	0.50		μg/L	1	12/15/2017 9:49:41 PM	35504
Acenaphthene         ND         0.50         μg/L         1         12/15/2017 9:49:41 PM         35504           Fluorene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Phenanthrene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504           Anthracene         ND         1.0         μg/L         1         12/15/2017 9:49:41 PM         35504	2-Methylnaphthalene	ND	0.50		μg/L	1	12/15/2017 9:49:41 PM	35504
Fluorene       ND       1.0       μg/L       1       12/15/2017 9:49:41 PM       35504         Phenanthrene       ND       1.0       μg/L       1       12/15/2017 9:49:41 PM       35504         Anthracene       ND       1.0       μg/L       1       12/15/2017 9:49:41 PM       35504	Acenaphthylene	ND	0.50		μg/L	1	12/15/2017 9:49:41 PM	35504
Phenanthrene       ND       1.0       μg/L       1       12/15/2017 9:49:41 PM       35504         Anthracene       ND       1.0       μg/L       1       12/15/2017 9:49:41 PM       35504	Acenaphthene	ND	0.50		μg/L	1	12/15/2017 9:49:41 PM	35504
Anthracene ND 1.0 µg/L 1 12/15/2017 9:49:41 PM 35504	Fluorene	ND	1.0		μg/L	1	12/15/2017 9:49:41 PM	35504
	Phenanthrene	ND	1.0		μg/L	1	12/15/2017 9:49:41 PM	35504
Fluoranthene ND 0.50 µg/L 1 12/15/2017 9:49:41 PM 35504	Anthracene	ND	1.0		μg/L	1	12/15/2017 9:49:41 PM	35504
	Fluoranthene	ND	0.50		μg/L	1	12/15/2017 9:49:41 PM	35504

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

- \* 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
- PQL Practical Quanitative Limit
  - 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 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-17

 Project:
 GBR Annual Sampling
 Collection Date: 12/7/2017 2:30:00 PM

 Lab ID:
 1712475-004
 Matrix: AQUEOUS
 Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL Qı	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: PAHS					Analyst:	DAM
Pyrene	ND	0.50	μg/L	1	12/15/2017 9:49:41 PM	35504
Benz(a)anthracene	ND	0.50	μg/L	1	12/15/2017 9:49:41 PM	35504
Chrysene	ND	0.50	μg/L	1	12/15/2017 9:49:41 PM	35504
Benzo(b)fluoranthene	ND	0.50	μg/L	1	12/15/2017 9:49:41 PM	35504
Benzo(k)fluoranthene	ND	0.50	μg/L	1	12/15/2017 9:49:41 PM	35504
Benzo(a)pyrene	ND	0.50	μg/L	1	12/15/2017 9:49:41 PM	35504
Dibenz(a,h)anthracene	ND	0.50	μg/L	1	12/15/2017 9:49:41 PM	35504
Benzo(g,h,i)perylene	ND	0.50	μg/L	1	12/15/2017 9:49:41 PM	35504
Indeno(1,2,3-cd)pyrene	ND	0.50	μg/L	1	12/15/2017 9:49:41 PM	35504
Surr: N-hexadecane	82.5	18.7-145	%Rec	1	12/15/2017 9:49:41 PM	35504
Surr: Benzo(e)pyrene	75.5	28.2-137	%Rec	1	12/15/2017 9:49:41 PM	35504
EPA METHOD 8260B: VOLATILES					Analyst:	RAA
Benzene	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
Toluene	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
Ethylbenzene	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
Naphthalene	ND	2.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
1-Methylnaphthalene	ND	4.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
2-Methylnaphthalene	ND	4.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
Acetone	ND	10	μg/L	1	12/15/2017 7:50:00 PM	R4783
Bromobenzene	ND	1.0	µg/L	1	12/15/2017 7:50:00 PM	R4783
Bromodichloromethane	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
Bromoform	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
Bromomethane	ND	3.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
2-Butanone	ND	10	μg/L	1	12/15/2017 7:50:00 PM	R4783
Carbon disulfide	ND	10	μg/L	1	12/15/2017 7:50:00 PM	R4783
Carbon Tetrachloride	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R47832
Chlorobenzene	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
Chloroethane	ND	2.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
Chloroform	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
Chloromethane	ND	3.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
2-Chlorotoluene	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R4783
4-Chlorotoluene	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R47832
cis-1,2-DCE	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R47832
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	12/15/2017 7:50:00 PM	R47832

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

- 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
- PQL Practical Quanitative Limit
- 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 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-17

 Project:
 GBR Annual Sampling
 Collection Date: 12/7/2017 2:30:00 PM

 Lab ID:
 1712475-004
 Matrix: AQUEOUS
 Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL Qu	al Units	DF D	ate Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst:	RAA
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
Dibromochloromethane	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
Dibromomethane	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,2-Dichlorobenzene	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,3-Dichlorobenzene	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,4-Dichlorobenzene	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
Dichlorodifluoromethane	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,1-Dichloroethane	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,1-Dichloroethene	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,2-Dichloropropane	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,3-Dichloropropane	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
2,2-Dichloropropane	ND	2.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,1-Dichloropropene	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
Hexachlorobutadiene	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
2-Hexanone	ND	10	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
Isopropylbenzene	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
4-Isopropyltoluene	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
4-Methyl-2-pentanone	ND	10	µg/L	1 1	2/15/2017 7:50:00 PM	R47832
Methylene Chloride	ND	3.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
n-Butylbenzene	ND	3.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
n-Propylbenzene	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
sec-Butylbenzene	ND	1.0	μg/L	1 1:	2/15/2017 7:50:00 PM	R47832
Styrene	ND	1.0	µg/L	1 1:	2/15/2017 7:50:00 PM	R47832
tert-Butylbenzene	ND	1.0	μg/L	1 1:	2/15/2017 7:50:00 PM	R47832
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
Tetrachloroethene (PCE)	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
trans-1,2-DCE	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
trans-1,3-Dichloropropene	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1 1:	2/15/2017 7:50:00 PM	R47832
1,1,1-Trichloroethane	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,1,2-Trichloroethane	ND	1.0	μg/L	1 1:	2/15/2017 7:50:00 PM	R47832
Trichloroethene (TCE)	ND	1.0	μg/L	1 1:	2/15/2017 7:50:00 PM	R47832
Trichlorofluoromethane	ND	1.0	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
1,2,3-Trichloropropane	ND	2.0	μg/L	1 1:	2/15/2017 7:50:00 PM	R47832
Vinyl chloride	ND	1.0	μg/L	1 1:	2/15/2017 7:50:00 PM	R47832
Xylenes, Total	ND	1.5	μg/L	1 1	2/15/2017 7:50:00 PM	R47832
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec	1 1:	2/15/2017 7:50:00 PM	R47832

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

- \* 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
- PQL Practical Quanitative Limit
- 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 12 of 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-17

Project: GBR Annual Sampling

Collection Date: 12/7/2017 2:30:00 PM

**Lab ID:** 1712475-004

Matrix: AQUEOUS Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analy	st: RAA
Surr: 4-Bromofluorobenzene	97.2	70-130	%Rec	1	12/15/2017 7:50:00 P	M R47832
Surr: Dibromofluoromethane	101	70-130	%Rec	1	12/15/2017 7:50:00 P	M R47832
Surr: Toluene-d8	97.8	70-130	%Rec	1	12/15/2017 7:50:00 P	M R47832

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 Sample Diluted Due to Matrix D Value above quantitation range E Analyte detected below quantitation limits Page 13 of 39 H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit P Sample pH Not In Range PQL Practical Quanitative Limit RL Reporting Detection Limit % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified

#### Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-48

 Project:
 GBR Annual Sampling
 Collection Date: 12/7/2017 3:22:00 PM

 Lab ID:
 1712475-005
 Matrix: AQUEOUS
 Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst:	DBK
Antimony	ND	0.0010		mg/L	1	1/3/2018 7:08:18 PM	35567
Arsenic	0.0080	0.0050		mg/L	5	1/3/2018 7:01:45 PM	35567
Copper	0.040	0.0010		mg/L	1	12/29/2017 12:57:04 PM	1 35567
Lead	0.022	0.00050	*	mg/L	1	12/29/2017 12:57:04 PM	1 35567
Selenium	0.018	0.0050		mg/L	5	1/3/2018 7:01:45 PM	35567
Thallium	ND	0.00050		mg/L	1	12/29/2017 12:57:04 PM	1 35567
SM2340B: HARDNESS						Analyst:	pmf
Hardness (As CaCO3)	1600	6.6		mg/L	1	12/26/2017	R48016
EPA METHOD 300.0: ANIONS						Analyst:	MRA
Fluoride	0.19	0.10		mg/L	1	12/8/2017 7:26:40 PM	R47664
Chloride	350	10	*	mg/L	20	12/8/2017 7:39:05 PM	R47664
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	12/8/2017 7:39:05 PM	R47664
Bromide	1.4	0.10		mg/L	1	12/8/2017 7:26:40 PM	R47664
Nitrogen, Nitrate (As N)	3.0	0.10		mg/L	1	12/8/2017 7:26:40 PM	R47664
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	12/8/2017 7:39:05 PM	R47664
Sulfate	1900	25	*	mg/L	50	12/26/2017 5:23:22 PM	R48034
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	4600	5.0		µmhos/cm	1	12/12/2017 3:09:48 AM	R47724
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	297.4	20.00		mg/L CaCO3	1	12/12/2017 3:09:48 AM	R47724
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/12/2017 3:09:48 AM	R47724
Total Alkalinity (as CaCO3)	297.4	20.00		mg/L CaCO3	1	12/12/2017 3:09:48 AM	R47724
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst:	KS
Total Dissolved Solids	3690	100	*D	mg/L	1	12/13/2017 9:25:00 AM	35443
SM4500-H+B: PH						Analyst:	JRR
рН	7.84		Н	pH units	1	12/12/2017 3:09:48 AM	R47724
EPA METHOD 200.7: METALS						Analyst:	JLF
Barium	0.28	0.0020		mg/L	1	12/21/2017 8:14:42 PM	35567
Beryllium	0.0028	0.0020		mg/L	1	12/26/2017 2:59:54 PM	35567
Cadmium	ND	0.0020		mg/L	1	12/26/2017 2:59:54 PM	35567
Calcium	550	50		mg/L	50	12/26/2017 3:09:32 PM	35567
Chromium	0.13	0.0060	*	mg/L	1	12/26/2017 2:59:54 PM	35567
Iron	40	1.0	*	mg/L	50	12/26/2017 3:09:32 PM	35567
Magnesium	55	1.0		mg/L	1	12/21/2017 8:14:42 PM	35567
Manganese	1.7	0.010	*	mg/L	5	12/26/2017 3:01:54 PM	35567
Nickel	0.10	0.010	*	mg/L	1	12/21/2017 8:14:42 PM	35567

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

#### Qualifiers: \* Value exce

- \* 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
- PQL Practical Quanitative Limit
- 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 14 of 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712475

Client Sample ID: GBR-48

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling Collection Date: 12/7/2017 3:22:00 PM

Lab ID: 1712475-005 Matrix: AQUEOUS Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst:	JLF
Potassium	8.9	1.0		mg/L	1	12/21/2017 8:14:42 PM	35567
Silver	ND	0.0050		mg/L	1	12/26/2017 2:59:54 PM	35567
Sodium	620	50		mg/L	50	12/26/2017 3:09:32 PM	35567
Zinc	0.081	0.010		mg/L	1	12/26/2017 2:59:54 PM	35567
EPA METHOD 245.1: MERCURY						Analyst:	MED
Mercury	ND	0.00020	Н	mg/L	1	1/30/2018 3:02:17 PM	36255
EPA METHOD 8260B: VOLATILES						Analyst:	RAA
Benzene	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Toluene	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Ethylbenzene	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Methyl tert-butyl ether (MTBE)	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
1,2,4-Trimethylbenzene	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/15/2017 8:14:00 PM	R47832
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Naphthalene	ND	2.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
1-Methylnaphthalene	ND	4.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
2-Methylnaphthalene	ND	4.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Acetone	ND	10		μg/L	1	12/15/2017 8:14:00 PM	R47832
Bromobenzene	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Bromodichloromethane	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Bromoform	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Bromomethane	ND	3.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
2-Butanone	ND	10		μg/L	1	12/15/2017 8:14:00 PM	R47832
Carbon disulfide	ND	10		μg/L	1	12/15/2017 8:14:00 PM	R47832
Carbon Tetrachloride	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Chlorobenzene	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Chloroethane	ND	2.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Chloroform	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Chloromethane	ND	3.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
2-Chlorotoluene	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
4-Chlorotoluene	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
cis-1,2-DCE	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
cis-1,3-Dichloropropene	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
1,2-Dibromo-3-chloropropane	ND	2.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Dibromochloromethane	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
Dibromomethane	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832
1,2-Dichlorobenzene	ND	1.0		μg/L	1	12/15/2017 8:14:00 PM	R47832

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

- \* 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
- PQL Practical Quanitative Limit
  - 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 15 of 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-48

 Project:
 GBR Annual Sampling
 Collection Date: 12/7/2017 3:22:00 PM

 Lab ID:
 1712475-005
 Matrix: AQUEOUS
 Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst:	RAA
1,3-Dichlorobenzene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
Dichlorodifluoromethane	ND	1.0	µg/L	1	12/15/2017 8:14:00 PM	R47832
1,1-Dichloroethane	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
1,1-Dichloroethene	ND	1.0	µg/L	1	12/15/2017 8:14:00 PM	R47832
1,2-Dichloropropane	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
1,3-Dichloropropane	ND	1.0	µg/L	1	12/15/2017 8:14:00 PM	R47832
2,2-Dichloropropane	ND	2.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
1,1-Dichloropropene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
Hexachlorobutadiene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
2-Hexanone	ND	10	μg/L	1	12/15/2017 8:14:00 PM	R47832
Isopropylbenzene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
4-Isopropyltoluene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
4-Methyl-2-pentanone	ND	10	μg/L	1	12/15/2017 8:14:00 PM	R47832
Methylene Chloride	ND	3.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
n-Butylbenzene	ND	3.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
n-Propylbenzene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
sec-Butylbenzene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
Styrene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
tert-Butylbenzene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
Tetrachloroethene (PCE)	1.3	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
trans-1,2-DCE	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
1,1,1-Trichloroethane	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
1,1,2-Trichloroethane	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
Trichloroethene (TCE)	1.0	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
Trichlorofluoromethane	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
1,2,3-Trichloropropane	ND	2.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
Vinyl chloride	ND	1.0	μg/L	1	12/15/2017 8:14:00 PM	R47832
Xylenes, Total	ND	1.5	μg/L	1	12/15/2017 8:14:00 PM	R47832
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec	1	12/15/2017 8:14:00 PM	R47832
Surr: 4-Bromofluorobenzene	98.8	70-130	%Rec	1	12/15/2017 8:14:00 PM	R47832
Surr: Dibromofluoromethane	99.2	70-130	%Rec	1	12/15/2017 8:14:00 PM	R47832
Surr: Toluene-d8	99.9	70-130	%Rec	1	12/15/2017 8:14:00 PM	R47832

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
- PQL Practical Quanitative Limit
- 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 16 of 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712475

Date Reported: 1/31/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-50

 Project:
 GBR Annual Sampling
 Collection Date: 12/7/2017 3:35:00 PM

 Lab ID:
 1712475-006
 Matrix: AQUEOUS
 Received Date: 12/8/2017 7:55:00 AM

EPA 200.8: METALS  Antimony Arsenic Copper	ND 0.0057 0.0082 0.0024 0.0085 ND	0.0010 0.0010 0.0010 0.00050		mg/L	1	Analyst:	
Arsenic	0.0057 0.0082 0.0024 0.0085	0.0010 0.0010			1	1/2/2019 7:14:E2 DM	
	0.0082 0.0024 0.0085	0.0010				1/3/2010 /.14.52 PW	35567
Copper	0.0024 0.0085			mg/L	1	1/2/2018 8:14:22 PM	35567
	0.0085	0.00050		mg/L	1	12/29/2017 1:03:37 PM	35567
Lead				mg/L	1	12/29/2017 1:03:37 PM	35567
Selenium	ND	0.0010		mg/L	1	1/2/2018 8:14:22 PM	35567
Thallium	ND	0.00050		mg/L	1	12/29/2017 1:03:37 PM	35567
SM2340B: HARDNESS						Analyst	pmf
Hardness (As CaCO3)	1200	6.6		mg/L	1	12/26/2017	R48016
EPA METHOD 300.0: ANIONS						Analyst	MRA
Fluoride	0.48	0.10		mg/L	1	12/8/2017 8:16:19 PM	R47664
Chloride	54	10		mg/L	20	12/8/2017 8:28:44 PM	R47664
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/8/2017 8:16:19 PM	R47664
Bromide	0.29	0.10		mg/L	1	12/8/2017 8:16:19 PM	R47664
Nitrogen, Nitrate (As N)	5.9	0.10		mg/L	1	12/8/2017 8:16:19 PM	R47664
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	12/8/2017 8:28:44 PM	R47664
Sulfate	1500	25	*	mg/L	50	12/26/2017 5:35:46 PM	R48034
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	3100	5.0		µmhos/cm	1	12/12/2017 3:24:06 AM	R47724
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	208.0	20.00		mg/L CaCO3	1	12/12/2017 3:24:06 AM	R47724
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/12/2017 3:24:06 AM	R47724
Total Alkalinity (as CaCO3)	208.0	20.00		mg/L CaCO3	1	12/12/2017 3:24:06 AM	R47724
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst:	KS
Total Dissolved Solids	2590	40.0	*D	mg/L	1	12/13/2017 9:25:00 AM	35443
SM4500-H+B: PH						Analyst:	JRR
рН	7.81		Н	pH units	1	12/12/2017 3:24:06 AM	R47724
EPA METHOD 200.7: METALS						Analyst:	JLF
Barium	0.036	0.0020		mg/L	1	12/21/2017 8:16:39 PM	35567
Beryllium	ND	0.0020		mg/L	1	12/26/2017 3:11:21 PM	35567
Cadmium	ND	0.0020		mg/L	1	12/26/2017 3:11:21 PM	35567
Calcium	440	10		mg/L	10	12/26/2017 3:13:10 PM	35567
Chromium	0.16	0.0060	*	mg/L	1	12/26/2017 3:11:21 PM	35567
Iron	5.8	0.20	*	mg/L	10	12/26/2017 3:13:10 PM	35567
Magnesium	33	1.0		mg/L	1	12/21/2017 8:16:39 PM	35567
Manganese	0.32	0.0020	*	mg/L	1	12/26/2017 3:11:21 PM	35567
Nickel	0.083	0.010		mg/L	1	12/21/2017 8:16:39 PM	35567

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

- \* 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
- PQL Practical Quanitative Limit
- 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 17 of 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712475

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/31/2018

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-50

 Project:
 GBR Annual Sampling
 Collection Date: 12/7/2017 3:35:00 PM

 Lab ID:
 1712475-006
 Matrix: AQUEOUS
 Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst	JLF
Potassium	2.4	1.0		mg/L	1	12/21/2017 8:16:39 PM	35567
Silver	0.0057	0.0050		mg/L	1	12/26/2017 3:11:21 PM	
Sodium	320	10		mg/L	10	12/26/2017 3:13:10 PM	35567
Zinc	0.020	0.010		mg/L	1	12/26/2017 3:11:21 PM	35567
EPA METHOD 245.1: MERCURY						Analyst	MED
Mercury	ND	0.00020	Н	mg/L	1	1/30/2018 3:04:13 PM	36255
EPA METHOD 8260B: VOLATILES						Analyst	RAA
Benzene	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
Toluene	ND	1.0		µg/L	1	12/13/2017 9:32:00 PM	R47782
Ethylbenzene	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
Methyl tert-butyl ether (MTBE)	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/13/2017 9:32:00 PM	R47782
1,3,5-Trimethylbenzene	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
Naphthalene	ND	2.0		µg/L	1	12/13/2017 9:32:00 PM	R47782
1-Methylnaphthalene	ND	4.0		µg/L	1	12/13/2017 9:32:00 PM	R47782
2-Methylnaphthalene	ND	4.0		µg/L	1	12/13/2017 9:32:00 PM	R47782
Acetone	ND	10		µg/L	1	12/13/2017 9:32:00 PM	R47782
Bromobenzene	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
Bromodichloromethane	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
Bromoform	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
Bromomethane	ND	3.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
2-Butanone	ND	10		µg/L	1	12/13/2017 9:32:00 PM	R47782
Carbon disulfide	ND	10		µg/L	1	12/13/2017 9:32:00 PM	R47782
Carbon Tetrachloride	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
Chlorobenzene	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
Chloroethane	ND	2.0		µg/L	1	12/13/2017 9:32:00 PM	R47782
Chloroform	ND	1.0		µg/L	1	12/13/2017 9:32:00 PM	R47782
Chloromethane	ND	3.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
2-Chlorotoluene	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
4-Chlorotoluene	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
cis-1,2-DCE	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/13/2017 9:32:00 PM	R47782
1,2-Dibromo-3-chloropropane	ND	2.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
Dibromochloromethane	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
Dibromomethane	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782
1,2-Dichlorobenzene	ND	1.0		μg/L	1	12/13/2017 9:32:00 PM	R47782

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 18 of 39
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quanitative Limit	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 1712475

Date Reported: 1/31/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-50

Project: GBR Annual Sampling

Collection Date: 12/7/2017 3:35:00 PM

**Lab ID:** 1712475-006

Matrix: AQUEOUS Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	RAA
1,3-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
Dichlorodifluoromethane	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
1,1-Dichloroethane	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
1,1-Dichloroethene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
1,2-Dichloropropane	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
1,3-Dichloropropane	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
2,2-Dichloropropane	ND	2.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
1,1-Dichloropropene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
Hexachlorobutadiene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
2-Hexanone	ND	10	μg/L	1	12/13/2017 9:32:00 PM	R47782
Isopropylbenzene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
4-Isopropyltoluene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
4-Methyl-2-pentanone	ND	10	μg/L	1	12/13/2017 9:32:00 PM	R47782
Methylene Chloride	ND	3.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
n-Butylbenzene	ND	3.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
n-Propylbenzene	ND	1.0	μ <mark>g</mark> /L	1	12/13/2017 9:32:00 PM	R47782
sec-Butylbenzene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
Styrene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
tert-Butylbenzene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
trans-1,2-DCE	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	12/13/2017 9:32:00 PM	R47782
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
1,1,1-Trichloroethane	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
1,1,2-Trichloroethane	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
Trichloroethene (TCE)	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
Trichlorofluoromethane	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
1,2,3-Trichloropropane	ND	2.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
Vinyl chloride	ND	1.0	μg/L	1	12/13/2017 9:32:00 PM	R47782
Xylenes, Total	ND	1.5	μg/L	1	12/13/2017 9:32:00 PM	R47782
Surr: 1,2-Dichloroethane-d4	102	70-130	%Rec	1	12/13/2017 9:32:00 PM	R47782
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	12/13/2017 9:32:00 PM	R47782
Surr: Dibromofluoromethane	99.4	70-130	%Rec	1	12/13/2017 9:32:00 PM	R47782
Surr: Toluene-d8	98.5	70-130	%Rec	1	12/13/2017 9:32:00 PM	R47782

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

- 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
- PQL Practical Quanitative Limit
  - 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 19 of 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1712475

Date Reported: 1/31/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-32

 Project:
 GBR Annual Sampling
 Collection Date: 12/7/2017 2:35:00 PM

 Lab ID:
 1712475-007
 Matrix: AQUEOUS
 Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst:	DBK
Antimony	ND	0.0010		mg/L	1	1/3/2018 7:27:59 PM	35567
Arsenic	ND	0.0050		mg/L	5	1/3/2018 7:21:25 PM	35567
Copper	0.0062	0.0010		mg/L	1	12/29/2017 1:10:11 PM	35567
Lead	0.00082	0.00050		mg/L	1	12/29/2017 1:10:11 PM	35567
Selenium	0.0055	0.0050		mg/L	5	1/3/2018 7:21:25 PM	35567
Thallium	ND	0.00050		mg/L	1	12/29/2017 1:10:11 PM	35567
SM2340B: HARDNESS						Analyst:	pmf
Hardness (As CaCO3)	1500	6.6		mg/L	1	12/26/2017	R48016
EPA METHOD 300.0: ANIONS						Analyst:	MRA
Fluoride	0.18	0.10		mg/L	1	12/8/2017 8:41:09 PM	R47664
Chloride	290	10	*	mg/L	20	12/8/2017 8:53:33 PM	R47664
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/8/2017 8:41:09 PM	R47664
Bromide	0.87	0.10		mg/L	1	12/8/2017 8:41:09 PM	R47664
Nitrogen, Nitrate (As N)	1.2	0.10		mg/L	1	12/8/2017 8:41:09 PM	R47664
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	12/8/2017 8:53:33 PM	R47664
Sulfate	1600	25	*	mg/L	50	12/26/2017 6:13:01 PM	R48034
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	4000	5.0		µmhos/cm	1	12/12/2017 3:35:40 AM	R47724
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	294.1	20.00		mg/L CaCO3	1	12/12/2017 3:35:40 AM	R47724
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/12/2017 3:35:40 AM	R47724
Total Alkalinity (as CaCO3)	294.1	20.00		mg/L CaCO3	1	12/12/2017 3:35:40 AM	R47724
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst:	KS
Total Dissolved Solids	3210	40.0	*D	mg/L	1	12/13/2017 9:25:00 AM	35443
SM4500-H+B: PH						Analyst:	JRR
рН	7.84		Н	pH units	1	12/12/2017 3:35:40 AM	R47724
EPA METHOD 200.7: METALS						Analyst:	JLF
Barium	0.025	0.0020		mg/L	1	12/21/2017 8:18:31 PM	35567
Beryllium	ND	0.0020		mg/L	1	12/26/2017 3:15:08 PM	35567
Cadmium	ND	0.0020		mg/L	1	12/26/2017 3:15:08 PM	35567
Calcium	510	10		mg/L	10	12/26/2017 3:16:57 PM	35567
Chromium	0.13	0.0060	*	mg/L	1	12/26/2017 3:15:08 PM	35567
Iron	2.3	0.20	*	mg/L	10	12/26/2017 3:16:57 PM	35567
Magnesium	49	1.0		mg/L	1	12/21/2017 8:18:31 PM	35567
Manganese	1.2	0.020	*	mg/L	10	12/26/2017 3:16:57 PM	35567
Nickel	0.14	0.010	*	mg/L	1	12/21/2017 8:18:31 PM	35567

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

PQL Practical Quanitative Limit

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 20 of 39

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

### Lab Order 1712475

Date Reported: 1/31/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-32

Project: GBR Annual Sampling

**Collection Date:** 12/7/2017 2:35:00 PM

Lab ID: 1712475-007

Matrix: AQUEOUS Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS		4			Analys	st: <b>JLF</b>
Potassium	2.6	1.0	mg/L	1	12/21/2017 8:18:31 PI	M 35567
Silver	0.0070	0.0050	mg/L	1	12/26/2017 3:15:08 PI	M 35567
Sodium	560	10	mg/L	10	12/26/2017 3:16:57 PI	M 35567
Zinc	0.012	0.010	mg/L	1	12/26/2017 3:15:08 PI	M 35567
EPA METHOD 8260B: VOLATILES					Analys	t: RAA
Benzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PI	M R47782
Toluene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PI	M R47782
Ethylbenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PI	M R47782
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	12/13/2017 9:55:00 PI	M R47782
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PI	M R47782
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PI	M R47782
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	12/13/2017 9:55:00 PI	M R47782
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	12/13/2017 9:55:00 PI	M R47782
Naphthalene	ND	2.0	μg/L	1	12/13/2017 9:55:00 PI	M R47782
1-Methylnaphthalene	ND	4.0	μg/L	1	12/13/2017 9:55:00 PI	л R47782
2-Methylnaphthalene	ND	4.0	μg/L	1	12/13/2017 9:55:00 PI	A R47782
Acetone	ND	10	μg/L	1	12/13/2017 9:55:00 PI	л R47782
Bromobenzene	ND	1.0	µg/L	1	12/13/2017 9:55:00 PI	M R47782
Bromodichloromethane	ND	1.0	μg/L	1	12/13/2017 9:55:00 PI	A R47782
Bromoform	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	л R47782
Bromomethane	ND	3.0	µg/L	1	12/13/2017 9:55:00 PM	/ R47782
2-Butanone	ND	10	μg/L	1	12/13/2017 9:55:00 PM	A R47782
Carbon disulfide	ND	10	µg/L	1	12/13/2017 9:55:00 PM	A R47782
Carbon Tetrachloride	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	/ R47782
Chlorobenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	/ R47782
Chloroethane	ND	2.0	μg/L	1	12/13/2017 9:55:00 PM	/I R47782
Chloroform	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	/I R47782
Chloromethane	ND	3.0	μg/L	1	12/13/2017 9:55:00 PM	/ R47782
2-Chlorotoluene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	/ R47782
4-Chlorotoluene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	/ R47782
cis-1,2-DCE	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	/ R47782
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	/ R47782
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	12/13/2017 9:55:00 PM	/ R47782
Dibromochloromethane	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	A R47782
Dibromomethane	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	
1,2-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	
1,3-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	/ R47782
Dichlorodifluoromethane	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	1 R47782

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

- 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
- PQL Practical Quanitative Limit
- 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 21 of 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1712475

Date Reported: 1/31/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-32

Project: GBR Annual Sampling

Collection Date: 12/7/2017 2:35:00 PM

**Lab ID:** 1712475-007

Matrix: AQUEOUS Received Date: 12/8/2017 7:55:00 AM

Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst:	RAA
1,1-Dichloroethane	ND	1.0	µg/L	1	12/13/2017 9:55:00 PM	R47782
1,1-Dichloroethene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
1,2-Dichloropropane	ND	1.0	µg/L	1	12/13/2017 9:55:00 PM	R47782
1,3-Dichloropropane	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
2,2-Dichloropropane	ND	2.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
1,1-Dichloropropene	ND	1.0	µg/L	1	12/13/2017 9:55:00 PM	R47782
Hexachlorobutadiene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
2-Hexanone	ND	10	µg/L	1	12/13/2017 9:55:00 PM	R47782
Isopropylbenzene	ND	1.0	µg/L	1	12/13/2017 9:55:00 PM	R47782
4-Isopropyltoluene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
4-Methyl-2-pentanone	ND	10	μg/L	1	12/13/2017 9:55:00 PM	R47782
Methylene Chloride	ND	3.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
n-Butylbenzene	ND	3.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
n-Propylbenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
sec-Butylbenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
Styrene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
tert-Butylbenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	12/13/2017 9:55:00 PM	R47782
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
Tetrachloroethene (PCE)	1.1	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
trans-1,2-DCE	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
1,1,1-Trichloroethane	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
1,1,2-Trichloroethane	ND	1.0	µg/L	1	12/13/2017 9:55:00 PM	R47782
Trichloroethene (TCE)	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
Trichlorofluoromethane	ND	1.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
1,2,3-Trichloropropane	ND	2.0	μg/L	1	12/13/2017 9:55:00 PM	R47782
Vinyl chloride	ND	1.0	µg/L	1	12/13/2017 9:55:00 PM	R47782
Xylenes, Total	ND	1.5	μg/L	1	12/13/2017 9:55:00 PM	R47782
Surr: 1,2-Dichloroethane-d4	105	70-130	%Rec	1	12/13/2017 9:55:00 PM	R47782
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	12/13/2017 9:55:00 PM	R47782
Surr: Dibromofluoromethane	98.3	70-130	%Rec	1	12/13/2017 9:55:00 PM	R47782
Surr: Toluene-d8	98.1	70-130	%Rec	1	12/13/2017 9:55:00 PM	R47782

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

- \* 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
- PQL Practical Quanitative Limit
- 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 22 of 39
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## all Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc.

