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Annual Report

2014

Western Refining
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March 11, 2015

Glen Von Gonten
Environmental Engineer
New Mexico Energy, Minerals & Natural Resources Dept.
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, NM 87505

UPS Tracking #: 1Z 881 839 07 6674 8745 Santa Fe
UPS Tracking #: 1Z 881 839 02 6553 0767 Aztec

RE: 2014 Annual Report – former Giant Bloomfield Refinery
OCD Discharge Permit GW-040

Dear Mr. Von Gonten;

Please find enclosed the 2013 Annual Report for the former Giant Bloomfield Refinery located in the NW ¼ of Section 27 and the SW ¼ of Section 22, Township 29 N, Range 12 W in San Juan County, New Mexico.

If you should have any questions or require additional information, please do not hesitate to contact Randy Schmaltz at 505-632-4171 or at Randy.Schmaltz@wnr.com.

Sincerely,

Kelly Robinson
Environmental Manager
Western Refining

cc: Brandon Powell, NM OCD Aztec District Office
Allen Haines, Western Refining, El Paso
WNR File

Western Refining

2014 Annual Report

Former Giant Bloomfield Refinery

Bloomfield, New Mexico

Discharge Permit GW-040

March 2015

2014 ANNUAL REPORT

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

MARCH 2015

WESTERN REFINING SOUTHWEST, INC.
Bloomfield, New Mexico

2014 ANNUAL REPORT

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

MARCH 2015

Prepared for:

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

Prepared by:

LT ENVIRONMENTAL, INC.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
(970) 385-1096

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EXECUTIVE SUMMARY

LT Environmental, Inc. (LTE) on behalf of Western Refining Southwest, Inc. (Western) has prepared this report detailing work completed from January 2014 through December 2014 at the former Giant Bloomfield Refinery (Site) in Bloomfield, New Mexico. The scope of work for this project was continued recovery and monitoring of petroleum hydrocarbon impacts to groundwater, which were identified upon cessation of refinery operations. During the time period covered in this report, Western utilized a groundwater recovery and remediation system consisting of groundwater recovery wells, a carbon filtration unit, and a treated water infiltration trench. The remediation system is permitted under Discharge Permit GW-040 by the New Mexico Oil Conservation Division (NMOCD).

LTE conducted operations and maintenance on the remediation system and monitored groundwater quality during 2014. The total volume of groundwater recovered and treated was approximately 953,112 gallons.

LTE measured depth-to-groundwater in all monitoring wells and recovery wells quarterly and recovered phase-separated hydrocarbons (PSH) in monitoring wells weekly with oil absorbent socks when PSH was detected. Thin accumulations of PSH exist in previously identified source areas. A total of 7.12 gallons of PSH were recovered from the Site in 2014; a decrease from the 14.99 gallons recovered in 2013. The decreased volume of PSH recovered in 2014 can be attributed to a reduction in accumulation of PSH at recovery well locations. Western increased the frequency of PSH recovery activities from quarterly to weekly beginning in August 2011. After three years of aggressive recovery, PSH accumulation in monitoring wells has decreased consistently for two years.

LTE sampled the remediation system influent and effluent in April, June, and November 2014 for laboratory analysis of volatile organic compounds (VOCs) and general water chemistry. In addition, the system effluent was analyzed for polynuclear aromatic hydrocarbons (PAHs) and metals in November 2014. LTE mistakenly omitted third quarter sampling of influent and effluent. Annual sampling of eleven monitoring wells and two recovery wells was conducted in November 2014. Groundwater samples were analyzed for VOCs and general water chemistry. Six of the groundwater samples were also analyzed for PAHs and four were analyzed for total metals concentrations.

Laboratory analytical results indicated no VOCs or PAHs were detected in influent and effluent groundwater samples, and groundwater samples collected from monitoring and recovery wells contained no concentrations of VOCs or PAHs exceeding New Mexico Water Quality Control Commission (NMWQCC) standards. Sulfate concentrations exceeded NMWQCC standards in samples collected in upgradient and on-site monitoring and recovery wells and from the remediation system influent and effluent.

Total dissolved solids exceeded NMWQCC standards in groundwater collected from all thirteen monitoring and recovery wells sampled and from the influent and effluent. Chloride concentrations exceeded the NMWQCC standard in groundwater samples collected from two upgradient monitoring wells and one on-site monitoring well. Twelve of the thirteen monitoring and recovery wells and influent and effluent samples contained manganese in excess of

NMWQCC standards. Iron concentrations exceeded the NMWQCC standard in all monitoring and recovery wells sampled except for GRW-3. Chromium concentrations exceeded NMWQCC standards in three upgradient monitoring wells. Nickel concentrations exceeded NMWQCC standards in two upgradient monitoring wells. Total dissolved solids, chloride, manganese, iron, chromium, and nickel concentrations are attributed to an upgradient release at the Lee Acres Landfill in 1985 or to naturally occurring background conditions.

Based on the results presented in this report, Western will continue PSH recovery and operation of the remediation system. As required in the discharge permit, Western will continue monitoring groundwater flow behavior, as well as influent and effluent sampling and laboratory analysis. Annual sampling of monitoring wells and recovery wells will continue.

1.0 INTRODUCTION

LT Environmental, Inc. (LTE) prepared this report on behalf of Western Refining Southwest, Inc. (Western) to summarize groundwater monitoring and remediation completed from January through December 2014 at the former Giant Bloomfield Refinery (Site) in Bloomfield, New Mexico.

1.1 SITE DESCRIPTION

The Site is on the northeast corner of United States (U.S.) Highway 64 and County Road 3500, approximately five miles west of Bloomfield, New Mexico, in the southwest quarter of Section 22 and, the northwest quarter of Section 27, Township 29 North, Range 12 West in San Juan County, New Mexico (Figure 1). The remediation system includes a control building, two carbon filtration tanks, an infiltration trench, groundwater monitoring wells, and groundwater recovery wells (Figure 2).

1.2 SITE HISTORY

The former refinery, under ownership of Giant Industries, Arizona (Giant), produced leaded and unleaded gasoline, diesel, kerosene, and other refined petroleum products from 1974 to 1982 and is presently inactive. The refining operations and subsequent truck loading and unloading activities impacted groundwater, which was identified and investigated as part of the site closure requirements in 1986 prescribed by the New Mexico Oil Conservation Division (NMOCD). 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.

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

As groundwater quality improved over time, the remediation system was gradually simplified including eliminating the air stripper and storage of recovered water in aboveground storage tanks. Following initial contaminant reduction, the groundwater remediation system operated in an operation and maintenance mode. Concentrations of contaminates within the remediation influent and effluent systems were below laboratory detection limits for 18 years. In 2008, Western conducted a supplemental evaluation of the remedial operations, which included shutting down the remediation system and sampling groundwater wells under static conditions in an effort to redefine the area of impact and assess effectiveness of the remediation system. Existing equipment was inspected and 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 and continued through 2014. In 2014, the system operated under NMOCD Discharge Permit GW-040 and consisted of 9 active groundwater recovery wells that pump groundwater directly into the carbon filtration tanks. The water then passes through the treated water infiltration trench.

1.3 SITE HYDROLOGY

The Site is located on weathered outcrops of the Nacimiento Formation, which is comprised of shales, sandstones, and siltstones of Cretaceous-Tertiary age. The San Juan River is approximately 2,000 feet south of the Site. Immediately west is a large unnamed arroyo, which is

underlain by 30 feet to 60 feet of Quaternary alluvial sediments. Older Quaternary terrace deposits of cobbles and boulders were observed on the interfluvial ridges adjacent to the arroyo. These terrace deposits may have been utilized as fill on the Site. The outcropping surfaces of the Nacimiento Formation have been eroded to form a paleo-channel that appears to be similar in morphology to the existing surface arroyo located to the west of the Site. The bedrock is overlain by recent alluvial deposits (gravel, sand, silt, and clay), which thicken toward the south-southwest as illustrated on the cross section on Figure 3.

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 included operating and maintaining the groundwater remediation system, monitoring groundwater quality and presence of PSH, and recovering PSH. A summary of field activities, results, conclusions, and recommendations are presented in the subsequent sections of this report.

2.0 METHODOLOGY

2.1 GROUNDWATER REMEDIATION SYSTEM

The groundwater remediation system at the Site was designed to pump impacted groundwater from local aquifers through a series of recovery wells, which prevent migration of impacted groundwater beyond the influence of the wells as illustrated on Figure 5. Groundwater is pumped through two active carbon filters positioned in series where the groundwater is treated by carbon absorption. The treated water is then returned to the aquifer through an infiltration trench. The infiltration trench consists of a subsurface system of perforated polyvinyl chloride (PVC) pipes placed within gravel packs. Water infiltrates the surrounding strata and eventually returns to the aquifer. The return of recovered water to the aquifer acts as a recharge mechanism. Figure 6 is a simplified diagram representing the groundwater recovery, treatment, and disposal system at the Site.

2.2 OPERATIONS AND MAINTENANCE

LTE conducted weekly inspections to ensure normal operation of the remediation system. Weekly observations were recorded in a bound field logbook with the date, time, and person recording the information noted. Water flow meter readings were entered into a spreadsheet to calculate flow volumes and monitor cumulative flow rates. All equipment at the Site was inspected for leaks and malfunctions. The inspector was familiar with the location of underground lines and noted any surface indication of underground leaks. No groundwater leaks were noted during inspections conducted in 2014.

Maintenance included repair and replacement of well pumps, pump controllers, and flow meters. Additionally, LTE replaced filters in the well houses on a regular basis, inspected and replaced the carbon pre-filters, and repaired any other hardware as necessary.

2.3 PSH RECOVERY

Oil absorbent socks were used to passively recover PSH detected in groundwater monitoring wells at the Site. The socks were monitored weekly from January through December and replaced when they were greater than 50 percent full. Volumes of recovered PSH were estimated based on the percent saturation observed in the socks and were recorded in a field logbook.

2.4 GROUNDWATER MONITORING

Quarterly groundwater monitoring included measurements of depth to groundwater at all monitoring and recovery wells with a Keck oil-water interface probe. The interface probe was decontaminated with Alconox™ 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 and hydraulic control achieved by the recovery wells. The recovery pumps were not turned off during quarterly monitoring events nor were the pumps removed from the recovery wells; therefore, calculated groundwater elevations do not represent static conditions.

Influent and effluent groundwater samples were collected in March, June, and November. LTE mistakenly omitted third quarter sampling (Table 1). The water samples were analyzed for general water chemistry parameters including pH, electrical conductivity (EC), TDS, alkalinity, hardness, anions (bromide, chloride, sulfate, fluoride, nitrite, nitrate, and phosphorus), and cations (calcium, iron, magnesium, manganese, potassium, and sodium) and for volatile organic compounds (VOCs) using United States Environmental Protection Agency (EPA) Method 8260B. The effluent groundwater sample was also analyzed annually for polynuclear aromatic hydrocarbons (PAHs) according to EPA Method 8270C and total metals (barium, beryllium, cadmium, chromium, copper, lead, nickel, silver, zinc, antimony, arsenic, selenium, and thallium) according to EPA Method 200.7 and 200.8, and mercury according to EPA Method 245.1. Influent groundwater was collected from a system valve before it entered the carbon filtration unit. Effluent groundwater was collected through a sample valve as treated water exited the second carbon filter. Groundwater samples were collected in appropriate pre-cleaned and/or pre-preserved sample bottles or glass vials. Samples were labeled with the date and time of collection, sample designation, project name, collector's name, and parameters to be analyzed and immediately sealed and packed on ice. The samples were shipped on ice following strict chain-of-custody procedures to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico, before designated holding times expired.

LTE collected annual groundwater samples from groundwater monitoring wells and recovery wells within and south of the Site as specified in the Discharge Permit GW-040 (Table 1). The volume of groundwater in the monitoring wells was calculated, and a minimum of three well casing volumes of groundwater was purged from each well using a disposable bailer. As groundwater was extracted, pH, EC, and temperature were monitored. Monitoring wells were purged until these properties stabilized or the well was bailed dry, indicating the purge water was representative of aquifer conditions. Stabilization was defined as three consecutive stable readings for each water property (±0.4 units for pH, ±10 percent for EC, and ±2° Celsius for temperature). Once each monitoring well was properly purged, groundwater samples were collected in bottles or vials and shipped to HEAL. Groundwater sampling from recovery wells followed the same procedures as monitoring wells, except pumps installed in the recovery wells were used to purge the appropriate volume of groundwater from each recovery well. The groundwater samples were analyzed for VOCs according to EPA method 8260B and general water chemistry parameters including pH, EC, TDS, alkalinity, hardness, anions (bromide, chloride, sulfate, fluoride, nitrite, nitrate, and phosphorus), and cations (calcium, iron, magnesium, potassium, and sodium). Six of the groundwater samples were analyzed for PAHs according to EPA Method 8270C and five groundwater samples were analyzed for total metals (barium, beryllium, cadmium, chromium, copper, lead, nickel, silver, zinc, antimony, arsenic, selenium, and thallium) according to EPA Method 200.7 and 200.8, and mercury according to EPA Method 245.1

3.0 RESULTS

3.1 OPERATIONS AND MAINTENANCE

LTE and Western worked concurrently to keep the groundwater remediation system fully operational. Repairs and observations included:

- On January 21, 2014, LTE replaced the pre-filter for the flow meter and replaced piping at GRW-5;
- On February 12, 2014, LTE replaced the locks on all of the SHS wells;
- On April 9, 2014, LTE replaced broken piping at GRW-10;
- On May 8, 2014, LTE replaced the flow meter on GRW-13 with a flow meter from inactive GRW-1;
- On May 29, 2014, Western replaced the pump control box on GRW-2, GRW-4, and GRW-13;
- On August 8, 2014, LTE air lifted GRW-6;
- On September 11, 2014, LTE and Western airlifted and replaced the impeller stack on the pump in GRW-4; and
- On November 21, 2014, LTE replaced the impeller stack and cables on the pump in GRW-4.

A total of 953,112 gallons of groundwater were recovered and treated by carbon filtration in 2014 as recorded by flow meters on the individual recovery wells. Except for GRW-3, GRW-12, and GRW-13, the recovery wells pumped smaller volumes of groundwater in 2014 as compared to 2013. Mechanical problems with pumps and well maintenance required more down time in 2014 than in 2013. Additionally, GRW-10, which is the highest producing recovery well, recovered less water in 2014, and GRW-1 became inactive in 2013. Table 2 presents the total volume of groundwater pumped from each recovery well during 2013 and 2014.

3.2 GROUNDWATER ELEVATION

Groundwater elevations measured in groundwater monitoring and recovery wells are presented in Table 3, and quarterly potentiometric surface maps are depicted on Figures 7 through 10. When PSH was detected, the groundwater elevation was corrected using an estimated density correction factor of 0.88. Groundwater flow direction was consistently toward the southwest throughout the year. Drawdown around recovery wells is evident each quarter.

3.3 PSH RECOVERY

Oil-absorbent socks were installed and maintained in monitoring wells GBR-7, GBR-8, GBR-11, GBR-20, GBR-22, GBR-23, GBR-25, GBR-26, and GBR-34 and in product recovery well GBR-

34A during 2014 (Figure 11). Annual volumes of PSH recovered from 2009 through 2014 are presented in Table 4.

No detectable thickness of PSH was measured in any well during 2014. However, oil absorbent socks used in wells that have historically contained PSH recovered the following:

- Approximately 2.41 combined gallons in GBR-23, GBR-25, and GBR-26 in the Northern Area;
- Approximately 2.47 combined gallons in GBR-34, GBR-34A, and GBR-22 in the Central Area; and
- Approximately 1.87 combined gallons in GBR-7, GBR-8, GBR-11, and GBR-20 in the Southern Area.

No PSH was detected in groundwater monitoring wells south of Highway 64. The SHS wells are monitored weekly for groundwater elevation and PSH. PSH socks were removed from SHS-2, SHS-8, and SHS-9 in February 2014.

3.4 GROUNDWATER SAMPLING

Laboratory analytical results from groundwater sampling are presented in Table 5 and the complete laboratory analytical reports are presented in Appendix A. Isopach maps and geologic cross sections illustrating the distribution of analytes are not included because the sampling events do not include wells from all of the current source areas. Such a presentation of results would not be indicative of actual conditions at the Site. Laboratory analytical results from 2014 as compared to New Mexico Water Quality Control Commission (NMWQCC) standards are summarized below:

- No VOCs were detected in influent or effluent samples;
- VOCs were detected in the annual groundwater samples, but only in minor concentrations that did not exceed NMWQCC standards:
  - Ethylbenzene was detected in groundwater from monitoring well SHS-8;
  - PCE was detected in groundwater in upgradient monitoring well GBR-32; and
  - Trichlorofluoromethane was detected in groundwater from monitoring well GBR-51;
- No concentrations of PAHs were detected in samples collected from the system effluent, or groundwater monitoring and recovery wells;
- Sulfate concentrations exceeded the NMWQCC standard in all samples collected from the upgradient and on-site groundwater monitoring and recovery wells, system influent, and system effluent. Sulfate did not exceed the NMWQCC standard in downgradient well SHS-8;

- TDS exceeded the NMWQCC standard in all samples collected from the groundwater monitoring and recovery wells, system influent, and system effluent;
- Chloride concentrations exceeded the NMWQCC standard in groundwater samples collected from up-gradient wells GBR-30, GBR-32, and GBR-48;
- Chromium concentrations in groundwater from GBR-32, GBR-48, and GBR-49 exceeded the NMWQCC standard. Chromium was detected in GBR-50 but did not exceed the NMWQCC standard. These monitoring wells are located within the arroyo adjacent to and upgradient of the Site;
- Iron concentrations exceeded the NMWQCC standard in the annual groundwater samples from all groundwater recovery and monitoring wells except GRW-3, but did not exceed the standard in the influent and effluent samples;
- Manganese was detected in concentrations exceeding the NMWQCC standard in annual groundwater samples from all groundwater recovery and monitoring wells, except GRW-17, as well as in the influent and effluent samples; and
- Nickel concentrations exceeded the NMWQCC standard in the annual groundwater samples collected from upgradient wells GBR-32 and GBR-48.

4.0 CONCLUSIONS

Western successfully maintained the groundwater remediation system at the Site and continued to recover residual PSH from original source areas. The volume of groundwater recovered at the Site decreased from 2013 due to downtime associated with ongoing maintenance of the remediation system, as well as decreased production in GRW-10.

Measurable PSH near the previously identified sources was not detected in any monitoring or recovery wells in 2014; however, approximately 7.12 gallons of PSH were recovered in monitoring wells using oil-absorbent socks.

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. The influent and effluent groundwater associated with the remediation system at the Site did not contain detectable concentrations of VOCs or PAHs during 2014, and groundwater samples collected from monitoring and recovery wells did not contain VOCs or PAHs exceeding NMWQCC standards.

Influent and effluent groundwater associated with the pump and treat system at the Site is 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 a release at the Lee Acres Landfill 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 offsite monitoring wells during the annual sampling in November 2014. Additionally, iron and manganese concentrations exceeded NMWQCC standards in on-site wells. 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.

5.0 RECOMMENDATIONS

Western will continue to operate the remediation system and monitor groundwater as described in this report, including the activities below:

- Operate and maintain the remediation system to prevent migration of PSH;
- Monitor presence of PSH regularly, using oil absorbent socks as needed to recover PSH;
- Monitor groundwater flow behavior quarterly by measuring depth to groundwater;
- Sample the system influent and effluent quarterly; and
- Sample groundwater monitoring and recovery wells annually, including SHS-8 south of the Site, to identify potential changes in water quality.

6.0 REFERENCES

AEPCO, Inc. *Site Investigation Report for Lee Acres Site, San Juan County, New Mexico (Final Report),* BLM Contract NO. AA852-Ct5-26, U.S. Department of the Interior, BLM, Washing D.C., May 1986.

McQuillan, D. and Longmire, P. *Water Quality Investigations at the Lee Acres Landfill and Vicinity, San Juan County, New Mexico,* Environmental Division, Ground water/Hazardous Waste Bureau, Santa Fe, NM, February 1986.

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FIGURES

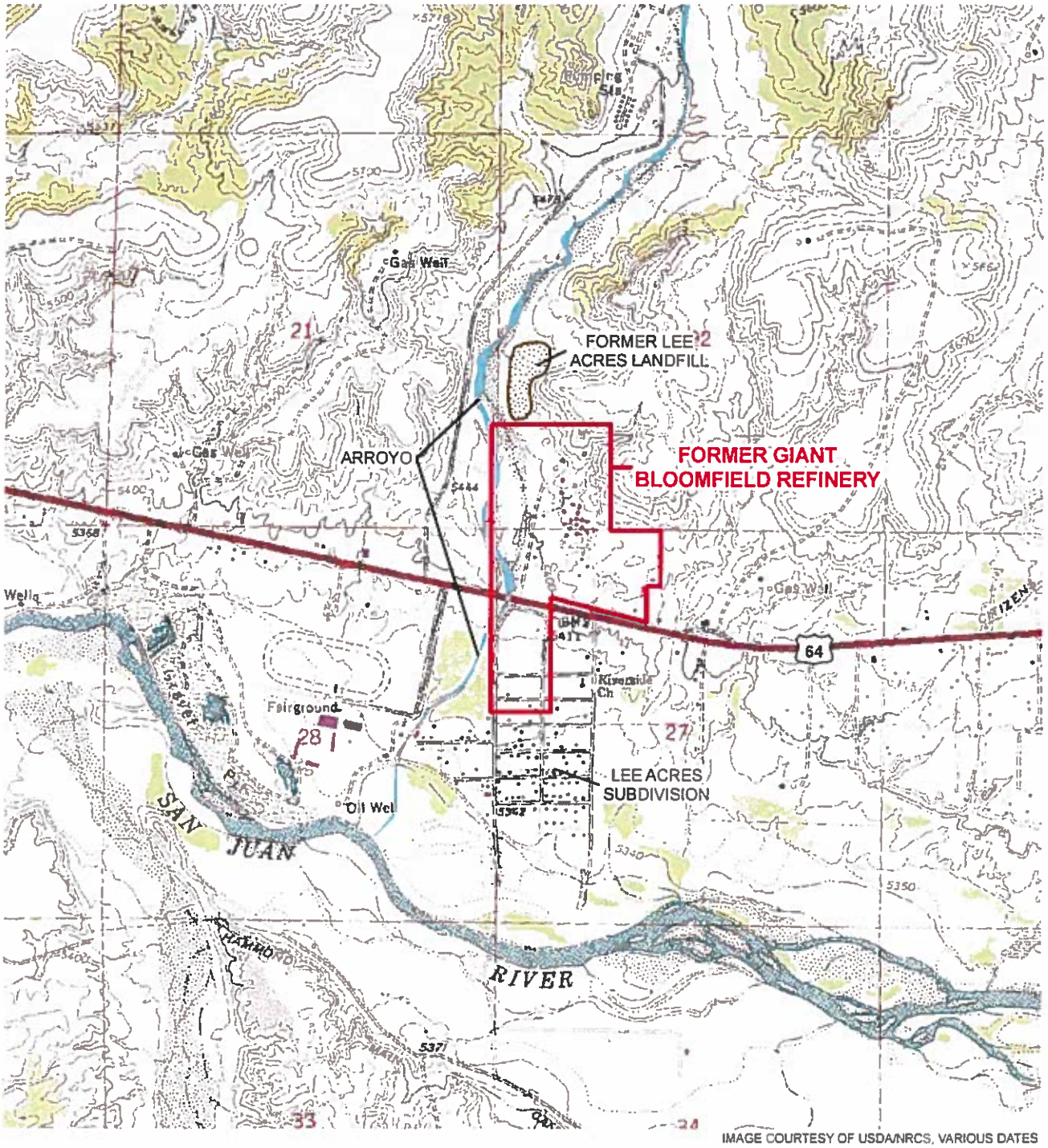

FIGURE 1
SITE LOCATION MAP
FORMER GIANT BLOOMFIELD REFINERY
SWSW SEC 22 & WNW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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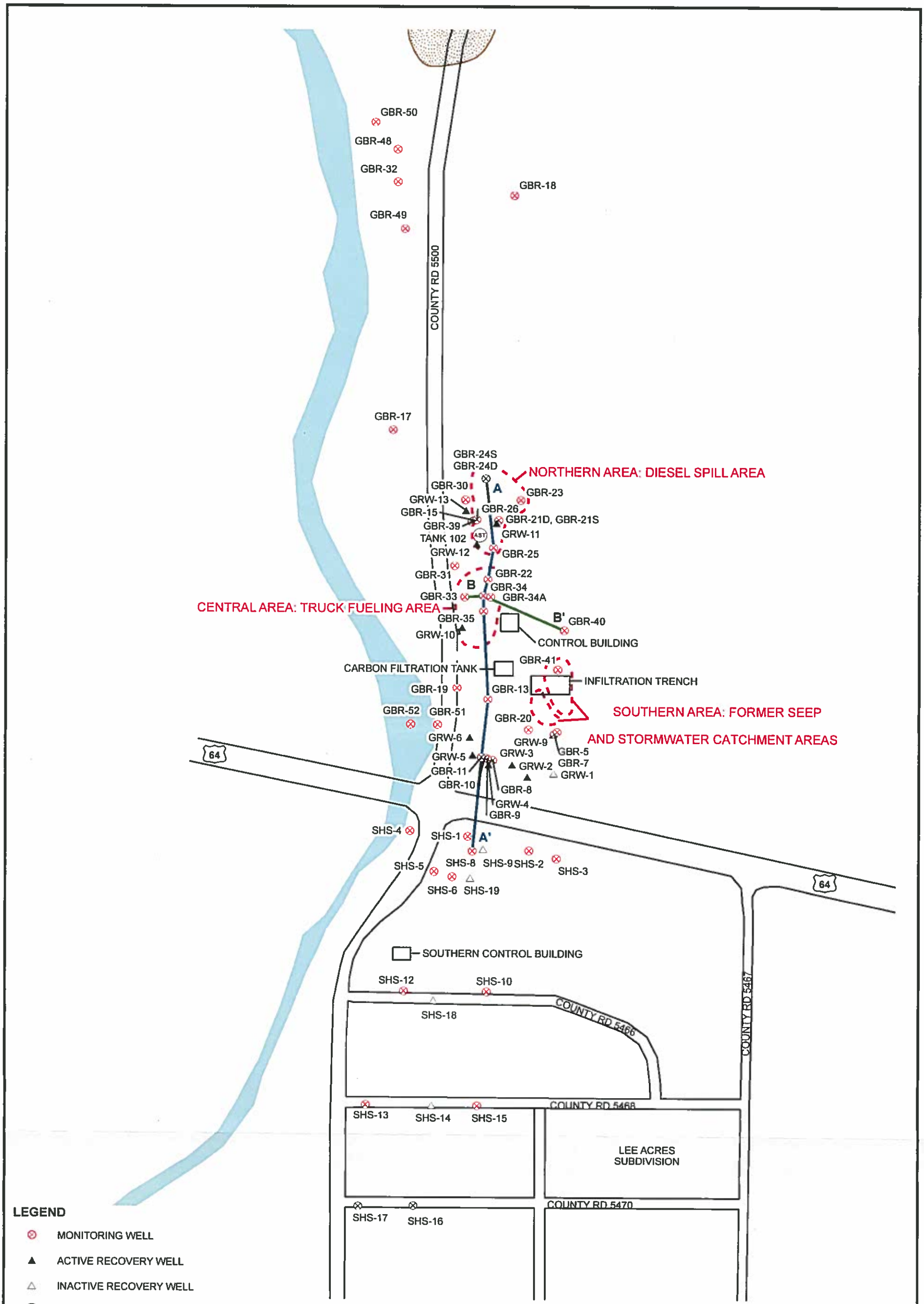

FIGURE 2
SITE MAP
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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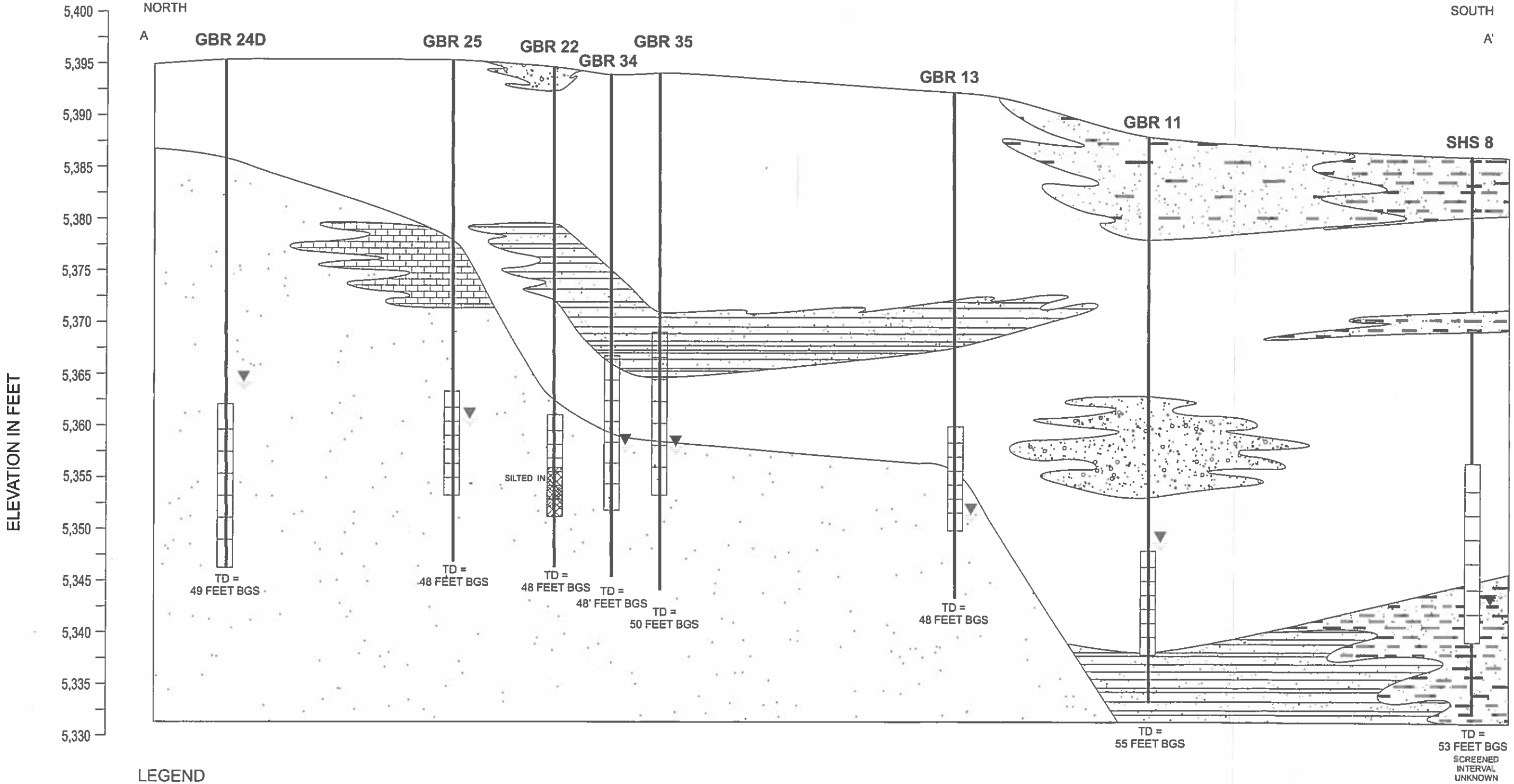