ND

ND

ND

ND

1.0

1.0 0.010

0.0050

0.0050

1.0

0.010

ND

ND

ND

0.005000

0.005000

0.5000

Project: GBR Annual Sampling

Client:

Potassium

Silver

Sodium

Zinc

Sample ID MB-35567 SampType: MBLK TestCode: EPA Method 200.7: Metals Client ID: **PBW** Batch ID: 35567 RunNo: 47970 Prep Date: 12/18/2017 Analysis Date: 12/21/2017 SeqNo: 1536801 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.0020 Barium ND Beryllium ND 0.0020 Cadmium ND 0.0020 ND Calcium 1.0 ND 0.0060 Chromium 0.020 Iron ND Magnesium ND 1.0 Manganese ND 0.0020 Nickel ND 0.010

Sample ID LLLCS-35567	Samp	Type: LC	SLL	Test	(Code: El	PA Method	200.7: Metals			
Client ID: BatchQC	Bato	ch ID: 35	567	R	RunNo: 4	7970				
o Date: 12/18/2017	Analysis I	Date: 12	2/21/2017	S	SeqNo: 1	536802	Units: mg/L			
., alyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020	0.002000	0	92.5	50	150			
Beryllium	ND	0.0020	0.002000	0	92.0	50	150			
Cadmium	0.0025	0.0020	0.002000	0	125	50	150			
Calcium	ND	1.0	0.5000	0	97.7	50	150			
Chromium	ND	0.0060	0.006000	0	83.0	50	150			
Iron	ND	0.020	0.02000	0	66.8	50	150			
Magnesium	ND	1.0	0.5000	0	97.7	50	150			
Manganese	ND	0.0020	0.002000	0	96.5	50	150			
Nickel	ND	0.010	0.005000	0	73.4	50	150			
Potassium	ND	1.0	0.5000	0	94.0	50	150			

Sample ID LCS-35	567 Sam	pType: LCS	5	Test	Code: El	PA Method	200.7: Metals			
Client ID: LCSW	Bat	tch ID: 355	667	R	tunNo: 4	7970				
Prep Date: 12/18/	2017 Analysis	Date: 12/	/21/2017	S	eqNo: 1	536803	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.7	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.8	85	115			

0

0

0

97.6

108

129

50

50

50

150

150

150

#### Qualifiers:

Silver

Sodium

Zinc

Value exceeds Maximum Contaminant Level.

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

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% 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

Reporting Detection Limit RL

Sample container temperature is out of limit as specified

Page 23 of 39

WO#:

1712475

31-Jan-18

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1712475

31-Jan-18

Western Refining Southwest, Inc. Client:

Project: GBR Annual Sampling

Sample ID LCS-35567	Samp	Type: LC	S	Tes	tCode: El	PA Method	200.7: Metals			
Client ID: LCSW	Batc	h ID: 35	567	F	RunNo: 4	7970				
Prep Date: 12/18/2017	Analysis [	Date: 12	2/21/2017	8	SeqNo: 1	536803	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.52	0.0020	0.5000	0	103	85	115			
Calcium	46	1.0	50.00	0	92.1	85	115			
Chromium	0.48	0.0060	0.5000	0	95.3	85	115			
Iron	0.47	0.020	0.5000	0	94.7	85	115			
Magnesium	48	1.0	50.00	0	95.2	85	115			
Manganese	0.46	0.0020	0.5000	0	92.9	85	115			
Nickel	0.47	0.010	0.5000	0	93.7	85	115			
Potassium	47	1.0	50.00	0	93.4	85	115			
Silver	0.11	0.0050	0.1000	0	108	85	115			
Sodium	47	1.0	50.00	0	93.1	85	115			
Zinc	0.47	0.010	0.5000	0	93.2	85	115			

Sample ID MB-B	SampType: MBLK			Tes	tCode: El	PA Method	200.7: Metals			
Client ID: PBW	Bato	h ID: B4	8016	R	RunNo: 4	8016				
Prep Date:	Analysis I	Date: 12	2/26/2017	S	SeqNo: 1	539019	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 LLLCS-B	SampType: LCSLL			Tes	tCode: El	PA Method						
Client ID: BatchQC	Batch ID: <b>B48016</b>			F	RunNo: 4	8016						
Prep Date:	Analysis Date: 12/26/2017			8	SeqNo: <b>1539020</b> Units: i			ng/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Calcium	ND	1.0	0.5000	0	106	50	150					
Iron	ND	0.020	0.02000	0	95.5	50	150					
Magnesium	ND	1.0	0.5000	0	103	50	150					
Manganese	ND	0.0020	0.002000	0	95.0	50	150					
Potassium	ND	1.0	0.5000	0	103	50	150					
Sodium	ND	1.0	0.5000	0	104	50	150					

### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded H

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

Value above quantitation range

J Analyte detected below quantitation limits Page 24 of 39

P Sample pH Not In Range

Reporting Detection Limit RL

Sample container temperature is out of limit as specified

# Yall Environmental Analysis Laboratory, Inc.

WO#: 1712475

31-Jan-18

Client: Western Refining Southwest, Inc.

Project: **GBR** Annual Sampling

Sample ID LCS-B	Samp	Type: LC	S	Tes	tCode: E	PA Method				
Client ID: LCSW	Batch ID: <b>B48016</b>			F	RunNo: 4	8016				
Prep Date:	Analysis Date: 12/26/2017			SeqNo: <b>1539021</b> U			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			
Iron	0.48	0.020	0.5000	0	97.0	85	115			
Magnesium	51	1.0	50.00	0	101	85	115			
Manganese	0.46	0.0020	0.5000	0	91.7	85	115			
Potassium	49	1.0	50.00	0	98.0	85	115			
Sodium	48	1.0	50.00	0	95.8	85	115			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

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

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% 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

Sample container temperature is out of limit as specified

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### Hall Environmental Analysis Laboratory, Inc.

WO#: 1712475

31-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID MB-35567 SampType: MBLK TestCode: EPA 200.8: Metals
Client ID: PBW Batch ID: 35567 RunNo: 48033

Prep Date: 12/18/2017 Analysis Date: 12/22/2017 SeqNo: 1539280 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 0.0010 Copper ND Lead 0.00050 Selenium ND 0.0010 Thallium ND 0.00050

Sample ID MSLLLCS-35567 TestCode: EPA 200.8: Metals SampType: LCSLL Client ID: BatchQC Batch ID: 35567 RunNo: 48033 Prep Date: 12/18/2017 Analysis Date: 12/22/2017 SeqNo: 1539281 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual ND 0.0010 0.001000 0 99.3 50 150 Antimony Arsenic 0.0010 0.0010 0.001000 0 100 50 150 ND 0.0010 0.001000 0 88.4 50 150 Copper 0 97.1 ND 0.00050 0.0005000 50 150 Lead 0.0010 0.001000 0 84.4 50 150 Selenium 0.00050 0.0005000 95.8 50 150 Thallium ND

Sample ID MSLCS-35567 SampType: LCS TestCode: EPA 200.8: Metals Client ID: LCSW Batch ID: 35567 RunNo: 48033 Prep Date: 12/18/2017 Analysis Date: 12/22/2017 SeqNo: 1539282 Units: mg/L %REC SPK value SPK Ref Val %RPD **RPDLimit** PQL LowLimit HighLimit Analyte Result Qual 0.030 0.0010 0.02500 0 121 85 115 S Antimony 0.025 0.0010 0.02500 0 102 85 115 Arsenic 98.9 0.02500 0 85 0.025 0.0010 115 Copper 0.013 0.00050 0.01250 0 101 85 115 Lead 0.024 0.0010 0.02500 0 94.3 85 115 Selenium Thallium 0.013 0.00050 0.01250 0 101 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

PQL Practical Quanitative Limit

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 26 of 39

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

# all Environmental Analysis Laboratory, Inc.

WO#: 1712475

31-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

GBR Annual Sampling

Sample ID MB-36255

SampType: MBLK

TestCode: EPA Method 245.1: Mercury

Client ID:

**PBW** 

Sample ID LCS-36255

**LCSW** 

1/30/2018

Batch ID: 36255

RunNo: 48782

Prep Date: 1/30/2018

Analysis Date: 1/30/2018

SeqNo: 1569813

Units: mg/L

Qual

Analyte Mercury

Result PQL SPK value SPK Ref Val %REC

LowLimit

HighLimit

%RPD **RPDLimit** 

ND 0.00020

SampType: LCS Batch ID: 36255

Analysis Date: 1/30/2018

TestCode: EPA Method 245.1: Mercury RunNo: 48782

SeqNo: 1569814

HighLimit

Units: mg/L

Analyte

Client ID:

Prep Date:

PQL SPK value SPK Ref Val

80

**RPDLimit** 

Page 27 of 39

Qual

Mercury

0.005000

%REC 98.4

120

0.0049 0.00020

%RPD

Qualifiers:

Value exceeds Maximum Contaminant Level.

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

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1712475

31-Jan-18

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID MB SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: R47664 RunNo: 47664

Prep Date: Analysis Date: 12/8/2017 SeqNo: 1523111 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 TestCode: EPA Method 300.0: Anions SampType: Ics Client ID: LCSW Batch ID: R47664 RunNo: 47664 Units: mg/L Prep Date: Analysis Date: 12/8/2017 SeqNo: 1523112 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.51 0.10 0.5000 0 103 90 110 Fluoride 96.5 Chloride 4.8 0.50 5.000 0 90 110 Nitrogen, Nitrite (As N) 0.99 0.10 1.000 0 99.2 90 110 Bromide 2.5 2.500 0 100 90 0.10 110 Nitrogen, Nitrate (As N) 2.6 0.10 2.500 0 102 90 110 5.000 102 90 Phosphorus, Orthophosphate (As P 5 1 0.50 110

Sample ID MB SampType: mblk TestCode: EPA Method 300.0: Anions Client ID: PBW Batch ID: R48034 RunNo: 48034 Prep Date: Analysis Date: 12/26/2017 SeqNo: 1539440 Units: mg/L SPK value SPK Ref Val %REC LowLimit **RPDLimit** Result HighLimit %RPD Qual Analyte PQL

Sulfate ND 0.50

Sample ID LCS SampType: Ics TestCode: EPA Method 300.0: Anions
Client ID: LCSW Batch ID: R48034 RunNo: 48034
Prep Date: Analysis Date: 12/26/2017 SeqNo: 1539441 Units: mg/L

SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Analyte Result PQL LowLimit 9.9 0.50 10.00 0 98.6 90 110 Sulfate

#### 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

PQL Practical Quanitative Limit

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 28 of 39

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

# Il Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc.

**GBR** Annual Sampling Project:

Client:

Sample ID 100ng Ics SampType: LCS TestCode: EPA Method 8260B: VOLATILES Client ID: LCSW Batch ID: R47782 RunNo: 47782 Prep Date: Analysis Date: 12/13/2017 SeqNo: 1527833 Units: µg/L %REC %RPD Analyte Result PQL SPK value SPK Ref Val LowLimit HighLimit **RPDLimit** Qual Benzene 21 1.0 20.00 0 105 70 20.00 0 101 70 Toluene 20 1.0 130 Chlorobenzene 21 1.0 20.00 0 104 70 130 70 1,1-Dichloroethene 22 1.0 20.00 0 110 130 Trichloroethene (TCE) 21 1.0 20.00 104 70 130 Surr: 1,2-Dichloroethane-d4 11 10.00 106 70 130 Surr: 4-Bromofluorobenzene 10 10.00 100 70 130 Surr: Dibromofluoromethane 10 10.00 104 70 130 Surr: Toluene-d8 9.8 10.00 98.3 70 130

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	n ID: R4	7782	F	RunNo: 4	7782				
Prep Date:	Analysis D	ate: 12	2/13/2017	5	SeqNo: 1	527834	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
ne	ND	1.0								
enzene	ND	1.0								
.yl 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 Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Value above quantitation range

Reporting Detection Limit

Analyte detected below quantitation limits

P Sample pH Not In Range

RL

Sample container temperature is out of limit as specified

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WO#:

1712475

31-Jan-18

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1712475

31-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID rb	SampTy	pe: MBLK	TestCode: EPA Method 8260B: VOLATILES					
Client ID: PBW	Batch	ID: <b>R47782</b>	RunNo:	47782				
Prep Date:		te: <b>12/13/2017</b>		1527834	Units: µg/L			
Analyte	Result	PQL SPK value	SPK Ref Val %RE	C 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						
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
- PQL Practical Quanitative Limit
- 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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# **Yall Environmental Analysis Laboratory, Inc.**

SampType: MBLK

Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Client:

Sample ID rb	SampType: MBLK TestCode: EPA Method 8260B: VOLATILES									
Client ID: PBW	Batch	ID: R4	7782	F	unNo: 4	7782				
Prep Date:	Analysis D	ate: 12	2/13/2017	S	eqNo: 1	527834	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	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.8	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.8		10.00		97.7	70	130			
Sample ID 100ng Ics	SampT	ype: LC	s	Tes	Code: E	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch	ID: R4	7832	R	unNo: 4	7832				
Prep Date:	Analysis D	ate: 12	2/15/2017	S	eqNo: 1	530010	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	<b>RPDLimit</b>	Qual	
Benzene	20	1.0	20.00	0	99.7	70	130				
Toluene	21	1.0	20.00	0	105	70	130				
Chlorobenzene	21	1.0	20.00	0	105	70	130				
1,1-Dichloroethene	21	1.0	20.00	0	107	70	130				
Trichloroethene (TCE)	20	1.0	20.00	0	97.9	70	130				
rr: 1,2-Dichloroethane-d4	10		10.00		102	70	130				
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130				
Surr: Dibromofluoromethane	10		10.00		100	70	130				
Surr: Toluene-d8	10		10.00		101	70	130				
											=

		J 1								
Client ID: PBW	Batch	ID: R4	7832	F	RunNo: 4	7832				
Prep Date:	Analysis D	ate: 12	2/15/2017	S	SeqNo: 1	530011	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								

### Qualifiers:

Sample ID rb

\* Value exceeds Maximum Contaminant Level.

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

→ Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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

Allaryte detected in the associated Method Blank

TestCode: EPA Method 8260B: VOLATILES

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WO#:

1712475

31-Jan-18

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1712475

31-Jan-18

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: <b>R4783</b>	2	F	RunNo: 4	7832					
Prep Date:	Analysis D	ate: 12/15	/2017	5	SeqNo: 1	530011	Units: µg/L				
Analyte	Result	PQL SF	K value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
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									
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									
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									

#### 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
- PQL Practical Quanitative Limit
- 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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## Il Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc.

The office of the state of the

Project: GBR Annual Sampling

Client:

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	n ID: R4	7832	F	RunNo: 4	7832				
Prep Date:	Analysis D	ate: 12	2/15/2017	5	SeqNo: 1	530011	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.9	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.8	70	130			
rr: Toluene-d8	9.9		10.00		98.7	70	130			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

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

... Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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#:

1712475

31-Jan-18

# Hall Environmental Analysis Laboratory, Inc.

WO#:

31-Jan-18

1712475

Client: Western Refining Southwest, Inc.

**GBR** Annual Sampling Project:

Sample ID Ics-35504	SampType: LCS TestCode: EPA Method 8270C: PAHs									
Client ID: LCSW	Batch	1D: 35	504	F	RunNo: 4	7841				
Prep Date: 12/14/2017	Analysis D	ate: 12	2/15/2017	S	SeqNo: 1	530512	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	14	0.50	20.00	0	68.8	28.6	113			
1-Methylnaphthalene	14	0.50	20.00	0	67.9	27	113			
2-Methylnaphthalene	13	0.50	20.00	0	66.3	26.3	112			
Acenaphthylene	13	0.50	20.00	0	65.6	36.2	114			
Acenaphthene	13	0.50	20.00	0	65.8	35.6	116			
Fluorene	14	0.50	20.00	0	67.7	38.4	116			
Phenanthrene	14	0.50	20.00	0	72.1	42.3	118			
Anthracene	14	0.50	20.00	0	69.7	42.2	117			
Fluoranthene	15	0.50	20.00	0	73.7	42.5	118			
Pyrene	14	0.50	20.00	0	67.5	40.8	121			
Benz(a)anthracene	14	0.50	20.00	0	71.5	43	118			
Chrysene	12	0.50	20.00	0	57.5	39.4	119			
Benzo(b)fluoranthene	15	0.50	20.00	0	73.1	47.8	115			
Benzo(k)fluoranthene	13	0.50	20.00	0	66.7	40.5	120			
Benzo(a)pyrene	14	0.50	20.00	0	68.6	41.5	115			
Dibenz(a,h)anthracene	14	0.50	20.00	0	70.4	48.6	115			
Benzo(g,h,i)perylene	14	0.50	20.00	0	68.6	42	119			
Indeno(1,2,3-cd)pyrene	14	0.50	20.00	0	68.2	42.9	118			
Surr: N-hexadecane	60		87.60		68.9	18.7	145			
Surr: Benzo(e)pyrene	14		20.00		70.1	28.2	137			

Sample ID mb-35504	SampType: MBLK TestCode: EPA Method 8270C: PAHs									
Client ID: PBW	Batch	ID: 35	504	F	RunNo: 4	7841				
Prep Date: 12/14/2017	Analysis D	ate: 12	2/15/2017	S	SeqNo: 1	530513	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								
Benzo(b)fluoranthene	ND	0.50								

### Qualifiers:

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

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

Value above quantitation range

J Analyte detected below quantitation limits

Page 34 of 39

P Sample pH Not In Range

Reporting Detection Limit RL

Sample container temperature is out of limit as specified

# Yall Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc.

Result

Project: GBR Annual Sampling

Client:

Analyte

SampType: MBLK Sample ID mb-35504 TestCode: EPA Method 8270C: PAHs

Client ID: **PBW** Batch ID: 35504 RunNo: 47841

Prep Date: 12/14/2017 Analysis Date: 12/15/2017 SeqNo: 1530513 Units: µg/L PQL SPK value SPK Ref Val %REC LowLimit

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				
Indeno(1,2,3-cd)pyrene	ND	0.50				
Surr: N-hexadecane	61		87.60	69.9	18.7	145
Surr: Benzo(e)pyrene	14		20.00	71.7	28.2	137

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

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

.) Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% 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

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 35 of 39

WO#:

**RPDLimit** 

HighLimit

%RPD

1712475

31-Jan-18

Qual

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1712475

31-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

GBR Annual Sampling

Sample ID Ics-1 ~20uS eC

SampType: LCS

TestCode: SM2510B: Specific Conductance

80

LowLimit

Client ID: LCSW Batch ID: R47724

RunNo: 47724

Prep Date:

Analysis Date: 12/11/2017

5.0

SeqNo: 1525679

Units: µmhos/cm

Analyte

Result PQL SPK value SPK Ref Val

Qual

Conductivity

22

19.96

110

%REC

120

HighLimit

**RPDLimit** 

Sample ID Ics-2 ~20uS eC

SampType: LCS

SeqNo: 1525702

TestCode: SM2510B: Specific Conductance

Client ID: LCSW

Batch ID: R47724

RunNo: 47724

0

Units: µmhos/cm

Analyte Conductivity

Prep Date:

PQL 25

Result

2700

Analysis Date: 12/11/2017 SPK value SPK Ref Val

19.96

%REC

125

HighLimit 80 120

%RPD **RPDLimit** 

0.697

%RPD

Qual S

Sample ID 1712475-001c dup

SampType: DUP

TestCode: SM2510B: Specific Conductance

Client ID: **GBR-51** 

Batch ID: R47724 Analysis Date: 12/12/2017

5.0

RunNo: 47724 SeqNo: 1525718

Units: µmhos/cm

Analyte

PQL

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit** 

Qual

Conductivity

Prep Date:

5.0

20

#### 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

Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

Sample container temperature is out of limit as specified

E Value above quantitation range

J Analyte detected below quantitation limits Page 36 of 39

P Sample pH Not In Range

RL Reporting Detection Limit

# **Yall Environmental Analysis Laboratory, Inc.**

WO#: 1712475

31-Jan-18

Client: Western Refining Southwest, Inc.

Project: **GBR** Annual Sampling

рН

Sample ID 1712475-001c dup SampType: DUP TestCode: SM4500-H+B: pH

Client ID: **GBR-51** Batch ID: R47724 RunNo: 47724

Prep Date: Analysis Date: 12/12/2017 SeqNo: 1525670 Units: pH units

Analyte PQL SPK value SPK Ref Val %REC LowLimit HighLimit **RPDLimit** Qual 7.66

Qualifiers:

Value exceeds Maximum Contaminant Level.

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

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% 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

Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 37 of 39

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1712475

31-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID mb-1 alk SampType: MBLK TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R47724 RunNo: 47724

Prep Date: Analysis Date: 12/11/2017 SeqNo: 1525726 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 Ics-1 alk SampType: LCS TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R47724 RunNo: 47724

Prep Date: Analysis Date: 12/11/2017 SeqNo: 1525727 Units: mg/L CaCO3

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Alkalinity (as CaCO3) 78.80 20.00 80.00 0 98.5 90 110

Sample ID mb-2 alk SampType: MBLK TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R47724 RunNo: 47724

Prep Date: Analysis Date: 12/11/2017 SeqNo: 1525750 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 Ics-2 alk SampType: LCS TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R47724 RunNo: 47724

Prep Date: Analysis Date: 12/11/2017 SeqNo: 1525751 Units: mg/L CaCO3

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Alkalinity (as CaCO3) 78.44 20.00 80.00 0 98.0 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

PQL Practical Quanitative Limit

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 38 of 39

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

# Il Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc.

Project: **GBR** Annual Sampling

Client:

Sample ID MB-35443 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: **PBW** Batch ID: 35443 RunNo: 47725

Prep Date: 12/11/2017 Analysis Date: 12/13/2017 SeqNo: 1525834 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Total Dissolved Solids ND 20.0

Sample ID LCS-35443 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 35443 RunNo: 47725

Prep Date: 12/11/2017 Analysis Date: 12/13/2017 SeqNo: 1525835 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual

Total Dissolved Solids 1010 20.0 1000 101 80 120

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

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

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

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

Page 39 of 39

WO#:

1712475

31-Jan-18



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.	1712475		RoptNo:	1
Received By:	Anne Thorne	12/8/2017 7:55:00 AM		aone Am	_	
Completed By:	Sophia Campuzano	12/8/2017 9:11:56 AM		section of the		
Reviewed By	AS 12/0	8/17				
Chain of Cus	stody					
1. Custody sea	als intact on sample bottles?		Yes	No	Not Present	
2. Is Chain of	Custody complete?		Yes 🗸	No	Not Present	
3. How was th	e sample delivered?		Courier			
Log In						
4. Was an att	empt made to cool the samples	?	Yes 🗸	No	NA .	
5. Were all sa	mples 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 sa	ample volume for indicated test	(s)?	Yes 🗸	No		
8. Are sample:	s (except VOA and ONG) prope	rly preserved?	Yes 🗸	No		
9. Was preser	vative added to bottles?		Yes	No 🗸	NA	
10.VOA vials h	ave zero headspace?		Yes 🗸	No	No VOA Viais	
11 Were any s	ample containers received brok	en?	Yes	No 🗸	# of preserved bottles checked	10
	work match bottle labels? pancies on chain of custody)		Yes 🗸	No	for pH: (62)	or >12 unless noted)
13. Are matrice:	s correctly identified on Chain o	f Custody?	Yes 🗸	No	Adjusted?	VIO
14, Is it clear wh	nat analyses were requested?		Yes 🗸	No		DDS
	ding times able to be met? customer for authorization.)		Yes 🗸	No	Checked by:	407
Special Hand	lling (if applicable)					
16. Was client r	notified of all discrepancies with	this order?	Yes 🗆	No 🗔	NA 🗸	
Perso	n Notified:	Date:				
By Wi	nom:	Via:	eMail	Phone Fax	In Person	
Regar	ding:	14.500				
Client	Instructions:					
17. Additional r	emarks:					
18. Cooler Info		Cantinuan   Cantinual   C	Cool Data	Cianad Du	I	
Cooler N	o Temp °C Condition S 1.0 Good Ye		Seal Date	Signed By	-	
1					1	

C	ha	of-Cu	stody Record	Turn-Around	Time:								(Special)		// -e- e-	-		- All 15-00	Q		
Client:	-		Refining	✓ Standard	□ Rush														NT.		y
		Robin		Project Name	9:							v.hal						8 40.0		1 2	
Mailing	Address	11986	county Rd. 4990	GBR.	Annual S	sampling		490	01 H			w.nai VE -						109			
	Earmin	2+00 /	צועבים אא	Project #:					1. 50						505-						
Phone :	#: 5	05-6	VM 8'7413 32-4166	WR 100	79						表		Service Married Co.	u Daybeldin said	Req						
			Disson@ andror.con	Project Mana	iger:			<u>ر</u> اد	ô					(†							
	Package:	,	☐ Level 4 (Full Validation)		Henoma	nn	\$ (8021)	TPH (Gas only)	DRO / MRO)			SIMS)		)O,,SC	PCB's			P			
Accred				Sampler: E	C+JA		TMB's	) H	H H		_	SO		0,1	382			Ched			
□ NEL	AP	□ Othe	er	On Ice:	12 Yes	□ No	=======================================	+	00	418.1)	504.1	8270		N.S.	/ 8(		F	8			Z
≭ EDD	(Type)			Sample Tem		0	BE	MTBE	(GF	4	d S	) or	tals	N.	ides	2	VO.	Atta			٤
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE	BTEX + MT	TPH 8015B (GRO	TPH (Method	EDB (Method	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	See A			Air Bubbles (Y or N)
2-7-17	11:59	GW	GBR-51	3 VA AA, 1500M	HCI, HNO3	- 001												X			
-	12:00	1	GBR-50	1		-002												X			
	13:40		GBR-49		¥	-003												y			
	1430		GBR-17	Brogn, 1 scampe	HCI, HNO,	-004												×			
	1522		GBR-48	1300mi, 1250mi 3444, 500mi 1250mi 1100mi	Hel HNbg Hases	- 005												X			
¥	1535	V	GBR-50	业	7	-006												×			
12/07			GBR-32			-667			A STATE OF THE PERSON NAMED IN COLUMN 1												
-																					
						Data Time															
Date: 2/7//7 Date:	Time: #136 Time: 724 7	Relinquish	n Cul	Received by:	Jar-	Date Time 12/7/11 / 43- Date Time 12/08/17 12/08/17		narks	91e	2.50	2 0							com emv.	Con	n	

### TABLE 1

### 2015 SAMPLING SCHEDULE FORMER GIANT BLOOMFIELD REFINERY WESTERN REFINING

Sample ID	ANNUALLY (Jan)	Notes.
System Influent	VOC	VOC
_System_Influent	GWC	method 8260
	VOC	
System Effluent	GWC	PAH
System Ettinent	METALS	method 8270
	PAH	
	VOC	GWC
- GRW-3	GWC	pH ·
	PAH	EC
	VOC	TDS
GRW-6	GWC	alkalinity
	PAH	hardness."
	VOC	anions
GBR-17	GWC	bromide
	PAH	chloride
	VOC	sulfate
- GBR-24D	GWC	fluoride
	PAH	nitrate/nitrite
	VOC	phosporus
	GWC	cations
	PAH	calcium
	VOC	iron
GBR-31	GWC	magnes:um
	PAH	manganese
	AOC.	potassium
GBR-32	GWC )	sodium
	METALS	
	VOC	Metals
GBR-48	GWC	barium '
	METALS	beryllium
	VOC	cadmium -
GBR-49	GWC	chromium
	METALS	copper-
	VOC	lead
GBR-50	GWC	niekel *
	METALS	silver
Consi	VOC	zinc
GBR-51	GWC	antimony ·
Conce	VOC	arsenic
GBR-52	GWC	selenium
	YOU	thallium '
SIIS-8	GWC	mercury





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

January 12, 2018

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

RE: GBR Annual Sampling OrderNo.: 1712534

### Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/9/2017 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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 qualifiers 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 Freeman

Laboratory Manager

andyl

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: www.hallenvironmental.com

**Case Narrative** 

WO#: 1712534 Date: 1/12/2018

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Analytical Notes Regarding the TDS result for sample SHS-8:

During the final of the report it was noticed that the reported TDS value did not agree with the anion and eC data for this sample. TDS was reanalzyed, past the holding time, and reported. The reanalzyed TDS value matches up very well with the reported anion and eC data.

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/12/2018

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-31

Project: GBR Annual Sampling Collection Date: 12/8/2017 11:20:00 AM Lab ID: 1712534-001 Matrix: AQUEOUS Received Date: 12/9/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst:	pmf
Hardness (As CaCO3)	1200	6.6		mg/L	1	1/2/2018	R48123
EPA METHOD 300.0: ANIONS						Analyst:	MRA
Fluoride	0.34	0.10		mg/L	1	12/15/2017 5:12:06 AM	
Chloride	93	10		mg/L	20	12/15/2017 5:24:30 AM	
Bromide	0.41	0.10		mg/L	1	12/15/2017 5:12:06 AM	A47810
Phosphorus, Orthophosphate (As P)	ND	10	Н	mg/L	20	12/15/2017 5:24:30 AM	A47810
Sulfate	1700	25	*	mg/L	50	12/27/2017 8:01:19 PM	R48068
Nitrate+Nitrite as N	3.4	1.0		mg/L	5	12/15/2017 6:51:22 AM	A47810
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	3400	5.0		μmhos/cm	1	12/13/2017 3:48:05 PM	R47803
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	239.1	20.00		mg/L CaCO3	1	12/13/2017 3:48:05 PM	R47803
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/13/2017 3:48:05 PM	R47803
Total Alkalinity (as CaCO3)	239.1	20.00		mg/L CaCO3	1	12/13/2017 3:48:05 PM	R47803
SM2540C MOD: TOTAL DISSOLVED SC	DLIDS					Analyst:	SRM
Total Dissolved Solids	2940	100	*D	mg/L	1	12/15/2017 1:58:00 PM	35453
SM4500-H+B: PH						Analyst:	JRR
рН	7.34		Н	pH units	1	12/13/2017 3:48:05 PM	R47803
EPA METHOD 200.7: METALS						Analyst:	pmf
Calcium	430	5.0		mg/L	5	1/2/2018 4:37:28 PM	35732
Iron	21	1.0	*	mg/L	50	1/2/2018 4:39:15 PM	35732
Magnesium	40	1.0		mg/L	1	12/29/2017 6:49:04 PM	35732
Manganese	4.2	0.010	*	mg/L	5	1/2/2018 4:37:28 PM	35732
Potassium	6.0	1.0		mg/L	1	12/29/2017 6:49:04 PM	35732
Sodium	430	5.0		mg/L	5	1/2/2018 4:37:28 PM	35732
EPA METHOD 8270C: PAHS						Analyst:	DAM
Naphthalene	ND	0.50		μg/L	1	12/15/2017 10:13:51 PM	35504
1-Methylnaphthalene	ND	0.50		μg/L	1	12/15/2017 10:13:51 PM	1 35504
2-Methylnaphthalene	ND	0.50		μg/L	1	12/15/2017 10:13:51 PM	35504
Acenaphthylene	ND	0.50		μg/L	1	12/15/2017 10:13:51 PM	1 35504
Acenaphthene	ND	0.50		μg/L	1	12/15/2017 10:13:51 PM	35504
Fluorene	ND	0.50		μg/L	1	12/15/2017 10:13:51 PM	35504
Phenanthrene	ND	0.50		μg/L	1	12/15/2017 10:13:51 PM	
Anthracene	ND	0.50		μg/L	1	12/15/2017 10:13:51 PM	35504
Fluoranthene	ND	0.50		μg/L	1	12/15/2017 10:13:51 PM	35504
Pyrene	ND	0.50		μg/L	1	12/15/2017 10:13:51 PM	35504

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % 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 2 of 25
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

### Lab Order 1712534

Date Reported: 1/12/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-31

 Project:
 GBR Annual Sampling
 Collection Date: 12/8/2017 11:20:00 AM

 Lab ID:
 1712534-001
 Matrix: AQUEOUS
 Received Date: 12/9/2017 9:30:00 AM

Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: PAHS					Analy	st: DAM
Benz(a)anthracene	ND	0.50	μg/L	1	12/15/2017 10:13:51	PM 35504
Chrysene	ND	0.50	μg/L	1	12/15/2017 10:13:51	PM 35504
Benzo(b)fluoranthene	ND	0.50	μg/L	1	12/15/2017 10:13:51	PM 35504
Benzo(k)fluoranthene	ND	0.50	μg/L	1	12/15/2017 10:13:51	PM 35504
Benzo(a)pyrene	ND	0.50	μg/L	1	12/15/2017 10:13:51	PM 35504
Dibenz(a,h)anthracene	ND	0.50	μg/L	1	12/15/2017 10:13:51	PM 35504
Benzo(g,h,i)perylene	ND	0.50	μg/L	1	12/15/2017 10:13:51	PM 35504
Indeno(1,2,3-cd)pyrene	ND	0.50	μg/L	1	12/15/2017 10:13:51	PM 35504
Surr: N-hexadecane	80.4	18.7-145	%Rec	1	12/15/2017 10:13:51	PM 35504
Surr: Benzo(e)pyrene	92.7	28.2-137	%Rec	1	12/15/2017 10:13:51	PM 35504
EPA METHOD 8260B: VOLATILES					Analy	st: RAA
Benzene	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R47782
Toluene	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R4778
Ethylbenzene	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R4778
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R47782
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R47782
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R4778
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R4778
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R4778
Naphthalene	ND	2.0	μg/L	1	12/13/2017 10:19:00	PM R4778
1-Methylnaphthalene	ND	4.0	μg/L	1	12/13/2017 10:19:00	PM R4778
2-Methylnaphthalene	ND	4.0	μg/L	1	12/13/2017 10:19:00	PM R4778
Acetone	ND	10	µg/L	1	12/13/2017 10:19:00	PM R4778
Bromobenzene	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R4778
Bromodichloromethane	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R4778
Bromoform	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R4778
Bromomethane	ND	3.0	μg/L	1	12/13/2017 10:19:00	PM R4778
2-Butanone	ND	10	μg/L	1	12/13/2017 10:19:00	PM R4778
Carbon disulfide	ND	10	μg/L	1	12/13/2017 10:19:00	PM R47782
Carbon Tetrachloride	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R47782
Chlorobenzene	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R47782
Chloroethane	ND	2.0	μg/L	1	12/13/2017 10:19:00	PM R47782
Chloroform	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R47782
Chloromethane	ND	3.0	μg/L	1	12/13/2017 10:19:00	PM R47782
2-Chlorotoluene	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R4778
4-Chlorotoluene	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R4778
cis-1,2-DCE	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R47782
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	12/13/2017 10:19:00	PM R47782
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	12/13/2017 10:19:00	PM R47782

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

- \* Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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 25
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1712534

Client Sample ID: GBR-31

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling Collection Date: 12/8/2017 11:20:00 AM

Lab ID: 1712534-001 Matrix: AQUEOUS Received Date: 12/9/2017 9:30:00 AM

**Analyses** Result PQL Qual Units **DF** Date Analyzed Batch **EPA METHOD 8260B: VOLATILES** Analyst: RAA Dibromochloromethane ND 1.0 µg/L 12/13/2017 10:19:00 PM R47782 Dibromomethane ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 1,2-Dichlorobenzene ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 1,3-Dichlorobenzene ND 1.0 μg/L 1 12/13/2017 10:19:00 PM R47782 1.4-Dichlorobenzene ND 1.0 μg/L 1 12/13/2017 10:19:00 PM R47782 Dichlorodifluoromethane ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 1,1-Dichloroethane ND 1.0 1 12/13/2017 10:19:00 PM R47782 µg/L 1,1-Dichloroethene ND 1.0 μg/L 1 12/13/2017 10:19:00 PM R47782 1,2-Dichloropropane ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 1,3-Dichloropropane ND 10 1 12/13/2017 10:19:00 PM R47782 μg/L 2,2-Dichloropropane ND 2.0 µg/L 1 12/13/2017 10:19:00 PM R47782 1,1-Dichloropropene ND 1.0 1 12/13/2017 10:19:00 PM R47782 µg/L Hexachlorobutadiene ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 2-Hexanone ND 10 µg/L 1 12/13/2017 10:19:00 PM R47782 Isopropylbenzene ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 4-Isopropyltoluene ND 1.0 1 12/13/2017 10:19:00 PM R47782 µg/L 4-Methyl-2-pentanone ND 10 µg/L 1 12/13/2017 10:19:00 PM R47782 Methylene Chloride ND 3.0 µg/L 1 12/13/2017 10:19:00 PM R47782 n-Butylbenzene ND 3.0 µg/L 1 12/13/2017 10:19:00 PM R47782 n-Propylbenzene ND 1.0 1 12/13/2017 10:19:00 PM R47782 µg/L sec-Butylbenzene ND 1.0 12/13/2017 10:19:00 PM R47782 µg/L 1 Styrene ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 tert-Butylbenzene ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 1,1,1,2-Tetrachloroethane ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 1.1.2.2-Tetrachloroethane ND 2.0 µg/L 1 12/13/2017 10:19:00 PM R47782 Tetrachloroethene (PCE) ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 trans-1,2-DCE ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 trans-1,3-Dichloropropene ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 1,2,3-Trichlorobenzene ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 1,2,4-Trichlorobenzene ND 1.0 1 12/13/2017 10:19:00 PM R47782 µg/L 1,1,1-Trichloroethane ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 1,1,2-Trichloroethane ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 Trichloroethene (TCE) ND 1.0 1 12/13/2017 10:19:00 PM R47782 µg/L Trichlorofluoromethane ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 1,2,3-Trichloropropane ND 2.0 µg/L 1 12/13/2017 10:19:00 PM R47782 Vinyl chloride ND 1.0 µg/L 1 12/13/2017 10:19:00 PM R47782 Xylenes, Total ND 1.5 µg/L 1 12/13/2017 10:19:00 PM R47782 Surr: 1,2-Dichloroethane-d4 106 70-130 %Rec 1 12/13/2017 10:19:00 PM R47782

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

70-130

98 3

#### Qualifiers:

Surr: 4-Bromofluorobenzene

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

1

- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 25

12/13/2017 10:19:00 PM R47782

P Sample pH Not In Range

%Rec

- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order **1712534**Date Reported: **1/12/2018** 

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-31

 Project:
 GBR Annual Sampling
 Collection Date: 12/8/2017 11:20:00 AM

 Lab ID:
 1712534-001
 Matrix: AQUEOUS
 Received Date: 12/9/2017 9:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analy	st: RAA
Surr: Dibromofluoromethane	101	70-130	%Rec	1	12/13/2017 10:19:00	PM R47782
Surr: Toluene-d8	97.1	70-130	%Rec	1	12/13/2017 10:19:00	PM R47782

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: D Sample Diluted Due to Matrix E Value above quantitation range Analyte detected below quantitation limits Page 5 of 25 H Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit Sample pH Not In Range Reporting Detection Limit PQL Practical Quanitative Limit RL S % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified

### Lab Order 1712534

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SHS-8

 Project:
 GBR Annual Sampling
 Collection Date: 12/8/2017 12:30:00 PM

 Lab ID:
 1712534-002
 Matrix: AQUEOUS
 Received Date: 12/9/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst	pmf
Hardness (As CaCO3)	1000	6.6		mg/L	1	1/2/2018	R48123
EPA METHOD 300.0: ANIONS						Analyst	MRA
Fluoride	0.37	0.10		mg/L	1	12/15/2017 5:36:55 AM	A47810
Chloride	110	10		mg/L	20	12/15/2017 5:49:20 AM	A47810
Bromide	0.78	0.10		mg/L	1	12/15/2017 5:36:55 AM	A47810
Phosphorus, Orthophosphate (As P)	ND	10	Н	mg/L	20	12/15/2017 5:49:20 AM	A47810
Sulfate	1200	25	*	mg/L	50	12/27/2017 8:13:43 PM	R48068
Nitrate+Nitrite as N	ND	1.0		mg/L	5	12/15/2017 7:03:47 AM	A47810
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	3500	5.0		µmhos/cm	1	12/13/2017 4:01:18 PM	R47803
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	751.8	20.00		mg/L CaCO3	1	12/13/2017 4:01:18 PM	R47803
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/13/2017 4:01:18 PM	
Total Alkalinity (as CaCO3)	751.8	20.00		mg/L CaCO3	1	12/13/2017 4:01:18 PM	R47803
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst	KS
Total Dissolved Solids	2730	100	*HD,	mg/L	1	1/11/2018 4:51:00 PM	35970
SM4500-H+B: PH						Analyst	JRR
pH	7.22		Н	pH units	1	12/13/2017 4:01:18 PM	R47803
EPA METHOD 200.7: METALS						Analyst	pmf
Calcium	320	10		mg/L	10	1/2/2018 4:41:07 PM	35732
Iron	10	0.40	*	mg/L	20	1/3/2018 9:39:35 PM	35732
Magnesium	49	1.0		mg/L	1	12/29/2017 6:51:28 PM	35732
Manganese	3.6	0.020	*	mg/L	10	1/2/2018 4:41:07 PM	35732
Potassium	2.1	1.0		mg/L	1	12/29/2017 6:51:28 PM	35732
Sodium	520	10		mg/L	10	1/2/2018 4:41:07 PM	35732
EPA METHOD 8260B: VOLATILES						Analyst	RAA
Benzene	ND	1.0		μg/L	1	12/13/2017 10:42:00 PM	√ R47782
Toluene	ND	1.0		μg/L	1	12/13/2017 10:42:00 PM	M R47782
Ethylbenzene	ND	1.0		μg/L	1	12/13/2017 10:42:00 PM	√ R47782
Methyl tert-butyl ether (MTBE)	ND	1.0		μg/L	1	12/13/2017 10:42:00 PM	√ R47782
1,2,4-Trimethylbenzene	ND	1.0		μg/L	1	12/13/2017 10:42:00 PM	/I R47782
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/13/2017 10:42:00 PM	Л R47782
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	12/13/2017 10:42:00 PM	
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	12/13/2017 10:42:00 PM	
Naphthalene	ND	2.0		μg/L	1	12/13/2017 10:42:00 PM	
1-Methylnaphthalene	ND	4.0		μg/L	1	12/13/2017 10:42:00 PN	/I R47782

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

- 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
- PQL Practical Quanitative Limit
- 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 25
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Lab Order 1712534

Date Reported: 1/12/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

**Lab ID:** 1712534-002

Client Sample ID: SHS-8

Collection Date: 12/8/2017 12:30:00 PM

Matrix: AQUEOUS Received Date: 12/9/2017 9:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analy	/st: RAA
2-Methylnaphthalene	ND	4.0	µg/L	1	12/13/2017 10:42:00	PM R47782
Acetone	ND	10	µg/L	1	12/13/2017 10:42:00	PM R47782
Bromobenzene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
Bromodichloromethane	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
Bromoform	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
Bromomethane	ND	3.0	μg/L	1	12/13/2017 10:42:00	PM R47782
2-Butanone	ND	10	μg/L	1	12/13/2017 10:42:00	PM R47782
Carbon disulfide	ND	10	μg/L	1	12/13/2017 10:42:00	PM R47782
Carbon Tetrachloride	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
Chlorobenzene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
Chloroethane	ND	2.0	μg/L	1	12/13/2017 10:42:00	PM R47782
Chloroform	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
Chloromethane	ND	3.0	μg/L	1	12/13/2017 10:42:00	PM R47782
2-Chlorotoluene	ND	1.0	µg/L	1	12/13/2017 10:42:00	PM R47782
4-Chlorotoluene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
cis-1,2-DCE	ND	1.0	µg/L	1	12/13/2017 10:42:00	PM R47782
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	12/13/2017 10:42:00	PM R47782
Dibromochloromethane	ND	1.0	µg/L	1	12/13/2017 10:42:00	PM R47782
Dibromomethane	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
1,2-Dichlorobenzene	ND	1.0	µg/L	1	12/13/2017 10:42:00	PM R47782
1,3-Dichlorobenzene	ND	1.0	µg/L	1	12/13/2017 10:42:00	PM R47782
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
Dichlorodifluoromethane	ND	1.0	µg/L	1	12/13/2017 10:42:00	PM R47782
1,1-Dichloroethane	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
1,1-Dichloroethene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
1,2-Dichloropropane	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
1,3-Dichloropropane	ND	1.0	µg/L	1	12/13/2017 10:42:00	PM R47782
2,2-Dichloropropane	ND	2.0	μg/L	1	12/13/2017 10:42:00	PM R47782
1,1-Dichloropropene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
Hexachlorobutadiene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
2-Hexanone	ND	10	μg/L	1	12/13/2017 10:42:00	PM R47782
Isopropylbenzene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
4-Isopropyltoluene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
4-Methyl-2-pentanone	ND	10	µg/L	1	12/13/2017 10:42:00	PM R47782
Methylene Chloride	ND	3.0	μg/L	1	12/13/2017 10:42:00	PM R47782
n-Butylbenzene	ND	3.0	μg/L	1	12/13/2017 10:42:00	PM R47782
n-Propylbenzene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782
sec-Butylbenzene	ND	1.0	μg/L	1	12/13/2017 10:42:00	PM R47782

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

- \* 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
- PQL Practical Quanitative Limit
- 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 25
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1712534

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SHS-8

**Project:** GBR Annual Sampling

**Collection Date:** 12/8/2017 12:30:00 PM

Lab ID: 1712534-002

Matrix: AQUEOUS Received Date: 12/9/2017 9:30:00 AM

Analyses	Result	PQL Qu	al Units	DF Date Analyzed Batch
EPA METHOD 8260B: VOLATILES				Analyst: RAA
Styrene	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
tert-Butylbenzene	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1 12/13/2017 10:42:00 PM R47782
Tetrachloroethene (PCE)	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
trans-1,2-DCE	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
trans-1,3-Dichloropropene	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
1,1,1-Trichloroethane	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
1,1,2-Trichloroethane	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
Trichloroethene (TCE)	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
Trichlorofluoromethane	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
1,2,3-Trichloropropane	ND	2.0	μg/L	1 12/13/2017 10:42:00 PM R47782
Vinyl chloride	ND	1.0	μg/L	1 12/13/2017 10:42:00 PM R47782
Xylenes, Total	ND	1.5	μg/L	1 12/13/2017 10:42:00 PM R47782
Surr: 1,2-Dichloroethane-d4	102	70-130	%Rec	1 12/13/2017 10:42:00 PM R47782
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1 12/13/2017 10:42:00 PM R47782
Surr: Dibromofluoromethane	101	70-130	%Rec	1 12/13/2017 10:42:00 PM R47782
Surr: Toluene-d8	97.6	70-130	%Rec	1 12/13/2017 10:42:00 PM R47782

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

- 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
- PQL Practical Quanitative Limit
  - 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 25
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1712534

Date Reported: 1/12/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

GBR Annual Sampling Project:

Lab ID: 1712534-003 Client Sample ID: GRW-3

Collection Date: 12/8/2017 3:30:00 PM

Received Date: 12/9/2017 9:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst	pmf
Hardness (As CaCO3)	1100	6.6		mg/L	1	1/2/2018	R48123
EPA METHOD 300.0: ANIONS						Analyst	MRA
Fluoride	ND	0.10		mg/L	1	12/15/2017 6:26:33 AM	
Chloride	74	10		mg/L	20	12/15/2017 6:38:57 AM	
Bromide	0.38	0.10		mg/L	1	12/15/2017 6:26:33 AM	
Phosphorus, Orthophosphate (As P)	ND	10	Н	mg/L	20	12/15/2017 6:38:57 AM	A47810
Sulfate	1400	25	*	mg/L	50	12/27/2017 8:26:07 PM	R48068
Nitrate+Nitrite as N	ND	1.0		mg/L	5	12/15/2017 7:16:11 AM	A47810
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	3600	5.0		µmhos/cm	1	12/13/2017 4:30:25 PM	R47803
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	761.1	20.00		mg/L CaCO3	1	12/13/2017 4:30:25 PM	R47803
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/13/2017 4:30:25 PM	
Total Alkalinity (as CaCO3)	761.1	20.00		mg/L CaCO3	1	12/13/2017 4:30:25 PM	R47803
SM2540C MOD: TOTAL DISSOLVED SO	DLIDS					Analyst	SRM
Total Dissolved Solids	2920	100	*D	mg/L	1	12/15/2017 1:58:00 PM	35453
SM4500-H+B: PH						Analyst	JRR
рН	7.32		Н	pH units	1	12/13/2017 4:30:25 PM	R47803
EPA METHOD 200.7: METALS						Analyst	pmf
Calcium	320	5.0		mg/L	5	1/2/2018 4:43:04 PM	35732
Iron	54	2.0	*	mg/L	100	1/3/2018 9:50:41 PM	35732
Magnesium	62	1.0		mg/L	1	12/29/2017 6:53:19 PM	35732
Manganese	1.9	0.010	*	mg/L	5	1/2/2018 4:43:04 PM	35732
Potassium	1.3	1.0		mg/L	1	12/29/2017 6:53:19 PM	35732
Sodium	520	10		mg/L	10	1/2/2018 4:44:53 PM	35732
EPA METHOD 8270C: PAHS						Analyst	DAM
Naphthalene	0.96	0.50		μg/L	1	12/15/2017 10:38:01 PM	Л 35504
1-Methylnaphthalene	ND	0.50		µg/L	1	12/15/2017 10:38:01 PM	A 35504
2-Methylnaphthalene	ND	0.50		µg/L	1	12/15/2017 10:38:01 PM	A 35504
Acenaphthylene	ND	0.50		μg/L	1	12/15/2017 10:38:01 PM	A 35504
Acenaphthene	0.82	0.50		μg/L	1	12/15/2017 10:38:01 PM	A 35504
Fluorene	3.9	0.50		μg/L	1	12/15/2017 10:38:01 PM	A 35504
Phenanthrene	ND	0.50		μg/L	1	12/15/2017 10:38:01 PM	A 35504
Anthracene	ND	0.50		μg/L	1	12/15/2017 10:38:01 PM	A 35504
Fluoranthene	ND	0.50		μg/L	1	12/15/2017 10:38:01 PM	A 35504
Pyrene	ND	0.50		μg/L	1	12/15/2017 10:38:01 PM	A 35504

Matrix: AQUEOUS

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 9 of 25
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

### Lab Order 1712534

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GRW-3

Project: GBR Annual Sampling

Collection Date: 12/8/2017 3:30:00 PM

Lab ID: 1712534-003 Matrix: AQUEOUS Received Date: 12/9/2017 9:30:00 AM

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: PAHS					Anal	yst: <b>DAM</b>
Benz(a)anthracene	ND	0.50	μg/L	1	12/15/2017 10:38:07	I PM 35504
Chrysene	ND	0.50	μg/L	1	12/15/2017 10:38:01	I PM 35504
Benzo(b)fluoranthene	ND	0.50	μg/L	1	12/15/2017 10:38:01	I PM 35504
Benzo(k)fluoranthene	ND	0.50	μg/L	1	12/15/2017 10:38:01	I PM 35504
Benzo(a)pyrene	ND	0.50	μg/L	1	12/15/2017 10:38:01	I PM 35504
Dibenz(a,h)anthracene	ND	0.50	μg/L	1	12/15/2017 10:38:01	I PM 35504
Benzo(g,h,i)perylene	ND	0.50	μg/L	1	12/15/2017 10:38:01	PM 35504
Indeno(1,2,3-cd)pyrene	ND	0.50	μg/L	1	12/15/2017 10:38:01	I PM 35504
Surr: N-hexadecane	48.4	18.7-145	%Rec	1	12/15/2017 10:38:01	PM 35504
Surr: Benzo(e)pyrene	52.7	28.2-137	%Rec	1	12/15/2017 10:38:01	PM 35504
EPA METHOD 8260B: VOLATILES					Anal	yst: RAA
Benzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Toluene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Ethylbenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Naphthalene	ND	2.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1-Methylnaphthalene	ND	4.0	μg/L	1	12/13/2017 11:06:00	PM R47782
2-Methylnaphthalene	ND	4.0	µg/L	1	12/13/2017 11:06:00	PM R47782
Acetone	ND	10	μg/L	1	12/13/2017 11:06:00	PM R47782
Bromobenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Bromodichloromethane	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Bromoform	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Bromomethane	ND	3.0	μg/L	1	12/13/2017 11:06:00	PM R47782
2-Butanone	ND	10	μg/L	1	12/13/2017 11:06:00	PM R47782
Carbon disulfide	ND	10	μg/L	1	12/13/2017 11:06:00	PM R47782
Carbon Tetrachloride	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Chlorobenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Chloroethane	ND	2.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Chloroform	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Chloromethane	ND	3.0	μg/L	1	12/13/2017 11:06:00	PM R47782
2-Chlorotoluene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
4-Chlorotoluene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
cis-1,2-DCE	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	12/13/2017 11:06:00	PM R47782

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
  - % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 10 of 25 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### Lab Order 1712534

Date Reported: 1/12/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GRW-3

Project: GBR Annual Sampling Collection Date: 12/8/2017 3:30:00 PM
Lab ID: 1712534-003 Matrix: AQUEOUS Received Date: 12/9/2017 9:30:00 AM