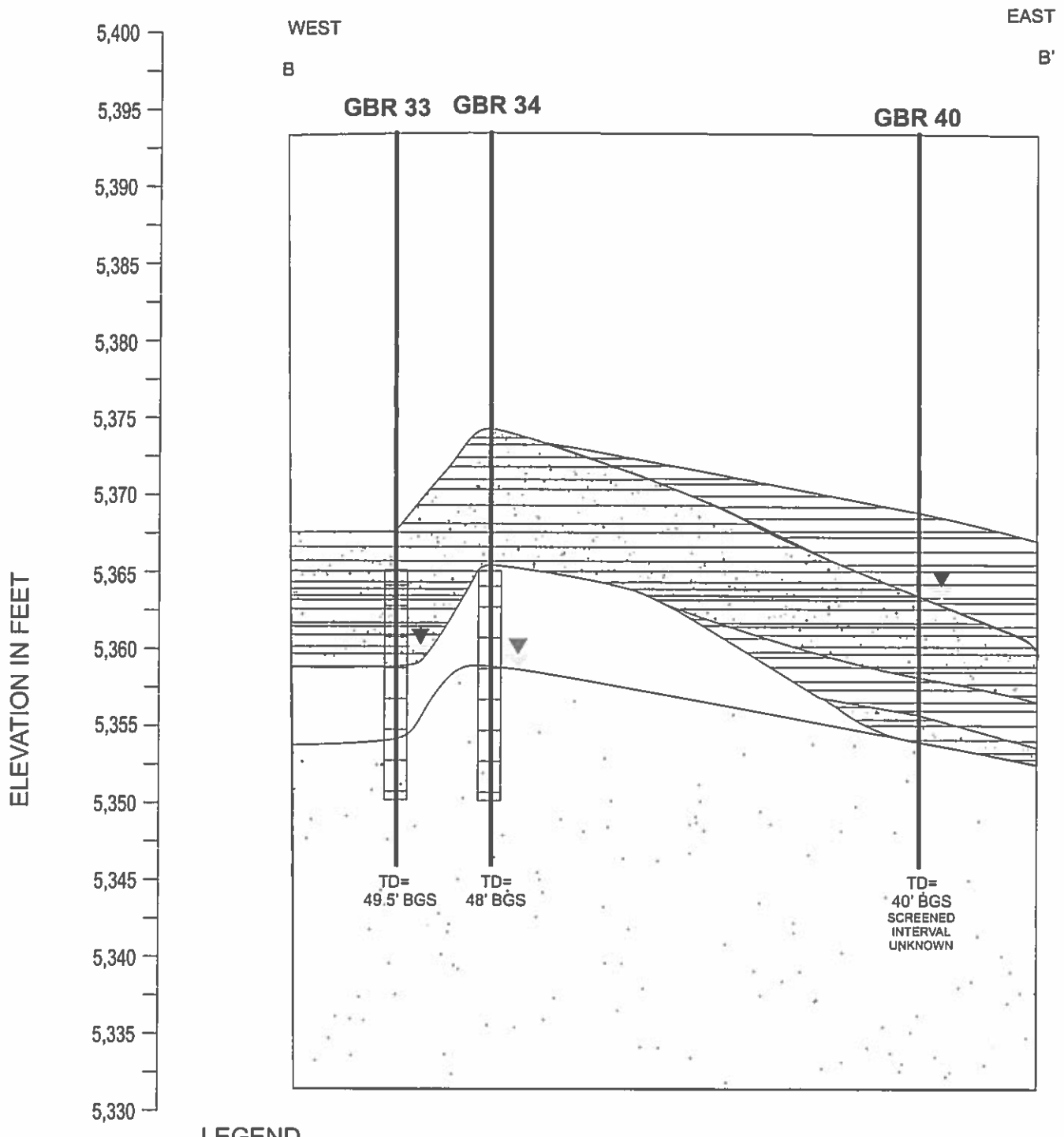
LEGEND

- SANDY SILT
- CLAYEY SAND
- SILTY SAND
- SAND
- PEBBLES/GRAVEL
- NACIMIENTO SHALE
- NACIMIENTO SANDSTONE
- BOREHOLE
- SCREENED INTERVAL
- BGS BELOW GROUND SURFACE
- TD TOTAL DEPTH IN FEET
- GROUNDWATER ELEVATION FROM JANUARY 2014

HORIZONTAL SCALE
1" = 10 FEET

VERTICAL SCALE
1" = 90 FEET

FIGURE 3
CROSS SECTION A-A'
FORMER GIANT BLOOMFIELD REFINERY
SWSW SEC 22 &WNW SEC 27 T29N R12W
WESTERN REFINING SOUTHWEST, INC.



LEGEND

- CLAYEY SAND
- CLAY
- SAND
- NACIMIENTO SANDSTONE
- BOREHOLE
- SCREENED INTERVAL
- BGS BELOW GROUND SURFACE
- TD TOTAL DEPTH IN FEET
- ▼ GROUNDWATER ELEVATION JANUARY 2014

HORIZONTAL SCALE
1" = 10 FEET

VERTICAL SCALE
1" = 90 FEET

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

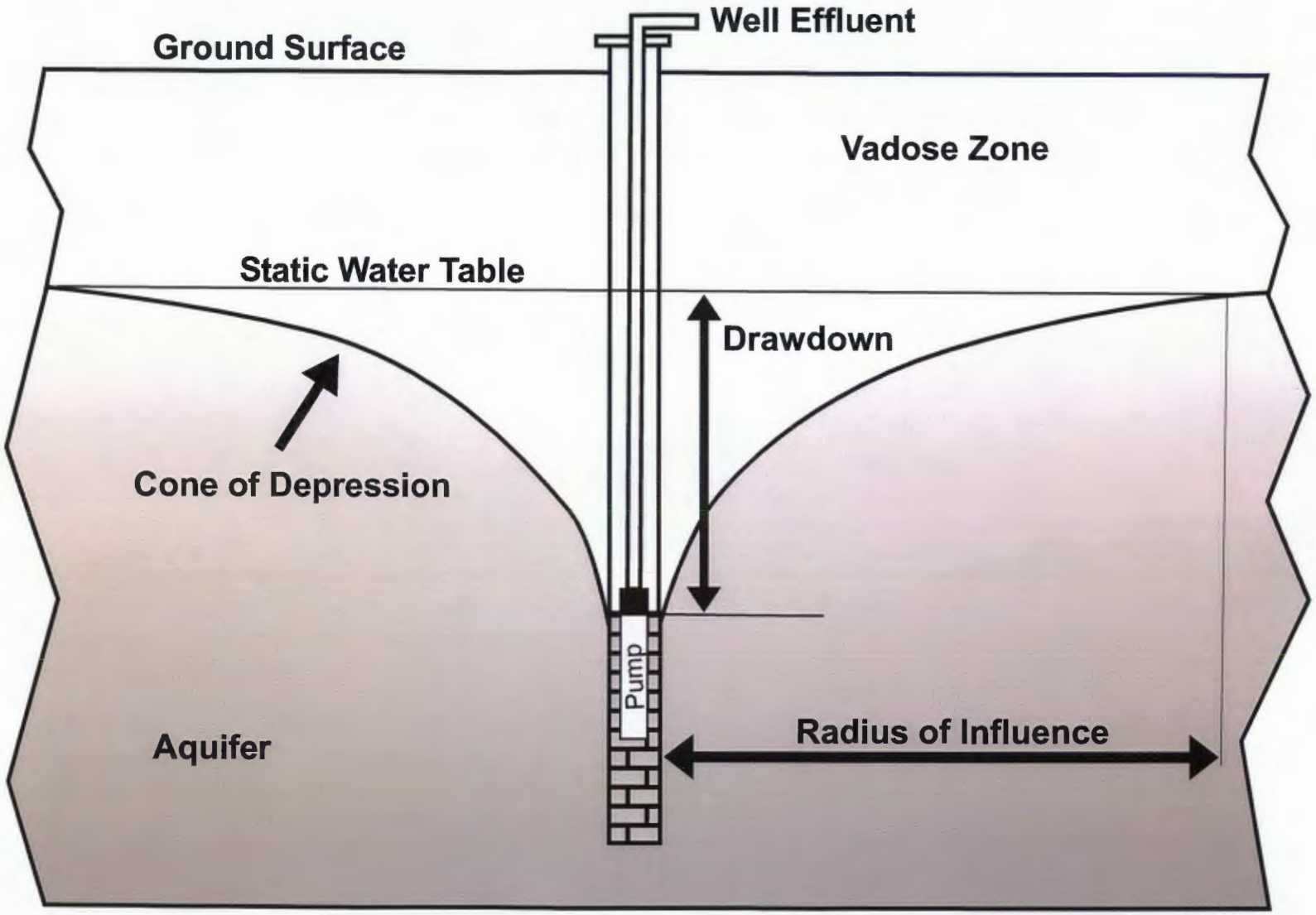


FIGURE 5
HYDRAULIC BARRIER
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
WESTERN REFINING SOUTHWEST, INC.

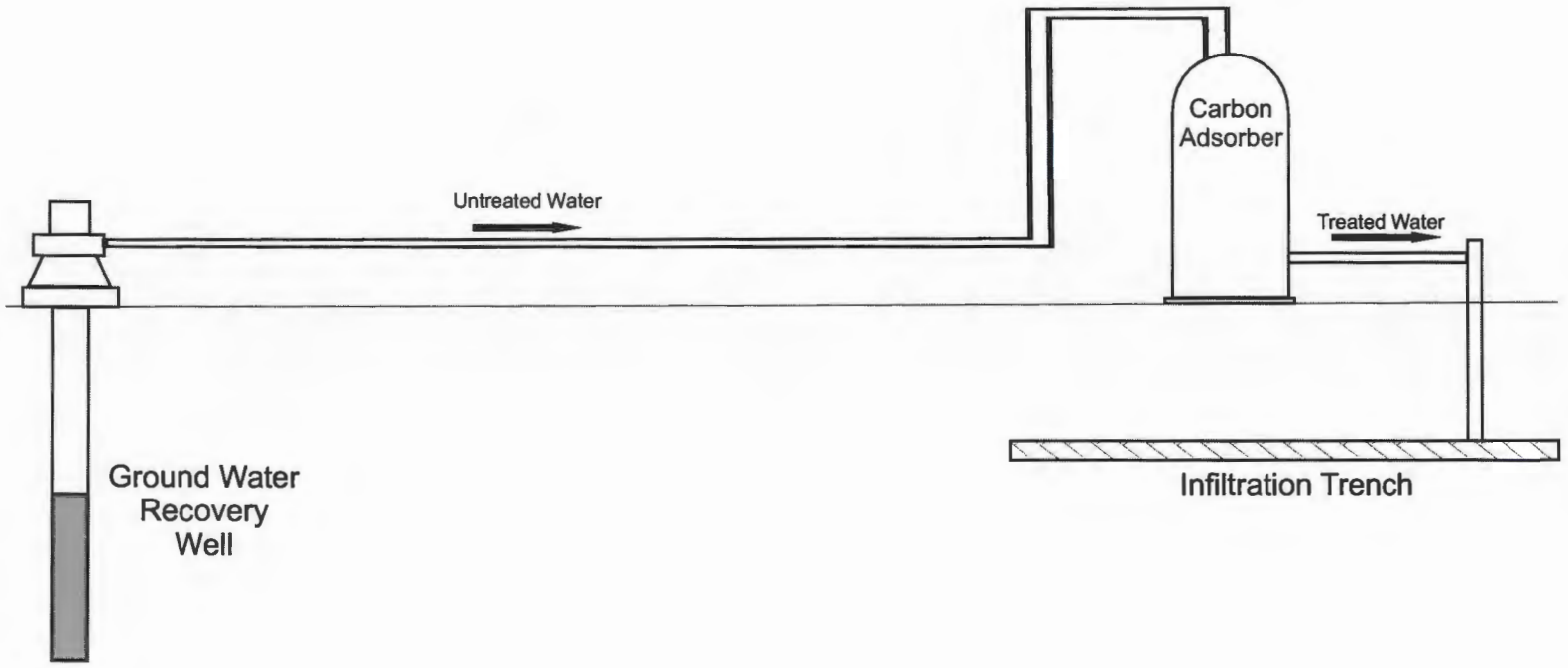


FIGURE6
SIMPLIFIED REPRESENTATION OF THE GROUNDWATER RECOVERY, TREATMENT, AND DISPOSAL SYSTEM
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
WESTERN REFINING SOUTHWEST, INC.

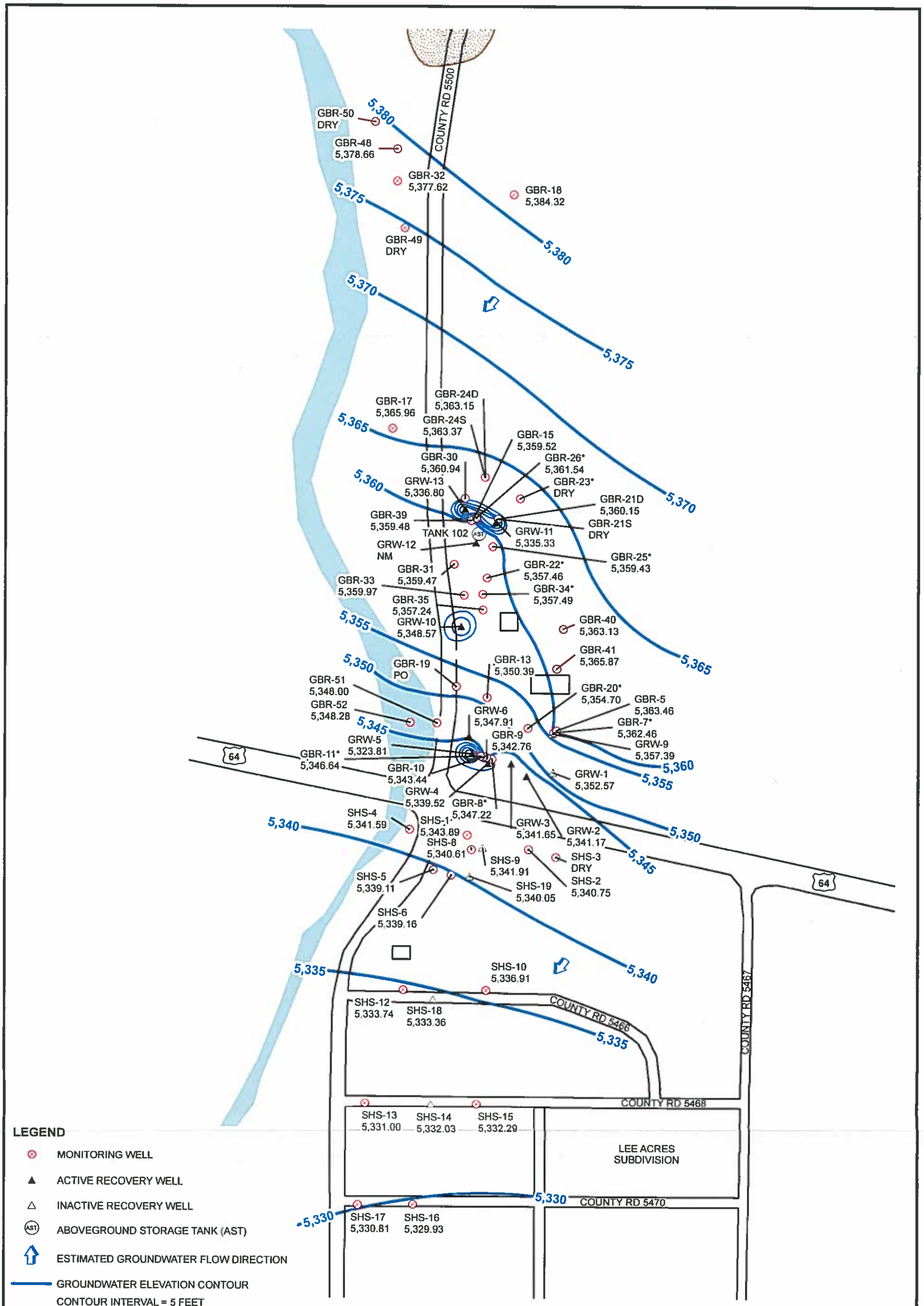
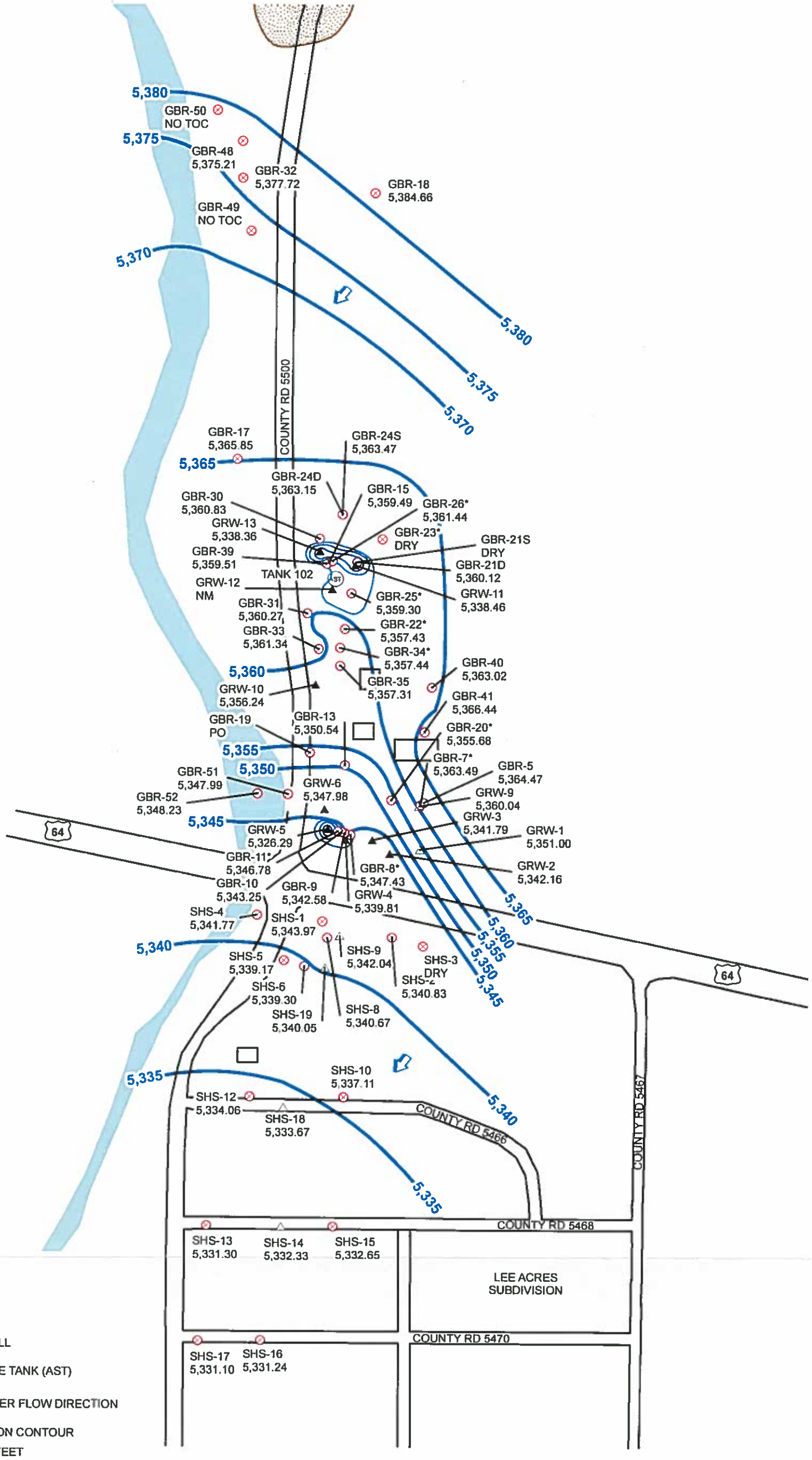


FIGURE 7
GROUNDWATER POTENTIOMETRIC SURFACE MAP (JANUARY 2014)
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

P:\Western Refining\GIS\MXD\WR1009 GIANT\2014\WR1009_GIANT_FIG07_GWELEV_JAN_2014.mxd



LEGEND

- MONITORING WELL
- ACTIVE RECOVERY WELL
- INACTIVE RECOVERY WELL
- ABOVEGROUND STORAGE TANK (AST)
- ESTIMATED GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 5 FEET
  GROUNDWATER ELEVATION MEASURED IN FEET
  ABOVE MEAN SEA LEVEL IN APRIL, 2014
- ARROYO
- FORMER LEE ACRES LANDFILL

NO TOC: NO TOP OF CASING RECORDED
* : PRODUCT RECOVERY SOCKS IN WELL
PO: PAVED OVER

FIGURE 8
GROUNDWATER POTENTIOMETRIC SURFACE MAP (APRIL 2014)
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

P:\Western Refining\GIS\MXD\WR1009 GIANT\2014\WR1009_GIANT_FIG08_GWELEV_APRIL_2014.mxd

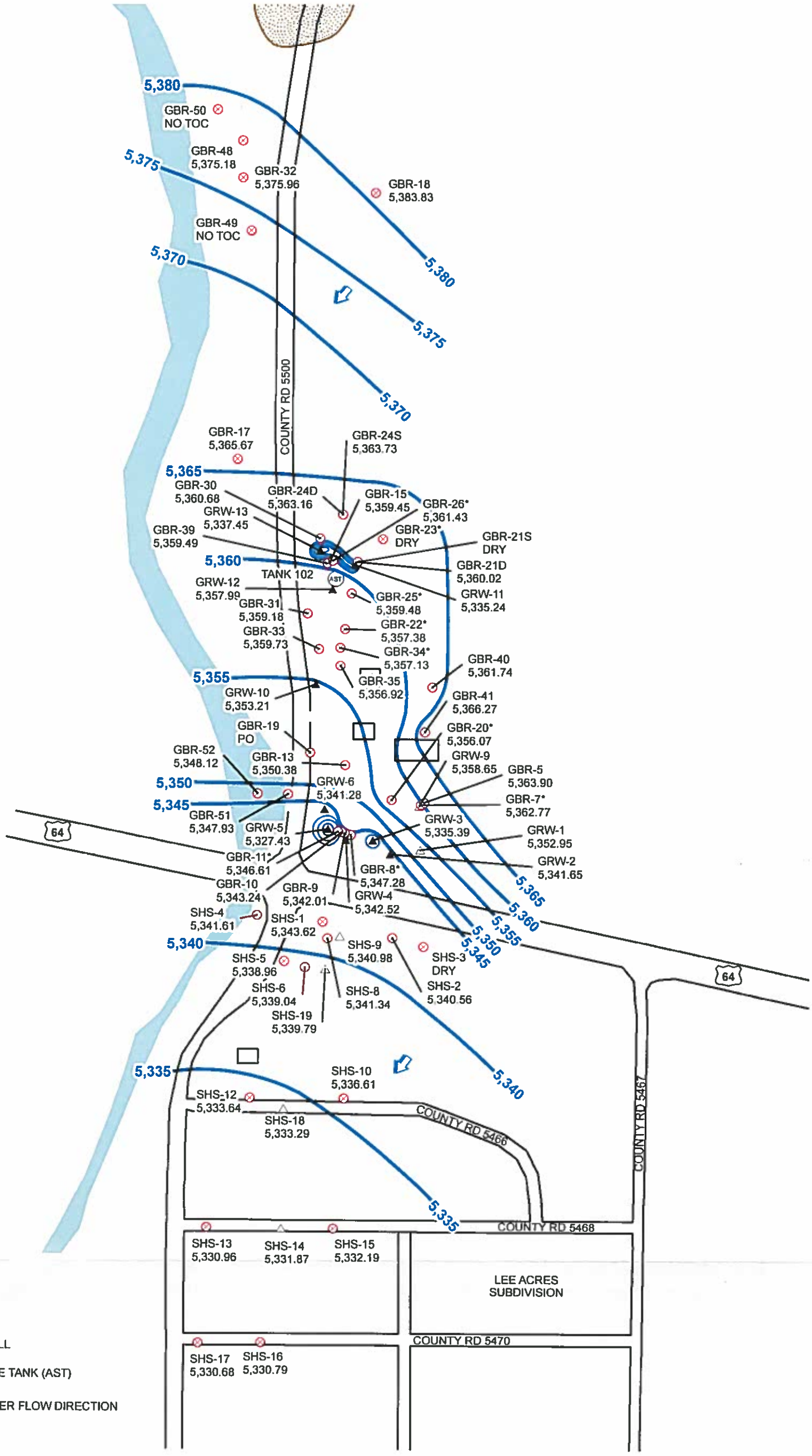


FIGURE 9
GROUNDWATER POTENTIOMETRIC SURFACE MAP (JULY 2014)
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

P:\Western Refining\GIS\MXD\WR1009 GIANT\2014\WR1009_GIANT_FIG09_GWELEV_JULY_2014.mxd

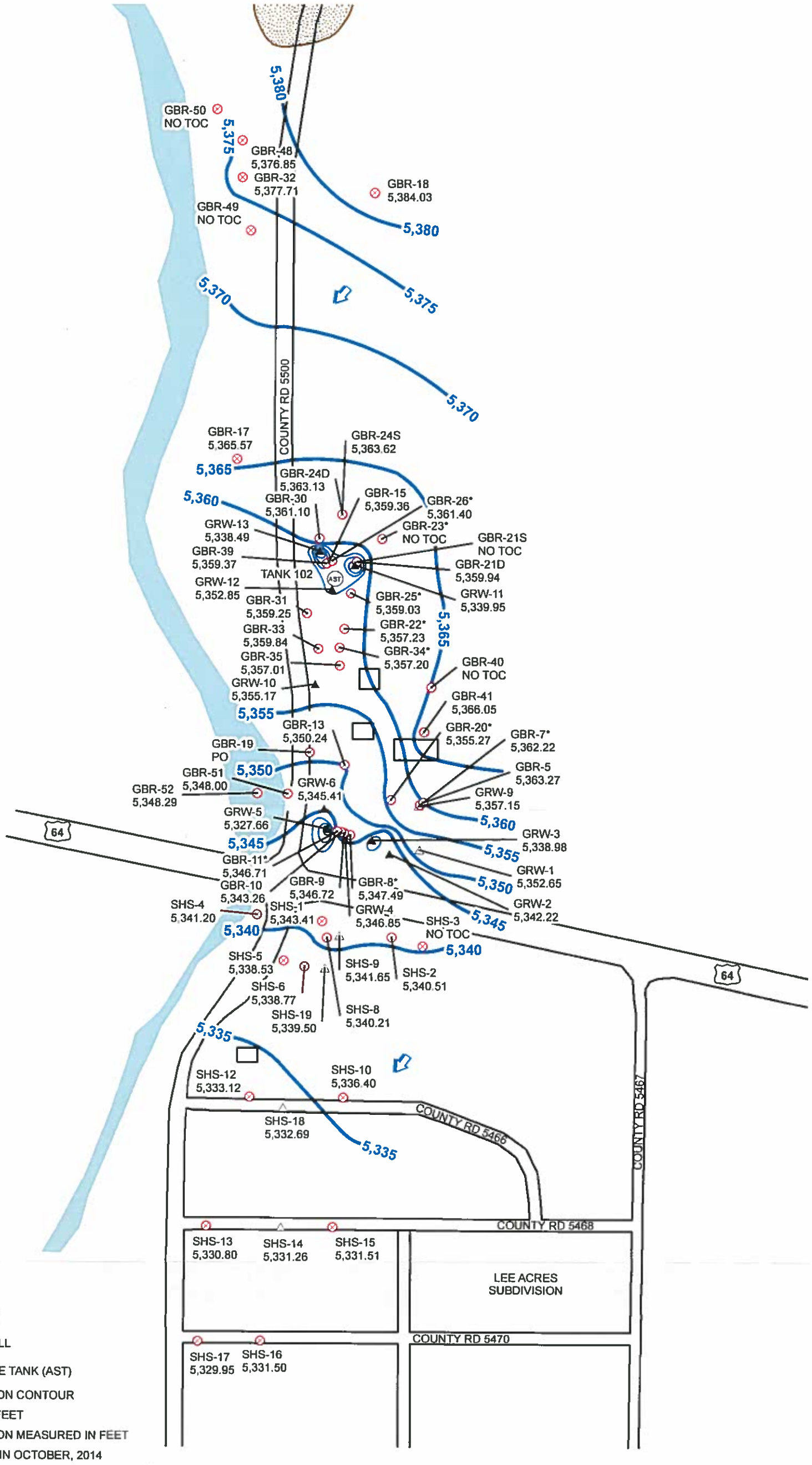


FIGURE 10
GROUNDWATER POTENTIOMETRIC SURFACE MAP (OCTOBER 2014)
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

P:\Western Refining\GIS\MXD\WR1009 GIANT\2014\WR1009_GIANT_FIG10_GWELEV_OCT_2014.mxd

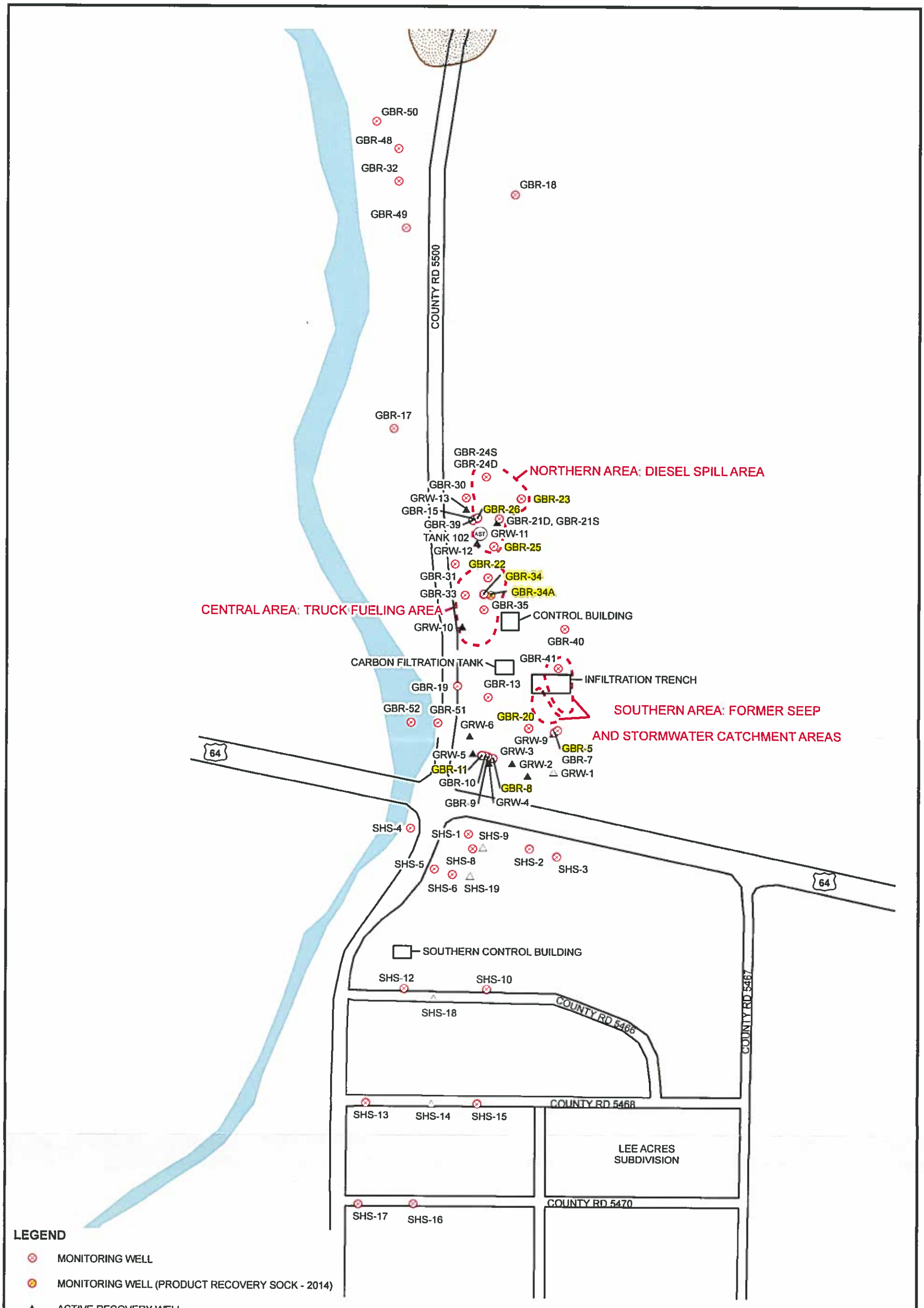


FIGURE 11
SOURCE AREAS AND ACTIVE PRODUCT RECOVERY WELLS
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

P:\Western Refining\GIS\MXD\WR1009 GIANT\WR1009_GIANT_FIG11_PRS.mxd

TABLES

TABLE 1

2014 SAMPLING SCHEDULE
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.

	Mar-14	Jun-14	Nov-14
System Influent	VOCs, GWC	VOCs, GWC	VOCs,GWC
System Effluent	VOCs, GWC	VOCs, GWC	VOCs, GWC, PAHs, Metals
GRW-3			VOCs,GWC,PAHs
GRW-6			VOCs,GWC,PAHs
GBR-17			VOCs,GWC,PAHs
GBR-24D			VOCs,GWC,PAHs
GBR-30			VOCs,GWC,PAHs
GBR-31			VOCs,GWC,PAHs
GBR-32			VOCs, GWC, Metals
GBR-48			VOCs, GWC, Metals
GBR-49			VOCs, GWC, Metals
GBR-50			VOCs, GWC, Metals
GBR-51			VOCs,GWC
GBR-52			VOCs,GWC
SHS-8			VOCs, GWC

Notes:

GWC - Ground Water Chemistry , Ph, electrical conductivity, total dissolved solids, alkalinity, hardness, anions (bromide, chloride, sulfate, flouride, nitrate/nitrite, phosphorus), cations (calcium, iron, magnesium, manganese, potassium, sodium)
Metals - barium, beryllium, cadmium, chromium, copper, lead, nickel, silver, zinc, antimony, arsenic, selenium, thallium, mercury
PAHs - polynuclear aromatic hydrocarbons
VOCs - volatile organic compounds

TABLE 2

GROUNDWATER RECOVERY WELL VOLUME TABULATION
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.

Well Number	Total Volume Pumped in 2013 (Gallons)	Total Volume Pumped in 2014 (Gallons)	Difference (Gallons)
GRW-1	2,347	0	-2,347.00
GRW-2	70,737	55,644	-15,093
GRW-3	60,128	111,759	51,631
GRW-4	72,219	69,246	-2,973
GRW-5	59,977	47,728	-12,249
GRW-6	88,068	63,757	-24,311
GRW-10	647,197	414,871	-232,326
GRW-11	73,251	71,597	-1,654
GRW-12	80,623	83,098	2,475
GRW-13	28,084	35,412	7,328
Total Volume Pumped (Gallons)	**1,180,284**	**953,112**	**-227,172**

Notes:
* volumes metered at individual recovery wells

TABLE 3

GROUNDWATER ELEVATIONS AND THICKNESS OF PHASE-SEPARATED HYDROCARBONS
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.

Well Number	Wellhead Elevation (feet)	Total Depth (feet)	January 2014					April 2014					July 2014					October 2014				
			Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)		Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)		Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)		Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	
GRW-1	5,394.30	73.35	41.73	-	-	5,352.57		40.30	-	-	5,354.00		41.35	-	-	5,352.95		41.65	-	-	5,352.65	
GRW-2	5,391.28	61.00	50.11	-	-	5,341.17		49.12	-	-	5,342.16		49.63	-	-	5,341.65		49.06	-	-	5,342.22	
GRW-3	5,388.77	58.30	47.12	-	-	5,341.65		46.98	-	-	5,341.79		53.38	-	-	5,335.39		49.79	-	-	5,338.98	
GRW-4	5,390.02	60.00	50.50	-	-	5,339.52		50.21	-	-	5,339.81		47.50	-	-	5,342.52		43.17	-	-	5,346.85	
GRW-5	5,390.56	68.30	66.75	-	-	5,323.81		64.27	-	-	5,326.29		63.13	-	-	5,327.43		62.90	-	-	5,327.66	
GRW-6	5,390.81	53.80	42.90	-	-	5,347.91		42.83	-	-	5,347.98		49.53	-	-	5,341.28		45.40	-	-	5,345.41	
GRW-9	5,395.70	54.40	38.31	-	-	5,357.39		35.66	-	-	5,360.04		37.05	-	-	5,358.65		38.55	-	-	5,357.15	
GRW-10	5,395.02	66.02	46.45	-	-	5,348.57		38.78	-	-	5,356.24		41.81	-	-	5,353.21		39.85	-	-	5,355.17	
GRW-11	5,397.85	64.00	62.52	-	-	5,335.33		59.39	-	-	5,338.46		62.61	-	-	5,335.24		57.90	-	-	5,339.95	
GRW-12	5,397.24	48.00	-	-	-	-	Δ	-	-	-	-	Δ	39.25	-	-	5,357.99		44.39	-	-	5,352.85	
GRW-13	5,396.90	61.30	60.10	-	-	5,336.80		58.54	-	-	5,338.36		59.45	-	-	5,337.45		58.41	-	-	5,338.49	
GBR-5	5,395.07	47.08	31.61	-	-	5,363.46		30.60	-	-	5,364.47		31.17	-	-	5,363.90		31.80	-	-	5,363.27	
GBR-7	5,395.85	51.65	33.39	-	-	5,362.46	†	32.36	-	-	5,363.49	†	33.08	-	-	5,362.77	†	33.63	-	-	5,362.22	†
GBR-8	5,390.50	50.90	43.28	-	-	5,347.22	†	43.07	-	-	5,347.43	†	43.22	-	-	5,347.28	†	43.01	-	-	5,347.49	†
GBR-9	5,389.92	67.22	47.16	-	-	5,342.76		47.34	-	-	5,342.58		47.91	-	-	5,342.01		43.20	-	-	5,346.72	
GBR-10	5,390.57	47.56	47.13	-	-	5,343.44		47.32	-	-	5,343.25		47.33	-	-	5,343.24		47.31	-	-	5,343.26	
GBR-11	5,389.43	51.87	42.79	-	-	5,346.64	†	42.65	-	-	5,346.78	†	42.82	-	-	5,346.61	†	42.72	-	-	5,346.71	†
GBR-13	5,393.04	45.47	42.65	-	-	5,350.39		42.50	-	-	5,350.54		42.66	-	-	5,350.38		42.80	-	-	5,350.24	
GBR-15	5,397.99	58.42	38.47	-	-	5,359.52		38.50	-	-	5,359.49		38.54	-	-	5,359.45		38.63	-	-	5,359.36	
GBR-17	5,402.69	43.20	36.73	-	-	5,365.96		36.84	-	-	5,365.85		37.02	-	-	5,365.67		37.12	-	-	5,365.57	
GBR-18	5,421.68	47.85	37.36	-	-	5,384.32		37.02	-	-	5,384.66		37.85	-	-	5,383.83		37.65	-	-	5,384.03	
GBR-19* **	5,393.83	46.23	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-	
GBR-20	5,393.47	54.57	38.77	-	-	5,354.70	†	37.79	-	-	5,355.68	†	37.40	-	-	5,356.07	†	38.20	-	-	5,355.27	†
GBR-21D	5,400.19	49.77	40.04	-	-	5,360.15		40.07	-	-	5,360.12		40.17	-	-	5,360.02		40.25	-	-	5,359.94	
GBR-21S	5,400.65	49.77	Dry		-	-		Dry	-	-	-		Dry	-	-	-		Dry	-	-	-	
GBR-22	5,395.91	38.73	38.45	-	-	5,357.46	†	38.48	-	-	5,357.43	†	38.53	-	-	5,357.38	†	38.68	-	-	5,357.23	†
GBR-23** **	5,403.72	39.45	Dry	-	-	-	†	41.12	-	-	5,362.60	†	-	-	-	-	†	-	-	-	-	†
GBR-24D	5,396.77	51.40	33.62	-	-	5,363.15		33.62	-	-	5,363.15		33.61	-	-	5,363.16		33.64	-	-	5,363.13	
GBR-24S	5,396.08	37.05	32.71	-	-	5,363.37		32.61	-	-	5,363.47		32.35	-	-	5,363.73		32.46	-	-	5,363.62	
GBR-25	5,397.03	37.12	37.60	-	-	5,359.43	†	37.73	-	-	5,359.30	†	37.55	-	-	5,359.48	†	38.00	-	-	5,359.03	†
GBR-26	5,396.72	41.29	35.18	-	-	5,361.54	†	35.28	-	-	5,361.44	†	35.29	-	-	5,361.43	†	35.32	-	-	5,361.40	†
GBR-30	5,395.59	41.66	34.65	-	-	5,360.94		34.76	-	-	5,360.83		34.91	-	-	5,360.68		34.49	-	-	5,361.10	
GBR-31	5,396.58	43.50	37.11	-	-	5,359.47		36.31	-	-	5,360.27		37.40	-	-	5,359.18		37.33	-	-	5,359.25	
GBR-32	5,414.86	47.83	37.24	-	-	5,377.62		37.14	-	-	5,377.72		38.90	-	-	5,375.96		37.15	-	-	5,377.71	
GBR-33	5,396.28	45.72	36.31	-	-	5,359.97		34.94	-	-	5,361.34		36.55	-	-	5,359.73		36.44	-	-	5,359.84	
GBR-34	5,394.00	42.20	36.51	-	-	5,357.49	†	36.56	-	-	5,357.44	†	36.87	-	-	5,357.13	†	36.80	-	-	5,357.20	†
GBR-35	5,393.66	42.35	36.42	-	-	5,357.24		36.35	-	-	5,357.31		36.74	-	-	5,356.92		36.65	-	-	5,357.01	
GBR-39	5,397.55	41.42	38.07	-	-	5,359.48		38.04	-	-	5,359.51		38.06	-	-	5,359.49		38.18	-	-	5,359.37	
GBR-40	5,400.76	39.38	37.63	-	-	5,363.13		37.74	-	-	5,363.02		39.02	-	-	5,361.74		Dry	-	-	-	
GBR-41	5,396.35	34.28	30.48	-	-	5,365.87		29.91	-	-	5,366.44		30.08	-	-	5,366.27		30.30	-	-	5,366.05	
GBR-48	5,413.90	43.54	35.24	-	-	5,378.66		38.69	-	-	5,375.21		38.72	-	-	5,375.18		37.05	-	-	5,376.85	
GBR-49	*	40.30	31.80	-	-	-		31.19	-	-	-		31.83	-	-	-		31.15	-	-	-	
GBR-50	*	44.37	34.46	-	-	-		34.36	-	-	-		34.50	-	-	-		34.64	-	-	-	
GBR-51	5,389.68	57.07	41.68	-	-	5,348.00		41.69	-	-	5,347.99		41.75	-	-	5,347.93		41.68	-	-	5,348.00	
GBR-52	5,387.74	52.73	39.46	-	-	5,348.28		39.51	-	-	5,348.23		39.62	-	-	5,348.12		39.45	-	-	5,348.29	

TABLE 3

GROUNDWATER ELEVATIONS AND THICKNESS OF PHASE-SEPARATED HYDROCARBONS
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.

Well Number	Wellhead Elevation (feet)	Total Depth (feet)	January 2014				April 2014				July 2014				October 2014			
			Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)
SHS-1	5,383.54	50.40	39.65	-	-	5,343.89	39.57	-	-	5,343.97	39.92	-	-	5,343.62	40.13	-	-	5,343.41
SHS-2	5,381.66	44.56	40.91	-	-	5,340.75	40.83	-	-	5,340.83	41.10	-	-	5,340.56	41.15	-	-	5,340.51
SHS-3**	5,383.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SHS-4	5,383.62	52.16	42.03	-	-	5,341.59	41.85	-	-	5,341.77	42.01	-	-	5,341.61	42.42	-	-	5,341.20
SHS-5	5,378.36	47.85	39.25	-	-	5,339.11	39.19	-	-	5,339.17	39.40	-	-	5,338.96	39.83	-	-	5,338.53
SHS-6	5,378.17	52.78	39.01	-	-	5,339.16	38.87	-	-	5,339.30	39.13	-	-	5,339.04	39.40	-	-	5,338.77
SHS-8	5,380.25	50.92	39.64	-	-	5,340.61	39.58	-	-	5,340.67	38.91	-	-	5,341.34	40.04	-	-	5,340.21
SHS-9	5,380.79	46.25	38.88	-	-	5,341.91	38.75	-	-	5,342.04	39.81	-	-	5,340.98	39.14	-	-	5,341.65
SHS-10	5,373.80	45.80	36.89	-	-	5,336.91	36.69	-	-	5,337.11	37.19	-	-	5,336.61	37.40	-	-	5,336.40
SHS-12	5,373.94	52.41	40.20	-	-	5,333.74	39.88	-	-	5,334.06	40.30	-	-	5,333.64	40.82	-	-	5,333.12
SHS-13	5,367.81	47.51	36.81	-	-	5,331.00	36.51	-	-	5,331.30	36.85	-	-	5,330.96	37.01	-	-	5,330.80
SHS-14	5,367.07	52.71	35.04	-	-	5,332.03	34.74	-	-	5,332.33	35.20	-	-	5,331.87	35.81	-	-	5,331.26
SHS-15	5,366.21	47.78	33.92	-	-	5,332.29	33.56	-	-	5,332.65	34.02	-	-	5,332.19	34.70	-	-	5,331.51
SHS-16	5,362.58	42.20	32.65	-	-	5,329.93	31.34	-	-	5,331.24	31.79	-	-	5,330.79	31.08	-	-	5,331.50
SHS-17	5,364.35	46.21	33.54	-	-	5,330.81	33.25	-	-	5,331.10	33.67	-	-	5,330.68	34.40	-	-	5,329.95
SHS-18	5,373.64	47.36	40.28	-	-	5,333.36	39.97	-	-	5,333.67	40.35	-	-	5,333.29	40.95	-	-	5,332.69
SHS-19	5,378.89	52.40	38.84	-	-	5,340.05	38.84	-	-	5,340.05	39.10	-	-	5,339.79	39.39	-	-	5,339.50

Notes:
BTOC - below top of casing
D - designates the well screen is deep
GWEL - groundwater elevation
PSH - phase-separated hydrocarbon
S - designates the well screen is shallow
* Top-of-casing elevation is unknown
** Well is damaged by a tree root
*** Well was paved over in June 2010
**** Well hit by a vehicle May 2014
Δ Indicates that water level was below groundwater pump
† Product Recovery socks in well, groundwater and product levels are not static
- indicates no GWEL or PSH measured
When PSH is detected, the GWEL is corrected using an estimated density correction factor of 0.88.

TABLE 4

ESTIMATED VOLUMES OF PHASE-SEPARATED HYDROCARBONS RECOVERED FROM GROUNDWATER MONITORING WELLS FORMER GIANT BLOOMFIELD REFINERY WESTERN REFINING SOUTHWEST, INC.

Well Number	2009 Total	2010 Total	2011 Total	2012 Total	2013 Total	2014 Total	Cumulative Total
	(ounces)	(ounces)	(ounces)	(ounces)	(ounces)	(ounces)	(ounces)
GBR-7	0.1	0.0	24.7	42.5	34	51	101.2
GBR-8	no sock	no sock	23.8	51.85	41.6	68.8	117.3
GBR-11	no sock	no sock	15.8	34	70.5	51	120.4
GBR-20	no sock	17.0	25.2	164.9	113.0	69.7	320.1
GBR-22	0.2	0.0	18.7	280.95	158.9	88.4	458.8
GBR-23	38.4	48.2	8.5	38.2	17	60.3	150.3
GBR-25	9.0	45.6	59.5	117.3	170.5	187.4	401.9
GBR-26	17.9	0.0	10.2	60.35	40.8	61.2	129.3
GBR-34	12.8	63.2	713.8	1,297.40	679.6	111.3	2,766.8
GBR-34A	no sock	no sock	no sock	125.5	330.5	117.1	456.1
SHS-2	no sock	no sock	no sock	4.0	113.9	14.9	117.9
SHS -9	no sock	no sock	no sock	no sock	149.1	30.4	149.1
Annual Total (Ounces)	**78.3**	**174.0**	**900.1**	**2,217.0**	**1,919.7**	**911.7**	**6,200.8**
Annual Total (Gallons)	**0.61**	**1.36**	**7.03**	**17.32**	**15.0**	**7.12**	**48.4**

TABLE 5

2014 GROUNDWATER LABORATORY ANALYTICAL RESULTS
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.

Analyte	NMWQCC Standard	Unit	INFLUENT 5-Mar	INFLUENT 18-Jun	INFLUENT 14-Nov	EFFLUENT 5-Mar	EFFLUENT 18-Jun	EFFLUENT 14-Nov	GRW-3 14-Nov	GRW-6 14-Nov	GBR-17 13-Nov	GBR-24D 14-Nov	GBR-30 14-Nov	GBR-31 14-Nov	GBR-32 13-Nov	GBR-48 13-Nov	GBR-49 13-Nov	GBR-50 13-Nov	GBR-51 12-Nov	GBR-52 12-Nov	SHS-8 12-Nov
USEPA Method 8260B - Volatiles																					
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	2.8
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
1,2-dichloroethane (EDC)	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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
1,2-dibromoethane (EDB)	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
naphthalene	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	<4.0	<2.0	<2.0	<2.0	<2.0	<4.0
1-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	<8.0	<4.0	<4.0	<4.0	<4.0	<8.0
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	<8.0	<4.0	<4.0	<4.0	<4.0	<8.0
acetone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	<10	<10	<10	<10	<20
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
bromomethane	NE	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<6.0	<3.0	<3.0	<3.0	<3.0	<6.0
2-butanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	<10	<10	<10	<10	<20
carbon disulfide	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	<10	<10	<10	<10	<20
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
chlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
chloroethane	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	<4.0	<2.0	<2.0	<2.0	<2.0	<4.0
chloroform	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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
chloromethane	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	<6.0	<3.0	<3.0	<3.0	<3.0	<6.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<4.0	<2.0	<2.0	<2.0	<2.0	<4.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
1,4-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
dichlorodifluoromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<4.0	<2.0	<2.0	<2.0	<2.0	<4.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
2-hexanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	<10	<10	<10	<10	<20
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
4-isopropyltoluene	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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
4-methyl-2-pentanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	<10	<10	<10	<10	<20
methylene chloride	100	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	<6.0	<3.0	<3.0	<3.0	<3.0	<6.0
n-butylbenzene	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	<6.0	<3.0	<3.0	<3.0	<3.0	<6.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
sec-butylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
tert-butylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
1,1,1,2-tetrachloroethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<4.0	<2.0	<2.0	<2.0	<2.0	<4.0
tetrachloroethene (PCE)	20	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	1.3	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
trans-1,3-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
1,2,3-trichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
1,2,4-trichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
1,1,1-trichloroethane	60	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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<2.0	<1.0	<1.0	3.5	<1.0	<2.0
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	<4.0	<2.0	<2.0	<2.0	<2.0	<4.0
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	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0
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	<3.0	<1.5	<1.5	<1.5	<1.5	<3.0

TABLE 5

2014 GROUNDWATER LABORATORY ANALYTICAL RESULTS
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.

Analyte	NMWQCC Standard	Unit	INFLUENT 5-Mar	INFLUENT 18-Jun	INFLUENT 14-Nov	EFFLUENT 5-Mar	EFFLUENT 18-Jun	EFFLUENT 14-Nov	GRW-3 14-Nov	GRW-6 14-Nov	GBR-17 13-Nov	GBR-24D 14-Nov	GBR-30 14-Nov	GBR-31 14-Nov	GBR-32 13-Nov	GBR-48 13-Nov	GBR-49 13-Nov	GBR-50 13-Nov	GBR-51 12-Nov	GBR-52 12-Nov	SHS-8 12-Nov
USEPA Method 8270C: Polycyclic Aromatic Hydrocarbons																					
naphthalene	30	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
1-methylnaphthalene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
2-methylnaphthalene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
acenaphthylene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
acenaphthene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
fluorene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
phenanthrene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
anthracene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
fluoranthene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
pyrene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
benz(a)anthracene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
chrysene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
benzo(b)fluoranthene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
benzo(k)fluoranthene	NE	µg/L	NT	NT	NT	NT	NT	<0.50	<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	NT	NT	NT	NT	NT	<0.50	<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	NT	NT	NT	NT	NT	<0.50	<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	NT	NT	NT	NT	NT	<0.50	<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	NT	NT	NT	NT	NT	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
USEPA Method 300.0: Anions																					
bromide	NE	mg/L	<0.50	<0.50	0.33	<0.50	<0.50	0.28	0.13	0.34	0.18	0.82	0.74	0.66	1.0	1.3	<0.50	<0.50	0.24	<0.50	0.71
chloride	250	mg/L	74	82	83	90	81	76	26	86	44	210	**270**	230	**380**	**420**	63	52	54	65	110
sulfate	600	mg/L	**1,600**	**1,500**	**1,500**	**1,400**	**1,500**	**1,600**	**2,200**	**1,600**	**1,200**	**1,800**	**1,400**	**1,500**	**1,900**	**2,100**	**1,400**	**1,700**	**1,400**	**1,700**	350
fluoride	1.6	mg/L	0.90	0.74	0.85	0.80	0.70	0.81	0.93	0.45	0.67	0.91	0.46	0.55	0.83	0.52	0.71	0.76	0.60	0.92	1.5
nitrate + nitrite as N	NE	mg/L	<1.0	1.5	<1.0	<1.0	0.89	<1.0	<1.0	<1.0	6.9	<1.0	7.8	2.3	<2.0	5.7	2.6	5.0	8.0	5.9	<0.50
phosphorus, orthophosphate (As P)	NE	mg/L	<2.5	<2.5	<10	<2.5	<2.5	<10	<10	<0.10	<10	<0.10	<10	<10	<10	<10	<2.5	<2.5	<10	<2.5	<2.5
USEPA Method 200.7: Total Metals																					
barium	NE	mg/L	NT	NT	NT	NT	NT	0.016	NT	NT	NT	NT	NT	NT	0.036	0.40	0.70	0.047	NT	NT	NT
beryllium	NE	mg/L	NT	NT	NT	NT	NT	<0.0020	NT	NT	NT	NT	NT	NT	<0.0020	0.0036	0.0027	<0.0020	NT	NT	NT
cadmium	0.01	mg/L	NT	NT	NT	NT	NT	<0.0020	NT	NT	NT	NT	NT	NT	<0.0020	<0.0020	<0.0020	<0.0020	NT	NT	NT
calcium	NE	mg/L	370	360	350	310	370	350	420	420	350	440	440	430	490	630	410	450	380	450	210
chromium	0.05	mg/L	NT	NT	NT	NT	NT	<0.0060	NT	NT	NT	NT	NT	NT	**1.4**	**0.92**	**0.060**	0.013	NT	NT	**260**
iron	1.0	mg/L	0.38	0.11	0.14	<0.020	0.069	0.15	0.86	**35**	**3.7**	**12**	**88**	**12**	**5.9**	**52**	**41**	**3.6**	**16**	**12**	42
magnesium	NE	mg/L	28	32	26	33	33	26	20	45	28	40	45	42	56	63	36	**34**	32	38	**5.0**
manganese	0.2	mg/L	**0.81**	**0.59**	**0.70**	**1.3**	**0.68**	**1.1**	**0.44**	**8.5**	0.13	**1.7**	**2.2**	**1.6**	**0.70**	**2.0**	**3.9**	**0.22**	**0.47**	**0.25**	NT
nickel	0.2	mg/L	NT	NT	NT	NT	NT	<0.010	NT	NT	NT	NT	NT	NT	**0.98**	**0.20**	0.086	<0.010	NT	NT	NT
potassium	NE	mg/L	3.3	4.0	5.6	3.2	3.8	5.5	7.1	3.4	1.8	9.3	12	4.6	4.2	12	6.3	3.1	3.8	4.1	14
silver	0.05	mg/L	NT	NT	NT	NT	NT	<0.0050	NT	NT	NT	NT	NT	NT	<0.0050	<0.0050	<0.0050	<0.0050	NT	NT	NT
sodium	NE	mg/L	470	450	540	520	440	540	610	460	250	600	360	530	660	730	270	360	290	310	430
zinc	10	mg/L	NT	NT	NT	NT	NT	0.023	NT	NT	NT	NT	NT	NT	0.027	0.10	0.084	0.019	NT	NT	NT
USEPA Method 200.8: Total Metals																					
antimony	NE	mg/L	NT	NT	NT	NT	NT	<0.0010	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	<0.0010	NT	NT	NT	NT	NT	NT	<0.020	0.010	0.0069	0.0017	NT	NT	NT
copper	1.0	mg/L	NT	NT	NT	NT	NT	<0.010	NT	NT	NT	NT	NT	NT	0.084	0.064	0.041	0.0085	NT	NT	NT
lead	0.05	mg/L	NT	NT	NT	NT	NT	<0.0010	NT	NT	NT	NT	NT	NT	0.0025	0.031	0.022	0.0028	NT	NT	NT
selenium	0.05	mg/L	NT	NT	NT	NT	NT	0.0039	NT	NT	NT	NT	NT	NT	0.023	0.047	<0.0050	0.011	NT	NT	NT
thallium	NE	mg/L	NT	NT	NT	NT	NT	<0.0010	NT	NT	NT	NT	NT	NT	<0.0010	<0.0010	<0.0050	<0.0010	NT	NT	NT
USEPA Method 245.1: Mercury																					
mercury	0.002	mg/L	NT	NT	NT	NT	NT	<0.00020	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	1000	1000	990	920	1100	970	1,100	1,200	980	1,300	1,300	1,200	1,400	1,800	1,200	1,300	1,100	1,300	700
USEPA Method SM 2320B: Alkalinity																					
alkalinity, total (As CaCO3)	NE	mg/L CaCO3	300	350	340	510	350	340	190	410	200	210	210	260	300	290	210	200	210	210	760
carbonate	NE	mg/L CaCO4	<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	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
bicarbonate	NE	mg/L CaCO5	300	350	340	510	350	340	190	410	200	210	210	260	300	290	210	200	210	210	760
USEPA Method 120.1: Specific Conductance																					
specific conductance	NE	µmhos/cm	3,100	3,000	3,100	3,100	3,000	3,100	3,500	3,100	2,000	3,400	2,800	3,100	3,700	4,100	2,300	2,600	2,300	2,500	1,900
USEPA Method SM4500-H+B: pH																					
pH	6-9	pH units	7.38	7.13	7.47	7.35	7.17	7.57	7.56	7.27	7.46	7.83	7.30	7.42	7.33	7.33	7.60	7.37	7.38	7.49	7.12
USEPA Method SM2540C Modified: Total Dissolved Solids																					
total dissolved solids	1,000	mg/L	**2,950**	**2,790**	**3,050**	**2,810**	**2,810**	**3,030**	**3,680**	**3,170**	**1,980**	**3,410**	**2,520**	**3,100**	**3,800**	**4,030**	**2,340**	**2,800**	**2,320**	**2,540**	**1,400**

Notes:
BOLD - indicates concentration exceeds the NMWQCC standard
mg/L - milligrams per liter
NE - not established
NMWQCC - New Mexico Water Quality Control Commission
NT - not tested
µg/L - micrograms per liter
USEPA - United States Environmental Protection Agency