Analyses	Result	PQL Qu	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analy	st: RAA
Dibromochloromethane	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Dibromomethane	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,2-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,3-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Dichlorodifluoromethane	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,1-Dichloroethane	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,1-Dichloroethene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,2-Dichloropropane	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,3-Dichloropropane	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
2,2-Dichloropropane	ND	2.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,1-Dichloropropene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Hexachlorobutadiene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
2-Hexanone	ND	10	µg/L	1	12/13/2017 11:06:00	PM R47782
Isopropylbenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
4-Isopropyltoluene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
4-Methyl-2-pentanone	ND	10	μg/L	1	12/13/2017 11:06:00	PM R47782
Methylene Chloride	ND	3.0	μg/L	1	12/13/2017 11:06:00	PM R47782
n-Butylbenzene	ND	3.0	μg/L	1	12/13/2017 11:06:00	PM R47782
n-Propylbenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
sec-Butylbenzene	1.5	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Styrene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
tert-Butylbenzene	3.4	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
trans-1,2-DCE	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,1,1-Trichloroethane	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,1,2-Trichloroethane	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Trichloroethene (TCE)	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Trichlorofluoromethane	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
1,2,3-Trichloropropane	ND	2.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Vinyl chloride	ND	1.0	μg/L	1	12/13/2017 11:06:00	PM R47782
Xylenes, Total	ND	1.5	µg/L	1	12/13/2017 11:06:00	PM R47782
Surr: 1,2-Dichloroethane-d4	106	70-130	%Rec	1	12/13/2017 11:06:00	PM R47782
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	12/13/2017 11:06:00	PM R47782

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

- 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
- PQL Practical Quanitative Limit
- 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 25
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1712534

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GRW-3

Project: GBR Annual Sampling

Collection Date: 12/8/2017 3:30:00 PM

**Lab ID:** 1712534-003

Matrix: AQUEOUS Received Date: 12/9/2017 9:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analy	st: RAA
Surr: Dibromofluoromethane	103	70-130	%Rec	1	12/13/2017 11:06:00	PM R47782
Surr: Toluene-d8	97.2	70-130	%Rec	1	12/13/2017 11:06:00	PM R47782

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 Value above quantitation range Analyte detected below quantitation limit Page 12 of 25 Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit P Sample pH Not In Range PQL Practical Quanitative Limit RL Reporting Detection Limit S % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/12/2018

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: Trip Blank

Project: GBR Annual Sampling Collection Date:

**Lab ID:** 1712534-004 **Matrix:** AQUEOUS **Received Date:** 12/9/2017 9:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analy	yst: RAA
Benzene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Toluene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Ethylbenzene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Naphthalene	ND	2.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1-Methylnaphthalene	ND	4.0	μg/L	1	12/13/2017 11:30:00	PM R47782
2-Methylnaphthalene	ND	4.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Acetone	ND	10	μg/L	1	12/13/2017 11:30:00	PM R47782
Bromobenzene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Bromodichloromethane	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Bromoform	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Bromomethane	ND	3.0	μg/L	1	12/13/2017 11:30:00	PM R47782
2-Butanone	ND	10	μg/L	1	12/13/2017 11:30:00	
Carbon disulfide	ND	10	μg/L	1	12/13/2017 11:30:00	PM R47782
Carbon Tetrachloride	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Chlorobenzene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Chloroethane	ND	2.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Chloroform	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Chloromethane	ND	3.0	μg/L	1	12/13/2017 11:30:00	PM R47782
2-Chlorotoluene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
4-Chlorotoluene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
cis-1,2-DCE	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Dibromochloromethane	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Dibromomethane	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,2-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,3-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
Dichlorodifluoromethane	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,1-Dichloroethane	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,1-Dichloroethene	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,2-Dichloropropane	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
1,3-Dichloropropane	ND	1.0	μg/L	1	12/13/2017 11:30:00	PM R47782
2,2-Dichloropropane	ND	2.0	μg/L	1	12/13/2017 11:30:00	PM R47782

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
- PQL Practical Quanitative Limit
- 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 25
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1712534

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: Trip Blank

Project: GBR Annual Sampling Collection Date:

Lab ID: 1712534-004 Matrix: AQUEOUS Received Date: 12/9/2017 9:30:00 AM

Analyses	Result	PQL Qu	al Units	DF Date Analyzed B	Batch
EPA METHOD 8260B: VOLATILES				Analyst: F	RAA
1,1-Dichloropropene	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
Hexachlorobutadiene	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
2-Hexanone	ND	10	μg/L	1 12/13/2017 11:30:00 PM F	247782
Isopropylbenzene	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
4-Isopropyltoluene	ND	1.0	µg/L	1 12/13/2017 11:30:00 PM F	247782
4-Methyl-2-pentanone	ND	10	μg/L	1 12/13/2017 11:30:00 PM F	247782
Methylene Chloride	ND	3.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
n-Butylbenzene	ND	3.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
n-Propylbenzene	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM F	₹47782
sec-Butylbenzene	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
Styrene	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
tert-Butylbenzene	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM F	₹47782
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
Tetrachloroethene (PCE)	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
trans-1,2-DCE	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
trans-1,3-Dichloropropene	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM F	247782
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM R	₹47782
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM R	₹47782
1,1,1-Trichloroethane	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM R	347782
1,1,2-Trichloroethane	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM R	₹47782
Trichloroethene (TCE)	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM R	₹47782
Trichlorofluoromethane	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM R	₹47782
1,2,3-Trichloropropane	ND	2.0	μg/L	1 12/13/2017 11:30:00 PM R	₹47782
Vinyl chloride	ND	1.0	μg/L	1 12/13/2017 11:30:00 PM R	₹47782
Xylenes, Total	ND	1.5	μg/L	1 12/13/2017 11:30:00 PM R	₹47782
Surr: 1,2-Dichloroethane-d4	104	70-130	%Rec	1 12/13/2017 11:30:00 PM R	₹47782
Surr: 4-Bromofluorobenzene	98.3	70-130	%Rec	1 12/13/2017 11:30:00 PM R	₹47782
Surr: Dibromofluoromethane	102	70-130	%Rec	1 12/13/2017 11:30:00 PM R	₹47782
Surr: Toluene-d8	98.4	70-130	%Rec	1 12/13/2017 11:30:00 PM R	247782

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
- PQL Practical Quanitative Limit
  - 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 limit Page 14 of 25
- 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#:

1712534 12-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID MB-35732 Client ID: PBW	SampType: MBLK Batch ID: 35732				tCode: E		200.7: Metals			
Prep Date: 12/27/2017	Analysis	Date: 12	2/29/2017	S	SeqNo: 1	542638	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 LLLCS-35732	Samp	Type: LC	SLL	Tes	TestCode: EPA Method 200.7: Metals					
Client ID: BatchQC	Bato	h ID: 35	732	F	RunNo: 4	8109				
Prep Date: 12/27/2017	Analysis	Date: 12	2/29/2017	S	SeqNo: 1	542639	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			
Iron	0.020	0.020	0.02000	0	101	50	150			
Magnesium	ND	1.0	0.5000	0	103	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Potassium	ND	1.0	0.5000	0	99.4	50	150			
Sodium	ND	1.0	0.5000	0	97.4	50	150			

Sample ID LCS-35732	Samp	Type: LC	s	Tes	TestCode: EPA Method 200.7: Metals					
Client ID: LCSW	Batc	Batch ID: 35732			RunNo: 4	8109				
Prep Date: 12/27/2017	Analysis [	Date: 12	2/29/2017	8	SeqNo: 1	542640	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	98.5	85	115			
Iron	0.50	0.020	0.5000	0	99.1	85	115			
Magnesium	51	1.0	50.00	0	101	85	115			
Manganese	0.49	0.0020	0.5000	0	97.4	85	115			
Potassium	50	1.0	50.00	0	99.4	85	115			
Sodium	50	1.0	50.00	0	100	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

PQL Practical Quanitative Limit

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 25

## all Environmental Analysis Laboratory, Inc.

WO#: 1712534

12-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID MB	SampT	SampType: mblk			TestCode: EPA Method 300.0: Anions					
Client ID: PBW	Batch ID: A47810			R	RunNo: 47810					
Prep Date:	Analysis D	ate: 12	2/15/2017	S	eqNo: 1	529397	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								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: Ics			Tes	TestCode: EPA Method 300.0: Anions					
Client ID: LCSW	Batch	ID: <b>A4</b>	7810	F	RunNo: 4	7810				
Prep Date:	Analysis D	ate: 12	2/15/2017	S	SeqNo: 1	529398	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	105	90	110			
Chloride	4.6	0.50	5.000	0	92.7	90	110			
Bromide	2.4	0.10	2.500	0	97.4	90	110			
Phosphorus, Orthophosphate (As P	5.1	0.50	5.000	0	102	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	98.5	90	110			

nple ID MB	SampType	mblk	TestCoo	e: EPA Method				
ient ID: PBW	Batch ID:	R48068	RunN	o: <b>48068</b>				
Prep Date: Analysis Date: 12/27/2017			SeqN	o: <b>1540705</b>	Units: mg/L			
Analyte	Result P	QL SPK value	SPK Ref Val %F	REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND 0	.50						

Sample ID LCS	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Client ID: LCSW	Batch ID: R48068	RunNo: 48068		
Prep Date:	Analysis Date: 12/27/2017	SeqNo: 1540706	Units: mg/L	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Sulfate	10 0.50 10.00	0 99.8 90	110	

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

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

.D Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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.

SampType: MBLK

WO#: 1712534 12-Jan-18

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID 100ng Ics	SampT	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID: LCSW	Batch	ID: R4	7782	F	RunNo: 4	7782				
Prep Date:	Date: Analysis Date: 12/13/2017			S	SeqNo: <b>1527833</b> Units: μg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	110	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

TestCode: EPA Method 8260B: VOLATILES

Client ID: PBW	Batch	ID: R4	7782	F	RunNo: 4	7782				
Prep Date:	Analysis Da	ate: 12	2/13/2017	S	SeqNo: 1	527834	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								

#### Qualifiers:

2-Chlorotoluene

Sample ID rb

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND

1.0

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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 17 of 25

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

## Yall Environmental Analysis Laboratory, Inc.

WO#: 1712534

12-Jan-18

Client: Wes

Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID rb	SampT	/pe: <b>ME</b>	BLK	Tes	TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch	ID: R4	7782	F	tunNo: 4	7782					
Prep Date:	Analysis Da	ate: 12	/13/2017	S	eqNo: 1	527834	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									
rchlorobutadiene	ND	1.0									
anone	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 Holding times for preparation or analysis exceeded
- ... Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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#: 1712534 12-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

**GBR** Annual Sampling

Sample ID rb	SampT	ype: ME	BLK	Tes	TestCode: EPA Method 8260B: VOLATILES					
Client ID: PBW	Batch	ID: R4	7782	F	RunNo: 4	7782				
Prep Date:	Analysis D	ate: 12	2/13/2017	S	SeqNo: 1	527834	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	11		10.00		109	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.8	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.8		10.00		97.7	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

PQL Practical Quanitative Limit

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 19 of 25

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

## all Environmental Analysis Laboratory, Inc.

WO#: 1712534

12-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

GBR Annual Sampling

Sample ID Ics-35504	SampType: LCS TestCode: EPA Method 8270C: PAHs									
Client ID: LCSW	Batch	n ID: 35	504	F	RunNo: 4	7841				
Prep Date: 12/14/2017	Analysis D	ate: 12	2/15/2017	S	SeqNo: 1	530512	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	14	0.50	20.00	0	68.8	28.6	113			
1-Methylnaphthalene	14	0.50	20.00	0	67.9	27	113			
2-Methylnaphthalene	13	0.50	20.00	0	66.3	26.3	112			
Acenaphthylene	13	0.50	20.00	0	65.6	36.2	114			
Acenaphthene	13	0.50	20.00	0	65.8	35.6	116			
Fluorene	14	0.50	20.00	0	67.7	38.4	116			
Phenanthrene	14	0.50	20.00	0	72.1	42.3	118			
Anthracene	14	0.50	20.00	0	69.7	42.2	117			
Fluoranthene	15	0.50	20.00	0	73.7	42.5	118			
Pyrene	14	0.50	20.00	0	67.5	40.8	121			
Benz(a)anthracene	14	0.50	20.00	0	71.5	43	118			
Chrysene	12	0.50	20.00	0	57.5	39.4	119			
Benzo(b)fluoranthene	15	0.50	20.00	0	73.1	47.8	115			
Benzo(k)fluoranthene	13	0.50	20.00	0	66.7	40.5	120			
Benzo(a)pyrene	14	0.50	20.00	0	68.6	41.5	115			
Dibenz(a,h)anthracene	14	0.50	20.00	0	70.4	48.6	115			
o(g,h,i)perylene	14	0.50	20.00	0	68.6	42	119			
o(1,2,3-cd)pyrene	14	0.50	20.00	0	68.2	42.9	118			
Surr: N-hexadecane	60		87.60		68.9	18.7	145			
Surr: Benzo(e)pyrene	14		20.00		70.1	28.2	137			

Sample ID mb-35504	SampTy	ype: ME	BLK	Test	Code: E	PA Method	8270C: PAHs			
Client ID: PBW	Batch	ID: 35	504	R	unNo: 4	7841				
Prep Date: 12/14/2017	Analysis Da	ate: 12	2/15/2017	S	eqNo: 1	530513	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								
Benzo(b)fluoranthene	ND	0.50								

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

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

.D Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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 20 of 25

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712534

12-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID mb-35504 Client ID: PBW	SampType: MBLK  Batch ID: 35504				PA Method 7841					
Prep Date: 12/14/2017	Analysis D	ate: 12	2/15/2017	S	SeqNo: 1	530513	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	61		87.60		69.9	18.7	145			
Surr: Benzo(e)pyrene	14		20.00		71.7	28.2	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

PQL Practical Quanitative Limit

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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## Ill Environmental Analysis Laboratory, Inc.

WO#: 1712534

12-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

**GBR** Annual Sampling

Sample ID Ics-1 ~20uS eC

SampType: LCS

TestCode: SM2510B: Specific Conductance

LowLimit

Client ID: LCSW Batch ID: R47803

RunNo: 47803

Analysis Date: 12/13/2017

Units: umhos/cm

120

HighLimit

Prep Date:

SegNo: 1528860

Analyte

Result PQL SPK value SPK Ref Val 5.0

Qual

**RPDLimit** 

Conductivity

Sample ID 1712534-003b dup

SampType: DUP

%REC

TestCode: SM2510B: Specific Conductance

Client ID: GRW-3

Batch ID: R47803

RunNo: 47803

Prep Date:

Analysis Date: 12/13/2017

SeqNo: 1528874

Units: µmhos/cm

%RPD

%RPD

**RPDLimit** 

Qual

Analyte Conductivity

3500

Result

5.0

PQL

SPK value SPK Ref Val

%REC

LowLimit HighLimit

1.04

20

## Qualifiers:

Value exceeds Maximum Contaminant Level.

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

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank В

Sample container temperature is out of limit as specified

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

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## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712534

12-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

Prep Date:

Analyte

**GBR** Annual Sampling

Sample ID 1712534-003b dup

SampType: DUP

Analysis Date: 12/13/2017

TestCode: SM4500-H+B: pH

Client ID: GRW-3

Batch ID: R47803

RunNo: 47803

SPK value SPK Ref Val %REC LowLimit

SeqNo: **1528931** 

Units: pH units

HighLimit

%RPD RPDLi

RPDLimit Qual

рН

7.33

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

PQL Practical Quanitative Limit

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 23 of 25

## all Environmental Analysis Laboratory, Inc.

WO#:

1712534

12-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

GBR Annual Sampling

Sample	ID	mb-1	alk
--------	----	------	-----

SampType: MBLK

TestCode: SM2320B: Alkalinity

Client ID: **PBW** 

Batch ID: R47803

RunNo: 47803

SeqNo: 1528814

Units: mg/L CaCO3

Prep Date:

Analysis Date: 12/13/2017

Analyte

PQL Result ND 20.00

%REC LowLimit SPK value SPK Ref Val

HighLimit %RPD

Qual

Total Alkalinity (as CaCO3)

SampType: LCS

TestCode: SM2320B: Alkalinity

Sample ID Ics-1 alk Client ID: LCSW

Batch ID: R47803

RunNo: 47803

Prep Date:

Analysis Date: 12/13/2017

Units: mg/L CaCO3

SeqNo: 1528815

Analyte

PQL

SPK value SPK Ref Val

%REC LowLimit

HighLimit

**RPDLimit** 

**RPDLimit** 

Total Alkalinity (as CaCO3)

Result 78.32

20.00 80.00

979

90

%RPD

Qual

Analysis Date: 12/13/2017

TestCode: SM2320B: Alkalinity

110

Prep Date:

Client ID: PBW

Sample ID mb-2 alk SampType: MBLK

Batch ID: R47803

RunNo: 47803

Units: mg/L CaCO3

Analyte

ND 20.00

SPK value SPK Ref Val %REC LowLimit

%RPD **RPDLimit**  Qual

Total Alkalinity (as CaCO3)

Sample ID Ics-2 alk

LCSW

SampType: LCS

TestCode: SM2320B: Alkalinity

RunNo: 47803

SeqNo: 1528838

HighLimit

HighLimit

nt ID: .ep Date:

Batch ID: R47803 Analysis Date: 12/13/2017

SeqNo: 1528839

Units: mg/L CaCO3

PQL SPK value SPK Ref Val

0

%RPD

Page 24 of 25

**RPDLimit** 

Qual

Analyte Total Alkalinity (as CaCO3)

78.56

Result

20.00

80.00

%REC 98.2

LowLimit

90 110

### **Oualifiers:**

..)

Value exceeds Maximum Contaminant Level

Sample Diluted Due to Matrix

PQL Practical Quanitative Limit

Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

Not Detected at the Reporting Limit

Analyte detected in the associated Method Blank

Value above quantitation range E

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1712534

12-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

GBR Annual Sampling

Sample ID MB-35453 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 35453 RunNo: 47834

Prep Date: 12/12/2017 Analysis Date: 12/15/2017 SeqNo: 1530070 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids ND 20.0

Sample ID LCS-35453 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 35453 RunNo: 47834

Prep Date: 12/12/2017 Analysis Date: 12/15/2017 SeqNo: 1530071 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids 1020 20.0 1000 0 102 80 120

Sample ID MB-35970 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 35970 RunNo: 48377

Prep Date: 1/10/2018 Analysis Date: 1/11/2018 SeqNo: 1554523 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids ND 20.0

Sample ID LCS-35970 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 35970 RunNo: 48377

Prep Date: 1/10/2018 Analysis Date: 1/11/2018 SeqNo: 1554524 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

PQL Practical Quanitative Limit

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 25 of 25

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



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 Numbe	r: 1712534		RcptNo:	1
Received By:	Sophia Campuzano	12/9/2017 9:30:00 AM	И	Explor Proper-	-	
Completed By:	Ashley Gallegos	12/11/2017 9:24:46 A	M	AZ		
Reviewed By:	PDS	12/11/17		d		
Chain of Cus	tody					
1, Custody sea	ils intact on sample bottles?		Yes 🗌	No 🗆	Not Present 🗹	
2. Is Chain of C	Custody complete?		Yes 🗸	No 🗌	Not Present	
3. How was the	e sample delivered?		Courier			
Log In						
4. Was an atte	empt made to cool the samples	?	Yes 🗸	No 🗌	NA 🗌	
5. Were all sar	mples received at a temperatu	re of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗆	
6. Sample(s) in	n proper container(s)?		Yes 🔽	No 🗌		
7, Sufficient sa	mple volume for indicated test	(s)?	Yes 🗸	No 🗌		
<ol><li>Are samples</li></ol>	(except VOA and ONG) prop	erly preserved?	Yes 🗹	No 🗌		
<ol><li>Was preserv</li></ol>	vative added to bottles?		Yes	No 🗹	NA 🗆	
10.VOA vials ha	ave zero headspace?		Yes 🗹	No 🗌	No VOA Vials	
11. Were any sa	ample containers received bro	ken?	Yes	No 🗹	# of preserved	
	work match bottle labels?		Yes 🔽	No 🗆	bottles checked for pH:	( >12 unless noted)
	pancies on chain of custody) correctly identified on Chain (	of Custody?	Yes 🗹	No 🗆	Adjusted?	ND
	at analyses were requested?	n ouslody:	Yes 🗸	No 🗌		
15. Were all hok	ding times able to be met? customer for authorization.)		Yes 🗸	No 🗆	Checked by:	ONE
Special Hand	lling (if applicable)					
16, Was client n	otified of all discrepancies with	this order?	Yes	No 🗌	NA 🗸	
Person	1 Notified:	Date		***************************************		
By Wh	om:	Via:	eMail	Phone 🗌 Fax	n Person	
Regard	Principle de la Company de la Company		***			
Client	Instructions:					
17. Additional re	emarks					
18. Cooler Info Cooler No	1 1 1	Seal Intact   Seal No	Seal Date	Signed By		

C	hain.	-of-Cu	istody Record	Turn-Around				1	\$2.00 mm				_							
Client:	,	Celly,	Refining	Project Name	9:				EX.TO	A	N.	AL	YS	SIS		AE	30		TOR	
Mailing	Address	1110	24990	GB1	Ramual	Sampling		49	01 H									109		
			ton, Nun 8413	Project #:	LIDIM 4			Te	el. 50	5-34	5-39	975	F	ax :	505-	345-	410	7		
Phone :					- CORICO .						-	A	naly	ysis	Req	uest	-			
email o	r Fax#: 🌶	rely. rox	sinsone and evor . com	1	-		1	nly)	RO)					0,0	1/0					
QA/QC I	Package: dard		☐ Level 4 (Full Validation)		in lenci		TMB's (8021)	TPH (Gas only)	RO/M			SIMS)		.PO4,S	PCB			~		
Accredi	AP	□ Othe	er	On Ice:	THE RESIDENCE OF THE PARTY OF T	□ No	+ TMB	+	RO / D	18.1)	04.1)	8270		ON.EC	s / 8082		(A)	attacher		or N
□ EDD	(Type)	1		Sample Tem	perature: /,9-	+0.2(cf)=2.1	MTBE	MTBE	9 (6	od 4	po 2	0 or	etals	ž	cide	F	<u>-</u>	70		ځ
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + M	BTEX + M	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.	PAH's (8310	RCRA 8 Metals	Anions (F,CI,NO3.NO2.PO4,SO4)	8081 Pesticides /	8260B (VOA)	8270 (Semi-VOA)	See a		Air Bubbles (Y or N)
8-17	1120	6W	GBR-31	3 VOAS, 1500	IN HOS	-001												7		
1.	1230		SHS-8	310/11/00	HCLHESON	-602												X		
1	1530	1	6RW-3		1143	-003												X		
40 +a	047	12/11/17	TRIP BLAWK	2'VOAS	HCI	-004												×		
Date: -8-/7	Time: 1520	Relinguish	alus	Received by:	1211	Date Time  2/8/17  520	Ren	nark	S:											
Date: 2/8/17	Time:	Relinduish	ed by:	Received by:	Jaes	12/8/17 1607														
1	finer	samples sub	mitted to Hall Environmental may be subo	confracted to other a	ccredited laboratorie	s as notice of thi	s possi	bility.	Any su	ub-cont	racted	d data	will be	e clearl	y nota	tec on	the a	allytic		

#### TABLE 1

### 2015 SAMPLING SCHEDULE FORMER GIANT BLOOMFIELD REFINERY WESTERN REFINING

Sample 1D	ANNUALLY (Jan)	Notes
	VOC	VOC
System Influent	GWC	method 8260
	VOC	
C ECO	GWC	PAH
System Effluent	METALS	method 8270
	PAH	
	VOC	GWC
GRW-3	GWC	He
	PAH	EC
,	VOC	TDS
~_GRW-6	GWC	alkalinity
	PAH	hardness
	VOC	anions
GBR-17	GWC-	bromide
	PAH	chloride
6	VOC	sulfate
GBR-24D	GWC	fluoride
	PAH	nitrate/nitrite
	VOC	phosperus
GBR-30	GWC	cations
	PAH	calcium
1	VOC	iron
( GBR-31 )	GWC	magnesium
	PAH	manganese
	VOC	potassium
GBR-32	GWC	sodium
	METALS	
	VOC	Metals
GBR-48	GWC	barium
	METALS	beryllium
	VOC.	çadmium
GBR-49	GWC	chromium
	METALS	copper
	VOC	lead
GBR-50	GWC	nickel
	METALS	silver
GBR-51	VOC	zinc
GDK-31	GWC	antimony
GBR-52	VOC	arsenic
GDR-34	GWC	selenium
(SIIS-8)	VOC	thallium
(3113-0)	GWC	mercury





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

OrderNo.: 1712747

January 10, 2018

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

RE: GBR Annual Sampling

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/13/2017 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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 qualifiers 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 Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

### Hall Environmental Analysis Laboratory, Inc. Date Reported: 1/10/2018

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-30

**Project:** GBR Annual Sampling Collection Date: 12/12/2017 1:30:00 PM

Lab ID: 1712747-001 Matrix: AQUEOUS Received Date: 12/13/2017 7:00:00 AM

Analyses	Result	PQL (	Qual	Units	DF	Date Analyzed Batch
SM2340B: HARDNESS						Analyst: pmf
Hardness (As CaCO3)	1200	6.6		mg/L	1	1/2/2018 R4812
EPA METHOD 300.0: ANIONS						Analyst: MRA
Fluoride	0.86	0.10		mg/L	1	12/13/2017 3:07:18 PM R4778
Chloride	220	10		mg/L	20	12/13/2017 3:19:43 PM R4778
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/13/2017 3:07:18 PM R4778
Bromide	0.83	0.10		mg/L	1	12/13/2017 3:07:18 PM R4778
Nitrogen, Nitrate (As N)	5.1	0.10		mg/L	1	12/13/2017 3:07:18 PM R4778
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	12/13/2017 3:19:43 PM R4778
Sulfate	1300	25	*	mg/L	50	12/28/2017 12:59:09 AM A4806
SM2510B: SPECIFIC CONDUCTANCE						Analyst: JRR
Conductivity	3200	5.0		µmhos/cm	1	12/13/2017 10:12:21 PM R4780
SM2320B: ALKALINITY						Analyst: JRR
Bicarbonate (As CaCO3)	222.5	20.00		mg/L CaCO3	1	12/13/2017 10:12:21 PM R4780
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/13/2017 10:12:21 PM R4780
Total Alkalinity (as CaCO3)	222.5	20.00		mg/L CaCO3	1	12/13/2017 10:12:21 PM R4780
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst: SRM
Total Dissolved Solids	2770	40.0	*D	mg/L	1	12/21/2017 10:34:00 AM 35599
SM4500-H+B: PH						Analyst: JRR
рН	7.47		Н	pH units	1	12/13/2017 10:12:21 PM R4780
EPA METHOD 200.7: METALS						Analyst: pmf
Calcium	400	5.0		mg/L	5	1/2/2018 5:33:48 PM 35764
Iron	38	1.0	*	mg/L	50	1/3/2018 10:03:41 PM 35764
Magnesium	38	1.0		mg/L	1	12/29/2017 7:43:32 PM 35764
Manganese	1.4	0.010	*	mg/L	5	1/4/2018 9:04:58 PM 35764
Potassium	6.2	1.0		mg/L	1	12/29/2017 7:43:32 PM 35764
Sodium	380	5.0		mg/L	5	1/2/2018 5:33:48 PM 35764
EPA METHOD 8270C: PAHS						Analyst: DAM
Naphthalene	ND	0.50		μg/L	1	12/15/2017 11:02:11 PM 35504
1-Methylnaphthalene	ND	0.50		μg/L	1	12/15/2017 11:02:11 PM 35504
2-Methylnaphthalene	ND	0.50		μg/L	1	12/15/2017 11:02:11 PM 35504
Acenaphthylene	ND	0.50		μg/L	1	12/15/2017 11:02:11 PM 35504
Acenaphthene	ND	0.50		μg/L	1	12/15/2017 11:02:11 PM 35504
Fluorene	ND	0.50		μg/L	1	12/15/2017 11:02:11 PM 35504
Phenanthrene	ND	0.50		μg/L	1	12/15/2017 11:02:11 PM 35504
Anthracene	ND	0.50		μg/L	1	12/15/2017 11:02:11 PM 35504
Fluoranthene	ND	0.50		μg/L	1	12/15/2017 11:02:11 PM 35504

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
- PQL Practical Quanitative Limit
- 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 15
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1712747

Hall Environmental Analysis Laboratory, Inc. Date Reported: 1/10/2018

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-30

Project: GBR Annual Sampling Collection Date: 12/12/2017 1:30:00 PM Lab ID: 1712747-001 Matrix: AQUEOUS Received Date: 12/13/2017 7:00:00 AM