APPENDIX A

LABORATORY ANALYTICAL REPORTS

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

March 14, 2014

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

RE: GBR Quarterly Sampling OrderNo.: 1403235

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/6/2014 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1403235**
Date Reported: **3/14/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Effluent
Project: GBR Quarterly Sampling **Collection Date:** 3/5/2014 1:45:00 PM
Lab ID: 1403235-001 **Matrix:** AQUEOUS **Received Date:** 3/6/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.80	0.50		mg/L	5	3/7/2014 1:03:06 AM	R17173
Chloride	90	2.5		mg/L	5	3/7/2014 1:03:06 AM	R17173
Bromide	ND	0.50		mg/L	5	3/7/2014 1:03:06 AM	R17173
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	3/7/2014 1:03:06 AM	R17173
Sulfate	1400	25	*	mg/L	50	3/11/2014 2:44:28 AM	R17219
Nitrate+Nitrite as N	ND	1.0		mg/L	5	3/7/2014 1:03:06 AM	R17173
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Calcium	310	5.0		mg/L	5	3/10/2014 2:34:39 PM	R17220
Iron	ND	0.020		mg/L	1	3/10/2014 2:28:40 PM	R17220
Magnesium	33	1.0		mg/L	1	3/10/2014 2:28:40 PM	R17220
Manganese	1.3	0.010	*	mg/L	5	3/10/2014 2:34:39 PM	R17220
Potassium	3.2	1.0		mg/L	1	3/10/2014 2:28:40 PM	R17220
Sodium	520	10		mg/L	10	3/10/2014 2:40:17 PM	R17220
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	920	6.6		mg/L	1	3/10/2014 1:37:00 PM	R17220
EPA METHOD 8260B: VOLATILES						Analyst: **cadg**	
Benzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Toluene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Ethylbenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Naphthalene	ND	2.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1-Methylnaphthalene	ND	4.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
2-Methylnaphthalene	ND	4.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Acetone	ND	10		µg/L	1	3/11/2014 6:12:15 AM	R17213
Bromobenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Bromodichloromethane	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Bromoform	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Bromomethane	ND	3.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
2-Butanone	ND	10		µg/L	1	3/11/2014 6:12:15 AM	R17213
Carbon disulfide	ND	10		µg/L	1	3/11/2014 6:12:15 AM	R17213
Carbon Tetrachloride	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Chlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Chloroethane	ND	2.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Chloroform	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Effluent
Project: GBR Quarterly Sampling **Collection Date:** 3/5/2014 1:45:00 PM
Lab ID: 1403235-001 **Matrix:** AQUEOUS **Received Date:** 3/6/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst:	**cadg**
Chloromethane	ND	3.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
2-Chlorotoluene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
4-Chlorotoluene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
cis-1,2-DCE	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Dibromochloromethane	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Dibromomethane	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,1-Dichloroethane	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,1-Dichloroethene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,2-Dichloropropane	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,3-Dichloropropane	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
2,2-Dichloropropane	ND	2.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,1-Dichloropropene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Hexachlorobutadiene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
2-Hexanone	ND	10		µg/L	1	3/11/2014 6:12:15 AM	R17213
Isopropylbenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
4-Isopropyltoluene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
4-Methyl-2-pentanone	ND	10		µg/L	1	3/11/2014 6:12:15 AM	R17213
Methylene Chloride	ND	3.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
n-Butylbenzene	ND	3.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
n-Propylbenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
sec-Butylbenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Styrene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
tert-Butylbenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
trans-1,2-DCE	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Effluent
Project: GBR Quarterly Sampling **Collection Date:** 3/5/2014 1:45:00 PM
Lab ID: 1403235-001 **Matrix:** AQUEOUS **Received Date:** 3/6/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst:	**cadg**
Trichlorofluoromethane	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Vinyl chloride	ND	1.0		µg/L	1	3/11/2014 6:12:15 AM	R17213
Xylenes, Total	ND	1.5		µg/L	1	3/11/2014 6:12:15 AM	R17213
Surr: 1,2-Dichloroethane-d4	106	70-130		%REC	1	3/11/2014 6:12:15 AM	R17213
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	3/11/2014 6:12:15 AM	R17213
Surr: Dibromofluoromethane	108	70-130		%REC	1	3/11/2014 6:12:15 AM	R17213
Surr: Toluene-d8	103	70-130		%REC	1	3/11/2014 6:12:15 AM	R17213
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JML**
Conductivity	3100	0.010		µmhos/cm	1	3/6/2014 5:46:53 PM	R17167
SM4500-H+B: PH						Analyst:	**JML**
pH	7.35	1.68	H	pH units	1	3/6/2014 5:46:53 PM	R17167
SM2320B: ALKALINITY						Analyst:	**JML**
Alkalinity, Hydroxide (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/6/2014 5:46:53 PM	R17167
Bicarbonate (As CaCO3)	510	20		mg/L CaCO3	1	3/6/2014 5:46:53 PM	R17167
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/6/2014 5:46:53 PM	R17167
Total Alkalinity (as CaCO3)	510	20		mg/L CaCO3	1	3/6/2014 5:46:53 PM	R17167
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	2810	20.0	*	mg/L	1	3/10/2014 11:06:00 AM	12086

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Influent
Project: GBR Quarterly Sampling **Collection Date:** 3/5/2014 1:10:00 PM
Lab ID: 1403235-002 **Matrix:** AQUEOUS **Received Date:** 3/6/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.90	0.50		mg/L	5	3/7/2014 1:27:56 AM	R17173
Chloride	74	2.5		mg/L	5	3/7/2014 1:27:56 AM	R17173
Bromide	ND	0.50		mg/L	5	3/7/2014 1:27:56 AM	R17173
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	3/7/2014 1:27:56 AM	R17173
Sulfate	1600	25	*	mg/L	50	3/11/2014 2:56:53 AM	R17219
Nitrate+Nitrite as N	ND	1.0		mg/L	5	3/7/2014 1:27:56 AM	R17173
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Calcium	370	5.0		mg/L	5	3/10/2014 2:44:03 PM	R17220
Iron	0.38	0.020	*	mg/L	1	3/10/2014 2:42:08 PM	R17220
Magnesium	28	1.0		mg/L	1	3/10/2014 2:42:08 PM	R17220
Manganese	0.81	0.0020	*	mg/L	1	3/10/2014 2:42:08 PM	R17220
Potassium	3.3	1.0		mg/L	1	3/10/2014 2:42:08 PM	R17220
Sodium	470	5.0		mg/L	5	3/10/2014 2:44:03 PM	R17220
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	1000	6.6		mg/L	1	3/10/2014 1:37:00 PM	R17220
EPA METHOD 8260B: VOLATILES						Analyst: **cadg**	
Benzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Toluene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Ethylbenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Naphthalene	ND	2.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1-Methylnaphthalene	ND	4.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
2-Methylnaphthalene	ND	4.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Acetone	ND	10		µg/L	1	3/11/2014 6:41:01 AM	R17213
Bromobenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Bromodichloromethane	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Bromoform	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Bromomethane	ND	3.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
2-Butanone	ND	10		µg/L	1	3/11/2014 6:41:01 AM	R17213
Carbon disulfide	ND	10		µg/L	1	3/11/2014 6:41:01 AM	R17213
Carbon Tetrachloride	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Chlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Chloroethane	ND	2.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Chloroform	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Influent
Project: GBR Quarterly Sampling **Collection Date:** 3/5/2014 1:10:00 PM
Lab ID: 1403235-002 **Matrix:** AQUEOUS **Received Date:** 3/6/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **cadg**	
Chloromethane	ND	3.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
2-Chlorotoluene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
4-Chlorotoluene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
cis-1,2-DCE	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Dibromochloromethane	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Dibromomethane	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,1-Dichloroethane	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,1-Dichloroethene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,2-Dichloropropane	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,3-Dichloropropane	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
2,2-Dichloropropane	ND	2.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,1-Dichloropropene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Hexachlorobutadiene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
2-Hexanone	ND	10		µg/L	1	3/11/2014 6:41:01 AM	R17213
Isopropylbenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
4-Isopropyltoluene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
4-Methyl-2-pentanone	ND	10		µg/L	1	3/11/2014 6:41:01 AM	R17213
Methylene Chloride	ND	3.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
n-Butylbenzene	ND	3.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
n-Propylbenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
sec-Butylbenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Styrene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
tert-Butylbenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
trans-1,2-DCE	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Influent
Project: GBR Quarterly Sampling **Collection Date:** 3/5/2014 1:10:00 PM
Lab ID: 1403235-002 **Matrix:** AQUEOUS **Received Date:** 3/6/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst:	**cadg**
Trichlorofluoromethane	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Vinyl chloride	ND	1.0		µg/L	1	3/11/2014 6:41:01 AM	R17213
Xylenes, Total	ND	1.5		µg/L	1	3/11/2014 6:41:01 AM	R17213
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	3/11/2014 6:41:01 AM	R17213
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	3/11/2014 6:41:01 AM	R17213
Surr: Dibromofluoromethane	106	70-130		%REC	1	3/11/2014 6:41:01 AM	R17213
Surr: Toluene-d8	105	70-130		%REC	1	3/11/2014 6:41:01 AM	R17213
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JML**
Conductivity	3100	0.010		µmhos/cm	1	3/6/2014 6:07:28 PM	R17167
SM4500-H+B: PH						Analyst:	**JML**
pH	7.38	1.68	H	pH units	1	3/6/2014 6:07:28 PM	R17167
SM2320B: ALKALINITY						Analyst:	**JML**
Alkalinity, Hydroxide (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/6/2014 6:07:28 PM	R17167
Bicarbonate (As CaCO3)	300	20		mg/L CaCO3	1	3/6/2014 6:07:28 PM	R17167
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/6/2014 6:07:28 PM	R17167
Total Alkalinity (as CaCO3)	300	20		mg/L CaCO3	1	3/6/2014 6:07:28 PM	R17167
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	2950	20.0	*	mg/L	1	3/10/2014 11:06:00 AM	12086

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** TRIP BLANK
Project: GBR Quarterly Sampling **Collection Date:**
Lab ID: 1403235-003 **Matrix:** TRIP BLANK **Received Date:** 3/6/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **cadg**	
Benzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Toluene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Ethylbenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Naphthalene	ND	2.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1-Methylnaphthalene	ND	4.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
2-Methylnaphthalene	ND	4.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Acetone	ND	10		µg/L	1	3/11/2014 7:09:41 AM	R17213
Bromobenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Bromodichloromethane	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Bromoform	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Bromomethane	ND	3.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
2-Butanone	ND	10		µg/L	1	3/11/2014 7:09:41 AM	R17213
Carbon disulfide	ND	10		µg/L	1	3/11/2014 7:09:41 AM	R17213
Carbon Tetrachloride	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Chlorobenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Chloroethane	ND	2.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Chloroform	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Chloromethane	ND	3.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
2-Chlorotoluene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
4-Chlorotoluene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
cis-1,2-DCE	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Dibromochloromethane	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Dibromomethane	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,1-Dichloroethane	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,1-Dichloroethene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,2-Dichloropropane	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,3-Dichloropropane	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
2,2-Dichloropropane	ND	2.0		µg/L	1	3/11/2014 7:09:41 AM	R17213

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** TRIP BLANK
Project: GBR Quarterly Sampling **Collection Date:**
Lab ID: 1403235-003 **Matrix:** TRIP BLANK **Received Date:** 3/6/2014 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **cadg**	
1,1-Dichloropropene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Hexachlorobutadiene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
2-Hexanone	ND	10		µg/L	1	3/11/2014 7:09:41 AM	R17213
Isopropylbenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
4-Isopropyltoluene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
4-Methyl-2-pentanone	ND	10		µg/L	1	3/11/2014 7:09:41 AM	R17213
Methylene Chloride	ND	3.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
n-Butylbenzene	ND	3.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
n-Propylbenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
sec-Butylbenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Styrene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
tert-Butylbenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
trans-1,2-DCE	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Trichlorofluoromethane	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Vinyl chloride	ND	1.0		µg/L	1	3/11/2014 7:09:41 AM	R17213
Xylenes, Total	ND	1.5		µg/L	1	3/11/2014 7:09:41 AM	R17213
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1	3/11/2014 7:09:41 AM	R17213
Surr: 4-Bromofluorobenzene	107	70-130		%REC	1	3/11/2014 7:09:41 AM	R17213
Surr: Dibromofluoromethane	107	70-130		%REC	1	3/11/2014 7:09:41 AM	R17213
Surr: Toluene-d8	101	70-130		%REC	1	3/11/2014 7:09:41 AM	R17213

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403235

14-Mar-14

Client: Western Refining Southwest, Inc.

Project: GBR Quarterly Sampling

Sample ID MB	SampType: MBLK	TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: R17220	RunNo: 17220							
Prep Date: 2/5/2014	Analysis Date: 3/10/2014	SeqNo: 495502	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID LCS	SampType: LCS	TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: R17220	RunNo: 17220							
Prep Date:	Analysis Date: 3/10/2014	SeqNo: 495504	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.8	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Manganese	0.48	0.0020	0.5000	0	95.1	85	115			
Potassium	49	1.0	50.00	0	97.3	85	115			
Sodium	49	1.0	50.00	0	98.0	85	115			

Sample ID 1403235-001CMS	SampType: MS	TestCode: EPA Method 200.7: Metals							
Client ID: Effluent	Batch ID: R17220	RunNo: 17220							
Prep Date:	Analysis Date: 3/10/2014	SeqNo: 495511	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.51	0.020	0.5000	0.008500	101	70	130			
Magnesium	84	1.0	50.00	33.04	102	70	130			
Potassium	54	1.0	50.00	3.235	101	70	130			

Sample ID 1403235-001CMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals							
Client ID: Effluent	Batch ID: R17220	RunNo: 17220							
Prep Date:	Analysis Date: 3/10/2014	SeqNo: 495512	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.51	0.020	0.5000	0.008500	100	70	130	0.372	20	
Magnesium	83	1.0	50.00	33.04	101	70	130	1.10	20	
Potassium	53	1.0	50.00	3.235	100	70	130	0.821	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1403235**

14-Mar-14

Client: Western Refining Southwest, Inc.

Project: GBR Quarterly Sampling

Sample ID	1403235-001CMS	SampType:	MS		TestCode:	EPA Method 200.7: Metals				
Client ID:	Effluent	Batch ID:	R17220		RunNo:	17220				
Prep Date:		Analysis Date:	3/10/2014		SeqNo:	495514	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	3.7	0.010	2.500	1.273	98.5	70	130			

Sample ID	1403235-001CMSD	SampType:	MSD		TestCode:	EPA Method 200.7: Metals				
Client ID:	Effluent	Batch ID:	R17220		RunNo:	17220				
Prep Date:		Analysis Date:	3/10/2014		SeqNo:	495515	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	3.7	0.010	2.500	1.273	98.4	70	130	0.112	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403235

14-Mar-14

Client: Western Refining Southwest, Inc.

Project: GBR Quarterly Sampling

Sample ID MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R17173	RunNo: 17173							
Prep Date:	Analysis Date: 3/6/2014	SeqNo: 494059	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: LCS	TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R17173	RunNo: 17173							
Prep Date:	Analysis Date: 3/6/2014	SeqNo: 494060	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	93.7	90	110			
Chloride	4.7	0.50	5.000	0	93.5	90	110			
Bromide	2.4	0.10	2.500	0	96.3	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	94.3	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.8	90	110			

Sample ID MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R17173	RunNo: 17173							
Prep Date:	Analysis Date: 3/6/2014	SeqNo: 494113	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: LCS	TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R17173	RunNo: 17173							
Prep Date:	Analysis Date: 3/6/2014	SeqNo: 494114	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	101	90	110			
Chloride	4.7	0.50	5.000	0	94.0	90	110			
Bromide	2.4	0.10	2.500	0	97.1	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.4	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.9	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403235

14-Mar-14

Client: Western Refining Southwest, Inc.

Project: GBR Quarterly Sampling

Sample ID MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R17219	RunNo: 17219							
Prep Date:	Analysis Date: 3/10/2014	SeqNo: 495403	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							
Client ID: LCSW	Batch ID: R17219	RunNo: 17219							
Prep Date:	Analysis Date: 3/10/2014	SeqNo: 495404	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.7	0.50	10.00	0	96.9	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403235

14-Mar-14

Client: Western Refining Southwest, Inc.

Project: GBR Quarterly Sampling

Sample ID 5mL rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R17213	RunNo: 17213
Prep Date:	Analysis Date: 3/10/2014	SeqNo: 495288 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
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								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403235

14-Mar-14

Client: Western Refining Southwest, Inc.

Project: GBR Quarterly Sampling

Sample ID 5mL rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R17213	RunNo: 17213
Prep Date:	Analysis Date: 3/10/2014	SeqNo: 495288 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES
Client ID: LCSW	Batch ID: R17213	RunNo: 17213
Prep Date:	Analysis Date: 3/10/2014	SeqNo: 495290 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	18	1.0	20.00	0	89.1	80	120			
Chlorobenzene	17	1.0	20.00	0	86.6	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403235

14-Mar-14

Client: Western Refining Southwest, Inc.

Project: GBR Quarterly Sampling

Sample ID 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R17213	RunNo: 17213							
Prep Date:	Analysis Date: 3/10/2014	SeqNo: 495290	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	20	1.0	20.00	0	100	90	143			
Trichloroethene (TCE)	17	1.0	20.00	0	86.9	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.5		10.00		95.4	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403235

14-Mar-14

Client: Western Refining Southwest, Inc.

Project: GBR Quarterly Sampling

Sample ID	1403235-002b dup	SampType:	dup	TestCode:	SM2510B: Specific Conductance					
Client ID:	Influent	Batch ID:	R17167	RunNo:	17167					
Prep Date:		Analysis Date:	3/6/2014	SeqNo:	493965	Units:	µmhos/cm			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	3100	0.010						0.290	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403235

14-Mar-14

Client: Western Refining Southwest, Inc.

Project: GBR Quarterly Sampling

Sample ID	1403235-002b dup	SampType:	dup	TestCode:	SM4500-H+B: pH					
Client ID:	Influent	Batch ID:	R17167	RunNo:	17167					
Prep Date:		Analysis Date:	3/6/2014	SeqNo:	493991	Units:	pH units			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.41	1.68								H

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403235

14-Mar-14

Client: Western Refining Southwest, Inc.

Project: GBR Quarterly Sampling

Sample ID mb-1	SampType: mblk	TestCode: SM2320B: Alkalinity							
Client ID: PBW	Batch ID: R17167	RunNo: 17167							
Prep Date:	Analysis Date: 3/6/2014	SeqNo: 493925	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID lcs-1	SampType: lcs	TestCode: SM2320B: Alkalinity							
Client ID: LCSW	Batch ID: R17167	RunNo: 17167							
Prep Date:	Analysis Date: 3/6/2014	SeqNo: 493926	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80	20	80.00	0	99.7	90	110			

Sample ID mb-2	SampType: mblk	TestCode: SM2320B: Alkalinity							
Client ID: PBW	Batch ID: R17167	RunNo: 17167							
Prep Date:	Analysis Date: 3/6/2014	SeqNo: 493932	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID lcs-2	SampType: lcs	TestCode: SM2320B: Alkalinity							
Client ID: LCSW	Batch ID: R17167	RunNo: 17167							
Prep Date:	Analysis Date: 3/6/2014	SeqNo: 493933	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81	20	80.00	0	101	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403235

14-Mar-14

Client: Western Refining Southwest, Inc.

Project: GBR Quarterly Sampling

Sample ID MB-12086	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: PBW	Batch ID: 12086	RunNo: 17192
Prep Date: 3/7/2014	Analysis Date: 3/10/2014	SeqNo: 494687 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-12086	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: LCSW	Batch ID: 12086	RunNo: 17192
Prep Date: 3/7/2014	Analysis Date: 3/10/2014	SeqNo: 494688 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1060	20.0	1000	0	106	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Western Refining Southw Work Order Number: 1403235 RcptNo: 1

Received by/date: 03/06/14

Logged By: Ashley Gallegos 3/6/2014 10:20:00 AM

Completed By: Ashley Gallegos 3/6/2014 11:37:43 AM

Reviewed By: 03/06/14

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 4 (<2 or >12 unless noted)

Adjusted? NO

Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Client: Kelly Robinson
Western Refining
Mailing Address: 111 CR 4990
Bloomfield NM 87413
Phone #: 505-632-4166
email or Fax#: kelly.robinson@wnr.com
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: GBR Quartly Sampling
Project #:
Project Manager: Ashley Ager
Sampler: Daniel Newman
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.0

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
3/5/14	1310	AQ	Influent DW			1403235-004																
3/5/14	1345	AQ	Effluent	7	Various	-001 ~~-002~~										X	X	D.O.				
3/5/14	1310	AQ	Influent	7	Various	-002 ~~-003~~										X	X		X	See Attached		
3/5/14			Trip Blank	VOA/2	HCL	-003										X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/5/14	1530		Christa Waeble	3/5/14	1530
3/6/14	630	Christa Waeble		03/06/14	1020

Remarks:

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

VOCs 8260

General Chemistry:

- pH
- EC
- TDS
- alkalinity
- hardness
- anions
  - bromide
  - chloride
  - sulfate
  - fluoride
  - nitrate/nitrite
  - phosporus
- cations
  - calcium
  - iron
  - magnesium
  - manganese
  - potassium
  - sodium

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

July 01, 2014

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

RE: GBR OrderNo.: 1406898

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/19/2014 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Influent
Project: GBR **Collection Date:** 6/18/2014 2:20:00 PM
Lab ID: 1406898-001 **Matrix:** AQUEOUS **Received Date:** 6/19/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.74	0.50		mg/L	5	6/19/2014 1:22:41 PM	R19410
Chloride	82	10		mg/L	20	6/19/2014 1:59:55 PM	R19410
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	6/19/2014 1:22:41 PM	R19410
Bromide	ND	0.50		mg/L	5	6/19/2014 1:22:41 PM	R19410
Nitrogen, Nitrate (As N)	1.5	0.50		mg/L	5	6/19/2014 1:22:41 PM	R19410
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	6/19/2014 1:22:41 PM	R19410
Sulfate	1500	25	*	mg/L	50	6/26/2014 3:42:01 AM	R19526
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Calcium	360	10		mg/L	10	6/20/2014 3:05:28 PM	R19422
Iron	0.11	0.020		mg/L	1	6/19/2014 5:43:13 PM	R19395
Magnesium	32	1.0		mg/L	1	6/19/2014 5:43:13 PM	R19395
Manganese	0.59	0.0020	*	mg/L	1	6/19/2014 5:43:13 PM	R19395
Potassium	4.0	1.0		mg/L	1	6/19/2014 5:43:13 PM	R19395
Sodium	450	10		mg/L	10	6/20/2014 3:05:28 PM	R19422
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	1000	6.6		mg/L	1	6/20/2014 2:03:00 PM	R19422
EPA METHOD 8260B: VOLATILES						Analyst: **cadg**	
Benzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Toluene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Ethylbenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Methyl tert-butyl ether (MTBE)	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,2,4-Trimethylbenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,3,5-Trimethylbenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,2-Dichloroethane (EDC)	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,2-Dibromoethane (EDB)	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Naphthalene	ND	2.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1-Methylnaphthalene	ND	4.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
2-Methylnaphthalene	ND	4.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Acetone	ND	10	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Bromobenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Bromodichloromethane	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Bromoform	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Bromomethane	ND	3.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
2-Butanone	ND	10	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Carbon disulfide	ND	10	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Carbon Tetrachloride	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Chlorobenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Chloroethane	ND	2.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Influent
Project: GBR **Collection Date:** 6/18/2014 2:20:00 PM
Lab ID: 1406898-001 **Matrix:** AQUEOUS **Received Date:** 6/19/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **cadg**	
Chloroform	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Chloromethane	ND	3.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
2-Chlorotoluene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
4-Chlorotoluene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
cis-1,2-DCE	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
cis-1,3-Dichloropropene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,2-Dibromo-3-chloropropane	ND	2.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Dibromochloromethane	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Dibromomethane	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,2-Dichlorobenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,3-Dichlorobenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,4-Dichlorobenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Dichlorodifluoromethane	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,1-Dichloroethane	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,1-Dichloroethene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,2-Dichloropropane	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,3-Dichloropropane	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
2,2-Dichloropropane	ND	2.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,1-Dichloropropene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Hexachlorobutadiene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
2-Hexanone	ND	10	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Isopropylbenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
4-Isopropyltoluene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
4-Methyl-2-pentanone	ND	10	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Methylene Chloride	ND	3.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
n-Butylbenzene	ND	3.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
n-Propylbenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
sec-Butylbenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Styrene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
tert-Butylbenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,1,1,2-Tetrachloroethane	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,1,2,2-Tetrachloroethane	ND	2.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Tetrachloroethene (PCE)	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
trans-1,2-DCE	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
trans-1,3-Dichloropropene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,2,3-Trichlorobenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,2,4-Trichlorobenzene	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,1,1-Trichloroethane	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,1,2-Trichloroethane	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Influent
Project: GBR **Collection Date:** 6/18/2014 2:20:00 PM
Lab ID: 1406898-001 **Matrix:** AQUEOUS **Received Date:** 6/19/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **cadg**	
Trichloroethene (TCE)	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Trichlorofluoromethane	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
1,2,3-Trichloropropane	ND	2.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Vinyl chloride	ND	1.0	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Xylenes, Total	ND	1.5	p	µg/L	1	6/23/2014 5:58:35 PM	R19450
Surr: 1,2-Dichloroethane-d4	89.0	70-130	p	%REC	1	6/23/2014 5:58:35 PM	R19450
Surr: 4-Bromofluorobenzene	98.9	70-130	p	%REC	1	6/23/2014 5:58:35 PM	R19450
Surr: Dibromofluoromethane	99.8	70-130	p	%REC	1	6/23/2014 5:58:35 PM	R19450
Surr: Toluene-d8	99.6	70-130	p	%REC	1	6/23/2014 5:58:35 PM	R19450
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	3000	0.010		µmhos/cm	1	6/23/2014 12:31:41 PM	R19484
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.13	1.68	H	pH units	1	6/23/2014 12:31:41 PM	R19484
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	350	20		mg/L CaCO3	1	6/23/2014 12:31:41 PM	R19484
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	6/23/2014 12:31:41 PM	R19484
Total Alkalinity (as CaCO3)	350	20		mg/L CaCO3	1	6/23/2014 12:31:41 PM	R19484
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2790	20.0	*	mg/L	1	6/24/2014 5:16:00 PM	13839

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Effluent
Project: GBR **Collection Date:** 6/18/2014 2:40:00 PM
Lab ID: 1406898-002 **Matrix:** AQUEOUS **Received Date:** 6/19/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**JRR**
Fluoride	0.70	0.50		mg/L	5	6/19/2014 2:37:09 PM	R19410
Chloride	81	2.5		mg/L	5	6/19/2014 2:37:09 PM	R19410
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	6/19/2014 2:37:09 PM	R19410
Bromide	ND	0.50		mg/L	5	6/19/2014 2:37:09 PM	R19410
Nitrogen, Nitrate (As N)	0.89	0.50		mg/L	5	6/19/2014 2:37:09 PM	R19410
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	6/19/2014 2:37:09 PM	R19410
Sulfate	1500	25	*	mg/L	50	6/26/2014 3:54:26 AM	R19526
EPA METHOD 200.7: METALS						Analyst:	**JLF**
Calcium	370	10		mg/L	10	6/20/2014 3:07:18 PM	R19422
Iron	0.069	0.020		mg/L	1	6/19/2014 5:45:21 PM	R19395
Magnesium	33	1.0		mg/L	1	6/19/2014 5:45:21 PM	R19395
Manganese	0.68	0.0020	*	mg/L	1	6/19/2014 5:45:21 PM	R19395
Potassium	3.8	1.0		mg/L	1	6/19/2014 5:45:21 PM	R19395
Sodium	440	10		mg/L	10	6/20/2014 3:07:18 PM	R19422
SM2340B: HARDNESS						Analyst:	**JLF**
Hardness (As CaCO3)	1100	6.6		mg/L	1	6/20/2014 2:03:00 PM	R19422
EPA METHOD 8260B: VOLATILES						Analyst:	**cadg**
Benzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Toluene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Ethylbenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Naphthalene	ND	2.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1-Methylnaphthalene	ND	4.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
2-Methylnaphthalene	ND	4.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Acetone	ND	10		µg/L	1	6/23/2014 6:27:20 PM	R19450
Bromobenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Bromodichloromethane	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Bromoform	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Bromomethane	ND	3.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
2-Butanone	ND	10		µg/L	1	6/23/2014 6:27:20 PM	R19450
Carbon disulfide	ND	10		µg/L	1	6/23/2014 6:27:20 PM	R19450
Carbon Tetrachloride	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Chlorobenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Chloroethane	ND	2.0		µg/L	1	6/23/2014 6:27:20 PM	R19450

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Effluent
Project: GBR **Collection Date:** 6/18/2014 2:40:00 PM
Lab ID: 1406898-002 **Matrix:** AQUEOUS **Received Date:** 6/19/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: cadg	
Chloroform	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Chloromethane	ND	3.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
2-Chlorotoluene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
4-Chlorotoluene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
cis-1,2-DCE	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Dibromochloromethane	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Dibromomethane	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,1-Dichloroethane	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,1-Dichloroethene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,2-Dichloropropane	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,3-Dichloropropane	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
2,2-Dichloropropane	ND	2.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,1-Dichloropropene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Hexachlorobutadiene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
2-Hexanone	ND	10		µg/L	1	6/23/2014 6:27:20 PM	R19450
Isopropylbenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
4-Isopropyltoluene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
4-Methyl-2-pentanone	ND	10		µg/L	1	6/23/2014 6:27:20 PM	R19450
Methylene Chloride	ND	3.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
n-Butylbenzene	ND	3.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
n-Propylbenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
sec-Butylbenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Styrene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
tert-Butylbenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
trans-1,2-DCE	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Effluent
Project: GBR **Collection Date:** 6/18/2014 2:40:00 PM
Lab ID: 1406898-002 **Matrix:** AQUEOUS **Received Date:** 6/19/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst:	**cadg**
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Trichlorofluoromethane	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Vinyl chloride	ND	1.0		µg/L	1	6/23/2014 6:27:20 PM	R19450
Xylenes, Total	ND	1.5		µg/L	1	6/23/2014 6:27:20 PM	R19450
Surr: 1,2-Dichloroethane-d4	90.3	70-130		%REC	1	6/23/2014 6:27:20 PM	R19450
Surr: 4-Bromofluorobenzene	95.6	70-130		%REC	1	6/23/2014 6:27:20 PM	R19450
Surr: Dibromofluoromethane	106	70-130		%REC	1	6/23/2014 6:27:20 PM	R19450
Surr: Toluene-d8	105	70-130		%REC	1	6/23/2014 6:27:20 PM	R19450
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	3000	0.010		µmhos/cm	1	6/23/2014 12:52:06 PM	R19484
SM4500-H+B: PH						Analyst:	**JRR**
pH	7.17	1.68	H	pH units	1	6/23/2014 12:52:06 PM	R19484
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	350	20		mg/L CaCO3	1	6/23/2014 12:52:06 PM	R19484
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	6/23/2014 12:52:06 PM	R19484
Total Alkalinity (as CaCO3)	350	20		mg/L CaCO3	1	6/23/2014 12:52:06 PM	R19484
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	2810	20.0	*	mg/L	1	6/24/2014 5:16:00 PM	13839

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Trip Blank
Project: GBR **Collection Date:**
Lab ID: 1406898-003 **Matrix:** AQUEOUS **Received Date:** 6/19/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst:	**cadg**
Benzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Toluene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Ethylbenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Naphthalene	ND	2.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1-Methylnaphthalene	ND	4.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
2-Methylnaphthalene	ND	4.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Acetone	ND	10		µg/L	1	6/26/2014 1:43:05 AM	R19511
Bromobenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Bromodichloromethane	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Bromoform	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Bromomethane	ND	3.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
2-Butanone	ND	10		µg/L	1	6/26/2014 1:43:05 AM	R19511
Carbon disulfide	ND	10		µg/L	1	6/26/2014 1:43:05 AM	R19511
Carbon Tetrachloride	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Chlorobenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Chloroethane	ND	2.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Chloroform	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Chloromethane	ND	3.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
2-Chlorotoluene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
4-Chlorotoluene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
cis-1,2-DCE	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Dibromochloromethane	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Dibromomethane	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,1-Dichloroethane	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,1-Dichloroethene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,2-Dichloropropane	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,3-Dichloropropane	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
2,2-Dichloropropane	ND	2.0		µg/L	1	6/26/2014 1:43:05 AM	R19511

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

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** Trip Blank
Project: GBR **Collection Date:**
Lab ID: 1406898-003 **Matrix:** AQUEOUS **Received Date:** 6/19/2014 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: cadg	
1,1-Dichloropropene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Hexachlorobutadiene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
2-Hexanone	ND	10		µg/L	1	6/26/2014 1:43:05 AM	R19511
Isopropylbenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
4-Isopropyltoluene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
4-Methyl-2-pentanone	ND	10		µg/L	1	6/26/2014 1:43:05 AM	R19511
Methylene Chloride	ND	3.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
n-Butylbenzene	ND	3.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
n-Propylbenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
sec-Butylbenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Styrene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
tert-Butylbenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
trans-1,2-DCE	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Trichlorofluoromethane	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Vinyl chloride	ND	1.0		µg/L	1	6/26/2014 1:43:05 AM	R19511
Xylenes, Total	ND	1.5		µg/L	1	6/26/2014 1:43:05 AM	R19511
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	6/26/2014 1:43:05 AM	R19511
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	6/26/2014 1:43:05 AM	R19511
Surr: Dibromofluoromethane	107	70-130		%REC	1	6/26/2014 1:43:05 AM	R19511
Surr: Toluene-d8	102	70-130		%REC	1	6/26/2014 1:43:05 AM	R19511

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

Qualifiers:

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E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406898

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID MB	SampType: MBLK	TestCode: EPA Method 200.7: Metals
Client ID: PBW	Batch ID: R19395	RunNo: 19395
Prep Date:	Analysis Date: 6/19/2014	SeqNo: 561190 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								

Sample ID LCS	SampType: LCS	TestCode: EPA Method 200.7: Metals
Client ID: LCSW	Batch ID: R19395	RunNo: 19395
Prep Date:	Analysis Date: 6/19/2014	SeqNo: 561191 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.52	0.020	0.5000	0	103	85	115			
Magnesium	49	1.0	50.00	0	98.9	85	115			
Manganese	0.50	0.0020	0.5000	0	99.8	85	115			
Potassium	46	1.0	50.00	0	92.8	85	115			

Sample ID MB	SampType: MBLK	TestCode: EPA Method 200.7: Metals
Client ID: PBW	Batch ID: R19422	RunNo: 19422
Prep Date:	Analysis Date: 6/20/2014	SeqNo: 561722 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Sodium	ND	1.0								

Sample ID LCS	SampType: LCS	TestCode: EPA Method 200.7: Metals
Client ID: LCSW	Batch ID: R19422	RunNo: 19422
Prep Date:	Analysis Date: 6/20/2014	SeqNo: 561723 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	48	1.0	50.00	0	96.4	85	115			
Sodium	47	1.0	50.00	0	93.9	85	115			

Qualifiers:

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- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406898

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R19410	RunNo: 19410							
Prep Date:	Analysis Date: 6/19/2014	SeqNo: 561479	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	SampType: LCS	TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R19410	RunNo: 19410							
Prep Date:	Analysis Date: 6/19/2014	SeqNo: 561480	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	94.3	90	110			
Chloride	4.7	0.50	5.000	0	94.8	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	93.7	90	110			
Bromide	2.4	0.10	2.500	0	96.2	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.8	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.6	90	110			

Sample ID 1406898-001BMS	SampType: MS	TestCode: EPA Method 300.0: Anions							
Client ID: Influent	Batch ID: R19410	RunNo: 19410							
Prep Date:	Analysis Date: 6/19/2014	SeqNo: 561486	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.9	0.50	2.500	0.7388	87.9	72.7	110			
Nitrogen, Nitrite (As N)	4.5	0.50	5.000	0	90.3	75.5	104			
Bromide	12	0.50	12.50	0	96.2	85.1	108			
Nitrogen, Nitrate (As N)	14	0.50	12.50	1.517	97.3	87.8	111			
Phosphorus, Orthophosphate (As P	21	2.5	25.00	0	85.8	81.3	101			

Sample ID 1406898-001BMSD	SampType: MSD	TestCode: EPA Method 300.0: Anions							
Client ID: Influent	Batch ID: R19410	RunNo: 19410							
Prep Date:	Analysis Date: 6/19/2014	SeqNo: 561487	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	3.0	0.50	2.500	0.7388	89.7	72.7	110	1.45	20	
Nitrogen, Nitrite (As N)	4.6	0.50	5.000	0	92.2	75.5	104	2.04	20	
Bromide	12	0.50	12.50	0	97.6	85.1	108	1.44	20	
Nitrogen, Nitrate (As N)	14	0.50	12.50	1.517	99.2	87.8	111	1.78	20	
Phosphorus, Orthophosphate (As P	22	2.5	25.00	0	87.2	81.3	101	1.63	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406898

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R19410	RunNo: 19410							
Prep Date:	Analysis Date: 6/19/2014	SeqNo: 561529	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	SampType: LCS	TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R19410	RunNo: 19410							
Prep Date:	Analysis Date: 6/19/2014	SeqNo: 561530	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	101	90	110			
Chloride	4.8	0.50	5.000	0	96.1	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	97.0	90	110			
Bromide	2.5	0.10	2.500	0	99.2	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.0	90	110			

Sample ID MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R19526	RunNo: 19526							
Prep Date:	Analysis Date: 6/25/2014	SeqNo: 565235	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							
Client ID: LCSW	Batch ID: R19526	RunNo: 19526							
Prep Date:	Analysis Date: 6/25/2014	SeqNo: 565236	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.4	0.50	10.00	0	93.6	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1406898**

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID **b2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R19450**	RunNo: **19450**
Prep Date:	Analysis Date: **6/23/2014**	SeqNo: **562640** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
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								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406898

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID b2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R19450	RunNo: 19450
Prep Date:	Analysis Date: 6/23/2014	SeqNo: 562640 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	11		10.00		109	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES
Client ID: LCSW	Batch ID: R19450	RunNo: 19450
Prep Date:	Analysis Date: 6/23/2014	SeqNo: 562642 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	21	1.0	20.00	0	107	80	120			
Chlorobenzene	19	1.0	20.00	0	95.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1406898**

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES
Client ID: LCSW	Batch ID: R19450	RunNo: 19450
Prep Date:	Analysis Date: 6/23/2014	SeqNo: 562642 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18	1.0	20.00	0	90.3	82.6	131			
Trichloroethene (TCE)	19	1.0	20.00	0	95.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.2	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.4	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	11		10.00		106	70	130			

Sample ID 5mL rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R19511	RunNo: 19511
Prep Date:	Analysis Date: 6/25/2014	SeqNo: 564708 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406898

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID 5mL rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R19511	RunNo: 19511
Prep Date:	Analysis Date: 6/25/2014	SeqNo: 564708 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.0	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406898

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID 5mL rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R19511	RunNo: 19511
Prep Date:	Analysis Date: 6/25/2014	SeqNo: 564708 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	10		10.00		99.9	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES
Client ID: LCSW	Batch ID: R19511	RunNo: 19511
Prep Date:	Analysis Date: 6/25/2014	SeqNo: 564710 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	20	1.0	20.00	0	102	80	120			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	109	82.6	131			
Trichloroethene (TCE)	18	1.0	20.00	0	89.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.4	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1406898**

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID	1406898-001b dup	SampType:	DUP			TestCode:	SM2510B: Specific Conductance			
Client ID:	Influent	Batch ID:	R19484			RunNo:	19484			
Prep Date:		Analysis Date:	6/23/2014			SeqNo:	563974	Units:	µmhos/cm	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	3000	0.010						0.135	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406898

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID	1406898-001b dup	SampType:	DUP		TestCode:	SM4500-H+B: pH				
Client ID:	Influent	Batch ID:	R19484		RunNo:	19484				
Prep Date:		Analysis Date:	6/23/2014		SeqNo:	563991	Units:	pH units		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.15	1.68								H

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406898

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID mb-1	SampType: MBLK	TestCode: SM2320B: Alkalinity							
Client ID: PBW	Batch ID: R19484	RunNo: 19484							
Prep Date:	Analysis Date: 6/23/2014	SeqNo: 563920	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID lcs-1	SampType: LCS	TestCode: SM2320B: Alkalinity							
Client ID: LCSW	Batch ID: R19484	RunNo: 19484							
Prep Date:	Analysis Date: 6/23/2014	SeqNo: 563921	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.7	90	110			

Sample ID mb-2	SampType: MBLK	TestCode: SM2320B: Alkalinity							
Client ID: PBW	Batch ID: R19484	RunNo: 19484							
Prep Date:	Analysis Date: 6/23/2014	SeqNo: 563943	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID lcs-2	SampType: LCS	TestCode: SM2320B: Alkalinity							
Client ID: LCSW	Batch ID: R19484	RunNo: 19484							
Prep Date:	Analysis Date: 6/23/2014	SeqNo: 563944	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80	20	80.00	0	100	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1406898

01-Jul-14

Client: Western Refining Southwest, Inc.

Project: GBR

Sample ID MB-13839	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: PBW	Batch ID: 13839	RunNo: 19474
Prep Date: 6/23/2014	Analysis Date: 6/24/2014	SeqNo: 563504 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-13839	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids
Client ID: LCSW	Batch ID: 13839	RunNo: 19474
Prep Date: 6/23/2014	Analysis Date: 6/24/2014	SeqNo: 563505 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
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

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: 1406898 RcptNo: 1

Received by/date: LM 06/19/14

Logged By: Michelle Garcia 6/19/2014 7:15:00 AM Michelle Garcia

Completed By: Michelle Garcia 6/19/2014 8:33:04 AM Michelle Garcia

Reviewed By: 06/19/14

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☑ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
9. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
10. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☑
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
14. Is it clear what analyses were requested? Yes ☑ No ☐
15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: 6 (<2 or >12 unless noted)
Adjusted? no
Checked by: CS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Client: Western Refining Kelly Robinson	Turn-Around Time: ☒ Standard ☐ Rush
Mailing Address: 111 CR 4990 Bloomfield NM 87413	Project Name: GBR
Phone #: 505-801-5610	Project #: WR1009
email or Fax#: Kelly.Robinson@wnr.com	Project Manager: Devin Hencmann
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)	Sampler: Brooke Herb
Accreditation ☐ NELAP ☐ Other	On Ice: ☒ Yes ☐ No
☐ EDD (Type)	Sample Temperature: 1.1

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1406898	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	8260 (VOC)	Anions, cations, Fe, Mn	TDS, Alkalinity, EC, PH	See Attached
6/18/14	1420	AQ	Influent	Various/8	cool / HNO_3 H_2SO_4	-001												X	X	X	X
6/18/14	1440	AQ	Effluent	Various/8	cool / HNO_3 H_2SO_4 / HCl	-002												X	X	X	X
		~~AQ~~	~~Trip Blank~~	VOA/2	HCl	~~-003~~												X			
			Trip Blank 06/19/14			-003												X			

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/18/14	1540		Christy Walker	6/18/14	1542
6/18/14	1830	Christy Walker		06/19/14	0715

Remarks: Did not ri

Please copy results to aager@Henv.com

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

VOCs 8260
General Chemistry:

- pH
- EC
- TDS
- alkalinity
- hardness
- anions
  - bromide
  - chloride
  - sulfate
  - fluoride
  - nitrate/nitrite
  - phosporus — PO4 ← 06/19/14
- cations
  - calcium
  - iron
  - magnesium
  - manganese
  - potassium
  - sodium

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

December 10, 2014

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

RE: GBR Annual Sampling OrderNo.: 1411545

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 9 sample(s) on 11/14/2014 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** SHS-8
Project: GBR Annual Sampling **Collection Date:** 11/12/2014 12:55:00 PM
Lab ID: 1411545-001 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: LGP	
Fluoride	1.5	0.50		mg/L	5	11/14/2014 10:42:42 AM	R22558
Chloride	110	10		mg/L	20	11/14/2014 10:55:06 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/14/2014 10:42:42 AM	R22558
Bromide	0.71	0.50		mg/L	5	11/14/2014 10:42:42 AM	R22558
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	11/14/2014 10:42:42 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/14/2014 10:42:42 AM	R22558
Sulfate	350	10	*	mg/L	20	11/14/2014 10:55:06 AM	R22558
EPA METHOD 200.7: METALS						Analyst: JLF	
Calcium	210	5.0		mg/L	5	11/20/2014 5:07:10 PM	16487
Iron	260	10	*	mg/L	500	11/21/2014 4:33:51 PM	16487
Magnesium	42	1.0		mg/L	1	11/20/2014 5:05:22 PM	16487
Manganese	5.0	0.010	*	mg/L	5	11/20/2014 5:07:10 PM	16487
Potassium	14	1.0		mg/L	1	11/20/2014 5:05:22 PM	16487
Sodium	430	5.0		mg/L	5	11/21/2014 4:32:01 PM	16487
SM2340B: HARDNESS						Analyst: JLF	
Hardness (As CaCO3)	700	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Toluene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Ethylbenzene	2.8	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Naphthalene	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1-Methylnaphthalene	ND	8.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
2-Methylnaphthalene	ND	8.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Acetone	ND	20		µg/L	2	11/14/2014 11:49:53 PM	R22565
Bromobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Bromodichloromethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Bromoform	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Bromomethane	ND	6.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
2-Butanone	ND	20		µg/L	2	11/14/2014 11:49:53 PM	R22565
Carbon disulfide	ND	20		µg/L	2	11/14/2014 11:49:53 PM	R22565
Carbon Tetrachloride	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Chlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Chloroethane	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** SHS-8
Project: GBR Annual Sampling **Collection Date:** 11/12/2014 12:55:00 PM
Lab ID: 1411545-001 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Chloroform	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Chloromethane	ND	6.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
2-Chlorotoluene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
4-Chlorotoluene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
cis-1,2-DCE	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Dibromochloromethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Dibromomethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2-Dichlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,3-Dichlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,4-Dichlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Dichlorodifluoromethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1-Dichloroethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1-Dichloroethene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2-Dichloropropane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,3-Dichloropropane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
2,2-Dichloropropane	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1-Dichloropropene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Hexachlorobutadiene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
2-Hexanone	ND	20		µg/L	2	11/14/2014 11:49:53 PM	R22565
Isopropylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
4-Isopropyltoluene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
4-Methyl-2-pentanone	ND	20		µg/L	2	11/14/2014 11:49:53 PM	R22565
Methylene Chloride	ND	6.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
n-Butylbenzene	ND	6.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
n-Propylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
sec-Butylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Styrene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
tert-Butylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
trans-1,2-DCE	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1,1-Trichloroethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1,2-Trichloroethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** SHS-8
Project: GBR Annual Sampling **Collection Date:** 11/12/2014 12:55:00 PM
Lab ID: 1411545-001 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
Trichloroethene (TCE)	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Trichlorofluoromethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2,3-Trichloropropane	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Vinyl chloride	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Xylenes, Total	ND	3.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Surr: 1,2-Dichloroethane-d4	93.4	70-130		%REC	2	11/14/2014 11:49:53 PM	R22565
Surr: 4-Bromofluorobenzene	96.7	70-130		%REC	2	11/14/2014 11:49:53 PM	R22565
Surr: Dibromofluoromethane	93.6	70-130		%REC	2	11/14/2014 11:49:53 PM	R22565
Surr: Toluene-d8	97.9	70-130		%REC	2	11/14/2014 11:49:53 PM	R22565
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	1900	0.010		µmhos/cm	1	11/20/2014 1:20:04 PM	R22708
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.12	1.68	H	pH units	1	11/20/2014 1:20:04 PM	R22708
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	760	20		mg/L CaCO3	1	11/20/2014 1:20:04 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 1:20:04 PM	R22708
Total Alkalinity (as CaCO3)	760	20		mg/L CaCO3	1	11/20/2014 1:20:04 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	1400	200	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-51
Project: GBR Annual Sampling **Collection Date:** 11/12/2014 2:27:00 PM
Lab ID: 1411545-002 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: LGP	
Fluoride	0.60	0.10		mg/L	1	11/14/2014 11:07:31 AM	R22558
Chloride	54	10		mg/L	20	11/14/2014 11:19:56 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/14/2014 11:07:31 AM	R22558
Bromide	0.24	0.10		mg/L	1	11/14/2014 11:07:31 AM	R22558
Nitrogen, Nitrate (As N)	8.0	0.10		mg/L	1	11/14/2014 11:07:31 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	11/14/2014 11:19:56 AM	R22558
Sulfate	1400	25	*	mg/L	50	11/26/2014 7:59:53 PM	R22848
EPA METHOD 200.7: METALS						Analyst: JLF	
Calcium	380	5.0		mg/L	5	11/20/2014 5:10:42 PM	16464
Iron	16	1.0	*	mg/L	50	11/20/2014 5:12:31 PM	16464
Magnesium	32	1.0		mg/L	1	11/20/2014 12:45:15 PM	16464
Manganese	0.47	0.0020	*	mg/L	1	11/20/2014 5:09:02 PM	16464
Potassium	3.8	1.0		mg/L	1	11/20/2014 12:45:15 PM	16464
Sodium	290	5.0		mg/L	5	11/21/2014 4:35:53 PM	16464
SM2340B: HARDNESS						Analyst: JLF	
Hardness (As CaCO3)	1100	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 12:19:39 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 12:19:39 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 12:19:39 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-51
Project: GBR Annual Sampling **Collection Date:** 11/12/2014 2:27:00 PM
Lab ID: 1411545-002 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Chloroform	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 12:19:39 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 12:19:39 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-51
Project: GBR Annual Sampling **Collection Date:** 11/12/2014 2:27:00 PM
Lab ID: 1411545-002 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Trichlorofluoromethane	3.5	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 12:19:39 AM	R22565
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%REC	1	11/15/2014 12:19:39 AM	R22565
Surr: 4-Bromofluorobenzene	99.6	70-130		%REC	1	11/15/2014 12:19:39 AM	R22565
Surr: Dibromofluoromethane	95.6	70-130		%REC	1	11/15/2014 12:19:39 AM	R22565
Surr: Toluene-d8	99.3	70-130		%REC	1	11/15/2014 12:19:39 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	2300	0.010		µmhos/cm	1	11/20/2014 1:49:28 PM	R22708
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.38	1.68	H	pH units	1	11/20/2014 1:49:28 PM	R22708
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 1:49:28 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 1:49:28 PM	R22708
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 1:49:28 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2320	100	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-52
Project: GBR Annual Sampling **Collection Date:** 11/12/2014 3:45:00 PM
Lab ID: 1411545-003 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGP**	
Fluoride	0.92	0.50		mg/L	5	11/14/2014 11:32:19 AM	R22558
Chloride	65	2.5		mg/L	5	11/14/2014 11:32:19 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/14/2014 11:32:19 AM	R22558
Bromide	ND	0.50		mg/L	5	11/14/2014 11:32:19 AM	R22558
Nitrogen, Nitrate (As N)	5.9	0.50		mg/L	5	11/14/2014 11:32:19 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/14/2014 11:32:19 AM	R22558
Sulfate	1700	25	*	mg/L	50	11/26/2014 8:12:17 PM	R22848
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Calcium	450	5.0		mg/L	5	11/20/2014 5:19:36 PM	16464
Iron	12	1.0	*	mg/L	50	11/20/2014 5:32:27 PM	16464
Magnesium	38	1.0		mg/L	1	11/20/2014 12:46:53 PM	16464
Manganese	0.25	0.0020	*	mg/L	1	11/20/2014 5:14:32 PM	16464
Potassium	4.1	1.0		mg/L	1	11/20/2014 12:46:53 PM	16464
Sodium	310	5.0		mg/L	5	11/24/2014 11:25:55 AM	16464
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	1300	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
Benzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 12:49:23 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 12:49:23 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 12:49:23 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565

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
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- O RSD is greater than RSDlimit
- P Sample pH greater than 2.
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-52
Project: GBR Annual Sampling **Collection Date:** 11/12/2014 3:45:00 PM
Lab ID: 1411545-003 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Chloroform	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 12:49:23 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 12:49:23 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-52
Project: GBR Annual Sampling **Collection Date:** 11/12/2014 3:45:00 PM
Lab ID: 1411545-003 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 12:49:23 AM	R22565
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%REC	1	11/15/2014 12:49:23 AM	R22565
Surr: 4-Bromofluorobenzene	99.2	70-130		%REC	1	11/15/2014 12:49:23 AM	R22565
Surr: Dibromofluoromethane	98.3	70-130		%REC	1	11/15/2014 12:49:23 AM	R22565
Surr: Toluene-d8	95.8	70-130		%REC	1	11/15/2014 12:49:23 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	2500	0.010		µmhos/cm	1	11/20/2014 2:01:31 PM	R22708
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.49	1.68	H	pH units	1	11/20/2014 2:01:31 PM	R22708
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 2:01:31 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 2:01:31 PM	R22708
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 2:01:31 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2540	100	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-48
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 9:39:00 AM
Lab ID: 1411545-004 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGP**	
Fluoride	0.52	0.50		mg/L	5	11/14/2014 11:56:55 PM	R22558
Chloride	420	50	*	mg/L	100	11/26/2014 8:24:41 PM	R22848
Bromide	1.3	0.50		mg/L	5	11/14/2014 11:56:55 PM	R22558
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	11/15/2014 12:09:20 AM	R22558
Sulfate	2100	50	*	mg/L	100	11/26/2014 8:24:41 PM	R22848
Nitrate+Nitrite as N	5.7	1.0		mg/L	5	12/1/2014 10:29:51 PM	R22875
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Barium	0.40	0.0020		mg/L	1	11/20/2014 12:51:57 PM	16464
Beryllium	0.0036	0.0020		mg/L	1	11/20/2014 12:51:57 PM	16464
Cadmium	ND	0.0020		mg/L	1	11/20/2014 12:51:57 PM	16464
Calcium	630	10		mg/L	10	11/20/2014 5:36:31 PM	16464
Chromium	0.92	0.0060	*	mg/L	1	11/20/2014 12:51:57 PM	16464
Iron	52	2.0	*	mg/L	100	11/20/2014 5:38:16 PM	16464
Magnesium	63	1.0		mg/L	1	11/20/2014 12:51:57 PM	16464
Manganese	2.0	0.020	*	mg/L	10	11/20/2014 5:36:31 PM	16464
Nickel	0.20	0.010	*	mg/L	1	11/20/2014 12:51:57 PM	16464
Potassium	12	1.0		mg/L	1	11/20/2014 12:51:57 PM	16464
Silver	ND	0.0050		mg/L	1	11/20/2014 12:51:57 PM	16464
Sodium	730	10		mg/L	10	11/20/2014 5:36:31 PM	16464
Zinc	0.10	0.010		mg/L	1	11/20/2014 5:34:38 PM	16464
EPA 200.8: METALS						Analyst: **DBD**	
Antimony	ND	0.0010		mg/L	1	11/26/2014 12:06:37 PM	16464
Arsenic	0.010	0.010	*	mg/L	10	11/20/2014 1:08:47 PM	16464
Lead	0.031	0.0010	*	mg/L	1	11/20/2014 11:51:52 AM	16464
Copper	0.064	0.010		mg/L	10	11/20/2014 1:08:47 PM	16464
Selenium	0.047	0.010		mg/L	10	11/20/2014 1:08:47 PM	16464
Thallium	ND	0.0010		mg/L	1	11/20/2014 11:51:52 AM	16464
EPA METHOD 245.1: MERCURY						Analyst: **MMD**	
Mercury	ND	0.00020		mg/L	1	11/25/2014 9:25:18 AM	16546
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	1800	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
Benzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Toluene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Ethylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-48
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 9:39:00 AM
Lab ID: 1411545-004 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Naphthalene	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1-Methylnaphthalene	ND	8.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
2-Methylnaphthalene	ND	8.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Acetone	ND	20		µg/L	2	11/15/2014 1:19:07 AM	R22565
Bromobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Bromodichloromethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Bromoform	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Bromomethane	ND	6.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
2-Butanone	ND	20		µg/L	2	11/15/2014 1:19:07 AM	R22565
Carbon disulfide	ND	20		µg/L	2	11/15/2014 1:19:07 AM	R22565
Carbon Tetrachloride	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Chlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Chloroethane	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Chloroform	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Chloromethane	ND	6.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
2-Chlorotoluene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
4-Chlorotoluene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
cis-1,2-DCE	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Dibromochloromethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Dibromomethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2-Dichlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,3-Dichlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,4-Dichlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Dichlorodifluoromethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1-Dichloroethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1-Dichloroethene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2-Dichloropropane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,3-Dichloropropane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
2,2-Dichloropropane	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1-Dichloropropene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Hexachlorobutadiene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
2-Hexanone	ND	20		µg/L	2	11/15/2014 1:19:07 AM	R22565
Isopropylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
4-Isopropyltoluene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-48
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 9:39:00 AM
Lab ID: 1411545-004 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst:	**KJH**
4-Methyl-2-pentanone	ND	20		µg/L	2	11/15/2014 1:19:07 AM	R22565
Methylene Chloride	ND	6.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
n-Butylbenzene	ND	6.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
n-Propylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
sec-Butylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Styrene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
tert-Butylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
trans-1,2-DCE	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1,1-Trichloroethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1,2-Trichloroethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Trichloroethene (TCE)	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Trichlorofluoromethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2,3-Trichloropropane	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Vinyl chloride	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Xylenes, Total	ND	3.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Surr: 1,2-Dichloroethane-d4	97.7	70-130		%REC	2	11/15/2014 1:19:07 AM	R22565
Surr: 4-Bromofluorobenzene	93.2	70-130		%REC	2	11/15/2014 1:19:07 AM	R22565
Surr: Dibromofluoromethane	100	70-130		%REC	2	11/15/2014 1:19:07 AM	R22565
Surr: Toluene-d8	101	70-130		%REC	2	11/15/2014 1:19:07 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	4100	0.010		µmhos/cm	1	11/20/2014 2:12:26 PM	R22708
SM4500-H+B: PH						Analyst:	**JRR**
pH	7.33	1.68	H	pH units	1	11/20/2014 2:12:26 PM	R22708
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	290	20		mg/L CaCO3	1	11/20/2014 2:12:26 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 2:12:26 PM	R22708
Total Alkalinity (as CaCO3)	290	20		mg/L CaCO3	1	11/20/2014 2:12:26 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	4030	200	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-50
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 10:35:00 AM
Lab ID: 1411545-005 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: LGP	
Fluoride	0.76	0.50		mg/L	5	11/15/2014 12:21:45 AM	R22558
Chloride	52	2.5		mg/L	5	11/15/2014 12:21:45 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/15/2014 12:21:45 AM	R22558
Bromide	ND	0.50		mg/L	5	11/15/2014 12:21:45 AM	R22558
Nitrogen, Nitrate (As N)	5.0	0.50		mg/L	5	11/15/2014 12:21:45 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/15/2014 12:21:45 AM	R22558
Sulfate	1700	25	*	mg/L	50	11/26/2014 8:37:05 PM	R22848
EPA METHOD 200.7: METALS						Analyst: JLF	
Barium	0.047	0.0020		mg/L	1	11/20/2014 5:40:14 PM	16487
Beryllium	ND	0.0020		mg/L	1	11/20/2014 5:40:14 PM	16487
Cadmium	ND	0.0020		mg/L	1	11/20/2014 5:40:14 PM	16487
Calcium	450	5.0		mg/L	5	11/20/2014 5:44:01 PM	16487
Chromium	0.013	0.0060		mg/L	1	11/20/2014 5:40:14 PM	16487
Iron	3.6	0.10	*	mg/L	5	11/20/2014 5:44:01 PM	16487
Magnesium	34	1.0		mg/L	1	11/20/2014 5:40:14 PM	16487
Manganese	0.22	0.0020	*	mg/L	1	11/20/2014 5:40:14 PM	16487
Nickel	ND	0.010		mg/L	1	11/20/2014 5:40:14 PM	16487
Potassium	3.1	1.0		mg/L	1	11/20/2014 5:40:14 PM	16487
Silver	ND	0.0050		mg/L	1	11/20/2014 5:40:14 PM	16487
Sodium	360	5.0		mg/L	5	11/20/2014 5:44:01 PM	16487
Zinc	0.019	0.010		mg/L	1	11/20/2014 5:40:14 PM	16487
EPA 200.8: METALS						Analyst: DBD	
Antimony	ND	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
Arsenic	0.0017	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
Lead	0.0028	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
Copper	0.0085	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
Selenium	0.011	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
Thallium	ND	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
EPA METHOD 245.1: MERCURY						Analyst: MMD	
Mercury	ND	0.00020		mg/L	1	11/25/2014 9:27:09 AM	16546
SM2340B: HARDNESS						Analyst: JLF	
Hardness (As CaCO3)	1300	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-50
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 10:35:00 AM
Lab ID: 1411545-005 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 1:48:58 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 1:48:58 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 1:48:58 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Chloroform	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 1:48:58 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-50
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 10:35:00 AM
Lab ID: 1411545-005 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 1:48:58 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 1:48:58 AM	R22565
Surr: 1,2-Dichloroethane-d4	91.9	70-130		%REC	1	11/15/2014 1:48:58 AM	R22565
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	11/15/2014 1:48:58 AM	R22565
Surr: Dibromofluoromethane	94.3	70-130		%REC	1	11/15/2014 1:48:58 AM	R22565
Surr: Toluene-d8	90.9	70-130		%REC	1	11/15/2014 1:48:58 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	2600	0.010		µmhos/cm	1	11/20/2014 2:26:47 PM	R22708
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.37	1.68	H	pH units	1	11/20/2014 2:26:47 PM	R22708
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	200	20		mg/L CaCO3	1	11/20/2014 2:26:47 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 2:26:47 PM	R22708
Total Alkalinity (as CaCO3)	200	20		mg/L CaCO3	1	11/20/2014 2:26:47 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2800	100	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-32
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 11:55:00 AM
Lab ID: 1411545-006 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGP**	
Fluoride	0.83	0.10		mg/L	1	11/15/2014 1:11:23 AM	R22558
Chloride	380	10	*	mg/L	20	11/15/2014 1:23:48 AM	R22558
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	11/15/2014 1:23:48 AM	R22558
Bromide	1.0	0.10		mg/L	1	11/15/2014 1:11:23 AM	R22558
Nitrogen, Nitrate (As N)	1.9	0.10		mg/L	1	11/15/2014 1:11:23 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	11/15/2014 1:23:48 AM	R22558
Sulfate	1900	50	*	mg/L	100	11/26/2014 8:49:30 PM	R22848
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Barium	0.036	0.0020		mg/L	1	11/20/2014 5:46:06 PM	16487
Beryllium	ND	0.0020		mg/L	1	11/20/2014 5:46:06 PM	16487
Cadmium	ND	0.0020		mg/L	1	11/20/2014 5:46:06 PM	16487
Calcium	490	10		mg/L	10	11/21/2014 4:48:42 PM	16487
Chromium	1.4	0.030	*	mg/L	5	11/20/2014 5:47:52 PM	16487
Iron	5.9	0.20	*	mg/L	10	11/21/2014 4:48:42 PM	16487
Magnesium	56	1.0		mg/L	1	11/20/2014 5:46:06 PM	16487
Manganese	0.70	0.0020	*	mg/L	1	11/20/2014 5:46:06 PM	16487
Nickel	0.098	0.010		mg/L	1	11/20/2014 5:46:06 PM	16487
Potassium	4.2	1.0		mg/L	1	11/20/2014 5:46:06 PM	16487
Silver	ND	0.0050		mg/L	1	11/20/2014 5:46:06 PM	16487
Sodium	660	10		mg/L	10	11/24/2014 11:31:15 AM	16487
Zinc	0.027	0.010		mg/L	1	11/20/2014 5:46:06 PM	16487
EPA 200.8: METALS						Analyst: **DBD**	
Antimony	ND	0.0010		mg/L	1	11/26/2014 12:33:22 PM	16487
Arsenic	ND	0.020		mg/L	20	12/3/2014 3:03:24 PM	16487
Lead	0.0025	0.0010		mg/L	1	11/26/2014 12:33:22 PM	16487
Copper	0.084	0.020		mg/L	20	12/3/2014 3:03:24 PM	16487
Selenium	0.023	0.020		mg/L	20	12/3/2014 3:03:24 PM	16487
Thallium	ND	0.0010		mg/L	1	11/26/2014 12:33:22 PM	16487
EPA METHOD 245.1: MERCURY						Analyst: **MMD**	
Mercury	ND	0.00020		mg/L	1	11/25/2014 9:28:54 AM	16546
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	1400	6.6		mg/L	1	11/21/2014 2:23:00 PM	R22732
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
Benzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-32
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 11:55:00 AM
Lab ID: 1411545-006 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 2:18:48 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 2:18:48 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 2:18:48 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Chloroform	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 2:18:48 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-32
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 11:55:00 AM
Lab ID: 1411545-006 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 2:18:48 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Tetrachloroethene (PCE)	1.3	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 2:18:48 AM	R22565
Surr: 1,2-Dichloroethane-d4	96.6	70-130		%REC	1	11/15/2014 2:18:48 AM	R22565
Surr: 4-Bromofluorobenzene	94.4	70-130		%REC	1	11/15/2014 2:18:48 AM	R22565
Surr: Dibromofluoromethane	100	70-130		%REC	1	11/15/2014 2:18:48 AM	R22565
Surr: Toluene-d8	91.9	70-130		%REC	1	11/15/2014 2:18:48 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	3700	0.010		µmhos/cm	1	11/20/2014 2:38:15 PM	R22708
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.33	1.68	H	pH units	1	11/20/2014 2:38:15 PM	R22708
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	300	20		mg/L CaCO3	1	11/20/2014 2:38:15 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 2:38:15 PM	R22708
Total Alkalinity (as CaCO3)	300	20		mg/L CaCO3	1	11/20/2014 2:38:15 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	3800	40.0	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-49
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 12:45:00 PM
Lab ID: 1411545-007 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGP**	
Fluoride	0.71	0.50		mg/L	5	11/15/2014 1:36:12 AM	R22558
Chloride	63	2.5		mg/L	5	11/15/2014 1:36:12 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/15/2014 1:36:12 AM	R22558
Bromide	ND	0.50		mg/L	5	11/15/2014 1:36:12 AM	R22558
Nitrogen, Nitrate (As N)	2.6	0.50		mg/L	5	11/15/2014 1:36:12 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/15/2014 1:36:12 AM	R22558
Sulfate	1400	25	*	mg/L	50	11/26/2014 9:01:55 PM	R22848
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Barium	0.70	0.0020		mg/L	1	11/20/2014 12:53:46 PM	16464
Beryllium	0.0027	0.0020		mg/L	1	11/20/2014 12:53:46 PM	16464
Cadmium	ND	0.0020		mg/L	1	11/20/2014 12:53:46 PM	16464
Calcium	410	10		mg/L	10	11/20/2014 5:58:42 PM	16464
Chromium	0.060	0.0060		mg/L	1	11/20/2014 12:53:46 PM	16464
Iron	41	2.0	*	mg/L	100	11/20/2014 6:00:26 PM	16464
Magnesium	36	1.0		mg/L	1	11/20/2014 12:53:46 PM	16464
Manganese	3.9	0.020	*	mg/L	10	11/20/2014 5:58:42 PM	16464
Nickel	0.086	0.010		mg/L	1	11/20/2014 12:53:46 PM	16464
Potassium	6.3	1.0		mg/L	1	11/20/2014 12:53:46 PM	16464
Silver	ND	0.0050		mg/L	1	11/20/2014 12:53:46 PM	16464
Sodium	270	10		mg/L	10	11/20/2014 5:58:42 PM	16464
Zinc	0.084	0.010		mg/L	1	11/20/2014 5:57:01 PM	16464
EPA 200.8: METALS						Analyst: **DBD**	
Antimony	ND	0.0010		mg/L	1	11/26/2014 12:11:58 PM	16464
Arsenic	0.0069	0.0050		mg/L	5	11/20/2014 1:14:08 PM	16464
Lead	0.022	0.0050	*	mg/L	5	11/20/2014 1:14:08 PM	16464
Copper	0.041	0.0050		mg/L	5	11/20/2014 1:14:08 PM	16464
Selenium	ND	0.0050		mg/L	5	11/20/2014 1:14:08 PM	16464
Thallium	ND	0.0050		mg/L	5	11/20/2014 1:14:08 PM	16464
EPA METHOD 245.1: MERCURY						Analyst: **MMD**	
Mercury	ND	0.00020		mg/L	1	11/25/2014 9:30:40 AM	16546
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	1200	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
Benzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-49
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 12:45:00 PM
Lab ID: 1411545-007 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 3:48:13 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 3:48:13 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 3:48:13 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Chloroform	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 3:48:13 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-49
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 12:45:00 PM
Lab ID: 1411545-007 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 3:48:13 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 3:48:13 AM	R22565
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%REC	1	11/15/2014 3:48:13 AM	R22565
Surr: 4-Bromofluorobenzene	103	70-130		%REC	1	11/15/2014 3:48:13 AM	R22565
Surr: Dibromofluoromethane	98.3	70-130		%REC	1	11/15/2014 3:48:13 AM	R22565
Surr: Toluene-d8	92.9	70-130		%REC	1	11/15/2014 3:48:13 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	2300	0.010		µmhos/cm	1	11/20/2014 2:52:52 PM	R22708
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.60	1.68	H	pH units	1	11/20/2014 2:52:52 PM	R22708
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 2:52:52 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 2:52:52 PM	R22708
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 2:52:52 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2340	200	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-17
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 1:45:00 PM
Lab ID: 1411545-008 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGP**	
Fluoride	0.67	0.10		mg/L	1	11/15/2014 2:01:01 AM	R22558
Chloride	44	10		mg/L	20	11/15/2014 2:13:25 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/15/2014 2:01:01 AM	R22558
Bromide	0.18	0.10		mg/L	1	11/15/2014 2:01:01 AM	R22558
Nitrogen, Nitrate (As N)	6.9	0.10		mg/L	1	11/15/2014 2:01:01 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	11/15/2014 2:13:25 AM	R22558
Sulfate	1200	25	*	mg/L	50	11/26/2014 9:14:20 PM	R22848
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Calcium	350	10		mg/L	10	11/20/2014 6:04:03 PM	16464
Iron	3.7	0.20	*	mg/L	10	11/20/2014 6:04:03 PM	16464
Magnesium	28	1.0		mg/L	1	11/20/2014 12:55:32 PM	16464
Manganese	0.13	0.0020	*	mg/L	1	11/20/2014 6:02:29 PM	16464
Potassium	1.8	1.0		mg/L	1	11/20/2014 12:55:32 PM	16464
Sodium	250	10		mg/L	10	11/20/2014 6:04:03 PM	16464
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	980	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8270C: PAHS						Analyst: **DAM**	
Naphthalene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
1-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
2-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Acenaphthylene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Acenaphthene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Fluorene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Phenanthrene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Anthracene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Fluoranthene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Pyrene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Benz(a)anthracene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Chrysene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Benzo(b)fluoranthene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Benzo(k)fluoranthene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Benzo(a)pyrene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Dibenz(a,h)anthracene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Benzo(g,h,i)perylene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Indeno(1,2,3-cd)pyrene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Surr: N-hexadecane	73.2	29.9-83.2		%REC	1	11/18/2014 3:26:17 PM	16428
Surr: Benzo(e)pyrene	73.7	22.6-106		%REC	1	11/18/2014 3:26:17 PM	16428