	A1111111111111111111111111111111111111							
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch		
EPA METHOD 8270C: PAHS					Analyst	DAM		
Pyrene	ND	0.50	μg/L	1	12/15/2017 11:02:11 PI	M 35504		
Benz(a)anthracene	ND	0.50	μg/L	1	12/15/2017 11:02:11 PI	M 35504		
Chrysene	ND	0.50	µg/L	1	12/15/2017 11:02:11 PI	M 35504		
Benzo(b)fluoranthene	ND	0.50	µg/L	1	12/15/2017 11:02:11 PI	M 35504		
Benzo(k)fluoranthene	ND	0.50	µg/L	1	12/15/2017 11:02:11 PI	M 35504		
Benzo(a)pyrene	ND	0.50	μg/L	1	12/15/2017 11:02:11 PI	M 35504		
Dibenz(a,h)anthracene	ND	0.50	μg/L	1	12/15/2017 11:02:11 PI	M 35504		
Benzo(g,h,i)perylene	ND	0.50	μg/L	1	12/15/2017 11:02:11 PI	M 35504		
Indeno(1,2,3-cd)pyrene	ND	0.50	μg/L	1	12/15/2017 11:02:11 PI	M 35504		
Surr: N-hexadecane	74.7	18.7-145	%Rec	1	12/15/2017 11:02:11 PI	M 35504		
Surr: Benzo(e)pyrene	78.8	28.2-137	%Rec	1	12/15/2017 11:02:11 Pt	M 35504		
EPA METHOD 8260B: VOLATILES					Analyst	RAA		
Benzene	ND	1.0	µg/L	1	12/18/2017 9:00:00 PM	R4786		
Toluene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
Ethylbenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
Naphthalene	ND	2.0	µg/L	1	12/18/2017 9:00:00 PM	R4786		
1-Methylnaphthalene	ND	4.0	µg/L	1	12/18/2017 9:00:00 PM	R4786		
2-Methylnaphthalene	ND	4.0	µg/L	1	12/18/2017 9:00:00 PM	R4786		
Acetone	ND	10	μg/L	1	12/18/2017 9:00:00 PM	R4786		
Bromobenzene	ND	1.0	µg/L	1	12/18/2017 9:00:00 PM	R4786		
Bromodichloromethane	ND	1.0	µg/L	1	12/18/2017 9:00:00 PM	R4786		
Bromoform	ND	1.0	µg/L	1	12/18/2017 9:00:00 PM	R4786		
Bromomethane	ND	3.0	µg/L	1	12/18/2017 9:00:00 PM	R4786		
2-Butanone	ND	10	µg/L	1	12/18/2017 9:00:00 PM	R4786		
Carbon disulfide	ND	10	µg/L	1	12/18/2017 9:00:00 PM	R4786		
Carbon Tetrachloride	ND	1.0	µg/L	1	12/18/2017 9:00:00 PM	R4786		
Chlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
Chloroethane	ND	2.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
Chloroform	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
Chloromethane	ND	3.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
2-Chlorotoluene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
4-Chlorotoluene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
cis-1,2-DCE	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R4786		
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865		

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: D Sample Diluted Due to Matrix Value above quantitation range Analyte detected below quantitation limits Page 2 of 15 H Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit P Sample pH Not In Range PQL Practical Quanitative Limit RL Reporting Detection Limit

S % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified

### Lab Order 1712747

Date Reported: 1/10/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-30

Project: **GBR** Annual Sampling Collection Date: 12/12/2017 1:30:00 PM Lab ID: 1712747-001 Matrix: AQUEOUS Received Date: 12/13/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst:	RAA
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
Dibromochloromethane	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
Dibromomethane	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,2-Dichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,3-Dichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
Dichlorodifluoromethane	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,1-Dichloroethane	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,1-Dichloroethene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,2-Dichloropropane	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,3-Dichloropropane	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
2,2-Dichloropropane	ND	2.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,1-Dichloropropene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
Hexachlorobutadiene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
2-Hexanone	ND	10	μg/L	1	12/18/2017 9:00:00 PM	R47865
Isopropylbenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
4-Isopropyltoluene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
4-Methyl-2-pentanone	ND	10	μg/L	1	12/18/2017 9:00:00 PM	R47865
Methylene Chloride	ND	3.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
n-Butylbenzene	ND	3.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
n-Propylbenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
sec-Butylbenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
Styrene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
tert-Butylbenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
trans-1,2-DCE	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,1,1-Trichloroethane	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,1,2-Trichloroethane	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
Trichloroethene (TCE)	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
Trichlorofluoromethane	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
1,2,3-Trichloropropane	ND	2.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
Vinyl chloride	ND	1.0	μg/L	1	12/18/2017 9:00:00 PM	R47865
Xylenes, Total	ND	1.5	μg/L	1	12/18/2017 9:00:00 PM	R47865
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec	1	12/18/2017 9:00:00 PM	R47865

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

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 15 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

### Lab Order 1712747

Date Reported: 1/10/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-30

Project: GBR Annual Sampling

Collection Date: 12/12/2017 1:30:00 PM

Lab ID: 1712747-001

Matrix: AQUEOUS Received Date: 12/13/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analys	t: RAA
Surr: 4-Bromofluorobenzene	94.8	70-130	%Rec	1	12/18/2017 9:00:00 PM	M R47865
Surr: Dibromofluoromethane	105	70-130	%Rec	1	12/18/2017 9:00:00 PM	N R47865
Surr: Toluene-d8	98.1	70-130	%Rec	1	12/18/2017 9:00:00 PM	N R47865

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
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 15
- P Sample pH Not In Range
- RL Reporting Detection Limit
  - W Sample container temperature is out of limit as specified

## all Environmental Analysis Laboratory, Inc.

WO#: 1712747

10-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

GBR Annual Sampling

Sample ID MB-35764	SampType: MBLK		Tes	TestCode: EPA Method 200.7: Metals						
Client ID: PBW	Batch ID: 35764			F	RunNo: 48109					
Prep Date: 12/28/2017	Analysis I	Date: 12	2/29/2017	8	SeqNo: 1	542641	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 LLLCS-35764	Samp	Type: LC	SLL	Tes	tCode: El	PA Method	200.7: Metals			
Client ID: BatchQC	Batc	h ID: 35	764	F	RunNo: 4	8109				
Prep Date: 12/28/2017	Analysis [	Date: 12	2/29/2017	S	SeqNo: 1	542645	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	103	50	150			
Iron	0.021	0.020	0.02000	0	107	50	150			
Magnesium	ND	1.0	0.5000	0	104	50	150			
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
D-+assium	ND	1.0	0.5000	0	94.3	50	150			
m	ND	1.0	0.5000	0	105	50	150			

Sample ID LCS-35764	SampType	: LCS	Tes	tCode: EF					
Client ID: LCSW	Batch ID	35764	F	RunNo: 48109					
Prep Date: 12/28/2017	Analysis Date	12/29/2017	S	SeqNo: <b>1542646</b> Units: <b>mg/</b>					
Analyte	Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0 50.00	0	100	85	115			
Iron	0.51 0.	0.5000	0	101	85	115			
Magnesium	51	1.0 50.00	0	103	85	115			
Manganese	0.50 0.0	0.5000	0	99.0	85	115			
Potassium	50	1.0 50.00	0	101	85	115			
Sodium	51	1.0 50.00	0	103	85	115			

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

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

→ Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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 15

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712747

10-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

GBR Annual Sampling

Sample ID MB	SampType: mblk			Tes	TestCode: EPA Method 300.0: Anions					
Client ID: PBW	Batcl	n ID: R4	7783	F	RunNo: 4	7783				
Prep Date:	Analysis D	Date: 12	2/13/2017	S	SeqNo: 1527846		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	Samp	ype: Ics	;	Tes	tCode: E	PA Method	300.0: Anions	5		
Sample ID LCS Client ID: LCSW		ype: Ics			tCode: E		300.0: Anions	5		
		n ID: R4	7783	F		7783	300.0: Anions Units: mg/L	5		
Client ID: LCSW	Batcl	n ID: R4	7783 2/13/2017	F	RunNo: 4	7783		%RPD	RPDLimit	Qual
Client ID: LCSW Prep Date:	Batcl Analysis D	n ID: <b>R4</b> Date: <b>12</b>	7783 2/13/2017	F	RunNo: 4 BeqNo: 1	7783 527847	Units: mg/L		RPDLimit	Qual
Client ID: LCSW Prep Date: Analyte	Batcl Analysis D Result	n ID: R4 Date: 12	7783 2/13/2017 SPK value	SPK Ref Val	RunNo: 4 SeqNo: 1 %REC	<b>7783</b> <b>527847</b> LowLimit	Units: mg/L HighLimit		RPDLimit	Qual
Client ID: LCSW Prep Date: Analyte Fluoride	Batcl Analysis E Result 0.53	PQL 0.10	7783 2/13/2017 SPK value 0.5000	SPK Ref Val	RunNo: <b>4</b> SeqNo: <b>1</b> %REC 105	7783 527847 LowLimit 90	Units: mg/L HighLimit		RPDLimit	Qual
Client ID: LCSW Prep Date: Analyte Fluoride Chloride	Analysis D Result 0.53 4.8	PQL 0.10 0.50	7783 2/13/2017 SPK value 0.5000 5.000	SPK Ref Val 0 0	RunNo: 4 SeqNo: 1 %REC 105 95.7	7783 527847 LowLimit 90 90	Units: mg/L HighLimit 110 110		RPDLimit	Qual
Client ID: LCSW Prep Date: Analyte Fluoride Chloride Nitrogen, Nitrite (As N)	Batcl Analysis E Result 0.53 4.8 0.99	PQL 0.10 0.50 0.10	7783 2/13/2017 SPK value 0.5000 5.000 1.000	SPK Ref Val  0 0 0	RunNo: 4 SeqNo: 1 %REC 105 95.7 98.6	7783 527847 LowLimit 90 90 90	Units: mg/L HighLimit 110 110 110		RPDLimit	Qual

Sample ID MB	SampType: mblk	TestCode: EPA Method	300.0: Anions	
Client ID: PBW	Batch ID: A48068	RunNo: 48068		
Prep Date:	Analysis Date: 12/27/2017	SeqNo: 1540761	Units: mg/L	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Sulfate	ND 0.50			

Sample ID LCS	SampType: Ics	TestCode: EPA Method	300.0: Anions		
Client ID: LCSW	Batch ID: A48068	RunNo: 48068			
Prep Date:	Analysis Date: 12/27/2017	SeqNo: <b>1540762</b>	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 98.4 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

PQL Practical Quanitative Limit

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

## **Yall Environmental Analysis Laboratory, Inc.**

WO#: 1712747

10-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

**GBR** Annual Sampling

Sample ID 100ng Ics	SampT	ype: LC	S	Tes	tCode: El	ATILES				
Client ID: LCSW	Batch	Batch ID: R47865			RunNo: 47865					
Prep Date:	Analysis D	ate: 12	2/18/2017	S	SeqNo: 1	531684	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	21	1.0	20.00	0	107	70	130			
Chlorobenzene	22	1.0	20.00	0	109	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	97.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.4	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.9	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.2	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID RB	SampTy	/pe: <b>ME</b>	BLK	Test	Code: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	ID: R4	7865	R	unNo: 4	7865				
Prep Date:	Analysis Da	ate: 12	2/18/2017	S	eqNo: 1	531986	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								

4	Toluene	ND	1.0	
1	lbenzene	ND	1.0	
1	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.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

NO Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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#: 1712747

10-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

GBR Annual Sampling

Sample ID RB	SampType: MBLK			Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	ID: <b>R47865</b>		F	RunNo: 4	7865				
Prep Date:	Analysis D	ate: 12/18/2	2017	S	SeqNo: 1	531986	Units: µg/L			
Analyte	Result	PQL SPI	( 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								
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								
	ND	2.0								
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
- PQL Practical Quanitative Limit
- 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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## Yall Environmental Analysis Laboratory, Inc.

WO#: 1712747

10-Jan-18

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID RB	SampT	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID: PBW	Batch	Batch ID: R47865			RunNo: 47865					
Prep Date:	Analysis D	ate: 12	2/18/2017	S	SeqNo: 1	531986	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		97.5	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.6	70	130			
Surr: Toluene-d8	9.8		10.00		97.6	70	130			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

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

.) Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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#: 1712747

10-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

**GBR** Annual Sampling

Sample ID 1712747-001bms	SampT	ype: MS	3	Tes	tCode: E	PA Method	8270C: PAHs			
Client ID: GBR-30	Batch	n ID: 35	504	F	RunNo: 4	7841				
Prep Date: 12/14/2017	Analysis D	ate: 12	2/15/2017	S	SeqNo: 1	530508	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	16	0.50	20.00	0	78.0	19.5	130			
1-Methylnaphthalene	16	0.50	20.00	0	80.1	17.3	140			
2-Methylnaphthalene	16	0.50	20.00	0	79.6	19.2	135			
Acenaphthylene	15	0.50	20.00	0	75.3	26	126			
Acenaphthene	15	0.50	20.00	0	74.0	22.6	131			
Fluorene	16	0.50	20.00	0	79.0	26.4	133			
Phenanthrene	16	0.50	20.00	0	82.1	33.2	131			
Anthracene	16	0.50	20.00	0	78.7	35.5	128			
Fluoranthene	17	0.50	20.00	0	84.1	36.4	130			
Pyrene	16	0.50	20.00	0	82.4	33.6	126			
Benz(a)anthracene	16	0.50	20.00	0.1600	78.4	34.5	124			
Chrysene	13	0.50	20.00	0	65.6	36.6	121			
Benzo(b)fluoranthene	16	0.50	20.00	0	82.2	31.1	138			
Benzo(k)fluoranthene	15	0.50	20.00	0	76.0	28.6	136			
Benzo(a)pyrene	15	0.50	20.00	0	76.5	31.3	128			
Dibenz(a,h)anthracene	16	0.50	20.00	0	79.0	30.7	141			
Benzo(g,h,i)perylene	15	0.50	20.00	0.2000	75.9	26.2	136			
Indeno(1,2,3-cd)pyrene	15	0.50	20.00	0.2600	75.6	27.9	136			
Surr: N-hexadecane	70		87.60		80.3	18.7	145			
Surr: Benzo(e)pyrene	19		20.00		95.5	28.2	137			

Sample ID 1712747-001bms	sample ID 1712747-001bmsd SampType: MSD				tCode: E	PA Method	8270C: PAHs			
Client ID: GBR-30	Batch	n ID: 35	504	F	RunNo: 4	7841				
Prep Date: 12/14/2017	Analysis D	ate: 12	2/15/2017	5	SeqNo: 1	530509	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	15	0.50	20.00	0	74.0	19.5	130	5.26	20	
1-Methylnaphthalene	15	0.50	20.00	0	73.4	17.3	140	8.73	20	
2-Methylnaphthalene	15	0.50	20.00	0	74.9	19.2	135	6.08	20	
Acenaphthylene	15	0.50	20.00	0	73.8	26	126	2.01	20	
Acenaphthene	15	0.50	20.00	0	73.4	22.6	131	0.814	20	
Fluorene	14	0.50	20.00	0	71.6	26.4	133	9.83	20	
Phenanthrene	15	0.50	20.00	0	77.0	33.2	131	6.41	20	
Anthracene	15	0.50	20.00	0	73.6	35.5	128	6.70	20	
Fluoranthene	15	0.50	20.00	0	73.6	36.4	130	13.3	20	
Pyrene	15	0.50	20.00	0	75.9	33.6	126	8.21	20	
Benz(a)anthracene	15	0.50	20.00	0.1600	75.8	34.5	124	3.34	20	
Chrysene	13	0.50	20.00	0	64.0	36.6	121	2.47	20	
Benzo(b)fluoranthene	16	0.50	20.00	0	78.3	31.1	138	4.86	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

PQL Practical Quanitative Limit

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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### Il Environmental Analysis Laboratory, Inc.

WO#: 1712747

10-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

**GBR** Annual Sampling

Sample ID 1712747-001bmsd	SampT	ype: MS	SD	TestCode: EPA Method 8270C: PAHs						
Client ID: GBR-30	Batch	ID: 35	504	R	tunNo: 4	7841				
Prep Date: 12/14/2017	Analysis D	ate: 12	2/15/2017	S	SeqNo: 1	530509	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	15	0.50	20.00	0	72.7	28.6	136	4.44	20	
Benzo(a)pyrene	15	0.50	20.00	0	75.3	31.3	128	1.58	20	
Dibenz(a,h)anthracene	16	0.50	20.00	0	77.5	30.7	141	1.92	20	
Benzo(g,h,i)perylene	16	0.50	20.00	0.2000	76.5	26.2	136	0.777	20	
Indeno(1,2,3-cd)pyrene	15	0.50	20.00	0.2600	73.9	27.9	136	2.24	20	
Surr: N-hexadecane	67		87.60		76.3	18.7	145	0	0	
Surr: Benzo(e)pyrene	17		20.00		83.3	28.2	137	0	0	

Sample ID Ics-35504	SampType: LCS TestCode: EPA Method 8270C: PAHs									
Client ID: LCSW	Batch	ID: 35	504	F	RunNo: 4	7841				
Prep Date: 12/14/2017	Analysis D	ate: 12	2/15/2017	S	SeqNo: 1	530512	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	14	0.50	20.00	0	68.8	28.6	113			
1-Methylnaphthalene	14	0.50	20.00	0	67.9	27	113			
2-Methylnaphthalene	13	0.50	20.00	0	66.3	26.3	112			
Acenaphthylene	13	0.50	20.00	0	65.6	36.2	114			
aphthene	13	0.50	20.00	0	65.8	35.6	116			
Fluorene	14	0.50	20.00	0	67.7	38.4	116			
Phenanthrene	14	0.50	20.00	0	72.1	42.3	118			
Anthracene	14	0.50	20.00	0	69.7	42.2	117			
Fluoranthene	15	0.50	20.00	0	73.7	42.5	118			
Pyrene	14	0.50	20.00	0	67.5	40.8	121			
Benz(a)anthracene	14	0.50	20.00	0	71.5	43	118			
Chrysene	12	0.50	20.00	0	57.5	39.4	119			
Benzo(b)fluoranthene	15	0.50	20.00	0	73.1	47.8	115			
Benzo(k)fluoranthene	13	0.50	20.00	0	66.7	40.5	120			
Benzo(a)pyrene	14	0.50	20.00	0	68.6	41.5	115			
Dibenz(a,h)anthracene	14	0.50	20.00	0	70.4	48.6	115			
Benzo(g,h,i)perylene	14	0.50	20.00	0	68.6	42	119			
Indeno(1,2,3-cd)pyrene	14	0.50	20.00	0	68.2	42.9	118			
Surr: N-hexadecane	60		87.60		68.9	18.7	145			
Surr: Benzo(e)pyrene	14		20.00		70.1	28.2	137			

Sample ID mb-35504 SampType: MBLK TestCode: EPA Method 8270C: PAHs Client ID: **PBW** Batch ID: 35504 RunNo: 47841 Prep Date: 12/14/2017 Analysis Date: 12/15/2017 SeqNo: 1530513 Units: µg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Naphthalene ND 0.50

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

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

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits

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Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1712747

10-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID mb-35504	SampType: MBLK			Test	Code: El	PA Method	8270C: PAHs			
Client ID: PBW	Batch	ID: 35504		R	unNo: 4	7841				
Prep Date: 12/14/2017	Analysis Da	ate: 12/15/2	2017	S	eqNo: 1	530513	Units: µg/L			
Analyte	Result	PQL SP	< value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	61		87.60		69.9	18.7	145			
Surr: Benzo(e)pyrene	14		20.00		71.7	28.2	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

PQL Practical Quanitative Limit

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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### all Environmental Analysis Laboratory, Inc.

WO#: 1712747

10-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID Ics-1 ~20uS eC SampType: LCS TestCode: SM2510B: Specific Conductance

Client ID: LCSW Batch ID: R47803 RunNo: 47803

Prep Date: Analysis Date: 12/13/2017 SeqNo: 1528860 Units: μmhos/cm

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Conductivity 22 5.0 19.96 0 110 80 120

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

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

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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.

1712747 10-Jan-18

WO#:

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID mb-1 alk SampType: MBLK TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R47803 RunNo: 47803

Prep Date: Analysis Date: 12/13/2017 SeqNo: 1528814 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 Ics-1 alk SampType: LCS TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R47803 RunNo: 47803

Prep Date: Analysis Date: 12/13/2017 SeqNo: 1528815 Units: mg/L CaCO3

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Alkalinity (as CaCO3) 78.32 20.00 80.00 0 97.9 90 110

Sample ID mb-2 alk SampType: MBLK TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R47803 RunNo: 47803

Prep Date: Analysis Date: 12/13/2017 SeqNo: 1528838 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 Ics-2 alk SampType: LCS TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R47803 RunNo: 47803

Prep Date: Analysis Date: 12/13/2017 SeqNo: 1528839 Units: mg/L CaCO3

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Alkalinity (as CaCO3) 78.56 20.00 80.00 0 98.2 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

PQL Practical Quanitative Limit

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 14 of 15

### all Environmental Analysis Laboratory, Inc.

WO#: 1712747

10-Jan-18

Client:

Western Refining Southwest, Inc.

Project:

**GBR** Annual Sampling

Sample ID MB-35599

SampType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: **PBW** 

Batch ID: 35599

RunNo: 47947

Prep Date:

12/19/2017 Analysis Date: 12/21/2017 SeqNo: 1536146

Units: mg/L

**RPDLimit** 

Qual

Analyte

Result PQL

SPK value SPK Ref Val %REC

LowLimit HighLimit

%RPD

Total Dissolved Solids

ND 20.0

Sample ID LCS-35599

SampType: LCS

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW

Prep Date: 12/19/2017

Batch ID: 35599

RunNo: 47947

Analysis Date: 12/21/2017

SeqNo: 1536147

Units: mg/L

Analyte

**RPDLimit** 

120

Qual

1020

102

1000

HighLimit

Total Dissolved Solids

Result

PQL 20.0

SPK value SPK Ref Val %REC

LowLimit

%RPD

**Qualifiers:** 

PQL Practical Quanitative Limit

Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit

Sample Diluted Due to Matrix

Value exceeds Maximum Contaminant Level.

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank Value above quantitation range

J

RL Reporting Detection Limit

P Sample pH Not In Range

Sample container temperature is out of limit as specified

Analyte detected below quantitation limits Page 15 of 15



#### 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 Refin	ing Southw	Work Order Numb	per: 1712	747		RcptNo	1
Received By:	Anne Thorne	•	12/13/2017 7:00:00	AM		ann Am	_	
Completed By:	Michelle Gar	cia	12/13/2017 10:14:0	1 AM		Mirelle Go	nui	
Reviewed By:	ENM		12/13/17					
Chain of Cus	todv							
	ils intact on sam	ple bottles?		Yes		No 🗆	Not Present	
	Custody complete			Yes	<b>V</b>	No 🗌	Not Present	
	sample delivere			Cour				
Log In								
	empt made to co	ol the sampl	es?	Yes	<b>~</b>	No 🗆	NA 🗆	
5. Were all san	nples received a	it a tempera	ture of >0° C to 6.0°C	Yes	<b>~</b>	No 🗌	NA 🗆	
6. Sample(s) ir	n proper containe	er(s)?		Yes	<b>V</b>	No 🗔		
7. Sufficient sa	mple volume for	indicated te	est(s)?	Yes	<b>~</b>	No 🗆		
8. Are samples	(except VOA ar	nd ONG) pro	perly preserved?	Yes	<b>V</b>	No 🗆		
9. Was preserv	ative added to b	ottles?		Yes	=	No 🗹	NA 🗆	
10.VOA vials ha	ave zero headsp	ace?		Yes		No 🗆	No VOA Vials	
11. Were any sa	ample containers	s received be	roken?	Yes		No 🗹	# of preserved	
12 Dasa sassas	wash matah hatti	a labala?		Yes	<u></u>	No =	bottles checked for pH:	n
12. Does paperv (Note discrep	pancies on chair		1	res	_	140		or >12 unless noted)
13. Are matrices	correctly identif	ied on Chair	of Custody?	Yes	<b>✓</b>	No _	Adjusted?	NO
14. Is it clear wh	at analyses were	e requested	?	Yes	<b>V</b>	No 🗆		140
15. Were all hold (If no, notify	ding times able to customer for aut			Yes	<b>V</b>	No 🗀	Checked by:	740
Special Hand	ling (if appli	cable)						
16. Was client no			ith this order?	Yes		No 🗆	NA 🗸	
Person	Notified:		Date	grades, beclared, and an assembled				
By Wh	om:	aldenini bilimai ndu bi burbi, frusidad b	Via:	☐ eMa	ail 🗌	Phone Fax	In Person	
Regard	ling:	es, et al al los tito les es e en aporte en en en en	a gana di annanconfronte di chi di di chi chi chi di chi chi de con dine ce ultre ce ultre di chi chi chi chi chi chi chi chi chi ch	- ALA	A-10-00-04-1-0-00-00	NA BIH José Bertor erreszone mener editelek feldorteak a odesedi		
Client I	nstructions:				Mad full failer by Abad fails.	dialanta dia tropico de la composição de l	page in Not transfer and the Control of the Control	
17. Additional re	emarks:							
18. Cooler Info	rmation							
Cooler No	Temp °C	Condition	Seal Intact   Seal No	Seal Da	ate	Signed By	1	
1	1.0 G	Good	Yes					

C	ha	of-Cu	stody Record	Turn-Around	Time:	_			La m				_								
Client:	West	_	fining	Standard	Rush														NTA		
		1/ 2	dinsyn	Project Name			8													1 . 1	
Mailing	Address	ill co	2 4990	61	3 Annous	al Sampling		40	04.11						men			7400			
				Project #:	C / // 1000	21 -cury ing	-		01 H												
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		nerry s	obinson Cantesticon	Project Mana	ager:		2.1	only	JRC					30	S						
QA/QC	Package: idard		☐ Level 4 (Full Validation)	De	vin How	nann	TMB's (8021)	TPH (Gas only)	0 / 0			SIMS)		204.8	PCB's		_				
Accredi		100			Sampler:			ī	DR	_				02,6	182			8			
□ NEL		□ Othe	Γ	On Ice:	Yes Yes	□ No			0	8.1	14.1)	8270		Ž	/ 80		2	3		2	-
□ EDD	(Type)			Sample Tem		0	E +	Æ +	GR	141	150	or 8	als	8	des	_	ò	atherna		>	_
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type		BTEX + MTBE	BTEX + MTBE	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)	320 al		Air Bulbbles (Y or N)	All Dubblice
-12-17	1330	GW	GBR-30	Various	various	COL						_						Y			_
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TABLE 1

### 2015 SAMPLING SCHEDULE FORMER GIANT BLOOMFIELD REFINERY WESTERN REFINING

Sample ID	ANNUALLY (Jan)	Notes
	VOC	VOC
System Influent	GWC	method 8260
	VOC	
System Effluent	GWC	PAII
System Etituent	METALS	method 8270
	PAH	
	VOC	GWC
GRW-3	GWC	Hc
	PAH	EC
	VOC	IDS
GRW 6	GWC	alkalinity
	PAH	hardness
	VOC	anions
GBR-17	GWC	bronti
4	PAH	chlori
	VOC	sulta
GBR-24D	GWC	fluori
	PAH	nitrate/nitr
	VOC	phosper
GBR-30	GWC	cations
	PAH	calciu
	VOC	in
GBR-31	GWC	magnesit
	PAH	mangane
	VOC	potassit
GBR-32	GWC	sodu
	METALS	
	VOC	Metals
GBR-48	GWC	barium
	METALS	beryllium
	VOC	cadmium
GBR-49	OWC	chromium
	METALS	copper
	VOC	lead
GBR-50	GWC	nickel
	METALS	silver
GBR-51	VOC	zinc
GBROSI	GWC	- antimony
GBR-52	VOC	arsenie
GBR-32	GWC	selenium
CHEB	Voc	thallium
SHS-8	CIVE	mercury





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

January 12, 2018

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

RE: GBR Annual Sampling OrderNo.: 1712748

#### Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/13/2017 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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 qualifiers 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 Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