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-17
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 1:45:00 PM
Lab ID: 1411545-008 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 4:17:58 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 4:17:58 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 4:17:58 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Chloroform	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565

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Qualifiers:

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- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-17
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 1:45:00 PM
Lab ID: 1411545-008 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 4:17:58 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 4:17:58 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 4:17:58 AM	R22565
Surr: 1,2-Dichloroethane-d4	99.3	70-130		%REC	1	11/15/2014 4:17:58 AM	R22565
Surr: 4-Bromofluorobenzene	93.9	70-130		%REC	1	11/15/2014 4:17:58 AM	R22565
Surr: Dibromofluoromethane	101	70-130		%REC	1	11/15/2014 4:17:58 AM	R22565
Surr: Toluene-d8	97.3	70-130		%REC	1	11/15/2014 4:17:58 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE						Analyst: JRR	
Conductivity	2000	0.010		µmhos/cm	1	11/20/2014 3:04:06 PM	R22708
SM4500-H+B: PH						Analyst: JRR	
pH	7.46	1.68	H	pH units	1	11/20/2014 3:04:06 PM	R22708
SM2320B: ALKALINITY						Analyst: JRR	
Bicarbonate (As CaCO3)	200	20		mg/L CaCO3	1	11/20/2014 3:04:06 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 3:04:06 PM	R22708
Total Alkalinity (as CaCO3)	200	20		mg/L CaCO3	1	11/20/2014 3:04:06 PM	R22708

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- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-17
Project: GBR Annual Sampling **Collection Date:** 11/13/2014 1:45:00 PM
Lab ID: 1411545-008 **Matrix:** AQUEOUS **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: KS	
Total Dissolved Solids	1980	40.0	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** TRIP BLANK
Project: GBR Annual Sampling **Collection Date:**
Lab ID: 1411545-009 **Matrix:** TRIP BLANK **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 4:47:44 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 4:47:44 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 4:47:44 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Chloroform	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565

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

Qualifiers:

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- J Analyte detected below quantitation limits
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- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** TRIP BLANK
Project: GBR Annual Sampling **Collection Date:**
Lab ID: 1411545-009 **Matrix:** TRIP BLANK **Received Date:** 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 4:47:44 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 4:47:44 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 4:47:44 AM	R22565
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	11/15/2014 4:47:44 AM	R22565
Surr: 4-Bromofluorobenzene	89.4	70-130		%REC	1	11/15/2014 4:47:44 AM	R22565
Surr: Dibromofluoromethane	104	70-130		%REC	1	11/15/2014 4:47:44 AM	R22565
Surr: Toluene-d8	89.9	70-130		%REC	1	11/15/2014 4:47:44 AM	R22565

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	MB-16464	SampType:	MBLK	TestCode:	EPA Method 200.7: Metals				
Client ID:	PBW	Batch ID:	16464	RunNo:	22658				
Prep Date:	11/19/2014	Analysis Date:	11/20/2014	SeqNo:	668338	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID	LCS-16464	SampType:	LCS	TestCode:	EPA Method 200.7: Metals				
Client ID:	LCSW	Batch ID:	16464	RunNo:	22658				
Prep Date:	11/19/2014	Analysis Date:	11/20/2014	SeqNo:	668339	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.6	85	115			
Beryllium	0.51	0.0020	0.5000	0	103	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.7	85	115			
Calcium	49	1.0	50.00	0	98.2	85	115			
Chromium	0.47	0.0060	0.5000	0	94.1	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Manganese	0.49	0.0020	0.5000	0	98.1	85	115			
Nickel	0.47	0.010	0.5000	0	94.1	85	115			
Potassium	49	1.0	50.00	0	98.2	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Sodium	49	1.0	50.00	0	98.3	85	115			
Zinc	0.49	0.010	0.5000	0	97.3	85	115			

Sample ID	1411545-003CMS	SampType:	MS	TestCode:	EPA Method 200.7: Metals				
Client ID:	GBR-52	Batch ID:	16464	RunNo:	22658				
Prep Date:	11/19/2014	Analysis Date:	11/20/2014	SeqNo:	668608	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	90	1.0	50.00	37.68	105	70	130			
Potassium	58	1.0	50.00	4.123	108	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID 1411545-003CMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals
Client ID: GBR-52	Batch ID: 16464	RunNo: 22658
Prep Date: 11/19/2014	Analysis Date: 11/20/2014	SeqNo: 668609 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	91	1.0	50.00	37.68	107	70	130	1.44	20	
Potassium	59	1.0	50.00	4.123	110	70	130	1.07	20	

Sample ID 1411545-003CMS	SampType: MS	TestCode: EPA Method 200.7: Metals
Client ID: GBR-52	Batch ID: 16464	RunNo: 22687
Prep Date: 11/19/2014	Analysis Date: 11/20/2014	SeqNo: 669147 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.70	0.0020	0.5000	0.2469	90.1	70	130			

Sample ID 1411545-003CMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals
Client ID: GBR-52	Batch ID: 16464	RunNo: 22687
Prep Date: 11/19/2014	Analysis Date: 11/20/2014	SeqNo: 669148 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.70	0.0020	0.5000	0.2469	91.1	70	130	0.726	20	

Sample ID MB-16487	SampType: MBLK	TestCode: EPA Method 200.7: Metals
Client ID: PBW	Batch ID: 16487	RunNo: 22687
Prep Date: 11/20/2014	Analysis Date: 11/20/2014	SeqNo: 669240 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	LCS-16487	SampType:	LCS		TestCode:	EPA Method 200.7: Metals				
Client ID:	LCSW	Batch ID:	16487		RunNo:	22687				
Prep Date:	11/20/2014	Analysis Date:	11/20/2014		SeqNo:	669241	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	98.0	85	115			
Beryllium	0.52	0.0020	0.5000	0	105	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.0	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	96.8	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.48	0.0020	0.5000	0	95.7	85	115			
Nickel	0.48	0.010	0.5000	0	96.6	85	115			
Potassium	49	1.0	50.00	0	98.0	85	115			
Silver	0.11	0.0050	0.1000	0	108	85	115			
Sodium	50	1.0	50.00	0	101	85	115			
Zinc	0.48	0.010	0.5000	0	96.7	85	115			

Sample ID	1411545-003CMS	SampType:	MS		TestCode:	EPA Method 200.7: Metals				
Client ID:	GBR-52	Batch ID:	16464		RunNo:	22752				
Prep Date:	11/19/2014	Analysis Date:	11/24/2014		SeqNo:	671343	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	360	5.0	50.00	313.9	88.9	70	130			

Sample ID	1411545-003CMSD	SampType:	MSD		TestCode:	EPA Method 200.7: Metals				
Client ID:	GBR-52	Batch ID:	16464		RunNo:	22752				
Prep Date:	11/19/2014	Analysis Date:	11/24/2014		SeqNo:	671344	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	360	5.0	50.00	313.9	87.1	70	130	0.249	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	LLLCS-16464	SampType:	LCSLL	TestCode:	EPA 200.8: Metals					
Client ID:	BatchQC	Batch ID:	16464	RunNo:	22664					
Prep Date:	11/19/2014	Analysis Date:	11/20/2014	SeqNo:	668479	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.7	85	115			
Lead	0.025	0.0010	0.02500	0	98.0	85	115			
Copper	0.024	0.0010	0.02500	0	96.9	85	115			
Selenium	0.024	0.0010	0.02500	0	95.4	85	115			
Thallium	0.025	0.0010	0.02500	0	98.4	85	115			

Sample ID	MB-16464	SampType:	MBLK	TestCode:	EPA 200.8: Metals					
Client ID:	PBW	Batch ID:	16464	RunNo:	22664					
Prep Date:	11/19/2014	Analysis Date:	11/20/2014	SeqNo:	668480	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Copper	ND	0.0010								
Selenium	ND	0.0010								
Thallium	ND	0.0010								

Sample ID	LLLCS-16464	SampType:	LCSLL	TestCode:	EPA 200.8: Metals					
Client ID:	BatchQC	Batch ID:	16464	RunNo:	22664					
Prep Date:	11/19/2014	Analysis Date:	11/20/2014	SeqNo:	668690	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	109	85	115			

Sample ID	MB-16464	SampType:	MBLK	TestCode:	EPA 200.8: Metals					
Client ID:	PBW	Batch ID:	16464	RunNo:	22664					
Prep Date:	11/19/2014	Analysis Date:	11/20/2014	SeqNo:	668691	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								

Sample ID	1411545-006CMSDL	SampType:	MSDLL	TestCode:	EPA 200.8: Metals					
Client ID:	GBR-32	Batch ID:	16487	RunNo:	22842					
Prep Date:	11/20/2014	Analysis Date:	11/26/2014	SeqNo:	674052	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0.0004747	104	70	130	0.827	20	
Lead	0.029	0.0010	0.02500	0.002453	108	70	130	2.93	20	
Thallium	0.028	0.0010	0.02500	.00009472	112	70	130	2.46	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	1411545-006CMSLL	SampType:	MSLL		TestCode:	EPA 200.8: Metals				
Client ID:	GBR-32	Batch ID:	16487		RunNo:	22842				
Prep Date:	11/20/2014	Analysis Date:	11/26/2014		SeqNo:	674053	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0.0004747	105	70	130			
Lead	0.029	0.0010	0.02500	0.002453	104	70	130			
Thallium	0.027	0.0010	0.02500	.00009472	109	70	130			

Sample ID	LLLCS-16487	SampType:	LCSLL		TestCode:	EPA 200.8: Metals				
Client ID:	BatchQC	Batch ID:	16487		RunNo:	22842				
Prep Date:	11/20/2014	Analysis Date:	11/26/2014		SeqNo:	674083	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.028	0.0010	0.02500	0	114	85	115			
Arsenic	0.026	0.0010	0.02500	0	103	85	115			
Lead	0.026	0.0010	0.02500	0	105	85	115			
Copper	0.026	0.0010	0.02500	0	103	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			
Thallium	0.026	0.0010	0.02500	0	106	85	115			

Sample ID	MB-16487	SampType:	MBLK		TestCode:	EPA 200.8: Metals				
Client ID:	PBW	Batch ID:	16487		RunNo:	22842				
Prep Date:	11/20/2014	Analysis Date:	11/26/2014		SeqNo:	674088	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								
Lead	ND	0.0010								
Copper	ND	0.0010								
Selenium	ND	0.0010								
Thallium	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	MB-16546	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury				
Client ID:	PBW	Batch ID:	16546	RunNo:	22791				
Prep Date:	11/24/2014	Analysis Date:	11/25/2014	SeqNo:	672552	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-16546	SampType:	LCS	TestCode:	EPA Method 245.1: Mercury				
Client ID:	LCSW	Batch ID:	16546	RunNo:	22791				
Prep Date:	11/24/2014	Analysis Date:	11/25/2014	SeqNo:	672553	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	0	109	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

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: R22558	RunNo: 22558
Prep Date:	Analysis Date: 11/14/2014	SeqNo: 665153 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								
Sulfate	ND	0.50								

Sample ID LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSW	Batch ID: R22558	RunNo: 22558
Prep Date:	Analysis Date: 11/14/2014	SeqNo: 665154 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	101	90	110			
Chloride	4.8	0.50	5.000	0	95.1	90	110			
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	99.4	90	110			
Bromide	2.3	0.10	2.500	0	94.0	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.9	90	110			
Sulfate	10	0.50	10.00	0	104	90	110			

Sample ID 1411545-003BMS	SampType: MS	TestCode: EPA Method 300.0: Anions
Client ID: GBR-52	Batch ID: R22558	RunNo: 22558
Prep Date:	Analysis Date: 11/14/2014	SeqNo: 665160 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	3.2	0.50	2.500	0.9210	92.5	66.1	113			
Chloride	88	2.5	25.00	65.11	92.6	81.8	112			
Nitrogen, Nitrite (As N)	4.7	0.50	5.000	0	94.5	66.4	111			
Bromide	12	0.50	12.50	0.4265	91.1	82.5	103			
Nitrogen, Nitrate (As N)	18	0.50	12.50	5.870	98.2	84	109			
Phosphorus, Orthophosphate (As P	22	2.5	25.00	0	86.1	69	109			

Sample ID 1411545-003BMSD	SampType: MSD	TestCode: EPA Method 300.0: Anions
Client ID: GBR-52	Batch ID: R22558	RunNo: 22558
Prep Date:	Analysis Date: 11/14/2014	SeqNo: 665161 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	3.3	0.50	2.500	0.9210	93.9	66.1	113	1.05	20	
Chloride	87	2.5	25.00	65.11	88.3	81.8	112	1.22	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID 1411545-003BMSD	SampType: MSD	TestCode: EPA Method 300.0: Anions
Client ID: GBR-52	Batch ID: R22558	RunNo: 22558
Prep Date:	Analysis Date: 11/14/2014	SeqNo: 665161 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	4.7	0.50	5.000	0	93.6	66.4	111	0.946	20	
Bromide	12	0.50	12.50	0.4265	89.8	82.5	103	1.40	20	
Nitrogen, Nitrate (As N)	18	0.50	12.50	5.870	96.4	84	109	1.27	20	
Phosphorus, Orthophosphate (As P	21	2.5	25.00	0	85.9	69	109	0.263	20	

Sample ID MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBW	Batch ID: R22558	RunNo: 22558
Prep Date:	Analysis Date: 11/14/2014	SeqNo: 665207 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								
Sulfate	ND	0.50								

Sample ID LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSW	Batch ID: R22558	RunNo: 22558
Prep Date:	Analysis Date: 11/14/2014	SeqNo: 665208 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	103	90	110			
Chloride	4.7	0.50	5.000	0	93.9	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	97.3	90	110			
Bromide	2.3	0.10	2.500	0	91.0	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	95.0	90	110			
Sulfate	9.4	0.50	10.00	0	93.8	90	110			

Sample ID MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBW	Batch ID: R22848	RunNo: 22848
Prep Date:	Analysis Date: 11/26/2014	SeqNo: 674415 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R22848	RunNo: 22848							
Prep Date:	Analysis Date: 11/26/2014	SeqNo: 674416	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.8	90	110			
Sulfate	10	0.50	10.00	0	102	90	110			

Sample ID MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R22875	RunNo: 22875							
Prep Date:	Analysis Date: 12/1/2014	SeqNo: 675391	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R22875	RunNo: 22875							
Prep Date:	Analysis Date: 12/1/2014	SeqNo: 675392	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	101	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID b3	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R22565	RunNo: 22565
Prep Date:	Analysis Date: 11/14/2014	SeqNo: 665381 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
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								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID b3	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R22565	RunNo: 22565
Prep Date:	Analysis Date: 11/14/2014	SeqNo: 665381 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.3	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.5		10.00		94.6	70	130			

Sample ID 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES
Client ID: LCSW	Batch ID: R22565	RunNo: 22565
Prep Date:	Analysis Date: 11/14/2014	SeqNo: 665383 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	20	1.0	20.00	0	102	80	120			
Chlorobenzene	20	1.0	20.00	0	98.2	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID 100ng lcs2	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID: LCSW	Batch ID: R22565			RunNo: 22565					
Prep Date:	Analysis Date: 11/14/2014			SeqNo: 665383		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	110	82.6	131			
Trichloroethene (TCE)	15	1.0	20.00	0	75.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.3	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		90.6	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.7	70	130			
Surr: Toluene-d8	9.9		10.00		98.6	70	130			

Sample ID 1411545-006a ms	SampType: MS			TestCode: EPA Method 8260B: VOLATILES					
Client ID: GBR-32	Batch ID: R22565			RunNo: 22621					
Prep Date:	Analysis Date: 11/18/2014			SeqNo: 667165		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	113	70	130			
Toluene	22	1.0	20.00	0	111	70	130			
Chlorobenzene	21	1.0	20.00	0	106	70	130			
1,1-Dichloroethene	25	1.0	20.00	0	126	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0.5080	108	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.7	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.0	70	130			
Surr: Toluene-d8	9.7		10.00		96.5	70	130			

Sample ID 1411545-006a msd	SampType: MSD			TestCode: EPA Method 8260B: VOLATILES					
Client ID: GBR-32	Batch ID: R22565			RunNo: 22621					
Prep Date:	Analysis Date: 11/18/2014			SeqNo: 667166		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130	6.00	20	
Toluene	24	1.0	20.00	0	118	70	130	5.85	20	
Chlorobenzene	21	1.0	20.00	0	107	70	130	0.711	20	
1,1-Dichloroethene	23	1.0	20.00	0	117	70	130	6.80	20	
Trichloroethene (TCE)	17	1.0	20.00	0.5080	82.6	70	130	25.9	20	R
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130	0	0	
Surr: Dibromofluoromethane	9.1		10.00		91.5	70	130	0	0	
Surr: Toluene-d8	10		10.00		100	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID mb-16428	SampType: MBLK	TestCode: EPA Method 8270C: PAHs
Client ID: PBW	Batch ID: 16428	RunNo: 22616
Prep Date: 11/18/2014	Analysis Date: 11/18/2014	SeqNo: 666994 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								
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	62		87.60		70.6	29.9	83.2			
Surr: Benzo(e)pyrene	15		20.00		73.6	22.6	106			

Sample ID lcs-16428	SampType: LCS	TestCode: EPA Method 8270C: PAHs
Client ID: LCSW	Batch ID: 16428	RunNo: 22616
Prep Date: 11/18/2014	Analysis Date: 11/18/2014	SeqNo: 666995 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	12	0.50	20.00	0	59.1	37.5	104			
1-Methylnaphthalene	12	0.50	20.00	0	61.0	39.4	108			
2-Methylnaphthalene	12	0.50	20.00	0	58.5	40.5	98.2			
Acenaphthylene	12	0.50	20.00	0	60.2	43.6	103			
Acenaphthene	12	0.50	20.00	0	61.3	42.1	104			
Fluorene	12	0.50	20.00	0	61.5	45.7	105			
Phenanthrene	12	0.50	20.00	0	58.8	52.6	104			
Anthracene	12	0.50	20.00	0	59.8	52.8	104			
Fluoranthene	13	0.50	20.00	0	66.8	53.4	109			
Pyrene	12	0.50	20.00	0	62.3	44.9	108			
Benz(a)anthracene	13	0.50	20.00	0	63.2	45.1	110			
Chrysene	8.2	0.50	20.00	0	41.2	40.1	131			
Benzo(b)fluoranthene	13	0.50	20.00	0	62.8	49.9	105			

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID lcs-16428	SampType: LCS	TestCode: EPA Method 8270C: PAHs
Client ID: LCSW	Batch ID: 16428	RunNo: 22616
Prep Date: 11/18/2014	Analysis Date: 11/18/2014	SeqNo: 666995 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	13	0.50	20.00	0	65.3	49.4	103			
Benzo(a)pyrene	13	0.50	20.00	0	62.7	49	100			
Dibenz(a,h)anthracene	13	0.50	20.00	0	63.7	52.9	115			
Benzo(g,h,i)perylene	12	0.50	20.00	0	59.4	43.6	107			
Indeno(1,2,3-cd)pyrene	12	0.50	20.00	0	59.0	47.6	102			
Surr: N-hexadecane	68		87.60		78.2	29.9	83.2			
Surr: Benzo(e)pyrene	16		20.00		82.0	22.6	106			

Sample ID lcsd-16428	SampType: LCSD	TestCode: EPA Method 8270C: PAHs
Client ID: LCSS02	Batch ID: 16428	RunNo: 22616
Prep Date: 11/18/2014	Analysis Date: 11/18/2014	SeqNo: 666996 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	12	0.50	20.00	0	58.9	37.5	104	0.339	20	
1-Methylnaphthalene	12	0.50	20.00	0	59.3	39.4	108	2.83	26.8	
2-Methylnaphthalene	12	0.50	20.00	0	60.4	40.5	98.2	3.20	23.8	
Acenaphthylene	12	0.50	20.00	0	58.1	43.6	103	3.55	28.6	
Acenaphthene	12	0.50	20.00	0	60.3	42.1	104	1.64	27	
Fluorene	12	0.50	20.00	0	60.3	45.7	105	1.97	25.7	
Phenanthrene	13	0.50	20.00	0	63.7	52.6	104	8.00	20	
Anthracene	13	0.50	20.00	0	64.8	52.8	104	8.03	21.2	
Fluoranthene	13	0.50	20.00	0	65.8	53.4	109	1.51	21.8	
Pyrene	13	0.50	20.00	0	64.4	44.9	108	3.31	31.1	
Benz(a)anthracene	13	0.50	20.00	0	62.6	45.1	110	0.954	26.6	
Chrysene	8.6	0.50	20.00	0	43.2	40.1	131	4.74	21.2	
Benzo(b)fluoranthene	13	0.50	20.00	0	65.9	49.9	105	4.82	20	
Benzo(k)fluoranthene	14	0.50	20.00	0	72.0	49.4	103	9.82	21	
Benzo(a)pyrene	13	0.50	20.00	0	66.2	49	100	5.43	24.8	
Dibenz(a,h)anthracene	13	0.50	20.00	0	65.0	52.9	115	2.02	26	
Benzo(g,h,i)perylene	13	0.50	20.00	0	63.2	43.6	107	6.20	20	
Indeno(1,2,3-cd)pyrene	13	0.50	20.00	0	63.2	47.6	102	6.87	20	
Surr: N-hexadecane	59		87.60		67.1	29.9	83.2	0	0	
Surr: Benzo(e)pyrene	14		20.00		67.5	22.6	106	0	0	

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID mb-1	SampType: MBLK	TestCode: SM2320B: Alkalinity							
Client ID: PBW	Batch ID: R22708	RunNo: 22708							
Prep Date:	Analysis Date: 11/20/2014	SeqNo: 669700	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID lcs-1	SampType: LCS	TestCode: SM2320B: Alkalinity							
Client ID: LCSW	Batch ID: R22708	RunNo: 22708							
Prep Date:	Analysis Date: 11/20/2014	SeqNo: 669701	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	99.2	90	110			

Sample ID mb-2	SampType: MBLK	TestCode: SM2320B: Alkalinity							
Client ID: PBW	Batch ID: R22708	RunNo: 22708							
Prep Date:	Analysis Date: 11/20/2014	SeqNo: 669724	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID lcs-2	SampType: LCS	TestCode: SM2320B: Alkalinity							
Client ID: LCSW	Batch ID: R22708	RunNo: 22708							
Prep Date:	Analysis Date: 11/20/2014	SeqNo: 669725	Units: mg/L CaCO3						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81	20	80.00	0	101	90	110			

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	MB-16440	SampType:	MBLK		TestCode:	SM2540C MOD: Total Dissolved Solids				
Client ID:	PBW	Batch ID:	16440		RunNo:	22645				
Prep Date:	11/18/2014	Analysis Date:	11/19/2014		SeqNo:	667787	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-16440	SampType:	LCS		TestCode:	SM2540C MOD: Total Dissolved Solids				
Client ID:	LCSW	Batch ID:	16440		RunNo:	22645				
Prep Date:	11/18/2014	Analysis Date:	11/19/2014		SeqNo:	667788	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	995	20.0	1000	0	99.5	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Western Refining Southw | Work Order Number: 1411545 | RcptNo: 1

Received by/date: RM 11/14/14

Logged By: Ashley Gallegos 11/14/2014 7:10:00 AM AG

Completed By: Ashley Gallegos 11/14/2014 9:33:46 AM AG

Reviewed By: IO 11/14/2014

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	~~Yes~~ ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	~~No~~ ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

METALS ANALYSIS: ADDED 1mL HNO3 TO ~00C - ~00SC FOR ACCEPTABLE pH. HELD IN LOGIN FOR 24 HOURS AFTER PRESERVATION 11/14/14 @ 10:45 AT

# of preserved bottles checked for pH: 16 (<2 or >12 unless noted)

Adjusted? YES

Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Yes			

Chain-of-Custody Record

Client: Kelly Robinson
Western Refining
Mailing Address: 111 CR 4990
Bloomfield NM 87413
Phone #:
email or Fax#: Ashley Ager
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: GBR Annual sampling
Project #: WR1009
Project Manager: Ashley Ager
Sampler: Daniel Neuman; Dain Hencmann
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1411545	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F^-,Cl^-,NO_3^-,NO_2^-,PO_4^{3-},SO_4^{2-})	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	see Attached	Air Bubbles (Y or N)
11/12/14	1255	GW	SHS-8	Various	Various	-001												X	
11/12/14	1427		GBR-51			-002													
11/12/14	1545		GBR-52			-003													
11/13/14	939		GBR-48			-004													
11/13/14	1035		GBR-50			-005													
11/13/14	1155		GBR-32			-006													
11/13/14	1245		GBR-49			-007													
11/13/14	345		GBR-17			-008													

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/13/14	1620		Chad Watts	11/13/14	1620
11/13/14	1825	Chad Watts		11/14/14	0710

Remarks:

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

TABLE 1

2012 SAMPLING SCHEDULE
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING

Sample ID	ANNUALLY (Jan)
System Influent	VOC GWC
System Effluent	VOC GWC METALS PAH
GRW-3	VOC GWC PAH
GRW-6	VOC GWC PAH
GBR-17	VOC GWC PAH
GBR-24D	VOC GWC PAH
GBR-30	VOC GWC PAH
GBR-31	VOC GWC PAH
GBR-32	VOC 15. 20 GWC METALS
GBR-48	VOC GWC METALS
GBR-49	VOC GWC METALS
GBR-50	VOC GWC METALS
GBR-51	VOC GWC
GBR-52	VOC GWC
SHS-8	VOC GWC

1/14

Notes:

VOC
method 8260

PAH
method 8270

GWC
pH
EC
TDS
alkalinity
hardness
anions
bromide
chloride
sulfate
fluoride
nitrate/nitrite
phosporus
cations
calcium
iron
magnesium
manganese
potassium
sodium

Metals
barium
beryllium
cadmium
chromium
copper
lead
nickel
silver
zinc
antimony
arsenic
selenium
thallium
mercury

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

December 11, 2014

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

RE: GBR Annual Sampling OrderNo.: 1411608

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 8 sample(s) on 11/15/2014 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 1411608
Date Reported: 12/11/2014

CLIENT: Western Refining Southwest, Inc.
Project: GBR Annual Sampling
Lab ID: 1411608-001 **Matrix:** AQUEOUS

Client Sample ID: GBR-31
Collection Date: 11/14/2014 9:11:00 AM
Received Date: 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGP**	
Fluoride	0.55	0.10		mg/L	1	11/17/2014 11:35:15 PM	R22603
Chloride	230	10		mg/L	20	11/17/2014 11:47:39 PM	R22603
Bromide	0.66	0.10		mg/L	1	11/17/2014 11:35:15 PM	R22603
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	11/17/2014 11:47:39 PM	R22603
Sulfate	1500	50	*	mg/L	100	11/26/2014 10:03:58 PM	R22848
Nitrate+Nitrite as N	2.3	1.0		mg/L	5	11/26/2014 6:58:12 AM	R22809
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Calcium	430	5.0		mg/L	5	11/25/2014 4:35:09 PM	16543
Iron	12	0.40	*	mg/L	20	11/25/2014 5:26:50 PM	16543
Magnesium	42	1.0		mg/L	1	11/25/2014 4:33:23 PM	16543
Manganese	1.6	0.010	*	mg/L	5	11/25/2014 4:35:09 PM	16543
Potassium	4.6	1.0		mg/L	1	11/25/2014 4:33:23 PM	16543
Sodium	530	20		mg/L	20	11/25/2014 5:26:50 PM	16543
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	1200	6.6		mg/L	1	11/25/2014 3:17:00 PM	R22794
EPA METHOD 8270C: PAHS						Analyst: **DAM**	
Naphthalene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
1-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
2-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Acenaphthylene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Acenaphthene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Fluorene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Phenanthrene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Anthracene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Fluoranthene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Pyrene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Benz(a)anthracene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Chrysene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Benzo(b)fluoranthene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Benzo(k)fluoranthene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Benzo(a)pyrene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Dibenz(a,h)anthracene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Benzo(g,h,i)perylene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Indeno(1,2,3-cd)pyrene	ND	0.50		µg/L	1	11/18/2014 6:08:20 PM	16428
Surr: N-hexadecane	64.7	29.9-83.2		%REC	1	11/18/2014 6:08:20 PM	16428
Surr: Benzo(e)pyrene	65.1	22.6-106		%REC	1	11/18/2014 6:08:20 PM	16428
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-31
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 9:11:00 AM
Lab ID: 1411608-001 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Toluene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Ethylbenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Naphthalene	ND	2.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
2-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Acetone	ND	10		µg/L	1	11/20/2014 7:31:26 PM	R22685
Bromobenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Bromodichloromethane	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Bromoform	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Bromomethane	ND	3.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
2-Butanone	ND	10		µg/L	1	11/20/2014 7:31:26 PM	R22685
Carbon disulfide	ND	10		µg/L	1	11/20/2014 7:31:26 PM	R22685
Carbon Tetrachloride	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Chlorobenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Chloroethane	ND	2.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Chloroform	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Chloromethane	ND	3.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
2-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
4-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
cis-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Dibromochloromethane	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Dibromomethane	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,1-Dichloroethane	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,1-Dichloroethene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,2-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,3-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
2,2-Dichloropropane	ND	2.0		µg/L	1	11/20/2014 7:31:26 PM	R22685

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-31
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 9:11:00 AM
Lab ID: 1411608-001 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Hexachlorobutadiene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
2-Hexanone	ND	10		µg/L	1	11/20/2014 7:31:26 PM	R22685
Isopropylbenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
4-Isopropyltoluene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
4-Methyl-2-pentanone	ND	10		µg/L	1	11/20/2014 7:31:26 PM	R22685
Methylene Chloride	ND	3.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
n-Butylbenzene	ND	3.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
n-Propylbenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
sec-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Styrene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
tert-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
trans-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Trichlorofluoromethane	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Vinyl chloride	ND	1.0		µg/L	1	11/20/2014 7:31:26 PM	R22685
Xylenes, Total	ND	1.5		µg/L	1	11/20/2014 7:31:26 PM	R22685
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	11/20/2014 7:31:26 PM	R22685
Surr: 4-Bromofluorobenzene	94.1	70-130		%REC	1	11/20/2014 7:31:26 PM	R22685
Surr: Dibromofluoromethane	98.8	70-130		%REC	1	11/20/2014 7:31:26 PM	R22685
Surr: Toluene-d8	99.2	70-130		%REC	1	11/20/2014 7:31:26 PM	R22685
SM2510B: SPECIFIC CONDUCTANCE						Analyst: JRR	
Conductivity	3100	0.010		µmhos/cm	1	11/20/2014 3:41:59 PM	R22708
SM4500-H+B: PH						Analyst: JRR	
pH	7.42	1.68	H	pH units	1	11/20/2014 3:41:59 PM	R22708
SM2320B: ALKALINITY						Analyst: JRR	
Bicarbonate (As CaCO3)	260	20		mg/L CaCO3	1	11/20/2014 3:41:59 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 3:41:59 PM	R22708
Total Alkalinity (as CaCO3)	260	20		mg/L CaCO3	1	11/20/2014 3:41:59 PM	R22708

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-31
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 9:11:00 AM
Lab ID: 1411608-001 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	3100	100	*	mg/L	1	11/21/2014 6:33:00 PM	16496

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-30
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 10:05:00 AM
Lab ID: 1411608-002 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGP**	
Fluoride	0.46	0.10		mg/L	1	11/18/2014 12:00:04 AM	R22603
Chloride	270	10	*	mg/L	20	11/18/2014 12:12:29 AM	R22603
Bromide	0.74	0.10		mg/L	1	11/18/2014 12:00:04 AM	R22603
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	11/18/2014 12:12:29 AM	R22603
Sulfate	1400	25	*	mg/L	50	11/26/2014 10:16:23 PM	R22848
Nitrate+Nitrite as N	7.8	1.0		mg/L	5	11/26/2014 7:10:37 AM	R22809
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Calcium	440	5.0		mg/L	5	11/25/2014 4:38:54 PM	16543
Iron	88	2.0	*	mg/L	100	11/25/2014 5:28:44 PM	16543
Magnesium	45	1.0		mg/L	1	11/25/2014 4:37:09 PM	16543
Manganese	2.2	0.010	*	mg/L	5	11/25/2014 4:38:54 PM	16543
Potassium	12	1.0		mg/L	1	11/25/2014 4:37:09 PM	16543
Sodium	360	5.0		mg/L	5	11/25/2014 4:38:54 PM	16543
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	1300	6.6		mg/L	1	11/25/2014 3:17:00 PM	R22794
EPA METHOD 8270C: PAHS						Analyst: **DAM**	
Naphthalene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
1-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
2-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Acenaphthylene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Acenaphthene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Fluorene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Phenanthrene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Anthracene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Fluoranthene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Pyrene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Benz(a)anthracene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Chrysene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Benzo(b)fluoranthene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Benzo(k)fluoranthene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Benzo(a)pyrene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Dibenz(a,h)anthracene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Benzo(g,h,i)perylene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Indeno(1,2,3-cd)pyrene	ND	0.50		µg/L	1	11/18/2014 4:12:35 PM	16428
Surr: N-hexadecane	66.1	29.9-83.2		%REC	1	11/18/2014 4:12:35 PM	16428
Surr: Benzo(e)pyrene	66.8	22.6-106		%REC	1	11/18/2014 4:12:35 PM	16428
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	

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
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- O RSD is greater than RSDlimit
- P Sample pH greater than 2.
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-30
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 10:05:00 AM
Lab ID: 1411608-002 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Toluene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Ethylbenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Naphthalene	ND	2.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
2-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Acetone	ND	10		µg/L	1	11/20/2014 8:01:23 PM	R22685
Bromobenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Bromodichloromethane	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Bromoform	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Bromomethane	ND	3.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
2-Butanone	ND	10		µg/L	1	11/20/2014 8:01:23 PM	R22685
Carbon disulfide	ND	10		µg/L	1	11/20/2014 8:01:23 PM	R22685
Carbon Tetrachloride	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Chlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Chloroethane	ND	2.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Chloroform	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Chloromethane	ND	3.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
2-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
4-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
cis-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Dibromochloromethane	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Dibromomethane	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,1-Dichloroethane	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,1-Dichloroethene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,2-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,3-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
2,2-Dichloropropane	ND	2.0		µg/L	1	11/20/2014 8:01:23 PM	R22685

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-30
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 10:05:00 AM
Lab ID: 1411608-002 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Hexachlorobutadiene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
2-Hexanone	ND	10		µg/L	1	11/20/2014 8:01:23 PM	R22685
Isopropylbenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
4-Isopropyltoluene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
4-Methyl-2-pentanone	ND	10		µg/L	1	11/20/2014 8:01:23 PM	R22685
Methylene Chloride	ND	3.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
n-Butylbenzene	ND	3.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
n-Propylbenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
sec-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Styrene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
tert-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
trans-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Trichlorofluoromethane	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Vinyl chloride	ND	1.0		µg/L	1	11/20/2014 8:01:23 PM	R22685
Xylenes, Total	ND	1.5		µg/L	1	11/20/2014 8:01:23 PM	R22685
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	11/20/2014 8:01:23 PM	R22685
Surr: 4-Bromofluorobenzene	94.5	70-130		%REC	1	11/20/2014 8:01:23 PM	R22685
Surr: Dibromofluoromethane	97.7	70-130		%REC	1	11/20/2014 8:01:23 PM	R22685
Surr: Toluene-d8	98.7	70-130		%REC	1	11/20/2014 8:01:23 PM	R22685
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	2800	0.010		µmhos/cm	1	11/20/2014 3:59:23 PM	R22708
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.30	1.68	H	pH units	1	11/20/2014 3:59:23 PM	R22708
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 3:59:23 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 3:59:23 PM	R22708
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 3:59:23 PM	R22708

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-30
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 10:05:00 AM
Lab ID: 1411608-002 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: KS	
Total Dissolved Solids	2520	200	*	mg/L	1	11/21/2014 6:33:00 PM	16496

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-24D
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 10:55:00 AM
Lab ID: 1411608-003 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGP**	
Fluoride	0.91	0.10		mg/L	1	11/18/2014 12:24:54 AM	R22603
Chloride	210	10		mg/L	20	11/18/2014 12:37:18 AM	R22603
Bromide	0.82	0.10		mg/L	1	11/18/2014 12:24:54 AM	R22603
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	11/18/2014 12:37:18 AM	R22603
Sulfate	1800	50	*	mg/L	100	11/26/2014 10:28:47 PM	R22848
Nitrate+Nitrite as N	ND	1.0		mg/L	5	11/26/2014 7:23:01 AM	R22809
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Calcium	440	5.0		mg/L	5	11/25/2014 4:49:06 PM	16543
Iron	12	0.40	*	mg/L	20	12/1/2014 5:04:08 PM	16543
Magnesium	40	1.0		mg/L	1	11/25/2014 4:47:28 PM	16543
Manganese	1.7	0.010	*	mg/L	5	11/25/2014 4:49:06 PM	16543
Potassium	9.3	1.0		mg/L	1	11/25/2014 4:47:28 PM	16543
Sodium	600	20		mg/L	20	12/1/2014 5:04:08 PM	16543
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	1300	6.6		mg/L	1	11/25/2014 3:17:00 PM	R22794
EPA METHOD 8270C: PAHS						Analyst: **DAM**	
Naphthalene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
1-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
2-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Acenaphthylene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Acenaphthene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Fluorene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Phenanthrene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Anthracene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Fluoranthene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Pyrene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Benz(a)anthracene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Chrysene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Benzo(b)fluoranthene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Benzo(k)fluoranthene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Benzo(a)pyrene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Dibenz(a,h)anthracene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Benzo(g,h,i)perylene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Indeno(1,2,3-cd)pyrene	ND	0.50		µg/L	1	11/18/2014 4:35:44 PM	16428
Surr: N-hexadecane	74.5	29.9-83.2		%REC	1	11/18/2014 4:35:44 PM	16428
Surr: Benzo(e)pyrene	69.1	22.6-106		%REC	1	11/18/2014 4:35:44 PM	16428
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-24D
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 10:55:00 AM
Lab ID: 1411608-003 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Toluene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Ethylbenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Naphthalene	ND	2.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
2-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Acetone	ND	10		µg/L	1	11/20/2014 8:31:19 PM	R22685
Bromobenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Bromodichloromethane	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Bromoform	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Bromomethane	ND	3.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
2-Butanone	ND	10		µg/L	1	11/20/2014 8:31:19 PM	R22685
Carbon disulfide	ND	10		µg/L	1	11/20/2014 8:31:19 PM	R22685
Carbon Tetrachloride	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Chlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Chloroethane	ND	2.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Chloroform	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Chloromethane	ND	3.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
2-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
4-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
cis-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Dibromochloromethane	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Dibromomethane	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,1-Dichloroethane	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,1-Dichloroethene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,2-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,3-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
2,2-Dichloropropane	ND	2.0		µg/L	1	11/20/2014 8:31:19 PM	R22685

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GBR-24D
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 10:55:00 AM
Lab ID: 1411608-003 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Hexachlorobutadiene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
2-Hexanone	ND	10		µg/L	1	11/20/2014 8:31:19 PM	R22685
Isopropylbenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
4-Isopropyltoluene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
4-Methyl-2-pentanone	ND	10		µg/L	1	11/20/2014 8:31:19 PM	R22685
Methylene Chloride	ND	3.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
n-Butylbenzene	ND	3.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
n-Propylbenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
sec-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Styrene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
tert-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
trans-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Trichlorofluoromethane	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Vinyl chloride	ND	1.0		µg/L	1	11/20/2014 8:31:19 PM	R22685
Xylenes, Total	ND	1.5		µg/L	1	11/20/2014 8:31:19 PM	R22685
Surr: 1,2-Dichloroethane-d4	97.9	70-130		%REC	1	11/20/2014 8:31:19 PM	R22685
Surr: 4-Bromofluorobenzene	98.8	70-130		%REC	1	11/20/2014 8:31:19 PM	R22685
Surr: Dibromofluoromethane	90.0	70-130		%REC	1	11/20/2014 8:31:19 PM	R22685
Surr: Toluene-d8	91.5	70-130		%REC	1	11/20/2014 8:31:19 PM	R22685
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	3400	0.010		µmhos/cm	1	11/20/2014 4:11:22 PM	R22708
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.83	1.68	H	pH units	1	11/20/2014 4:11:22 PM	R22708
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 4:11:22 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 4:11:22 PM	R22708
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 4:11:22 PM	R22708

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GBR Annual Sampling
Lab ID: 1411608-003 **Matrix:** AQUEOUS

Client Sample ID: GBR-24D
Collection Date: 11/14/2014 10:55:00 AM
Received Date: 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: KS	
Total Dissolved Solids	3410	100	*	mg/L	1	11/21/2014 6:33:00 PM	16496

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GRW-6
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 1:45:00 PM
Lab ID: 1411608-004 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGP**	
Fluoride	0.45	0.10		mg/L	1	11/18/2014 12:49:43 AM	R22603
Chloride	86	10		mg/L	20	11/18/2014 1:02:08 AM	R22603
Bromide	0.34	0.10		mg/L	1	11/18/2014 12:49:43 AM	R22603
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	11/18/2014 1:02:08 AM	R22603
Sulfate	1600	50	*	mg/L	100	11/26/2014 10:41:12 PM	R22848
Nitrate+Nitrite as N	ND	1.0		mg/L	5	11/26/2014 7:35:26 AM	R22809
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Calcium	420	10		mg/L	10	11/25/2014 5:44:59 PM	R22813
Iron	35	1.0	*	mg/L	50	11/25/2014 5:46:44 PM	R22813
Magnesium	45	1.0		mg/L	1	11/25/2014 4:29:06 PM	R22813
Manganese	8.5	0.020	*	mg/L	10	11/25/2014 5:44:59 PM	R22813
Potassium	3.4	1.0		mg/L	1	11/25/2014 4:29:06 PM	R22813
Sodium	460	10		mg/L	10	11/25/2014 5:44:59 PM	R22813
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	1200	6.6		mg/L	1	11/25/2014 1:10:00 PM	R22813
EPA METHOD 8270C: PAHS						Analyst: **DAM**	
Naphthalene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
1-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
2-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Acenaphthylene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Acenaphthene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Fluorene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Phenanthrene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Anthracene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Fluoranthene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Pyrene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Benz(a)anthracene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Chrysene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Benzo(b)fluoranthene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Benzo(k)fluoranthene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Benzo(a)pyrene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Dibenz(a,h)anthracene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Benzo(g,h,i)perylene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Indeno(1,2,3-cd)pyrene	ND	0.50		µg/L	1	11/18/2014 4:58:52 PM	16428
Surr: N-hexadecane	69.3	29.9-83.2		%REC	1	11/18/2014 4:58:52 PM	16428
Surr: Benzo(e)pyrene	73.5	22.6-106		%REC	1	11/18/2014 4:58:52 PM	16428
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	

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
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- O RSD is greater than RSDlimit
- P Sample pH greater than 2.
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GRW-6
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 1:45:00 PM
Lab ID: 1411608-004 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Toluene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Ethylbenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Naphthalene	ND	2.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
2-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Acetone	ND	10		µg/L	1	11/20/2014 9:01:15 PM	R22685
Bromobenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Bromodichloromethane	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Bromoform	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Bromomethane	ND	3.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
2-Butanone	ND	10		µg/L	1	11/20/2014 9:01:15 PM	R22685
Carbon disulfide	ND	10		µg/L	1	11/20/2014 9:01:15 PM	R22685
Carbon Tetrachloride	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Chlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Chloroethane	ND	2.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Chloroform	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Chloromethane	ND	3.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
2-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
4-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
cis-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Dibromochloromethane	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Dibromomethane	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,1-Dichloroethane	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,1-Dichloroethene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,2-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,3-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
2,2-Dichloropropane	ND	2.0		µg/L	1	11/20/2014 9:01:15 PM	R22685

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GRW-6
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 1:45:00 PM
Lab ID: 1411608-004 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Hexachlorobutadiene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
2-Hexanone	ND	10		µg/L	1	11/20/2014 9:01:15 PM	R22685
Isopropylbenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
4-Isopropyltoluene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
4-Methyl-2-pentanone	ND	10		µg/L	1	11/20/2014 9:01:15 PM	R22685
Methylene Chloride	ND	3.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
n-Butylbenzene	ND	3.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
n-Propylbenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
sec-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Styrene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
tert-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
trans-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Trichlorofluoromethane	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Vinyl chloride	ND	1.0		µg/L	1	11/20/2014 9:01:15 PM	R22685
Xylenes, Total	ND	1.5		µg/L	1	11/20/2014 9:01:15 PM	R22685
Surr: 1,2-Dichloroethane-d4	94.1	70-130		%REC	1	11/20/2014 9:01:15 PM	R22685
Surr: 4-Bromofluorobenzene	91.2	70-130		%REC	1	11/20/2014 9:01:15 PM	R22685
Surr: Dibromofluoromethane	89.0	70-130		%REC	1	11/20/2014 9:01:15 PM	R22685
Surr: Toluene-d8	96.9	70-130		%REC	1	11/20/2014 9:01:15 PM	R22685
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	3100	0.010		µmhos/cm	1	11/20/2014 4:22:56 PM	R22708
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.27	1.68	H	pH units	1	11/20/2014 4:22:56 PM	R22708
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	410	20		mg/L CaCO3	1	11/20/2014 4:22:56 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 4:22:56 PM	R22708
Total Alkalinity (as CaCO3)	410	20		mg/L CaCO3	1	11/20/2014 4:22:56 PM	R22708

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GRW-6
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 1:45:00 PM
Lab ID: 1411608-004 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: KS	
Total Dissolved Solids	3170	100	*	mg/L	1	11/21/2014 6:33:00 PM	16496

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** System Influent
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 2:10:00 PM
Lab ID: 1411608-005 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**LGP**
Fluoride	0.85	0.10		mg/L	1	11/18/2014 2:04:11 AM	R22603
Chloride	83	10		mg/L	20	11/18/2014 2:16:36 AM	R22603
Bromide	0.33	0.10		mg/L	1	11/18/2014 2:04:11 AM	R22603
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	11/18/2014 2:16:36 AM	R22603
Sulfate	1500	50	*	mg/L	100	11/26/2014 10:53:37 PM	R22848
Nitrate+Nitrite as N	ND	1.0		mg/L	5	11/26/2014 8:25:05 AM	R22809
EPA METHOD 200.7: METALS						Analyst:	**JLF**
Calcium	350	10		mg/L	10	11/25/2014 5:48:50 PM	R22813
Iron	0.14	0.020		mg/L	1	11/25/2014 4:30:51 PM	R22813
Magnesium	26	1.0		mg/L	1	11/25/2014 4:30:51 PM	R22813
Manganese	0.70	0.0020	*	mg/L	1	11/25/2014 4:30:51 PM	R22813
Potassium	5.6	1.0		mg/L	1	11/25/2014 4:30:51 PM	R22813
Sodium	540	10		mg/L	10	11/25/2014 5:48:50 PM	R22813
SM2340B: HARDNESS						Analyst:	**JLF**
Hardness (As CaCO3)	990	6.6		mg/L	1	11/25/2014 1:10:00 PM	R22813
EPA METHOD 8260B: VOLATILES						Analyst:	**KJH**
Benzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Toluene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Ethylbenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Naphthalene	ND	2.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
2-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Acetone	ND	10		µg/L	1	11/20/2014 9:31:15 PM	R22685
Bromobenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Bromodichloromethane	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Bromoform	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Bromomethane	ND	3.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
2-Butanone	ND	10		µg/L	1	11/20/2014 9:31:15 PM	R22685
Carbon disulfide	ND	10		µg/L	1	11/20/2014 9:31:15 PM	R22685
Carbon Tetrachloride	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Chlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Chloroethane	ND	2.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Chloroform	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** System Influent
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 2:10:00 PM
Lab ID: 1411608-005 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Chloromethane	ND	3.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
2-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
4-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
cis-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Dibromochloromethane	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Dibromomethane	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,1-Dichloroethane	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,1-Dichloroethene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,2-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,3-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
2,2-Dichloropropane	ND	2.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,1-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Hexachlorobutadiene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
2-Hexanone	ND	10		µg/L	1	11/20/2014 9:31:15 PM	R22685
Isopropylbenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
4-Isopropyltoluene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
4-Methyl-2-pentanone	ND	10		µg/L	1	11/20/2014 9:31:15 PM	R22685
Methylene Chloride	ND	3.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
n-Butylbenzene	ND	3.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
n-Propylbenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
sec-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Styrene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
tert-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
trans-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** System Influent
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 2:10:00 PM
Lab ID: 1411608-005 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
Trichlorofluoromethane	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Vinyl chloride	ND	1.0		µg/L	1	11/20/2014 9:31:15 PM	R22685
Xylenes, Total	ND	1.5		µg/L	1	11/20/2014 9:31:15 PM	R22685
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	11/20/2014 9:31:15 PM	R22685
Surr: 4-Bromofluorobenzene	94.2	70-130		%REC	1	11/20/2014 9:31:15 PM	R22685
Surr: Dibromofluoromethane	93.5	70-130		%REC	1	11/20/2014 9:31:15 PM	R22685
Surr: Toluene-d8	97.6	70-130		%REC	1	11/20/2014 9:31:15 PM	R22685
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	3100	0.010		µmhos/cm	1	11/20/2014 4:40:59 PM	R22708
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.47	1.68	H	pH units	1	11/20/2014 4:40:59 PM	R22708
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	340	20		mg/L CaCO3	1	11/20/2014 4:40:59 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 4:40:59 PM	R22708
Total Alkalinity (as CaCO3)	340	20		mg/L CaCO3	1	11/20/2014 4:40:59 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	3050	20.0	*	mg/L	1	11/21/2014 6:33:00 PM	16496

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GRW-3
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 2:35:00 PM
Lab ID: 1411608-006 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGP**	
Fluoride	0.93	0.10		mg/L	1	11/18/2014 2:29:00 AM	R22603
Chloride	26	10		mg/L	20	11/18/2014 2:41:24 AM	R22603
Bromide	0.13	0.10		mg/L	1	11/18/2014 2:29:00 AM	R22603
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	11/18/2014 2:41:24 AM	R22603
Sulfate	2200	50	*	mg/L	100	11/26/2014 11:06:01 PM	R22848
Nitrate+Nitrite as N	ND	1.0		mg/L	5	11/26/2014 8:37:29 AM	R22809
EPA METHOD 200.7: METALS						Analyst: **JLF**	
Calcium	420	10		mg/L	10	11/25/2014 5:56:38 PM	R22813
Iron	0.86	0.020	*	mg/L	1	11/25/2014 4:38:35 PM	R22813
Magnesium	20	1.0		mg/L	1	11/25/2014 4:38:35 PM	R22813
Manganese	0.44	0.0020	*	mg/L	1	11/25/2014 4:38:35 PM	R22813
Potassium	7.1	1.0		mg/L	1	11/25/2014 4:38:35 PM	R22813
Sodium	610	10		mg/L	10	11/25/2014 5:56:38 PM	R22813
SM2340B: HARDNESS						Analyst: **JLF**	
Hardness (As CaCO3)	1100	6.6		mg/L	1	11/25/2014 1:10:00 PM	R22813
EPA METHOD 8270C: PAHS						Analyst: **DAM**	
Naphthalene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
1-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
2-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Acenaphthylene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Acenaphthene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Fluorene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Phenanthrene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Anthracene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Fluoranthene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Pyrene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Benz(a)anthracene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Chrysene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Benzo(b)fluoranthene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Benzo(k)fluoranthene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Benzo(a)pyrene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Dibenz(a,h)anthracene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Benzo(g,h,i)perylene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Indeno(1,2,3-cd)pyrene	ND	0.50		µg/L	1	11/18/2014 5:22:00 PM	16428
Surr: N-hexadecane	75.2	29.9-83.2		%REC	1	11/18/2014 5:22:00 PM	16428
Surr: Benzo(e)pyrene	71.0	22.6-106		%REC	1	11/18/2014 5:22:00 PM	16428
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	

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
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- O RSD is greater than RSDlimit
- P Sample pH greater than 2
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GRW-3
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 2:35:00 PM
Lab ID: 1411608-006 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Toluene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Ethylbenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Naphthalene	ND	2.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
2-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Acetone	ND	10		µg/L	1	11/20/2014 10:01:15 PM	R22685
Bromobenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Bromodichloromethane	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Bromoform	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Bromomethane	ND	3.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
2-Butanone	ND	10		µg/L	1	11/20/2014 10:01:15 PM	R22685
Carbon disulfide	ND	10		µg/L	1	11/20/2014 10:01:15 PM	R22685
Carbon Tetrachloride	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Chlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Chloroethane	ND	2.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Chloroform	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Chloromethane	ND	3.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
2-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
4-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
cis-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Dibromochloromethane	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Dibromomethane	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,1-Dichloroethane	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,1-Dichloroethene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,2-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,3-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
2,2-Dichloropropane	ND	2.0		µg/L	1	11/20/2014 10:01:15 PM	R22685

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GRW-3
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 2:35:00 PM
Lab ID: 1411608-006 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Hexachlorobutadiene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
2-Hexanone	ND	10		µg/L	1	11/20/2014 10:01:15 PM	R22685
Isopropylbenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
4-Isopropyltoluene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
4-Methyl-2-pentanone	ND	10		µg/L	1	11/20/2014 10:01:15 PM	R22685
Methylene Chloride	ND	3.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
n-Butylbenzene	ND	3.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
n-Propylbenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
sec-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Styrene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
tert-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
trans-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Trichlorofluoromethane	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Vinyl chloride	ND	1.0		µg/L	1	11/20/2014 10:01:15 PM	R22685
Xylenes, Total	ND	1.5		µg/L	1	11/20/2014 10:01:15 PM	R22685
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	11/20/2014 10:01:15 PM	R22685
Surr: 4-Bromofluorobenzene	89.3	70-130		%REC	1	11/20/2014 10:01:15 PM	R22685
Surr: Dibromofluoromethane	91.5	70-130		%REC	1	11/20/2014 10:01:15 PM	R22685
Surr: Toluene-d8	95.1	70-130		%REC	1	11/20/2014 10:01:15 PM	R22685
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	3500	0.010		µmhos/cm	1	11/20/2014 4:56:05 PM	R22708
SM4500-H+B: PH							Analyst: JRR
pH	7.56	1.68	H	pH units	1	11/20/2014 4:56:05 PM	R22708
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	190	20		mg/L CaCO3	1	11/20/2014 4:56:05 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 4:56:05 PM	R22708
Total Alkalinity (as CaCO3)	190	20		mg/L CaCO3	1	11/20/2014 4:56:05 PM	R22708