### Lab Order 1712748

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GRW-6

Project: GBR Annual Sampling

Collection Date: 12/12/2017 12:30:00 PM

Lab ID: 1712748-001

Matrix: AQUEOUS

Received Date: 12/13/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
SM2340B: HARDNESS						Analyst:	pmf
Hardness (As CaCO3)	1100	6.6		mg/L	1	1/2/2018	R48123
EPA METHOD 300.0: ANIONS						Analyst:	MRA
Fluoride	1.5	0.10		mg/L	1	12/13/2017 3:32:08 PM	R47783
Chloride	120	10		mg/L	20	12/13/2017 3:44:33 PM	
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/13/2017 3:32:08 PM	R47783
Bromide	0.77	0.10		mg/L	1	12/13/2017 3:32:08 PM	R47783
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	12/13/2017 3:32:08 PM	R47783
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	12/13/2017 3:44:33 PM	R47783
Sulfate	1200	25	*	mg/L	50	12/28/2017 12:09:30 AM	1 A48068
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	3000	5.0		µmhos/cm	1	12/13/2017 10:24:54 PM	1 R47803
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	388.3	20.00		mg/L CaCO3	1	12/13/2017 10:24:54 PM	1 R47803
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/13/2017 10:24:54 PM	1 R47803
Total Alkalinity (as CaCO3)	388.3	20.00		mg/L CaCO3	1	12/13/2017 10:24:54 PM	1 R4780
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst:	SRM
Total Dissolved Solids	2570	40.0	*D	mg/L	1	12/21/2017 10:34:00 AM	1 35599
SM4500-H+B: PH						Analyst:	JRR
рН	7.65		Н	pH units	1	12/13/2017 10:24:54 PM	1 R47803
EPA METHOD 200.7: METALS						Analyst:	pmf
Calcium	340	5.0		mg/L	5	1/2/2018 5:35:37 PM	35764
Iron	40	1.0	*	mg/L	50	1/3/2018 10:19:47 PM	35764
Magnesium	54	5.0		mg/L	5	1/2/2018 5:35:37 PM	35764
Manganese	9.1	0.020	*	mg/L	10	1/5/2018 3:54:36 PM	35764
Potassium	2.1	1.0		mg/L	1	12/29/2017 7:45:31 PM	35764
Sodium	390	5.0		mg/L	5	1/2/2018 5:35:37 PM	35764
EPA METHOD 8270C: PAHS						Analyst:	DAM
Naphthalene	ND	0.50		μg/L	1	12/16/2017 12:14:43 AM	35504
1-Methylnaphthalene	ND	0.50		µg/L	1	12/16/2017 12:14:43 AM	35504
2-Methylnaphthalene	ND	0.50		μg/L	1	12/16/2017 12:14:43 AM	35504
Acenaphthylene	ND	0.50		μg/L	1	12/16/2017 12:14:43 AM	35504
Acenaphthene	ND	0.50		μg/L	1	12/16/2017 12:14:43 AM	35504
Fluorene	ND	0.50		μg/L	1	12/16/2017 12:14:43 AM	35504
Phenanthrene	ND	0.50		μg/L	1	12/16/2017 12:14:43 AM	35504
Anthracene	ND	0.50		μg/L	1	12/16/2017 12:14:43 AM	35504
Fluoranthene	ND	0.50		μg/L	1	12/16/2017 12:14:43 AM	35504

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
- PQL Practical Quanitative Limit
- 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 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712748

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GRW-6

 Project:
 GBR Annual Sampling
 Collection Date: 12/12/2017 12:30:00 PM

 Lab ID:
 1712748-001
 Matrix: AQUEOUS
 Received Date: 12/13/2017 7:00:00 AM

Chloromethane       ND       3.0       μg/L       1       12/18/2017 9:24:00 PM       R4786         2-Chlorotoluene       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4786         4-Chlorotoluene       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4786	Analyses	Result	PQL Qu	ual Units	DF	Date Analyzed	Batch
Benz(a)anthracene	EPA METHOD 8270C: PAHS					Analyst	: DAM
Chrysene	Pyrene	ND	0.50	μg/L	1	12/16/2017 12:14:43 Al	M 35504
Benzo(b)fluoranthene   ND   0.50	Benz(a)anthracene	ND	0.50	μg/L	1	12/16/2017 12:14:43 Al	M 35504
Benzo(k)fluoranthene	Chrysene	ND	0.50	μg/L	1	12/16/2017 12:14:43 Al	M 35504
Benzo(a)pyrene   ND   0.50   μg/L   1   12/16/2017 12:14:43 AM 3550     Dibenz(a,h)anthracene   ND   0.50   μg/L   1   12/16/2017 12:14:43 AM 3550     Benzo(g,h.i)perylene   ND   0.50   μg/L   1   12/16/2017 12:14:43 AM 3550     Indeno(1,2,3-cd)pyrene   ND   0.50   μg/L   1   12/16/2017 12:14:43 AM 3550     Surr: N-hexadecane   59.1   18,7-145   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     Toluene   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     Toluene   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     Methyl tert-butyl ether (MTBE)   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     Methyl tert-butyl ether (MTBE)   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,2,4-Tīmethylbenzene   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,3,5-Trimethylbenzene   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,2-Dibrioroethane (EDC)   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,2-Dibrioroethane (EDB)   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,2-Dibrioroethane (EDB)   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,3-Dibrioroethane (EDB)   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,3-Dibrioroethane (EDB)   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,3-Dibrioroethane   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,3-Dibrioroethane   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,3-Dibrioroethane   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,3-Dibrioroethane   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,3-Dibrioroethane   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,3-Dibrioroethane   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,3-Dibrioroethane   ND   1.0   μg/L   1   12/18/2017 9:24:00 PM R478     1,3-Dibrioroethane   ND   1.0   μg/L	Benzo(b)fluoranthene	ND	0.50	μg/L	1	12/16/2017 12:14:43 Al	M 35504
Dibenz(a,h)anthracene   ND   0.50   μg/L   1   12/16/2017 12:14:43 AM 3550     Benzo(g,h,l)perylene   ND   0.50   μg/L   1   12/16/2017 12:14:43 AM 3550     Indeno(1,2,3-cd)pyrene   59.1   18,7-145   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: N-hexadecane   59.1   18,7-145   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 12:14:43 AM 3550     Surr: Benzo(e)pyrene   61.2   28,2-137   %Rec   1   12/16/2017 9:24:00 PM R478     Surri Benzo(e)   ND   1.0   μg/L   1   12/16/2017 9:24:00 PM R478     Surri Benzo(e)   ND   1.0   μg/L   1   12/16/2017 9:24:00 PM R478     Surri Benzo(e)   ND   1.0   μg/L   1   12/16/2017 9:24:00 PM R478     Surri Benzo(e)   ND   1.0   μg/L   1   12/16/2017 9:24:00 PM R478     Surri Benzo(e)   ND   1.0   μg/L   1   12/16/2017 9:24:00 PM R478     Surri Benzo(e)   ND   1.0	Benzo(k)fluoranthene	ND	0.50	μg/L	1	12/16/2017 12:14:43 Al	M 35504
Benzo(g,h,i)perylene	Benzo(a)pyrene	ND	0.50	μg/L	1	12/16/2017 12:14:43 Al	M 35504
Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene	ND	0.50	μg/L	1	12/16/2017 12:14:43 Al	M 35504
Surr. N-hexadecane Surr. Benzo(e)pyrene Surr. Benzo(e) pyr. Surr. Burl. Sur	Benzo(g,h,i)perylene	ND	0.50	μg/L	1	12/16/2017 12:14:43 Al	M 35504
Surr: Benzo(e)pyrene   61.2   28.2-137   %Rec   1   12/16/2017 12:14:43 AM 3550	Indeno(1,2,3-cd)pyrene	ND	0.50	μg/L	1	12/16/2017 12:14:43 AI	M 35504
Benzene	Surr: N-hexadecane	59.1	18.7-145	%Rec	1	12/16/2017 12:14:43 AI	M 35504
Benzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478           Toluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478           Ethylbenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478           Methyl tert-butyl ether (MTBE)         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478           1,2.4-Trimethylbenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478           1,3.5-Trimethylbenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478           1,2-Dichloroethane (EDC)         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478           1,2-Dibromoethane (EDB)         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478           1,2-Dibromoethane (EDB)         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478           1,2-Dibromoethane (EDB)         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478           1,2-Dibromoethane (EDB)	Surr: Benzo(e)pyrene	61.2	28.2-137	%Rec	1	12/16/2017 12:14:43 AI	M 35504
Toluene	EPA METHOD 8260B: VOLATILES					Analyst	RAA
Toluene	Benzene	ND	1.0	ua/L	1	12/18/2017 9·24·00 PM	R47865
Ethylbenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478/R478/R478           Methyl tert-butyl ether (MTBE)         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478/R478/R478/R478           1.2,4-Trimethylbenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478/R478/R478/R478/R478           1.2-Dichloroethane (EDC)         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R478/R478/R478/R478/R478/R478/R478/R478/							
Methyl tert-butyl ether (MTBE)         ND         1.0         µg/L         1         12/18/2017 9:24:00 PM         R4788           1,2,4-Trimethylbenzene         ND         1.0         µg/L         1         12/18/2017 9:24:00 PM         R4788           1,3,5-Trimethylbenzene         ND         1.0         µg/L         1         12/18/2017 9:24:00 PM         R4788           1,2-Dibromoethane (EDC)         ND         1.0         µg/L         1         12/18/2017 9:24:00 PM         R4788           1,2-Dibromoethane (EDB)         ND         1.0         µg/L         1         12/18/2017 9:24:00 PM         R4788           1,2-Dibromoethane (EDB)         ND         1.0         µg/L         1         12/18/2017 9:24:00 PM         R4788           1,2-Bromotane (EDB)         ND         2.0         µg/L         1         12/18/2017 9:24:00 PM         R4788           1,-Methylnaphthalene         ND         4.0         µg/L         1         12/18/2017 9:24:00 PM         R4788           2-Methylnaphthalene         ND         4.0         µg/L         1         12/18/2017 9:24:00 PM         R4788           2-Methylnaphthalene         ND         4.0         µg/L         1         12/18/2017 9:24:00 PM         R4788	Ethylbenzene						
1,2,4-Trimethylbenzene       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         1,3,5-Trimethylbenzene       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         1,2-Dichloroethane (EDC)       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         1,2-Dibromoethane (EDB)       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         Naphthalene       ND       2.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         1-Methylnaphthalene       ND       4.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         2-Methylnaphthalene       ND       4.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         Acetone       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         Bromobenzene       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         Bromoform       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         Bromoform       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         B				. •			
1,3,5-Trimethylbenzene       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         1,2-Dichloroethane (EDC)       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         1,2-Dibromoethane (EDB)       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         Naphthalene       ND       2.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         1-Methylnaphthalene       ND       4.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         2-Methylnaphthalene       ND       4.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         2-Methylnaphthalene       ND       4.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         2-Methylnaphthalene       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         2-Methylnaphthalene       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         2-Methylnaphthalene       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788         Bromodelrane       ND       1.0       µg/L       1       12/18/2017 9:24:00 PM       R4788		ND					
1,2-Dichloroethane (EDC)       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         1,2-Dibromoethane (EDB)       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         Naphthalene       ND       2.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         1-Methylnaphthalene       ND       4.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         2-Methylnaphthalene       ND       4.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         Acetone       ND       10       μg/L       1       12/18/2017 9:24:00 PM       R4788         Bromobenzene       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         Bromoform       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         Bromomethane       ND       3.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         2-Butanone       ND       10       μg/L       1       12/18/2017 9:24:00 PM       R4786         Carbon disulfide       ND       10       μg/L       1       12/18/2017 9:24:00 PM       R4786         Carbon Tetrachlori		ND					
1,2-Dibromoethane (EDB)       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         Naphthalene       ND       2.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         1-Methylnaphthalene       ND       4.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         2-Methylnaphthalene       ND       4.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         Acetone       ND       10       μg/L       1       12/18/2017 9:24:00 PM       R4788         Bromobenzene       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         Bromodichloromethane       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         Bromoform       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         Bromomethane       ND       3.0       μg/L       1       12/18/2017 9:24:00 PM       R4788         2-Butanone       ND       10       μg/L       1       12/18/2017 9:24:00 PM       R4786         Carbon disulfide       ND       10       μg/L       1       12/18/2017 9:24:00 PM       R4786         Carbon Tetrachloride </td <td></td> <td>ND</td> <td></td> <td></td> <td></td> <td></td> <td></td>		ND					
Naphthalene         ND         2.0         μg/L         1         12/18/2017 9:24:00 PM         R4788           1-Methylnaphthalene         ND         4.0         μg/L         1         12/18/2017 9:24:00 PM         R4788           2-Methylnaphthalene         ND         4.0         μg/L         1         12/18/2017 9:24:00 PM         R4788           Acetone         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4788           Bromobenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4788           Bromodichloromethane         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4788           Bromoform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4788           Bromomethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4788           2-Butanone         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4788           Carbon disulfide         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4788           Carbon Tetrachloride         ND         1.0         μ	1,2-Dibromoethane (EDB)	ND	1.0		1	12/18/2017 9:24:00 PM	R47865
1-Methylnaphthalene	Naphthalene	ND	2.0	. •	1	12/18/2017 9:24:00 PM	R47865
2-Methylnaphthalene         ND         4.0         μg/L         1         12/18/2017 9:24:00 PM         R478/2017 9:24:00 PM         R4	1-Methylnaphthalene	ND	4.0		1		
Acetone         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Bromobenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Bromodichloromethane         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Bromoform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Bromomethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           2-Butanone         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Carbon disulfide         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Carbon Tetrachloride         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorobenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloroform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorotoluene         ND         1.0         μg/L		ND	4.0	. •	1		
Bromobenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Bromodichloromethane         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Bromoform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Bromomethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           2-Butanone         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Carbon disulfide         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Carbon Tetrachloride         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorobenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloroform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloromethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           C-Chlorotoluene         ND         1.0         μg/L<	Acetone	ND	10		1	12/18/2017 9:24:00 PM	R47865
Bromodichloromethane         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Bromoform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Bromomethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           2-Butanone         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Carbon disulfide         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Carbon Tetrachloride         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorobenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloroform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloromethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           2-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           4-Chlorotoluene         ND         1.0         μg	Bromobenzene	ND	1.0		1		
Bromoform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Bromomethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           2-Butanone         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Carbon disulfide         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Carbon Tetrachloride         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorobenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloroform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloromethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           2-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           4-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           cis-1,2-DCE         ND         1.0         μg/L	Bromodichloromethane	ND	1.0		1	12/18/2017 9:24:00 PM	R47865
Bromomethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           2-Butanone         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Carbon disulfide         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Carbon Tetrachloride         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorobenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorotethane         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorotoform         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           4-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           cis-1,2-DCE         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786	Bromoform	ND	1.0		1	12/18/2017 9:24:00 PM	R47865
Carbon disulfide         ND         10         μg/L         1         12/18/2017 9:24:00 PM         R4786           Carbon Tetrachloride         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorobenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloroethane         ND         2.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloroform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           4-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           cis-1,2-DCE         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786	Bromomethane	ND	3.0		1	12/18/2017 9:24:00 PM	R47865
Carbon Tetrachloride         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorobenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloroethane         ND         2.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloroform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloromethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           2-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           4-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           cis-1,2-DCE         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786	2-Butanone	ND	10	μg/L	1	12/18/2017 9:24:00 PM	R47865
Carbon Tetrachloride         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chlorobenzene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloroethane         ND         2.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloroform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloromethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           2-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           4-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           cis-1,2-DCE         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786	Carbon disulfide	ND	10	μg/L	1	12/18/2017 9:24:00 PM	R47865
Chloroethane         ND         2.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloroform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloromethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           2-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           4-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           cis-1,2-DCE         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786	Carbon Tetrachloride	ND	1.0		1	12/18/2017 9:24:00 PM	R47865
Chloroform         ND         1.0         µg/L         1         12/18/2017 9:24:00 PM         R4786           Chloromethane         ND         3.0         µg/L         1         12/18/2017 9:24:00 PM         R4786           2-Chlorotoluene         ND         1.0         µg/L         1         12/18/2017 9:24:00 PM         R4786           4-Chlorotoluene         ND         1.0         µg/L         1         12/18/2017 9:24:00 PM         R4786           cis-1,2-DCE         ND         1.0         µg/L         1         12/18/2017 9:24:00 PM         R4786	Chlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
Chloroform         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           Chloromethane         ND         3.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           2-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           4-Chlorotoluene         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786           cis-1,2-DCE         ND         1.0         μg/L         1         12/18/2017 9:24:00 PM         R4786	Chloroethane	ND	2.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
Chloromethane       ND       3.0       μg/L       1       12/18/2017 9:24:00 PM       R4786         2-Chlorotoluene       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4786         4-Chlorotoluene       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4786         cis-1,2-DCE       ND       1.0       μg/L       1       12/18/2017 9:24:00 PM       R4786	Chloroform	ND	1.0		1	12/18/2017 9:24:00 PM	R47865
4-Chlorotoluene ND 1.0 μg/L 1 12/18/2017 9:24:00 PM R4786 cis-1,2-DCE ND 1.0 μg/L 1 12/18/2017 9:24:00 PM R4786	Chloromethane	ND	3.0		1	12/18/2017 9:24:00 PM	R47865
cis-1,2-DCE ND 1.0 μg/L 1 12/18/2017 9:24:00 PM R4786	2-Chlorotoluene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
cis-1,2-DCE ND 1.0 μg/L 1 12/18/2017 9:24:00 PM R4786	4-Chlorotoluene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
	cis-1,2-DCE	ND	1.0		1	12/18/2017 9:24:00 PM	R47865
	cis-1,3-Dichloropropene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865

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
- PQL Practical Quanitative Limit
- 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 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Lab Order **1712748**

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GRW-6

 Project:
 GBR Annual Sampling
 Collection Date: 12/12/2017 12:30:00 PM

 Lab ID:
 1712748-001
 Matrix: AQUEOUS
 Received Date: 12/13/2017 7:00:00 AM

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	RAA
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	12/18/2017 9:24:00 PM	R47865
Dibromochloromethane	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
Dibromomethane	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
1,2-Dichlorobenzene	ND	1.0	µg/L	1	12/18/2017 9:24:00 PM	R47865
1,3-Dichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
Dichlorodifluoromethane	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R4786
1,1-Dichloroethane	ND	1.0	µg/L	1	12/18/2017 9:24:00 PM	R47865
1,1-Dichloroethene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
1,2-Dichloropropane	ND	1.0	µg/L	1	12/18/2017 9:24:00 PM	R47865
1,3-Dichloropropane	ND	1.0	µg/L	1	12/18/2017 9:24:00 PM	R47865
2,2-Dichloropropane	ND	2.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
1,1-Dichloropropene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
Hexachlorobutadiene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	
2-Hexanone	ND	10	μg/L	1	12/18/2017 9:24:00 PM	R47865
Isopropylbenzene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
4-Isopropyltoluene	ND	1.0	µg/L	1	12/18/2017 9:24:00 PM	R47865
4-Methyl-2-pentanone	ND	10	μg/L	1	12/18/2017 9:24:00 PM	R4786
Methylene Chloride	ND	3.0	µg/L	1	12/18/2017 9:24:00 PM	R4786
n-Butylbenzene	ND	3.0	μg/L	1	12/18/2017 9:24:00 PM	R4786
n-Propylbenzene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
sec-Butylbenzene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
Styrene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
tert-Butylbenzene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
trans-1,2-DCE	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
1,1,1-Trichloroethane	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
1,1,2-Trichloroethane	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
Trichloroethene (TCE)	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
Trichlorofluoromethane	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
1,2,3-Trichloropropane	ND	2.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
Vinyl chloride	ND	1.0	μg/L	1	12/18/2017 9:24:00 PM	R47865
Xylenes, Total	ND	1.5	μg/L	1	12/18/2017 9:24:00 PM	R47865
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec	1	12/18/2017 9:24:00 PM	R47865

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

PQL Practical Quanitative Limit

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 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1712748

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GRW-6

Project: GBR Annual Sampling

**Collection Date:** 12/12/2017 12:30:00 PM

Lab ID: 1712748-001

Matrix: AQUEOUS Received Date: 12/13/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analy	st: RAA
Surr: 4-Bromofluorobenzene	94.7	70-130	%Rec	1	12/18/2017 9:24:00 F	M R47865
Surr: Dibromofluoromethane	102	70-130	%Rec	1	12/18/2017 9:24:00 F	M R47865
Surr: Toluene-d8	98.0	70-130	%Rec	1	12/18/2017 9:24:00 F	M R47865

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

#### Qualifiers: Value exceeds Maximum Contaminant Level. Analyte detected in the associated Method Blank D Sample Diluted Due to Matrix E Value above quantitation range Analyte detected below quantitation limits Page 4 of 19 H Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit P Sample pH Not In Range PQL Practical Quanitative Limit RL Reporting Detection Limit % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified

#### Lab Order 1712748

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

**Lab ID:** 1712748-002

Client Sample ID: GBR-24D

Collection Date: 12/12/2017 2:15:00 PM Received Date: 12/13/2017 7:00:00 AM

**Analyses** Result POL Qual Units **DF** Date Analyzed Batch SM2340B: HARDNESS Analyst: pmf Hardness (As CaCO3) 1200 6.6 mq/L 1 1/2/2018 R48123 **EPA METHOD 300.0: ANIONS** Analyst: MRA 0.10 Fluoride 1.5 mq/L 1 12/13/2017 4:21:47 PM R47783 Chloride 140 10 mg/L 20 12/13/2017 4:34:11 PM R47783 Nitrogen, Nitrite (As N) ND 0.10 mg/L 12/13/2017 4:21:47 PM R47783 Bromide 0.79 0.10 mg/L 12/13/2017 4:21:47 PM R47783 Nitrogen, Nitrate (As N) ND 0.10 mg/L 12/13/2017 4:21:47 PM R47783 Phosphorus, Orthophosphate (As P) ND 10 mq/L 12/13/2017 4:34:11 PM R47783 Sulfate 50 1800 mg/L 100 12/28/2017 12:21:55 AM A48068 Analyst: JRR SM2510B: SPECIFIC CONDUCTANCE Conductivity 4000 5.0 µmhos/cm 12/13/2017 10:42:14 PM R47803 SM2320B: ALKALINITY Analyst: JRR Bicarbonate (As CaCO3) 243.2 20.00 mg/L CaCO3 12/13/2017 10:42:14 PM R47803 1 Carbonate (As CaCO3) ND 2.000 mg/L CaCO3 12/13/2017 10:42:14 PM R47803 Total Alkalinity (as CaCO3) 243.2 20.00 mg/L CaCO3 1 12/13/2017 10:42:14 PM R47803 SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: SRM Total Dissolved Solids 3560 40.0 12/21/2017 10:34:00 AM 35599 \*D mq/L SM4500-H+B: PH Analyst: JRR рН 7.90 pH units 12/13/2017 10:42:14 PM R47803 Н 1 **EPA METHOD 200.7: METALS** Analyst: pmf Calcium 440 5.0 mg/L 5 1/2/2018 5:40:58 PM 35764 0.40 mg/L 20 35764 Iron 11 1/3/2018 10:23:19 PM Magnesium 39 1.0 mg/L 12/29/2017 7:51:15 PM 35764 1 Manganese 1.8 0.010 mg/L 5 1/4/2018 9:18:10 PM 35764 7.9 12/29/2017 7:51:15 PM Potassium 1.0 35764 mg/L 1 Sodium 420 1/9/2018 5:28:06 PM 10 mg/L 35764 **EPA METHOD 8270C: PAHS** Analyst: DAM 0.50 12/16/2017 12:38:56 AM 35504 Naphthalene ND µg/L 0.50 1-Methylnaphthalene ND μg/L 1 12/16/2017 12:38:56 AM 35504 ND 0.50 12/16/2017 12:38:56 AM 35504 2-Methylnaphthalene µg/L Acenaphthylene ND 0.50 12/16/2017 12:38:56 AM 35504 µg/L 1 12/16/2017 12:38:56 AM 35504 ND 0.50 Acenaphthene µg/L 1 Fluorene ND 0.50 µg/L 12/16/2017 12:38:56 AM 35504 Phenanthrene ND 0.50 µg/L 1 12/16/2017 12:38:56 AM 35504 Anthracene ND 0.50 µg/L 12/16/2017 12:38:56 AM 35504

Matrix: AOUEOUS

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

0.50

ND

#### Qualifiers:

Fluoranthene

- \* 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
- PQL Practical Quanitative Limit
- 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 19

12/16/2017 12:38:56 AM 35504

P Sample pH Not In Range

µg/L

- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712748

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Client Sample ID: GBR-24D

 Project:
 GBR Annual Sampling
 Collection Date: 12/12/2017 2:15:00 PM

 Lab ID:
 1712748-002
 Matrix: AQUEOUS
 Received Date: 12/13/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: PAHS				320000000000000000000000000000000000000	Analy	st: DAM
Pyrene	ND	0.50	μg/L	1	12/16/2017 12:38:56	AM 35504
Benz(a)anthracene	ND	0.50	μg/L	1	12/16/2017 12:38:56	AM 35504
Chrysene	ND	0.50	μg/L	1	12/16/2017 12:38:56	AM 35504
Benzo(b)fluoranthene	ND	0.50	μg/L	1	12/16/2017 12:38:56	AM 35504
Benzo(k)fluoranthene	ND	0.50	μg/L	1	12/16/2017 12:38:56	AM 35504
Benzo(a)pyrene	ND	0.50	μg/L	1	12/16/2017 12:38:56	AM 35504
Dibenz(a,h)anthracene	ND	0.50	μg/L	1	12/16/2017 12:38:56	AM 35504
Benzo(g,h,i)perylene	ND	0.50	µg/L	1	12/16/2017 12:38:56	AM 35504
Indeno(1,2,3-cd)pyrene	ND	0.50	μg/L	1	12/16/2017 12:38:56	AM 35504
Surr: N-hexadecane	49.1	18.7-145	%Rec	1	12/16/2017 12:38:56	AM 35504
Surr: Benzo(e)pyrene	44.5	28.2-137	%Rec	1	12/16/2017 12:38:56	AM 35504
EPA METHOD 8260B: VOLATILES					Analys	st: RAA
Benzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 P	M R47865
Toluene	ND	1.0	μg/L	1	12/18/2017 9:47:00 P	
Ethylbenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 P	M R47865
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	12/18/2017 9:47:00 P	M R47865
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 P	M R47865
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 P	M R47865
1,2-Dichloroethane (EDC)	1.5	1.0	μg/L	1	12/18/2017 9:47:00 P	M R47865
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	12/18/2017 9:47:00 P	
Naphthalene	ND	2.0	μg/L	1	12/18/2017 9:47:00 P	M R47865
1-Methylnaphthalene	ND	4.0	μg/L	1	12/18/2017 9:47:00 P	M R47865
2-Methylnaphthalene	ND	4.0	μg/L	1	12/18/2017 9:47:00 P	M R47865
Acetone	ND	10	μg/L	1	12/18/2017 9:47:00 P	M R47865
Bromobenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 P	M R47865
Bromodichloromethane	ND	1.0	μg/L	1	12/18/2017 9:47:00 P	M R47865
Bromoform	ND	1.0	μg/L	1	12/18/2017 9:47:00 PI	M R47865
Bromomethane	ND	3.0	μg/L	1	12/18/2017 9:47:00 PI	M R47865
2-Butanone	ND	10	µg/L	1	12/18/2017 9:47:00 PI	M R47865
Carbon disulfide	ND	10	μg/L	1	12/18/2017 9:47:00 PI	M R47865
Carbon Tetrachloride	ND	1.0	μg/L	1	12/18/2017 9:47:00 PI	M R47865
Chlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PI	M R47865
Chloroethane	ND	2.0	μg/L	1	12/18/2017 9:47:00 PI	M R47865
Chloroform	ND	1.0	μg/L	1	12/18/2017 9:47:00 PI	M R47865
Chloromethane	ND	3.0	μg/L	1	12/18/2017 9:47:00 PI	M R47865
2-Chlorotoluene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PI	M R47865
4-Chlorotoluene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PI	M R47865
cis-1,2-DCE	ND	1.0	μg/L	1	12/18/2017 9:47:00 PI	M R47865
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PI	M R47865

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
- PQL Practical Quanitative Limit
- 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 19
- 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: 1/12/2018

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-24D GBR Annual Sampling Collection Date: 12/12/2017 2:15:00 PM

Lab ID: 1712748-002 Matrix: AQUEOUS Received Date: 12/13/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst:	RAA
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
Dibromochloromethane	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
Dibromomethane	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,2-Dichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,3-Dichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,4-Dichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
Dichlorodifluoromethane	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,1-Dichloroethane	ND	1.0	µg/L	1	12/18/2017 9:47:00 PM	R4786
1,1-Dichloroethene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,2-Dichloropropane	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,3-Dichloropropane	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
2,2-Dichloropropane	ND	2.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,1-Dichloropropene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
Hexachlorobutadiene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
2-Hexanone	ND	10	μg/L	1	12/18/2017 9:47:00 PM	R4786
Isopropylbenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
4-Isopropyltoluene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
4-Methyl-2-pentanone	ND	10	μg/L	1	12/18/2017 9:47:00 PM	R4786
Methylene Chloride	ND	3.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
n-Butylbenzene	ND	3.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
n-Propylbenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
sec-Butylbenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
Styrene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
tert-Butylbenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	12/18/2017 9:47:00 PM	R4786
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
trans-1,2-DCE	ND	1.0	µg/L	1	12/18/2017 9:47:00 PM	R4786
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,1,1-Trichloroethane	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,1,2-Trichloroethane	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
Trichloroethene (TCE)	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
Trichlorofluoromethane	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
1,2,3-Trichloropropane	ND	2.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
Vinyl chloride	ND	1.0	μg/L	1	12/18/2017 9:47:00 PM	R4786
Xylenes, Total	ND	1.5	μg/L	1	12/18/2017 9:47:00 PM	R4786
Surr: 1,2-Dichloroethane-d4	101	70-130	%Rec	1	12/18/2017 9:47:00 PM	R4786

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

Qualifiers: Value exceeds Maximum Contaminant Level. B Analyte detected in the associated Method Blank D Sample Diluted Due to Matrix Value above quantitation range Analyte detected below quantitation limits Page 7 of 19 H Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit P Sample pH Not In Range PQL Practical Quanitative Limit RL Reporting Detection Limit S % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified

#### Lab Order 1712748

Date Reported: 1/12/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-24D

Project: GBR Annual Sampling

Collection Date: 12/12/2017 2:15:00 PM

Lab ID: 1712748-002

Matrix: AQUEOUS Received

Received Date: 12/13/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analys	st: RAA
Surr: 4-Bromofluorobenzene	96.6	70-130	%Rec	1	12/18/2017 9:47:00 P	M R47865
Surr: Dibromofluoromethane	103	70-130	%Rec	1	12/18/2017 9:47:00 P	M R47865
Surr: Toluene-d8	99.2	70-130	%Rec	1	12/18/2017 9:47:00 P	M R47865

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. D Sample Diluted Due to Matrix E Value above quantitation range Analyte detected below quantitation limits Page 8 of 19 H Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit P Sample pH Not In Range PQL Practical Quanitative Limit RL Reporting Detection Limit % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712748

12-Jan-18

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	MB-35764	Samp	SampType: MBLK			TestCode: EPA Method 200.7: Metals					
Client ID:	PBW	Bato	h ID: 357	764	F	RunNo: 4	8109				
Prep Date:	12/28/2017	Analysis I	Date: 12	/29/2017	5	SeqNo: 1	542641	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	LLLCS-35764	Samp	Type: LC	SLL	Tes	tCode: E	PA Method	200.7: Metals			
Client ID:	BatchQC	Bato	h ID: 357	764	F	RunNo: 4	8109				

Sample ID LLLCS-35/64	Samprype. LCSLL resicode. EPA Metr						200.7. Wetais			
Client ID: BatchQC	Batch	n ID: 357	764	R	RunNo: 4	8109				
Prep Date: 12/28/2017	Analysis D	ate: 12	2/29/2017	S	SeqNo: 1	542645	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	103	50	150			
Iron	0.021	0.020	0.02000	0	107	50	150			
Magnesium	ND	1.0	0.5000	0	104	50	150			
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Potassium	ND	1.0	0.5000	0	94.3	50	150			
Sodium	ND	1.0	0.5000	0	105	50	150			

Sample ID LCS-35764	SampType: LCS TestCode: EPA Met						200.7: Metals			
Client ID: LCSW	Batch	ID: 35	764	F	RunNo: 4	8109				
Prep Date: 12/28/2017	Analysis Date: 12/29/2017			S	SeqNo: 1542646 Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	100	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Magnesium	51	1.0	50.00	0	103	85	115			
Manganese	0.50	0.0020	0.5000	0	99.0	85	115			
Potassium	50	1.0	50.00	0	101	85	115			
Sodium	51	1.0	50.00	0	103	85	115			

Sample ID	1712748-001DMS	SampType: MS			Tes	tCode: E	PA Method	200.7: Metals			
Client ID:	GRW-6	Batch	ID: 35	764	R	RunNo: 4	8109				
Prep Date:	12/28/2017	Analysis Da	ite: 12	2/29/2017	S	SeqNo: 1	543688	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium		53	1.0	50.00	2 091	102	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

PQL Practical Quanitative Limit

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 19

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

### Yall Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc.

440

5.0

50.00

**Project:** GBR Annual Sampling

Client:

Sample ID 1712748-001DMSD SampType: MSD TestCode: EPA Method 200.7: Metals

Client ID: **GRW-6** Batch ID: **35764** RunNo: **48109** 

Prep Date: 12/28/2017 Analysis Date: 12/29/2017 SeqNo: 1543689 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual LowLimit 54 50.00 2.091 70 130 1.46 20 Potassium 10 104

Sample ID 1712748-001DMS TestCode: EPA Method 200.7: Metals SampType: MS Client ID: GRW-6 Batch ID: 35764 RunNo: 48123 Units: mg/L Prep Date: 12/28/2017 Analysis Date: 1/2/2018 SeqNo: 1544790 SPK value SPK Ref Val %RPD **RPDLimit** Analyte Result PQL %REC HighLimit Qual LowLimit Calcium 390 5.0 50.00 338.1 101 70 130 110 5.0 50.00 53.91 103 70 130 Magnesium Sodium 430 5.0 50.00 389.2 87.9 70 130

TestCode: EPA Method 200.7: Metals Sample ID 1712748-001DMSD SampType: MSD Client ID: GRW-6 Batch ID: 35764 RunNo: 48123 Prep Date: 12/28/2017 Analysis Date: 1/2/2018 SeqNo: 1544791 Units: mg/L SPK value SPK Ref Val %RPD **RPDLimit** Result PQL %REC LowLimit HighLimit Qual Analyte 5.0 0.235 20 Calcium 390 50.00 338.1 102 70 130 esium 110 5.0 50.00 53.91 104 70 130 0.503 20

91.7

70

130

0.429

20

389.2

#### Qualifiers:

Jm

\* Value exceeds Maximum Contaminant Level

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

→ Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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#:

1712748

12-Jan-18

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712748

12-Jan-18

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID MB	SampType: mblk			Tes	TestCode: EPA Method 300.0: Anions					
Client ID: PBW	Batch ID: R47783			F	RunNo: 4	7783				
Prep Date:	Analysis D	ate: 12	2/13/2017	S	SeqNo: 1	527846	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	Samp	ype: Ics	6	TestCode: EPA Method 300.0: Anions						
Client ID: LCSW	Batcl	n ID: R4	7783	F	RunNo: 4	7783				
Prep Date:	Analysis D	)ate: 12	2/13/2017	8	SeqNo: 1	527847	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	105	90	110			
Chloride	4.8	0.50	5.000	0	95.7	90	110			
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	98.6	90	110			
Bromide	2.5	0.10	2.500	0	98.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.3	90	110			

Sample ID MB	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBW	Batch ID: A48068	RunNo: 48068
Prep Date:	Analysis Date: 12/27/2017	SeqNo: 1540761 Units: mg/L
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Sulfate	ND 0.50	

Sample ID LCS	SampType: Ics	TestCode: EPA Method	300.0: Anions		
Client ID: LCSW	Batch ID: A48068	RunNo: 48068			
Prep Date:	Analysis Date: 12/27/2017	SeqNo: <b>1540762</b>	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 98.4 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

PQL Practical Quanitative Limit

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 19

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

## Yall Environmental Analysis Laboratory, Inc.

WO#:

1712748 12-Jan-18

Client:

Western Refining Southwest, Inc.

SampType: MBLK

Project:

Sample ID RB

**GBR** Annual Sampling

Sample ID 100ng Ics	SampType: LCS TestCode: EPA Method 8			8260B: VOL	ATILES					
Client ID: LCSW	Batch	n ID: R4	7865	F	RunNo: 4	7865				
Prep Date:	Analysis D	ate: 12	2/18/2017	S	SeqNo: 1	531684	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	21	1.0	20.00	0	107	70	130			
Chlorobenzene	22	1.0	20.00	0	109	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	97.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.4	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.9	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.2	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

TestCode: EPA Method 8260B: VOLATILES

Client ID: PBW	Date	Batch ID: R47865			RunNo: 47865					
Prep Date:	Analysis	Date: 1:	2/18/2017	S	SeqNo: 1	531986	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								
lbenzene	ND	1.0								
methyl tert-butyl ether (MTE	BE) 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.

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

...) Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

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 12 of 19

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.

)#: 1712748

WO#:

12-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID RB	SampT	ype: ME	BLK	TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		ID: <b>R4</b>		F	RunNo: 4	7865				
Prep Date:	Analysis D				SeqNo: 1		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								
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								
1,2,0 monoropropuno	110	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
- PQL Practical Quanitative Limit
- 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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### all Environmental Analysis Laboratory, Inc.

12-Jan-18

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

GBR Annual Sampling

Sample ID RB SampType: MBLK TestCode: EPA Method 8260B: VOLATILES

Client ID: **PBW** Batch ID: **R47865** RunNo: 47865 aluais Data:

Prep Date:	Analysis Date: <b>12/18/2017</b>			S	531986	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		97.5	70	130					
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130					
Surr: Dibromofluoromethane	9.9		10.00		98.6	70	130					
Surr: Toluene-d8	9.8		10.00		97.6	70	130					

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

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

.D Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% 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

Sample container temperature is out of limit as specified

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WO#:

1712748

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712748

12-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID Ics-35504	SampT	ype: LC	S	TestCode: EPA Method 8270C: PAHs						
Client ID: LCSW	Batch	ID: 35	504	F	RunNo: 4	7841				
Prep Date: 12/14/2017	Analysis D	ate: 12	2/15/2017	S	SeqNo: 1	530512	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	14	0.50	20.00	0	68.8	28.6	113			
1-Methylnaphthalene	14	0.50	20.00	0	67.9	27	113			
2-Methylnaphthalene	13	0.50	20.00	0	66.3	26.3	112			
Acenaphthylene	13	0.50	20.00	0	65.6	36.2	114			
Acenaphthene	13	0.50	20.00	0	65.8	35.6	116			
Fluorene	14	0.50	20.00	0	67.7	38.4	116			
Phenanthrene	14	0.50	20.00	0	72.1	42.3	118			
Anthracene	14	0.50	20.00	0	69.7	42.2	117			
Fluoranthene	15	0.50	20.00	0	73.7	42.5	118			
Pyrene	14	0.50	20.00	0	67.5	40.8	121			
Benz(a)anthracene	14	0.50	20.00	0	71.5	43	118			
Chrysene	12	0.50	20.00	0	57.5	39.4	119			
Benzo(b)fluoranthene	15	0.50	20.00	0	73.1	47.8	115			
Benzo(k)fluoranthene	13	0.50	20.00	0	66.7	40.5	120			
Benzo(a)pyrene	14	0.50	20.00	0	68.6	41.5	115			
Dibenz(a,h)anthracene	14	0.50	20.00	0	70.4	48.6	115			
Benzo(g,h,i)perylene	14	0.50	20.00	0	68.6	42	119			
Indeno(1,2,3-cd)pyrene	14	0.50	20.00	0	68.2	42.9	118			
Surr: N-hexadecane	60		87.60		68.9	18.7	145			
Surr: Benzo(e)pyrene	14		20.00		70.1	28.2	137			

Sample ID mb-35504	SampTy	/pe: <b>ME</b>	BLK	Tes	tCode: E	PA Method	8270C: PAHs			
Client ID: PBW	Batch	ID: 35	504	F	RunNo: 4	7841				
Prep Date: 12/14/2017	Analysis Da	ate: 12	2/15/2017	8	SeqNo: 1	530513	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								
Benzo(b)fluoranthene	ND	0.50								

#### 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

PQL Practical Quanitative Limit

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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### **Yall Environmental Analysis Laboratory, Inc.**

WO#: 1712748 12-Jan-18

Client: Western Refining Southwest, Inc.

Project: **GBR** Annual Sampling

Sample ID mb-35504	SampT	ype: ME	BLK	TestCode: EPA Method 8270C: PAHs						
Client ID: PBW	Batch	ID: 35	504	F	RunNo: 4	7841				
Prep Date: 12/14/2017	Analysis D	ate: 12	2/15/2017	S	SeqNo: 1	530513	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	61		87.60		69.9	18.7	145			
Surr: Benzo(e)pyrene	14		20.00		71.7	28.2	137			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

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

→ Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% 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

Reporting Detection Limit

Sample container temperature is out of limit as specified

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### Hall Environmental Analysis Laboratory, Inc.

22

WO#: 1712748

12-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID Ics-1 ~20uS eC SampType: LCS TestCode: SM2510B: Specific Conductance

Client ID: LCSW Batch ID: R47803 RunNo: 47803

5.0

Prep Date: Analysis Date: 12/13/2017 SeqNo: 1528860 Units: µmhos/cm

19.96

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

110

120

Conductivity

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

PQL Practical Quanitative Limit

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 17 of 19

### 'Il Environmental Analysis Laboratory, Inc.

12-Jan-18

WO#:

1712748

Client:

Western Refining Southwest, Inc.

Project:

GBR Annual Sampling

Sample ID mb-1 alk

SampType: MBLK

TestCode: SM2320B: Alkalinity

LowLimit

Client ID:

PBW

Batch ID: R47803

RunNo: 47803

Prep Date:

Result

%REC

Units: mg/L CaCO3

HighLimit

Analyte

Analysis Date: 12/13/2017 PQL

SeqNo: 1528814

Qual

Total Alkalinity (as CaCO3)

Sample ID Ics-1 alk

ND 20.00

TestCode: SM2320B: Alkalinity SampType: LCS

SPK value SPK Ref Val

Batch ID: R47803

RunNo: 47803

Client ID: Prep Date:

LCSW

Units: mg/L CaCO3

Analyte

Result

Analysis Date: 12/13/2017 PQL SPK value SPK Ref Val

SeqNo: 1528815 %REC

LowLimit HighLimit

**RPDLimit** 

Qual

Total Alkalinity (as CaCO3)

78.32

20.00

80.00

97.9

90

%RPD

%RPD

**PBW** 

SampType: MBLK

TestCode: SM2320B: Alkalinity

110

**RPDLimit** 

Sample ID mb-2 alk

Batch ID: R47803

RunNo: 47803

Units: mg/L CaCO3

Prep Date:

Client ID:

Analysis Date: 12/13/2017

SeqNo: 1528838

LowLimit

**RPDLimit** 

Analyte

ND 20.00

Result

78.56

PQL

SPK value SPK Ref Val

%REC

HighLimit

%RPD

Qual

Total Alkalinity (as CaCO3)

nt ID:

Sample ID Ics-2 alk LCSW

SampType: LCS Batch ID: R47803 TestCode: SM2320B: Alkalinity RunNo: 47803

Units: mg/L CaCO3

Analyte

.ep Date:

Analysis Date: 12/13/2017

SPK value SPK Ref Val

%REC

SeqNo: 1528839 LowLimit

HighLimit

%RPD

**RPDLimit** 

Page 18 of 19

Qual

Total Alkalinity (as CaCO3)

PQL 20.00

80.00

0

98.2

90

110

### Qualifiers:

Value exceeds Maximum Contaminant Level

% Recovery outside of range due to dilution or matrix

Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit

Practical Quanitative Limit

В Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits

P Sample pH Not In Range

Sample container temperature is out of limit as specified

Reporting Detection Limit

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1712748

12-Jan-18

Client: Western Refining Southwest, Inc.

**Project:** GBR Annual Sampling

Sample ID MB-35599 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 35599 RunNo: 47947

Prep Date: 12/19/2017 Analysis Date: 12/21/2017 SeqNo: 1536146 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids ND 20.0

Sample ID LCS-35599 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 35599 RunNo: 47947

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids 1020 20.0 1000 0 102 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

PQL Practical Quanitative Limit

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 19 of 19

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



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:	Client Name: Western Refining Southw Work Order N				Alexandria de la composición del la composición del composición de la composición del composición del composición de la composición del la composición de la composición de la composición del composición del composición del composición del composición del composici	ReptNo	o: 1
Received By:	Anne Thorne	12/13/2017 7:00:00			0 11		
Completed By:	Michelle Garcia				aon A- Microse G		
	_	12/13/2017 10:24:3	IVIA CO		" purelle G	anue)	
Reviewed By:	ENM	12/13/17					
Chain of Cus	tody						
	als intact on sample bottles?		Yes		No	Not Present 🗹	
2. Is Chain of 0	Custody complete?		Yes	<b>V</b>	No	Not Present	
3. How was the	e sample delivered?		Cou	nier			
Log In							
4. Was an atte	empt made to cool the samples	?	Yes	V	No 🗆	NA	
5. Were all sar	nples received at a temperature	e of >0° C to 6.0°C	Yes	~	No 🗆	NA	
6. Sample(s) in	n proper container(s)?		Yes	~	No		
7. Sufficient sa	mple volume for indicated test(	s)?	Yes	<b>y</b>	No		
8. Are samples	(except VOA and ONG) prope	rly preserved?	Yes	<b>V</b>	No		
9. Was preserv	rative added to bottles?		Yes		No 🗸	NA	
10 VOA vials ha	ave zero headspace?		Yes	<b>V</b>	No _	No VOA Vials	
11. Were any sa	ample containers received brok	en?	Yes	-	No 🗸	# - 6	
						# of preserved bottles checked	U
	vork match bottle labels? pancies on chain of custody)		Yes	~	No	for pH:	or >12 unless noted)
	correctly identified on Chain of	Custody?	Yes	V	No	Adjusted?	JO
	at analyses were requested?		Yes	<b>v</b>	No		
	ding times able to be met?		Yes	<b>v</b>	No _	Checked by:	IMD
(ii no, notiry	customer for author zation.)						
Special Hand	ling (if applicable)						
16, Was client no	otified of all discrepancies with	this order?	Yes		No	NA 🗸	
Person	Notified:	Date			•		
By Wh	om:	Via:	eMa	ail	Phone Fax	In Person	
Regard	ling:					2	
Client I	nstructions:						
17. Additional re	emarks:						
18. Cooler Info							
Cooler No		eal Intact   Seal No	Seal Da	te ]	Signed By		
1	1.0 Good Yes	5					

С	Chain-of-Custody Record			Turn-Around		8	70%							
Client:	Wate	an Re	Pining	Standard	□ Rush						AL N			
	1.4			Project Name	5;		1		170	-				
Mailing	Address		obireon	GRD	Ann	C 4					WWV			
wanng	^	111 0	R 4990	UUK	Allinday	Sompling		49	01 H	lawk	ins N	1E -	Alb	bu
	7 Bo	ono h	Ermington NM 87413					Te	el. 50	)5-3	45-39		T-100	Fa
Phone	#: 5	35 G	324166	N	121000	7						A	nal	ys
email o	r Fax#:	Kosly.	Robinson Canderon con	Project Mana	iger:		_	nly)	3					1
	Package:	1		_			021	10 8	Ž			(S		3
☐ Stan	dard		☐ Level 4 (Full Validation)	Leur	Hencim	ann	8) s	(Ga	2			SIMS)		1
Accredi	tation			Sampler:			TMB's (8021)	PH	0/	=	7	70 8		1
□ NEL	AP	□ Othe	r	On Ice:	"  Yes  ✓	□ No	+	+	80	18	904	82		1
□ EDD	(Type)		¥/	Sample Tem	perature:	1.0	BE	BE	9)	pd 4	pc g	0		1
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)	PAH's (8310 or 8270	RCRA 8	
12-17	1730	Ghi	6RW-6	various	terious	-001								T
	1415	1	GBR-24D	1		-002								$\dagger$
	,													F
Date:	Time:	Relinguish Pernguish	Allwa	Received by.	Wart	Date Time  12/12/17/530  Date Time  1/2/13/17	Rer	nark	s:	cc	d.	he	nc	M
2/12/1-	1921	1/6	Wat	1 CI		12/13/17								

, samples submitted to Hail Environmental may be subcontracted to other accredited laboratories

If nea

serves as notice of this possibility. Any sub-contracted data will be of

TABLE 1

### 2015 SAMPLING SCHEDULE FORMER GIANT BLOOMFIELD REFINERY WESTERN REFINING

Sample 1D	ANNUALLY (Jan)	Notes:
Sustan Influent	VOC	VOC
System Influent	GWC	method 8260
	VOC	
Sustain Economi	GWC	PAH
System Effluent	METALS	method 8270
	PAH	
	VOC	GWC
GRW-3	OWC .	pH
	PAH	EC
	VOC	TDS
GRW-6	) GWC	alkalinity
	PAH	hardness
	VOC	anions
GBR-17	GWC	bromide
	PAH	chloride
	VOC	sulfate
GBR-24D	GWC	fluoride
	) PAH	nitrate/nitrite
	VOC	phosporus
GBR-30	OWC	cations
	PAH	calcium
	VOC	iron
GBR-31	GWC -	magnesium
	PAH	manganese
	VQC	potassium
GBR-32	GWC	sodium
	METALS	
	VOC	Metals
GBR-48	GWC	barium
<	METALS	beryllium
	VOC	cadmium
CRIS.49	CWC	chromium
7	METALS	copper
	VOC	lead
GRIESIL >	CMC	nickel
	METALS	silver
GBR-51	VOC	zinc
- Chica	GWC	antimony
CBR-52	VOC	arsenic
	GWC	selenium
SHS-8	VOC	thallium
51117-0	CWC	mercury





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

June 12, 2017

Kelly Robinson Western Refining Southwest, Inc. #50 CR 4990

Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

RE: SHS-1-5 Monitoring OrderNo.: 1706093

### Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/2/2017 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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 qualifiers 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 Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1706093

Date Reported: 6/12/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SHS-1

 Project:
 SHS-1-5 Monitoring
 Collection Date: 6/1/2017 12:50:00 PM

 Lab ID:
 1706093-001
 Matrix: AQUEOUS
 Received Date: 6/2/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analys	t: TOM
Diesel Range Organics (DRO)	1.5	0.20		mg/L	1	6/6/2017 9:28:00 AM	32101
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	6/6/2017 9:28:00 AM	32101
Surr: DNOP	96.6	86-162		%Rec	1	6/6/2017 9:28:00 AM	32101
SM2340B: HARDNESS						Analyst	pmf
Hardness (As CaCO3)	2200	6.6		mg/L	1	6/6/2017	R43296
EPA METHOD 300.0: ANIONS						Analyst	MRA
Chloride	100	10		mg/L	20	6/2/2017 9:14:18 PM	R43225
Sulfate	1300	25	*	mg/L	50	6/7/2017 12:10:29 AM	A43289
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	3500	1.0		µmhos/cm	1	6/5/2017 5:58:39 PM	R43291
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	752.4	20.00		mg/L CaCO3	1	6/5/2017 5:58:39 PM	R43291
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/5/2017 5:58:39 PM	R43291
Total Alkalinity (as CaCO3)	752.4	20.00		mg/L CaCO3	1	6/5/2017 5:58:39 PM	R43291
SM2540C MOD: TOTAL DISSOLVED SC	LIDS					Analyst	: KS
Total Dissolved Solids	2400	200	*D	mg/L	1	6/8/2017 9:27:00 PM	32171
SM4500-H+B: PH						Analyst	JRR
рН	7.55		Н	pH units	1	6/5/2017 5:58:39 PM	R43291
EPA METHOD 200.7: METALS						Analyst	pmf
Calcium	610	20		mg/L	20	6/6/2017 5:21:57 PM	32118
Magnesium	150	20		mg/L	20	6/6/2017 5:21:57 PM	32118
Potassium	39	20		mg/L	20	6/6/2017 5:21:57 PM	32118
Sodium	490	20		mg/L	20	6/6/2017 5:21:57 PM	32118
EPA METHOD 8015D: GASOLINE RANG	SE .					Analyst	NSB
Gasoline Range Organics (GRO)	ND	0.10	D	mg/L	2	6/6/2017 10:21:56 AM	R43288
Surr: BFB	110	52.3-138	D	%Rec	2	6/6/2017 10:21:56 AM	R43288

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 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1706093

Date Reported: 6/12/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SHS-2

 Project:
 SHS-1-5 Monitoring
 Collection Date: 6/1/2017 2:30:00 PM

 Lab ID:
 1706093-002
 Matrix: AQUEOUS
 Received Date: 6/2/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst	TOM
Diesel Range Organics (DRO)	24	0.20		mg/L	1	6/6/2017 10:53:18 AM	32101
Motor Oil Range Organics (MRO)	2.8	2.5		mg/L	1	6/6/2017 10:53:18 AM	32101
Surr: DNOP	102	86-162		%Rec	1	6/6/2017 10:53:18 AM	32101
SM2340B: HARDNESS						Analyst	pmf
Hardness (As CaCO3)	2100	6.6		mg/L	1	6/6/2017	R43296
EPA METHOD 300.0: ANIONS						Analyst	MRA
Chloride	310	10	*	mg/L	20	6/2/2017 9:39:08 PM	R43225
Sulfate	2200	50	*	mg/L	100	6/7/2017 12:22:53 AM	A43289
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	4600	1.0		µmhos/cm	1	6/5/2017 6:26:16 PM	R43291
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	298.4	20.00		mg/L CaCO3	1	6/5/2017 6:26:16 PM	R43291
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/5/2017 6:26:16 PM	R43291
Total Alkalinity (as CaCO3)	298.4	20.00		mg/L CaCO3	1	6/5/2017 6:26:16 PM	R43291
SM2540C MOD: TOTAL DISSOLVED SO	LIDS					Analyst	KS
Total Dissolved Solids	4100	200	*D	mg/L	1	6/8/2017 9:27:00 PM	32171
SM4500-H+B: PH						Analyst	JRR
рН	6.90		Н	pH units	1	6/5/2017 6:26:16 PM	R43291
EPA METHOD 200.7: METALS						Analyst	pmf
Calcium	560	10		mg/L	10	6/6/2017 3:17:33 PM	32118
Magnesium	160	10		mg/L	10	6/6/2017 3:17:33 PM	32118
Potassium	23	10		mg/L	10	6/6/2017 3:17:33 PM	32118
Sodium	500	10		mg/L	10	6/6/2017 3:17:33 PM	32118
EPA METHOD 8015D: GASOLINE RANG	E					Analyst	NSB
Gasoline Range Organics (GRO)	0.11	0.10	D	mg/L	2	6/6/2017 10:45:36 AM	R43288
Surr: BFB	125	52.3-138	D	%Rec	2	6/6/2017 10:45:36 AM	R43288

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

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

#### Lab Order 1706093

Date Reported: 6/12/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SHS-4

 Project:
 SHS-1-5 Monitoring
 Collection Date: 6/1/2017 3:30:00 PM

 Lab ID:
 1706093-003
 Matrix: AQUEOUS
 Received Date: 6/2/2017 8:25:00 AM

Analyses	Result	PQL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst	TOM
Diesel Range Organics (DRO)	ND	0.20		mg/L	1	6/6/2017 11:21:53 AM	32101
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	6/6/2017 11:21:53 AM	32101
Surr: DNOP	103	86-162		%Rec	1	6/6/2017 11:21:53 AM	32101
SM2340B: HARDNESS						Analyst:	pmf
Hardness (As CaCO3)	1600	6.6		mg/L	1	6/6/2017	R43296
EPA METHOD 300.0: ANIONS						Analyst	MRA
Chloride	59	2.5		mg/L	5	6/2/2017 9:51:32 PM	R43225
Sulfate	1600	25	*	mg/L	50	6/7/2017 12:35:18 AM	A43289
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	2900	1.0		µmhos/cm	1	6/5/2017 6:42:06 PM	R43291
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	202.8	20.00		mg/L CaCO3	1	6/5/2017 6:42:06 PM	R43291
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/5/2017 6:42:06 PM	R43291
Total Alkalinity (as CaCO3)	202.8	20.00		mg/L CaCO3	1	6/5/2017 6:42:06 PM	R43291
SM2540C MOD: TOTAL DISSOLVED SO	LIDS					Analyst:	KS
Total Dissolved Solids	2270	200	*D	mg/L	1	6/8/2017 9:27:00 PM	32171
SM4500-H+B: PH						Analyst:	JRR
рН	7.63		Н	pH units	1	6/5/2017 6:42:06 PM	R43291
EPA METHOD 200.7: METALS						Analyst:	pmf
Calcium	520	10		mg/L	10	6/6/2017 3:21:02 PM	32118
Magnesium	68	10		mg/L	10	6/6/2017 3:21:02 PM	32118
Potassium	23	10		mg/L	10	6/6/2017 3:21:02 PM	32118
Sodium	280	10		mg/L	10	6/6/2017 3:21:02 PM	32118
EPA METHOD 8015D: GASOLINE RANG	E					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	0.10	D	mg/L	2	6/5/2017 6:30:40 PM	G43256
Surr: BFB	108	52.3-138	D	%Rec	2	6/5/2017 6:30:40 PM	G43256

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

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

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1706093

12-Jun-17

Client: Western Refining Southwest, Inc.