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
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- O RSD is greater than RSDlimit
- P Sample pH greater than 2
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** GRW-3
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 2:35:00 PM
Lab ID: 1411608-006 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	3680	20.0	*	mg/L	1	11/21/2014 6:33:00 PM	16496

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** System Effluent
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 3:10:00 PM
Lab ID: 1411608-007 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**LGP**
Fluoride	0.81	0.10		mg/L	1	11/18/2014 2:53:49 AM	R22603
Chloride	76	10		mg/L	20	11/18/2014 3:31:05 AM	R22603
Bromide	0.28	0.10		mg/L	1	11/18/2014 2:53:49 AM	R22603
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	11/18/2014 3:31:05 AM	R22603
Sulfate	1600	50	*	mg/L	100	11/26/2014 11:18:25 PM	R22848
Nitrate+Nitrite as N	ND	1.0		mg/L	5	11/26/2014 8:49:53 AM	R22809
EPA METHOD 200.7: METALS						Analyst:	**JLF**
Barium	0.016	0.0020		mg/L	1	11/25/2014 4:40:32 PM	R22813
Beryllium	ND	0.0020		mg/L	1	11/25/2014 4:40:32 PM	R22813
Cadmium	ND	0.0020		mg/L	1	11/25/2014 4:40:32 PM	R22813
Calcium	350	10		mg/L	10	11/25/2014 5:58:35 PM	R22813
Chromium	ND	0.0060		mg/L	1	11/25/2014 4:40:32 PM	R22813
Iron	0.15	0.020		mg/L	1	11/25/2014 4:40:32 PM	R22813
Magnesium	26	1.0		mg/L	1	11/25/2014 4:40:32 PM	R22813
Manganese	1.1	0.020	*	mg/L	10	11/25/2014 5:58:35 PM	R22813
Nickel	ND	0.010		mg/L	1	11/25/2014 4:40:32 PM	R22813
Potassium	5.5	1.0		mg/L	1	11/25/2014 4:40:32 PM	R22813
Silver	ND	0.0050		mg/L	1	11/25/2014 4:40:32 PM	R22813
Sodium	540	10		mg/L	10	11/25/2014 5:58:35 PM	R22813
Zinc	0.023	0.010		mg/L	1	11/26/2014 3:24:39 PM	R22823
EPA 200.8: METALS						Analyst:	**DBD**
Antimony	ND	0.0010		mg/L	1	12/2/2014 1:50:53 PM	R22885
Arsenic	ND	0.0010		mg/L	1	12/1/2014 12:04:28 PM	R22871
Lead	ND	0.0010		mg/L	1	12/2/2014 1:50:53 PM	R22885
Copper	ND	0.010		mg/L	10	12/2/2014 4:29:51 PM	R22885
Selenium	0.0039	0.0010		mg/L	1	12/1/2014 12:04:28 PM	R22871
Thallium	ND	0.0010		mg/L	1	12/2/2014 1:50:53 PM	R22885
EPA METHOD 245.1: MERCURY						Analyst:	**MMD**
Mercury	ND	0.00020		mg/L	1	11/26/2014 3:17:31 PM	16593
SM2340B: HARDNESS						Analyst:	**JLF**
Hardness (As CaCO3)	970	6.6		mg/L	1	11/25/2014 1:10:00 PM	R22813
EPA METHOD 8270C: PAHS						Analyst:	**DAM**
Naphthalene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
1-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
2-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Acenaphthylene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Acenaphthene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** System Effluent
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 3:10:00 PM
Lab ID: 1411608-007 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: PAHS						Analyst: **DAM**	
Fluorene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Phenanthrene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Anthracene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Fluoranthene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Pyrene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Benz(a)anthracene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Chrysene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Benzo(b)fluoranthene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Benzo(k)fluoranthene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Benzo(a)pyrene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Dibenz(a,h)anthracene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Benzo(g,h,i)perylene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Indeno(1,2,3-cd)pyrene	ND	0.50		µg/L	1	11/18/2014 5:45:11 PM	16428
Surr: N-hexadecane	72.9	29.9-83.2		%REC	1	11/18/2014 5:45:11 PM	16428
Surr: Benzo(e)pyrene	71.5	22.6-106		%REC	1	11/18/2014 5:45:11 PM	16428
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
Benzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Toluene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Ethylbenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Naphthalene	ND	2.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
2-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Acetone	ND	10		µg/L	1	11/20/2014 10:31:12 PM	R22685
Bromobenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Bromodichloromethane	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Bromoform	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Bromomethane	ND	3.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
2-Butanone	ND	10		µg/L	1	11/20/2014 10:31:12 PM	R22685
Carbon disulfide	ND	10		µg/L	1	11/20/2014 10:31:12 PM	R22685
Carbon Tetrachloride	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Chlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Chloroethane	ND	2.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Chloroform	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Chloromethane	ND	3.0		µg/L	1	11/20/2014 10:31:12 PM	R22685

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** System Effluent
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 3:10:00 PM
Lab ID: 1411608-007 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
2-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
4-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
cis-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Dibromochloromethane	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Dibromomethane	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,1-Dichloroethane	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,1-Dichloroethene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,2-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,3-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
2,2-Dichloropropane	ND	2.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,1-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Hexachlorobutadiene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
2-Hexanone	ND	10		µg/L	1	11/20/2014 10:31:12 PM	R22685
Isopropylbenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
4-Isopropyltoluene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
4-Methyl-2-pentanone	ND	10		µg/L	1	11/20/2014 10:31:12 PM	R22685
Methylene Chloride	ND	3.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
n-Butylbenzene	ND	3.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
n-Propylbenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
sec-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Styrene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
tert-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
trans-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Trichlorofluoromethane	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** System Effluent
Project: GBR Annual Sampling **Collection Date:** 11/14/2014 3:10:00 PM
Lab ID: 1411608-007 **Matrix:** AQUEOUS **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **KJH**	
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Vinyl chloride	ND	1.0		µg/L	1	11/20/2014 10:31:12 PM	R22685
Xylenes, Total	ND	1.5		µg/L	1	11/20/2014 10:31:12 PM	R22685
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%REC	1	11/20/2014 10:31:12 PM	R22685
Surr: 4-Bromofluorobenzene	90.1	70-130		%REC	1	11/20/2014 10:31:12 PM	R22685
Surr: Dibromofluoromethane	90.9	70-130		%REC	1	11/20/2014 10:31:12 PM	R22685
Surr: Toluene-d8	95.5	70-130		%REC	1	11/20/2014 10:31:12 PM	R22685
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	3100	0.010		µmhos/cm	1	11/20/2014 5:06:54 PM	R22708
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.57	1.68	H	pH units	1	11/20/2014 5:06:54 PM	R22708
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	340	20		mg/L CaCO3	1	11/20/2014 5:06:54 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 5:06:54 PM	R22708
Total Alkalinity (as CaCO3)	340	20		mg/L CaCO3	1	11/20/2014 5:06:54 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	3030	20.0	*	mg/L	1	11/21/2014 6:33:00 PM	16496

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** TRIP BLANK
Project: GBR Annual Sampling **Collection Date:**
Lab ID: 1411608-008 **Matrix:** TRIP BLANK **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Toluene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Ethylbenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Naphthalene	ND	2.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
2-Methylnaphthalene	ND	4.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Acetone	ND	10		µg/L	1	11/20/2014 11:01:09 PM	R22685
Bromobenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Bromodichloromethane	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Bromoform	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Bromomethane	ND	3.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
2-Butanone	ND	10		µg/L	1	11/20/2014 11:01:09 PM	R22685
Carbon disulfide	ND	10		µg/L	1	11/20/2014 11:01:09 PM	R22685
Carbon Tetrachloride	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Chlorobenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Chloroethane	ND	2.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Chloroform	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Chloromethane	ND	3.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
2-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
4-Chlorotoluene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
cis-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Dibromochloromethane	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Dibromomethane	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,1-Dichloroethane	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,1-Dichloroethene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,2-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,3-Dichloropropane	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
2,2-Dichloropropane	ND	2.0		µg/L	1	11/20/2014 11:01:09 PM	R22685

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc. **Client Sample ID:** TRIP BLANK
Project: GBR Annual Sampling **Collection Date:**
Lab ID: 1411608-008 **Matrix:** TRIP BLANK **Received Date:** 11/15/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
1,1-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Hexachlorobutadiene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
2-Hexanone	ND	10		µg/L	1	11/20/2014 11:01:09 PM	R22685
Isopropylbenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
4-Isopropyltoluene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
4-Methyl-2-pentanone	ND	10		µg/L	1	11/20/2014 11:01:09 PM	R22685
Methylene Chloride	ND	3.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
n-Butylbenzene	ND	3.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
n-Propylbenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
sec-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Styrene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
tert-Butylbenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
trans-1,2-DCE	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Trichlorofluoromethane	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Vinyl chloride	ND	1.0		µg/L	1	11/20/2014 11:01:09 PM	R22685
Xylenes, Total	ND	1.5		µg/L	1	11/20/2014 11:01:09 PM	R22685
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%REC	1	11/20/2014 11:01:09 PM	R22685
Surr: 4-Bromofluorobenzene	98.6	70-130		%REC	1	11/20/2014 11:01:09 PM	R22685
Surr: Dibromofluoromethane	92.3	70-130		%REC	1	11/20/2014 11:01:09 PM	R22685
Surr: Toluene-d8	94.4	70-130		%REC	1	11/20/2014 11:01:09 PM	R22685

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
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- O RSD is greater than RSDlimit
- P Sample pH greater than 2.
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID MB-16543	SampType: MBLK	TestCode: EPA Method 200.7: Metals
Client ID: PBW	Batch ID: 16543	RunNo: 22794
Prep Date: 11/24/2014	Analysis Date: 11/25/2014	SeqNo: 672663 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID LCS-16543	SampType: LCS	TestCode: EPA Method 200.7: Metals
Client ID: LCSW	Batch ID: 16543	RunNo: 22794
Prep Date: 11/24/2014	Analysis Date: 11/25/2014	SeqNo: 672664 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	102	85	115			
Iron	0.48	0.020	0.5000	0	95.4	85	115			
Magnesium	51	1.0	50.00	0	103	85	115			
Manganese	0.46	0.0020	0.5000	0	91.2	85	115			
Potassium	50	1.0	50.00	0	99.1	85	115			
Sodium	51	1.0	50.00	0	101	85	115			

Sample ID MB	SampType: MBLK	TestCode: EPA Method 200.7: Metals
Client ID: PBW	Batch ID: R22813	RunNo: 22813
Prep Date:	Analysis Date: 11/25/2014	SeqNo: 673339 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID LCS	SampType: LCS	TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: R22813	RunNo: 22813							
Prep Date:	Analysis Date: 11/25/2014	SeqNo: 673340	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	98.0	85	115			
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.0	85	115			
Calcium	50	1.0	50.00	0	99.2	85	115			
Chromium	0.48	0.0060	0.5000	0	96.4	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Magnesium	50	1.0	50.00	0	99.2	85	115			
Manganese	0.50	0.0020	0.5000	0	99.0	85	115			
Nickel	0.49	0.010	0.5000	0	97.5	85	115			
Potassium	49	1.0	50.00	0	98.1	85	115			
Silver	0.093	0.0050	0.1000	0	93.3	85	115			
Sodium	49	1.0	50.00	0	98.4	85	115			

Sample ID MB	SampType: MBLK	TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: R22823	RunNo: 22823							
Prep Date:	Analysis Date: 11/26/2014	SeqNo: 673668	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID LCS	SampType: LCS	TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: R22823	RunNo: 22823							
Prep Date:	Analysis Date: 11/26/2014	SeqNo: 673669	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.50	0.010	0.5000	0	100	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	1411608-007DMS	SampType:	MS	TestCode:	EPA 200.8: Metals				
Client ID:	System Effluent	Batch ID:	R22871	RunNo:	22871				
Prep Date:		Analysis Date:	12/1/2014	SeqNo:	674994	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0.0008168	105	70	130			
Selenium	0.030	0.0010	0.02500	0.003911	104	70	130			

Sample ID	1411608-007DMSD	SampType:	MSD	TestCode:	EPA 200.8: Metals				
Client ID:	System Effluent	Batch ID:	R22871	RunNo:	22871				
Prep Date:		Analysis Date:	12/1/2014	SeqNo:	674995	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0.0008168	105	70	130	0.183	20	
Selenium	0.030	0.0010	0.02500	0.003911	106	70	130	2.26	20	

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Metals				
Client ID:	LCSW	Batch ID:	R22871	RunNo:	22871				
Prep Date:		Analysis Date:	12/1/2014	SeqNo:	675052	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.7	85	115			
Selenium	0.024	0.0010	0.02500	0	97.6	85	115			

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Metals				
Client ID:	LCSW	Batch ID:	R22871	RunNo:	22871				
Prep Date:		Analysis Date:	12/1/2014	SeqNo:	675054	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	90.2	85	115			
Selenium	0.022	0.0010	0.02500	0	88.9	85	115			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Metals				
Client ID:	PBW	Batch ID:	R22871	RunNo:	22871				
Prep Date:		Analysis Date:	12/1/2014	SeqNo:	675056	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Metals				
Client ID:	PBW	Batch ID:	R22871	RunNo:	22871				
Prep Date:		Analysis Date:	12/1/2014	SeqNo:	675058	Units:	mg/L		

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Metals					
Client ID:	PBW	Batch ID:	R22871	RunNo:	22871					
Prep Date:		Analysis Date:	12/1/2014	SeqNo:	675058	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	1411608-007DMS	SampType:	MS	TestCode:	EPA 200.8: Metals					
Client ID:	System Effluent	Batch ID:	R22885	RunNo:	22885					
Prep Date:		Analysis Date:	12/2/2014	SeqNo:	675749	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	98.4	70	130			
Lead	0.028	0.0010	0.02500	0	112	70	130			
Thallium	0.028	0.0010	0.02500	0	113	70	130			

Sample ID	1411608-007DMSD	SampType:	MSD	TestCode:	EPA 200.8: Metals					
Client ID:	System Effluent	Batch ID:	R22885	RunNo:	22885					
Prep Date:		Analysis Date:	12/2/2014	SeqNo:	675750	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	103	70	130	4.78	20	
Lead	0.028	0.0010	0.02500	0	112	70	130	0.158	20	
Thallium	0.028	0.0010	0.02500	0	113	70	130	0.166	20	

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Metals					
Client ID:	LCSW	Batch ID:	R22885	RunNo:	22885					
Prep Date:		Analysis Date:	12/2/2014	SeqNo:	675785	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	97.0	85	115			
Lead	0.025	0.0010	0.02500	0	101	85	115			
Copper	0.025	0.0010	0.02500	0	99.9	85	115			
Thallium	0.025	0.0010	0.02500	0	101	85	115			

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Metals					
Client ID:	LCSW	Batch ID:	R22885	RunNo:	22885					
Prep Date:		Analysis Date:	12/2/2014	SeqNo:	675786	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.025	0.0010	0.02500	0	98.4	85	115			
Copper	0.024	0.0010	0.02500	0	97.9	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1411608**

11-Dec-14

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

Sample ID MB	SampType: MBLK	TestCode: EPA 200.8: Metals							
Client ID: PBW	Batch ID: R22885	RunNo: 22885							
Prep Date:	Analysis Date: 12/2/2014	SeqNo: 675788	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Lead	ND	0.0010								
Copper	ND	0.0010								
Thallium	ND	0.0010								

Sample ID MB	SampType: MBLK	TestCode: EPA 200.8: Metals							
Client ID: PBW	Batch ID: R22885	RunNo: 22885							
Prep Date:	Analysis Date: 12/2/2014	SeqNo: 675789	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0010								
Copper	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1411608**

11-Dec-14

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

Sample ID	MB-16593	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury				
Client ID:	PBW	Batch ID:	16593	RunNo:	22825				
Prep Date:	11/26/2014	Analysis Date:	11/26/2014	SeqNo:	673696	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-16593	SampType:	LCS	TestCode:	EPA Method 245.1: Mercury				
Client ID:	LCSW	Batch ID:	16593	RunNo:	22825				
Prep Date:	11/26/2014	Analysis Date:	11/26/2014	SeqNo:	673697	Units:	mg/L		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

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: R22603	RunNo: 22603
Prep Date:	Analysis Date: 11/17/2014	SeqNo: 666596 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								

Sample ID LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSW	Batch ID: R22603	RunNo: 22603
Prep Date:	Analysis Date: 11/17/2014	SeqNo: 666597 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	96.7	90	110			
Chloride	4.8	0.50	5.000	0	95.8	90	110			
Bromide	2.5	0.10	2.500	0	99.7	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.5	90	110			

Sample ID MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBW	Batch ID: R22603	RunNo: 22603
Prep Date:	Analysis Date: 11/18/2014	SeqNo: 666650 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								

Sample ID LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions
Client ID: LCSW	Batch ID: R22603	RunNo: 22603
Prep Date:	Analysis Date: 11/18/2014	SeqNo: 666651 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	97.4	90	110			
Chloride	4.9	0.50	5.000	0	97.5	90	110			
Bromide	2.5	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.7	90	110			

Sample ID 1411608-007CMS	SampType: MS	TestCode: EPA Method 300.0: Anions
Client ID: System Effluent	Batch ID: R22603	RunNo: 22603
Prep Date:	Analysis Date: 11/18/2014	SeqNo: 666659 Units: mg/L

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	1411608-007CMS	SampType:	MS		TestCode:	EPA Method 300.0: Anions				
Client ID:	System Effluent	Batch ID:	R22603		RunNo:	22603				
Prep Date:		Analysis Date:	11/18/2014		SeqNo:	666659	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.3	0.10	0.5000	0.8070	89.0	66.1	113			
Bromide	2.7	0.10	2.500	0.2810	96.4	82.5	103			

Sample ID	1411608-007CMSD	SampType:	MSD		TestCode:	EPA Method 300.0: Anions				
Client ID:	System Effluent	Batch ID:	R22603		RunNo:	22603				
Prep Date:		Analysis Date:	11/18/2014		SeqNo:	666660	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.2	0.10	0.5000	0.8070	88.6	66.1	113	0.160	20	
Bromide	2.7	0.10	2.500	0.2810	97.1	82.5	103	0.630	20	

Sample ID	MB	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBW	Batch ID:	R22809		RunNo:	22809				
Prep Date:		Analysis Date:	11/25/2014		SeqNo:	673181	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID	LCS	SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSW	Batch ID:	R22809		RunNo:	22809				
Prep Date:		Analysis Date:	11/25/2014		SeqNo:	673182	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	101	90	110			

Sample ID	MB	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBW	Batch ID:	R22809		RunNo:	22809				
Prep Date:		Analysis Date:	11/26/2014		SeqNo:	673237	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID	LCS	SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSW	Batch ID:	R22809		RunNo:	22809				
Prep Date:		Analysis Date:	11/26/2014		SeqNo:	673238	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	100	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1411608**

11-Dec-14

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: **R22848**	RunNo: **22848**							
Prep Date:	Analysis Date: **11/26/2014**	SeqNo: **674415**	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**							
Client ID: **LCSW**	Batch ID: **R22848**	RunNo: **22848**							
Prep Date:	Analysis Date: **11/26/2014**	SeqNo: **674416**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	10	0.50	10.00	0	102	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1411608**

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID **5mL-rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R22685**	RunNo: **22685**
Prep Date:	Analysis Date: **11/20/2014**	SeqNo: **668946** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
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								

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID 5mL-rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R22685	RunNo: 22685
Prep Date:	Analysis Date: 11/20/2014	SeqNo: 668946 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	8.9		10.00		89.4	70	130			
Surr: Toluene-d8	9.1		10.00		91.5	70	130			

Sample ID 100ng Lcs200ngAnn	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES
Client ID: LCSW	Batch ID: R22685	RunNo: 22685
Prep Date:	Analysis Date: 11/20/2014	SeqNo: 668948 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	22	1.0	20.00	0	111	80	120			
Chlorobenzene	21	1.0	20.00	0	103	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID 100ng Lcs200ngAnn	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES
Client ID: LCSW	Batch ID: R22685	RunNo: 22685
Prep Date:	Analysis Date: 11/20/2014	SeqNo: 668948 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	109	82.6	131			
Trichloroethene (TCE)	20	1.0	20.00	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.0	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.4	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.5	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			

Sample ID b2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R22685	RunNo: 22685
Prep Date:	Analysis Date: 11/20/2014	SeqNo: 668977 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID b2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R22685	RunNo: 22685
Prep Date:	Analysis Date: 11/20/2014	SeqNo: 668977 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1411608**

11-Dec-14

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

Sample ID **b2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R22685**	RunNo: **22685**
Prep Date:	Analysis Date: **11/20/2014**	SeqNo: **668977** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	9.1		10.00		91.2	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.7	70	130			
Surr: Toluene-d8	8.8		10.00		88.3	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R22685**	RunNo: **22685**
Prep Date:	Analysis Date: **11/21/2014**	SeqNo: **668979** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	22	1.0	20.00	0	109	80	120			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	116	82.6	131			
Trichloroethene (TCE)	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		99.7	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.9	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.0	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID mb-16428	SampType: MBLK	TestCode: EPA Method 8270C: PAHs
Client ID: PBW	Batch ID: 16428	RunNo: 22616
Prep Date: 11/18/2014	Analysis Date: 11/18/2014	SeqNo: 666994 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								
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	62		87.60		70.6	29.9	83.2			
Surr: Benzo(e)pyrene	15		20.00		73.6	22.6	106			

Sample ID lcs-16428	SampType: LCS	TestCode: EPA Method 8270C: PAHs
Client ID: LCSW	Batch ID: 16428	RunNo: 22616
Prep Date: 11/18/2014	Analysis Date: 11/18/2014	SeqNo: 666995 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	12	0.50	20.00	0	59.1	37.5	104			
1-Methylnaphthalene	12	0.50	20.00	0	61.0	39.4	108			
2-Methylnaphthalene	12	0.50	20.00	0	58.5	40.5	98.2			
Acenaphthylene	12	0.50	20.00	0	60.2	43.6	103			
Acenaphthene	12	0.50	20.00	0	61.3	42.1	104			
Fluorene	12	0.50	20.00	0	61.5	45.7	105			
Phenanthrene	12	0.50	20.00	0	58.8	52.6	104			
Anthracene	12	0.50	20.00	0	59.8	52.8	104			
Fluoranthene	13	0.50	20.00	0	66.8	53.4	109			
Pyrene	12	0.50	20.00	0	62.3	44.9	108			
Benz(a)anthracene	13	0.50	20.00	0	63.2	45.1	110			
Chrysene	8.2	0.50	20.00	0	41.2	40.1	131			
Benzo(b)fluoranthene	13	0.50	20.00	0	62.8	49.9	105			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID lcs-16428	SampType: LCS	TestCode: EPA Method 8270C: PAHs							
Client ID: LCSW	Batch ID: 16428	RunNo: 22616							
Prep Date: 11/18/2014	Analysis Date: 11/18/2014	SeqNo: 666995	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	13	0.50	20.00	0	65.3	49.4	103			
Benzo(a)pyrene	13	0.50	20.00	0	62.7	49	100			
Dibenz(a,h)anthracene	13	0.50	20.00	0	63.7	52.9	115			
Benzo(g,h,i)perylene	12	0.50	20.00	0	59.4	43.6	107			
Indeno(1,2,3-cd)pyrene	12	0.50	20.00	0	59.0	47.6	102			
Surr: N-hexadecane	68		87.60		78.2	29.9	83.2			
Surr: Benzo(e)pyrene	16		20.00		82.0	22.6	106			

Sample ID lcsd-16428	SampType: LCSD	TestCode: EPA Method 8270C: PAHs							
Client ID: LCSS02	Batch ID: 16428	RunNo: 22616							
Prep Date: 11/18/2014	Analysis Date: 11/18/2014	SeqNo: 666996	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	12	0.50	20.00	0	58.9	37.5	104	0.339	20	
1-Methylnaphthalene	12	0.50	20.00	0	59.3	39.4	108	2.83	26.8	
2-Methylnaphthalene	12	0.50	20.00	0	60.4	40.5	98.2	3.20	23.8	
Acenaphthylene	12	0.50	20.00	0	58.1	43.6	103	3.55	28.6	
Acenaphthene	12	0.50	20.00	0	60.3	42.1	104	1.64	27	
Fluorene	12	0.50	20.00	0	60.3	45.7	105	1.97	25.7	
Phenanthrene	13	0.50	20.00	0	63.7	52.6	104	8.00	20	
Anthracene	13	0.50	20.00	0	64.8	52.8	104	8.03	21.2	
Fluoranthene	13	0.50	20.00	0	65.8	53.4	109	1.51	21.8	
Pyrene	13	0.50	20.00	0	64.4	44.9	108	3.31	31.1	
Benz(a)anthracene	13	0.50	20.00	0	62.6	45.1	110	0.954	26.6	
Chrysene	8.6	0.50	20.00	0	43.2	40.1	131	4.74	21.2	
Benzo(b)fluoranthene	13	0.50	20.00	0	65.9	49.9	105	4.82	20	
Benzo(k)fluoranthene	14	0.50	20.00	0	72.0	49.4	103	9.82	21	
Benzo(a)pyrene	13	0.50	20.00	0	66.2	49	100	5.43	24.8	
Dibenz(a,h)anthracene	13	0.50	20.00	0	65.0	52.9	115	2.02	26	
Benzo(g,h,i)perylene	13	0.50	20.00	0	63.2	43.6	107	6.20	20	
Indeno(1,2,3-cd)pyrene	13	0.50	20.00	0	63.2	47.6	102	6.87	20	
Surr: N-hexadecane	59		87.60		67.1	29.9	83.2	0	0	
Surr: Benzo(e)pyrene	14		20.00		67.5	22.6	106	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1411608**

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	1411608-001c dup	SampType:	DUP			TestCode:	SM2510B: Specific Conductance				
Client ID:	GBR-31	Batch ID:	R22708			RunNo:	22708				
Prep Date:		Analysis Date:	11/20/2014			SeqNo:	669758	Units:	µmhos/cm		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity		3100	0.010						0.256	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	1411608-001c dup	SampType:	DUP		TestCode:	SM4500-H+B: pH				
Client ID:	GBR-31	Batch ID:	R22708		RunNo:	22708				
Prep Date:		Analysis Date:	11/20/2014		SeqNo:	669788	Units:	pH units		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.45	1.68								H

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1411608**

11-Dec-14

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

Sample ID **mb-1**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R22708**	RunNo: **22708**							
Prep Date:	Analysis Date: **11/20/2014**	SeqNo: **669700**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID **lcs-1**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R22708**	RunNo: **22708**							
Prep Date:	Analysis Date: **11/20/2014**	SeqNo: **669701**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	99.2	90	110			

Sample ID **mb-2**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R22708**	RunNo: **22708**							
Prep Date:	Analysis Date: **11/20/2014**	SeqNo: **669724**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID **lcs-2**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R22708**	RunNo: **22708**							
Prep Date:	Analysis Date: **11/20/2014**	SeqNo: **669725**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81	20	80.00	0	101	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411608

11-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	MB-16496	SampType:	MBLK	TestCode:	SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW	Batch ID:	16496	RunNo:	22713					
Prep Date:	11/20/2014	Analysis Date:	11/21/2014	SeqNo:	669879	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-16496	SampType:	LCS	TestCode:	SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW	Batch ID:	16496	RunNo:	22713					
Prep Date:	11/20/2014	Analysis Date:	11/21/2014	SeqNo:	669880	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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Western Refining Southw Work Order Number: 1411608 RcptNo: 1

Received by/date: AF 11/15/2014

Logged By: Ashley Gallegos 11/15/2014 10:00:00 AM

Completed By: Ashley Gallegos 11/17/2014 10:45:36 AM

Reviewed By: CS 11/17/14

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☑ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
9. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
10. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☑
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
14. Is it clear what analyses were requested? Yes ☑ No ☐
15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: 12 (<2 or >12 unless noted)
Adjusted?
Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.5	Good	Yes			

Chain-of-Custody Record

Client: Kelly Robinson
Western Refining
Mailing Address: 111 CR 4990
Bloomfield NM, 87413
Phone #: 970-385-1096
email or Fax#: aager@ltenv.com
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____
Project Name: GBR Annual Sampling
Project #: WR10009
Project Manager: Ashley Ager
Sampler: Daniel Neuman
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1411608
11/14/14	911	GW	GBR-31	various	various	-001
	1005		GBR-30			-002
	1055		GBR-24D			-003
	~~1300~~		~~GRW-4~~ DW			
	1345		GRW-6			-004
	1410		System Influent			-005
	1435		GRW-3			-006
	1510		System Effluent			-007
			Trip Blank		11/15/14	-008

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	See Attached				Air Bubbles (Y or N)
											X				
											X				
											X				
											X				
											X				
											X				
											X				
											X				
											X				

Date: 11/14/14 Time: 1550 Relinquished by: [signature]
Received by: [signature] Date 11/14/14 Time 1550

Date: 11/14/14 Time: 1728 Relinquished by: [signature]
Received by: [signature] Date 11/15/14 Time 0700

Remarks: Please email results to aager@ltenv.com

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

TABLE 1

2012 SAMPLING SCHEDULE
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING

Sample ID	ANNUALLY (Jan)
System Influent	VOC GWC
System Effluent	VOC GWC METALS PAH
GRW-3	VOC GWC PAH
GRW-6	VOC GWC PAH
GBR-17	VOC GWC PAH
GBR-24D	VOC GWC PAH
GBR-30	VOC GWC PAH
GBR-31	VOC GWC PAH
GBR-32	VOC GWC METALS
GBR-48	VOC GWC METALS
GBR-49	VOC GWC METALS
GBR-50	VOC GWC METALS
GBR-51	VOC GWC
GBR-52	VOC GWC
SHS-8	VOC GWC

Notes:

VOC
method 8260

PAH
method 8270

GWC
pH
EC
TDS
alkalinity
hardness
anions
bromide
chloride
sulfate
fluoride
nitrate/nitrite
phosporus
cations
calcium
iron
magnesium
manganese
potassium
sodium

Metals
barium
beryllium
cadmium
chromium
copper
lead
nickel
silver
zinc
antimony
arsenic
selenium
thallium
mercury