**Project:** SHS-1-5 Monitoring

Sample ID MB-32118	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	200.7: Metals			
Client ID: PBW	Batch	ID: 32	118	F	RunNo: 4	3296				
Prep Date: 6/5/2017	Analysis D	ate: 6/	6/2017	S	SeqNo: 1	362918	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID LCSLL-32118	SampT	ype: LC	SLL	Tes	tCode: E	PA Method	200.7: Metals			
Client ID: BatchQC	Batch	n ID: 32	118	F	RunNo: 4	3296				
Prep Date:	Analysis D	ate: 6/	6/2017	S	SeqNo: 1	362919	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			
Magnesium	ND	1.0	0.5000	0	104	50	150			
Potassium	ND	1.0	0.5000	0	84.2	50	150			
Sodium	ND	1.0	0.5000	0	103	50	150			

Sample ID LCS-32118	SampType	e: LC	S	Test	Code: El	PA Method	200.7: Metals			
Client ID: LCSW	Batch ID	): <b>321</b>	118	R	tunNo: 4	3296				
Prep Date: 6/5/2017	Analysis Date	e: 6/6	6/2017	S	eqNo: 1	362920	Units: mg/L			
Analyte	Result F	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.7	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Potassium	48	1.0	50.00	0	96.4	85	115			
Sodium	49	1.0	50.00	0	97.9	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 4 of 9

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

### all Environmental Analysis Laboratory, Inc.

WO#: 1706093

12-Jun-17

Client:

Western Refining Southwest, Inc.

Project:

SHS-1-5 Monitoring

Sample	ID	MB
--------	----	----

SampType: MBLK

**PBW** 

Batch ID: R43225

PQL

TestCode: EPA Method 300.0: Anions RunNo: 43225

Client ID: Prep Date:

Result

Units: mg/L

%RPD

Analyte

Analysis Date: 6/2/2017

SeqNo: 1361239

HighLimit

**RPDLimit** 

Qual

Chloride

ND 0.50

Sample ID LCS

SampType: LCS

TestCode: EPA Method 300.0: Anions

Client ID:

LCSW

Batch ID: R43225

RunNo: 43225

Units: mg/L

Prep Date:

Analysis Date: 6/2/2017

SeqNo: 1361240

%RPD

Analyte

Result PQL 4.8 0.50 SPK value SPK Ref Val 5.000

%REC 96.6

LowLimit

HighLimit 110 **RPDLimit** 

Qual

Chloride

SampType: MBLK

SPK value SPK Ref Val %REC LowLimit

TestCode: EPA Method 300.0: Anions

Client ID: Prep Date:

Sample ID MB

Batch ID: A43289 Analysis Date: 6/6/2017 RunNo: 43289 SeqNo: 1363422

Units: mg/L

Analyte

PQL Result ND

SPK value SPK Ref Val %REC

0

LowLimit

HighLimit

%RPD **RPDLimit** 

Qual

Sulfate

0.50

TestCode: EPA Method 300.0: Anions

Sample ID LCS

.ep Date:

nt ID: LCSW

**PBW** 

SampType: LCS

Batch ID: A43289

RunNo: 43289

Units: mg/L

Qual

Analyte Sulfate

Analysis Date: 6/6/2017

9.7

PQL SPK value SPK Ref Val

%REC

LowLimit

HighLimit

**RPDLimit** 

0.50

10.00

96.7

SeqNo: 1363423

90

110

Qualifiers:

D

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

E Value above quantitation range

J

P Sample pH Not In Range

Reporting Detection Limit RL Sample container temperature is out of limit as specified

Analyte detected below quantitation limits

Page 5 of 9

### Hall Environmental Analysis Laboratory, Inc.

Analysis Date: 6/6/2017

PQL

0.20

Result

5.5

0.27

WO#: 1706093

12-Jun-17

Client: Western Refining Southwest, Inc.

**Project:** SHS-1-5 Monitoring

Sample ID MB-32101	Samp	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8015D: Diese	I Range		
Client ID: PBW	Batcl	h ID: 32	101	F	RunNo: <b>43269</b>					
Prep Date: 6/5/2017	Analysis D	Date: 6/	6/2017	S	SeqNo: 1	362105	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.20								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.50		0.5000		99.9	86	162			
Sample ID 1706093-001BMS	IS SampType: MS TestCode: EPA Method 8015D: Diesel Range									
Client ID: SHS-1	Batcl	h ID: 32	101	F	unNo: 4	3269				
Prep Date: 6/5/2017	Analysis D	Date: 6/	6/2017	S	SeqNo: 1	362417	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.1	0.20	2.500	1.542	104	75.4	162			
Surr: DNOP	0.26		0.2500		105	86	162			
Sample ID 1706093-001BMS	D SampType: MSD TestCode: EPA Method 8015D: Diesel Range									
Client ID: SHS-1	Batcl	h ID: 32	101	F	lunNo: 4	3269				

Sample ID LCS-32101	SampT	ype: LC	S	Test	Code: E	PA Method	8015D: Diese	I Range		
Client ID: LCSW	Batch	ID: 32	101	R	tunNo: 4	3269				
Prep Date: 6/5/2017	Analysis Da	ate: 6/	6/2017	S	eqNo: 1	362743	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.5	0.20	2.500	0	101	72	170			
Surr: DNOP	0.24		0.2500		96.6	86	162			

1.542

SPK value SPK Ref Val

2.500

0.2500

SeqNo: 1362512

LowLimit

75.4

86

%REC

158

109

Units: mg/L

HighLimit

162

%RPD

28.0

0

**RPDLimit** 

20

0

Qual

R

#### Qualifiers:

Prep Date:

Surr: DNOP

Analyte

6/5/2017

Diesel Range Organics (DRO)

\* 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 6 of 9

P Sample pH Not In Range RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

## 'll Environmental Analysis Laboratory, Inc.

WO#: 1706093

12-Jun-17

Client:

Western Refining Southwest, Inc.

Project:	SHS-1-5	Monitoring	g								
Sample ID	RB	SampT	уре: М	BLK	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	е	
Client ID:	PBW	Batch	n ID: G4	13256	F	RunNo: 4	3256				
Prep Date:		Analysis D	ate: 6/	/5/2017	5	SeqNo: 1	361982	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	e Organics (GRO)	ND	0.050								
Surr: BFB		22		20.00		112	52.3	138			
Sample ID	2.5UG GRO LCS	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	е	
Client ID:	LCSW	Batch	ID: G4	13256	F	RunNo: 4	3256				
Prep Date:		Analysis D	ate: 6/	5/2017	8	SeqNo: 1	361984	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	99.0	79.1	123			
Surr: BFB		24		20.00		122	52.3	138			
Sample ID	RB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8015D: Gasol	line Rang	е	
Client ID:	PBW	Batch	ID: R4	3288	F	RunNo: 4	3288				
Prep Date:		Analysis D	ate: 6/	6/2017	S	SeqNo: 1	363150	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								
r: BFB		22		20.00		109	52.3	138			
Sample ID	2.5UG GRO LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gasol	line Rang	e	
Client ID:	LCSW	Batch	ID: R4	3288	F	RunNo: 4	3288				
Prep Date:		Analysis D	ate: 6/	6/2017	S	SeqNo: 1	363151	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	0.55	0.050	0.5000	0	110	79.1	123			
Surr: BFB		25		20.00		123	52.3	138			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

ŋ Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

Е Value above quantitation range

J Analyte detected below quantitation limits Page 7 of 9

P Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1706093

12-Jun-17

Client: Western Refining Southwest, Inc.

**Project:** SHS-1-5 Monitoring

Sample ID mb-1 SampType: mblk TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R43291 RunNo: 43291

Prep Date: Analysis Date: 6/5/2017 SeqNo: 1362686 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 Ics-1 SampType: Ics TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R43291 RunNo: 43291

Prep Date: Analysis Date: 6/5/2017 SeqNo: 1362687 Units: mg/L CaCO3

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Alkalinity (as CaCO3) 78.68 20.00 80.00 0 98.4 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

on range

Page 8 of 9

### Yall Environmental Analysis Laboratory, Inc.

WO#: 1706093

12-Jun-17

Client: Western Refining Southwest, Inc.

**Project:** SHS-1-5 Monitoring

Sample ID MB-32171 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 32171 RunNo: 43363

Prep Date: 6/7/2017 Analysis Date: 6/8/2017 SeqNo: 1365253 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids ND 20.0

Sample ID LCS-32171 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 32171 RunNo: 43363

Prep Date: 6/7/2017 Analysis Date: 6/8/2017 SeqNo: 1365254 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
 Holding times for preparation or analysis exceeded

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



Hall Environmental Analysis Laboratory 1901 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	er: 1706093		ReptNo	o: 1
Received By:	Erin Melendrez	6/2/2017 8:25:00 AM	1	U.M.	~	
Completed By:	Ashley Gallegos	6/2/2017 9:17:52 AM	1	As		
Reviewed By:	Size 06/02	11-5		. 0		
,	06/02	717				
Chain of Cust	ody					
	s intact on sample bottles?		Yes 🗌	No 🗌	Not Present	
2. Is Chain of Co	ustody complete?		Yes 🗸	No 🗌	Not Present	
3. How was the	sample delivered?		Courier			
Log In						1
<ol> <li>Was an atter</li> </ol>	npt made to cool the sample	s?	Yes 🗸	No _	NA L	I
5. Were all sam	ples received at a temperatu	re of >0" C to 6.0"C	Yes 🗹	No 🗌	NA 🗆	
6. Sample(s) in	proper container(s)?		Yes 🗸	No 🗆		
	nple volume for indicated tes		Yes 🗸	No L	ENM IN	
8. Are samples	(except VOA and ONG) prop	erly preserved?	Yes V	No 🖂	DIO 10 NA 1	
<ol><li>Was preserva</li></ol>	ative added to bottles?		Yes 💟	No V	DO IO NY	
10. VOA vials had	ve zero headspace?		Yes 🗸	No 🗆	No VOA Vials	
11. Were any sar	mple containers received bro	ken?	Yes 🗀	No 🗸		
					# of preserved bottles checked	
	ork match bottle labels?		Yes 🗸	No .	for pH:	1
	ancies on chain of custody)			N. []	Adjusted?	or >12 unless noted)
	correctly identified on Chain	of Gustody?	Yes 🗹	No 🗌	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	14
	at analyses were requested?		Yes 🗸	No 🗆	Checked by:	ELLI
	ing times able to be met? sustomer for authorization.)		Yes 🗸	140	ondored by:	CNM
Special Handl	ing (if applicable)					
4	etified of all discrepancies wit	h this arder?	Yes 🗌	No 🗆	NA 🗹	
	p	_			177	
	Notified:	Date Via	] eMail	Phone Fax	In Person	
By Who Regardi	1	VIA	ewan	FROME FAX		
_	nstructions:					
		Shall form man	ordered to leave to	landida -		
17. Additional rea	marks poured off 12: Proper pH for Me	THE FIGHT PION	1-101-1 C = 2	ic bothe fo	r metals an	alysis. Added o
18. Cooler Infor	Proper pH for mi	and andysis.	dator 2	4 hrs price	to analysis.	11.20190 HMB-
Cooler No	Temp °C   Condition	Seal Intact   Seal No	Seal Date	Signed By		
1		ot Present	ocur parc	Jigrica D)		

			stody Record	Turn-Around	Time:								- 0. 0 7	#"E" E	-	ED. 11 IS.		D. 1	m. 1	
Client:	Kelly	Robin	nSon	Standard			HALL ENVIRONMENTAL ANALYSIS LABORATORY													
We	stern	Refin	ning	Project Name	9;								viror							
Mailing	Address	171 4	1990	SHS-1	-5 Mon	Anvina		49	01 H				lbuqu				109			
	Bloom	Aild.	NIM 87413	Project #:		,					5-397		Fax							
Phone :				1	261900	9						and the last of the last	lysis	-	and other party and	-		Ria Sign		
email o	r Fax#:			Project Mana			_	(yE	0		T		(7)							
QA/QC I	Package: dard		☐ Level 4 (Full Validation)	Kelly Robinsus				TPH (Gas only)	SO / MF			(NIMIN)	PO <sub>4</sub> ,S(	PCB's			J.W			
Accredi		□ Othe	er	Sampler: M <sub>1</sub>		Wicker Do	+ TMB		O / DF	18.1)		8270	3,NO2,	/ 8082		A)	Chemistry		文文	S S
□ EDD	(Type)			Sample Temperature:   .9				BE.	(GF	d 4	, Q	or or	N.	des	2	, O	0	GRU	2	2
Date				Container Type and #	Preservative Type	HEAL NO.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE +	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH'S (8310 or RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Goneral	1PH-6	IPH - DRO	Air Bubbles (Y or N)
6-1-17	1250	AQ	SHS-1	5	HC//C001	-001											X	X		
1	1430	1	SHS-Z	1	1	-002											i	1	1	
V	1530	V	SHS-4	V - co3												V	V			
																			+	
Date: Time: Relinquished by:    1-1-7   1-2     Date: Time: Relinquished by:			Received by:  Date Time    1638   Received by:  Date Time			*General Chemistry: C1, SO4, Cations of 1021											1021-			
417	necessary.	samples subr	Mitted to Hall Environmental may be subc	contracted to other se		06/02/17 0325	3 "	arc	1,00	IK,	Spe	0410	(0)	70/-	Pr	/- /	10	per	De	von



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

OrderNo.: 1706095

June 12, 2017

Kelly Robinson Western Refining Southwest, Inc. #50 CR 4990

Bloomfield, NM 87413 TEL: (505) 632-4135 FAX (505) 632-3911

RE: SHS 1-5 Monitoring

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/2/2017 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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 qualifiers 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 Freeman

Laboratory Manager

anded

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 6/12/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. Client Sample ID: SHS-5

SHS 1-5 Monitoring Collection Date: 6/1/2017 2:10:00 PM Project: Lab ID: 1706095-001 Matrix: AQUEOUS Received Date: 6/2/2017 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst	: TOM
Diesel Range Organics (DRO)	ND	0.20		mg/L	1	6/6/2017 11:50:25 AM	32101
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	6/6/2017 11:50:25 AM	32101
Surr: DNOP	107	86-162		%Rec	1	6/6/2017 11:50:25 AM	32101
SM2340B: HARDNESS						Analyst	pmf
Hardness (As CaCO3)	1100	6.6		mg/L	1	6/6/2017	R43296
EPA METHOD 300.0: ANIONS						Analyst	MRA
Chloride	50	2.5		mg/L	5	6/2/2017 8:37:04 PM	R43225
Sulfate	1200	25	*	mg/L	50	6/6/2017 12:50:37 AM	R43274
SM2510B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conductivity	2600	1.0		µmhos/cm	1	6/5/2017 6:53:26 PM	R43291
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	231.2	20.00		mg/L CaCO3	1	6/5/2017 6:53:26 PM	R43291
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	6/5/2017 6:53:26 PM	R43291
Total Alkalinity (as CaCO3)	231.2	20.00		mg/L CaCO3	1	6/5/2017 6:53:26 PM	R43291
SM2540C MOD: TOTAL DISSOLVED SO	LIDS					Analyst	: KS
Total Dissolved Solids	2030	200	*D	mg/L	1	6/8/2017 9:27:00 PM	32171
SM4500-H+B: PH						Analyst	JRR
Нα	7.68		Н	pH units	1	6/5/2017 6:53:26 PM	R43291
EPA METHOD 200.7: METALS						Analyst	pmf
Calcium	380	10		mg/L	10	6/6/2017 3:24:35 PM	32118
Magnesium	32	1.0		mg/L	1	6/6/2017 3:22:48 PM	32118
Potassium	7.4	1.0		mg/L	1	6/6/2017 3:22:48 PM	32118
Sodium	270	10		mg/L	10	6/6/2017 3:24:35 PM	32118
EPA METHOD 8015D: GASOLINE RANG	Ε					Analyst	NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	6/6/2017 4:17:37 PM	R43288
Surr: BFB	107	52.3-138		%Rec	1	6/6/2017 4:17:37 PM	R43288

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

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- H 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
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 7 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1706095

12-Jun-17

Client:

Western Refining Southwest, Inc.

Project:

SHS 1-5 Monitoring

Sample ID MB-32118	SampT	уре: МЕ	BLK	Tes	tCode: E	PA Method	200.7: Metals					
Client ID: PBW	D: <b>PBW</b> Batch ID: <b>32118</b>					RunNo: 43296						
Prep Date: 6/5/2017	6/2017	S	SeqNo: 1	362918	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Calcium	ND	1.0										
Magnesium	ND	1.0										
Potassium	ND	1.0										
Sodium	ND	1.0										

Sample ID LCSLL-32118	Sample ID LCSLL-32118 SampType: LCSLL TestCode: EPA Me												
Client ID: BatchQC	Batch	ID: 32	118	RunNo: 43296									
Prep Date:	Analysis D	ate: 6/	6/2017	8	SeqNo: 1	362919	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	K Ref Val %REC		HighLimit	%RPD	RPDLimit	Qual			
Calcium	ND	1.0	0.5000	0	102	50	150						
Magnesium	ND	1.0	0.5000	0	104	50	150						
Potassium	ND	1.0	0.5000	0	0 84.2 50		150						
Sodium	ND	1.0	0.5000	0	103	50	150						

Sample ID LCS-32118	SampT	ype: LC	s	Tes	tCode: El	PA Method	200.7: Metals			
Client ID: LCSW	Batch	ID: 32	118	F	RunNo: 4	3296				
Prep Date: 6/5/2017	Analysis D	ate: 6/	6/2017	S	SeqNo: 1	362920	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit		HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.7	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Potassium	48	1.0	50.00	0	96.4	85	115			
Sodium	49	1.0	50.00	0	97.9	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 2 of 7

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

### all Environmental Analysis Laboratory, Inc.

WO#: 1706095

12-Jun-17

Client: Western Refining Southwest, Inc.

**Project:** SHS 1-5 Monitoring

Sample ID MB SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: R43225 RunNo: 43225

Prep Date: Analysis Date: 6/2/2017 SeqNo: 1361239 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 TestCode: EPA Method 300.0: Anions Client ID: LCSW Batch ID: R43225 RunNo: 43225 Prep Date: Analysis Date: 6/2/2017 SeqNo: 1361240 Units: mg/L Analyte Result SPK value SPK Ref Val %REC %RPD PQL HighLimit **RPDLimit** LowLimit Qual

Chloride 4.8 0.50 5.000 0 96.6 90 110

Sample ID MB SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: R43274 RunNo: 43274

Prep Date: Analysis Date: 6/5/2017 SeqNo: 1362207 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Sulfate ND 0.50

Sample ID LCS SampType: LCS TestCode: EPA Method 300.0: Anions

nt ID: LCSW Batch ID: R43274 RunNo: 43274

.ep Date: Analysis Date: 6/5/2017 SeqNo: 1362208 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Sulfate 9.5 0.50 10.00 0 95.1 90 110

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level

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

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 3 of 7

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1706095 12-Jun-17

Client:

Western Refining Southwest, Inc.

Project:

SHS 1-5 Monitoring

Project: SHS 1-3	Nionitoring	g 															
Sample ID MB-32101	SampT	уре: МЕ	BLK	Tes	tCode: El	de: EPA Method 8015D: Diesel Range											
Client ID: PBW	Batch	n ID: 32	101	F	RunNo: 4												
Prep Date: 6/5/2017	Analysis D	ate: 6/	6/2017	S	SeqNo: 1	362105	Units: mg/L										
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual							
Diesel Range Organics (DRO)	ND	0.20															
Motor Oil Range Organics (MRO)	ND	2.5															
Surr: DNOP	0.50		0.5000		99.9	86	162										
Sample ID LCS-32101	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Diese	l Range									
Client ID: LCSW	Batch	n ID: 32	101	RunNo: <b>43269</b>													
Prep Date: 6/5/2017	Analysis D	ate: 6/	6/2017	8	SeqNo: 1	362743	Units: mg/L										
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual							
Diesel Range Organics (DRO)	2.5	0.20	2.500	0	101	72	170										
Surr: DNOP	0.24		0.2500		96.6	86	162										

#### 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 4 of 7

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

### 'll Environmental Analysis Laboratory, Inc.

25

WO#: 1706095

12-Jun-17

Client: Western Refining Southwest, Inc.

Project: SHS 1-5 Monitoring

Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: **PBW** Batch ID: R43288 RunNo: 43288

Prep Date: Analysis Date: 6/6/2017 SeqNo: 1363150 Units: mg/L

Analyte %REC Result PQL SPK value SPK Ref Val LowLimit HighLimit %RPD **RPDLimit** Qual

Gasoline Range Organics (GRO) ND

Surr: BFB 22 20.00 109 52.3 138

20.00

Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range LCSW RunNo: 43288 Client ID: Batch ID: R43288 Prep Date: Analysis Date: 6/6/2017 SeqNo: 1363151 Units: mg/L %REC Analyte Result PQL SPK value SPK Ref Val LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 0.55 0.050 0.5000 110 79.1 123

123

52.3

138

**Oualifiers:** 

Surr: BFB

Value exceeds Maximum Contaminant Level.

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

Not Detected at the Reporting Limit L.

R RPD outside accepted recovery limits

% 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

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 5 of 7

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1706095

12-Jun-17

Client:

Western Refining Southwest, Inc.

Project:

SHS 1-5 Monitoring

Sample ID mb-1

SampType: mblk

TestCode: SM2320B: Alkalinity

**PBW** Client ID:

Batch ID: R43291

RunNo: 43291

Analysis Date: 6/5/2017

Batch ID: R43291

SeqNo: 1362686

Units: mg/L CaCO3

Analyte

Prep Date:

Result PQL

**RPDLimit** 

Qual

Total Alkalinity (as CaCO3)

Sample ID Ics-1

Client ID: LCSW

ND 20.00

SampType: Ics

TestCode: SM2320B: Alkalinity

RunNo: 43291

%REC

Units: mg/L CaCO3

Prep Date:

Analysis Date: 6/5/2017

SPK value SPK Ref Val

SeqNo: 1362687

HighLimit

HighLimit

Analyte

Result

80.00

98.4

%RPD

%RPD

**RPDLimit** 

Qual

Total Alkalinity (as CaCO3)

78.68

PQL 20.00

0

SPK value SPK Ref Val %REC LowLimit

90

LowLimit

110

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Holding times for preparation or analysis exceeded H

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 J

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 6 of 7

### 'll Environmental Analysis Laboratory, Inc.

WO#: 1706095

12-Jun-17

Client:

Western Refining Southwest, Inc.

Result

Result

ND

Project:

Analyte

SHS 1-5 Monitoring

Sample ID MB-32171

SampType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID:

**PBW** 

Batch ID: 32171

PQL

20.0

RunNo: 43363

Prep Date: 6/7/2017

Analysis Date: 6/8/2017

SeqNo: 1365253

Units: mg/L

HighLimit

%RPD **RPDLimit** 

Qual

Total Dissolved Solids

Sample ID LCS-32171

SampType: LCS

TestCode: SM2540C MOD: Total Dissolved Solids

%RPD

Client ID: LCSW Prep Date: 6/7/2017

Batch ID: 32171 Analysis Date: 6/8/2017 RunNo: 43363 SeqNo: 1365254

Units: mg/L

Qual

1010

20.0

PQL

1000

SPK value SPK Ref Val

0

SPK value SPK Ref Val %REC LowLimit

**RPDLimit** 

Total Dissolved Solids

Analyte

%REC 101

80

LowLimit

HighLimit 120

Qualifiers:

D

Value exceeds Maximum Contaminant Level.

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

Sample container temperature is out of limit as specified

E Value above quantitation range

Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit Page 7 of 7



### Hail Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Websue: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: Western Refining	Southw Work Order Nu	mber: 1706095		RcptNo:	: 1
Received By: Erin Melendrez	6/2/2017 8:25:00	AM	u,us	-	
Completed By Ashley Gallegos	6/2/2017 9:46:35	AM	MUNA.		
	0/02/17		- , (		
	process.				
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 to	he samples?	Yes 🗸	No 🗌	NA L	
, , , , , , , , , , , , , , , , , , , ,					
5. Were all samples received at a	temperature of >0° C to 6.0°C	Yes 🗸	No 🗆	NA 🗆	
Sample(s) in proper container(s)		Yes 🗸	No 🗌		
O. Sample(s) in proper container(s	9.5	res V		111 1.	
7. Sufficient sample volume for inc	licated test(s)?	Yes 🗹	No DI	12/2/1/	
8. Are samples (except VOA and (	ONG) properly preserved?	Yes V	No 🗹	E-1/1 1	
<ol><li>Was preservative added to bottl</li></ol>	es?	Yes 🗹	No V	NA 🗆	
10.VOA vials have zero headspace	i?	Yes	No 🗌	No VOA Vials	
11. Were any sample containers re		Yes 🗆	No 🗸		
,,,				# of preserved bottles checked	ť.
12. Does paperwork match bottle la	bels?	Yes 🗸	No 🗌	for pH:	
(Note discrepancies on chain of			n- 🗆	Adjusted?	or >12 unless noted)
13. Are matrices correctly identified	-	Yes 🗹	No L	riajustea:	(C)
14, Is it clear what analyses were re	-	Yes 🗸	No 🗔	Checked by:	Ewi
<ol> <li>Were all holding times able to b (if no, notify customer for author</li> </ol>		Yes 🔽	No 🗔	Спескей ву.	CNM
Special Handling (if applica	ble)				
16. Was client notified of all discrep	ancies with this order?	Yes	No 🗌	NA 🗸	
Person Notified:	D	ate [	Distriction of Professional		
By Whom:	Vi	a: eMail P	hone Fax	In Person	
Regarding:					
Client Instructions:					
17. Additional remarks: PoulPack ( for proper pH for me	off 125ml from proving tals analysis. How	vided plastic t	othe for n	netals analys	is. Added 0.4 mc HU
18 Cooler Information	Jana Ga I	or orms and	c to andi	4313ENH	06/02/17 1245
Cooler No Temp °C Co	HORIETT CONTINUES CONTIN	o Seal Date	Signed By		

C	Chain-of-Custody Record				Turn-Around Time:					8-	IAI		E	NI NA	TIC	20		a E	NIT	AI	
Client:	Kelly	Robin	18011	M Standard	□ Rush		HALL ENVIRONMENTAL ANALYSIS LABORATORY														
		in Re		Project Name	<b>:</b> :		1									al.co					•
Mailing	Address		Soad 4990	SHS 1-	-5 Hours	emia		49	01 H	awki								109			
	Black		NM 87413	SHS 1- Project #:	MODIT	21 34/9				5-34						345-					
Phone ?		7375 101	MM STITE	126	19009											ues					
email or				Project Mana				3	(Q				SOLUTATION OF								
QA/QC	ackage:			1			021	son	MR			<u>@</u>		SC.	S S						
⊠ Stan	dard		☐ Level 4 (Full Validation)	Kelly thounge Robinson				TPH (Gas only)	RO /			SIMS)		O.	2 PC			3			
Accredi					duel A	Wicker	TMB's (8021)	F	0/	÷.	=	70		NO	808			Cheeristry		古	2
□ NEL		□ Othe	ī	On Ice: AYes No				MTBE + 1	SRO	418	504	182	S	03,	188		OA)	20			0
□ EDD	(Type)	T		Sample Temperature:					B (G	por	pot	10 0	eta	CIA	icide	(A)	ni-V		J.K.	3	S (Y
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE	BTEX + M	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	General	TPH-6-RD	TPH-DRU	Air Bubbles (Y or N)
12-1-17	1410	AQ	·SHS-5	5	HCI/COU	-001												X	X	X	
1/		1,10																			
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							+										-			+	+
Date: Time: Relinquished by:			Received by:  Date Time    1   7   6,38					Remarks: CC DHENCMANNE LTENV COM													
6-1-17 Date	Time:	Relinquish	ed by:	Received by:	- 000	Date Time	*General Chimistry: Cl, SO4, Cations, hardness, AIK, EC, PH, TDS per Devon Jamos 06/02/17														
6/1/12	1857	14	ust Dael	Dies	?	06/02/17 0325	5 1	ari	VIII	ī. Š	A-1	K,	EC	P	Н,-	TD'	< 5 الح	eri Im	Se Vi	orejo	21
	If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of the								Any 5	ան-գրո	iracte	t data	will be	e dear	ty not	ated or	n line a	marylic	athebo	11.	