# GW - 001

# REPORTS

# 2008 GW Remediation & Monitoring

4/8/2009

BLOOMFIELD REFINERY

April 8, 2009

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Hope Monzeglio New Mexico Environmental Department Hazardous Waste Bureau 2905 Rodeo Park Drive East Bldg 1 Santa Fe, NM 87505 Brad Jones New Mexico Oil Conservation Division Environmental Bureau 1220 South St. Francis Dr Santa Fe, NM 87505

RE: Corrective Measures Study and Corrective Measures Implementation (Site Investigation and Abatement Plan) 2008 Groundwater Remediation and Monitoring Annual Report Western Refining Southwest, Inc. - Bloomfield Refinery EPA ID# NMD089416416 GW – 001

Dear Hope and Brad:

Western Refining Southwest Inc. - Bloomfield Refinery submits the 2008 Annual Groundwater Report as required by NMED and OCD directives. This report summarizes all groundwater monitoring activities that occurred in 2008.

If you have questions or would like to discuss any aspect of the report, please contact me at (505) 632-4171.

Stincerely,

James R. Schmaltz

Environmental Manager

Western Refining Southwest, Inc. - Bloomfield Refinery

cc: Laurie King, EPA Region VI
Brandon Powell, NM OCD Aztec District Office
Carl Chavez – NMOCD Santa Fe – w/o enclosure
Allen Hains, Western Refining – El Paso

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# Section 1.0 Executive Summary

# **Executive Summary**

Bloomfield Refinery #50 Road 4990 Bloomfield, New Mexico 87413

US EPA ID: NMD089416416

This report provides a summary of site-wide groundwater monitoring that took place at Bloomfield Refinery throughout 2008. Sampling and analysis followed the guidelines from the *Facility-Wide Groundwater Monitoring Plan (Revised May 2008)*.

#### **Groundwater Measurements**

Bloomfield Refinery personnel began a quarterly groundwater level measurement program in February 2008. This program will continue throughout 2009.

#### **Groundwater Monitoring**

Semi-annual (April) and annual (August) groundwater sampling were performed to monitor potential impacts to groundwater quality associated with historic refinery operations. Both sampling events followed guidelines from the *Facility-wide Groundwater Monitoring Plan (Revised May 2008)*. Future sampling events will continue to follow the most updated Plan.

#### San Juan River

The San Juan River was sampled on a bi-annual basis in 2008. Analytical results indicate that impacted groundwater from the refinery has not impacted the river.

#### Tank #33 Effluent

Tank #33 effluent was scheduled for quarterly sampling in 2008. First quarter 2008 analytical results for benzene exceeded the regulatory limit of 500 ppb. Tank #33 discharge was sampled on a weekly basis from April 10, 2008 to November 3, 2008 and then sampling frequency was reduced to once per month. Since the first quarter exceedance, subsequent benzene results did not surpass toxicity standards at Tk #33 effluent for the rest of 2008.

#### North Boundary Barrier Wall

Groundwater elevation maps indicate that the North Boundary Barrier Wall is performing as intended by capturing the water along the south side of the wall. Inspections of the draws north of the barrier wall indicate where seepage of fuel hydrocarbon impacted water was present has been eliminated.

Visual inspection of Seeps 1-9 has shown groundwater discharge from the seeps along the river bluff has decreased significantly since installation of the slurry wall. It now appears that only seeps #1, #6, #7, #8, and #9 have any actual discharge of ground water as opposed to apparent periodic accumulation of stormwater in the other seep basins. Weekly inspections continue to confirm that the vast majority of the fluids in the outfalls are from precipitation events.

#### Recommendations

Review of the SVOC analytical results indicate that the few contaminants that do show up in the EPA Method 8270 test can also be detected with EPA Method 8260B. As stated in 5.1.2 of the Monitoring Plan, consideration for on-going monitoring of total metals and SVOC analysis will be assessed for necessity for future monitoring events. Future monitoring and remedial action will follow the Facility-Wide Groundwater Monitoring Plan (Revised May 2008) or the most updated plan.

# Section 2.0 Introduction

# INTRODUCTION

#### 2008 Groundwater Remediation and Monitoring Annual Report

Owner:

Western Refining

(parent corporation)

123 W. Mills Ave., Suite 200

El Paso, TX 79901

Operator:

Western Refining Southwest, Inc.

(postal address)

P.O. Box 159

Bloomfield, New Mexico 87413

(physical address)

Western Refining Southwest, Inc.

#50 Rd 4990

Bloomfield, New Mexico 87413

Facility Name:

**Bloomfield Refinery** 

(physical address)

#50 Rd 4990

Bloomfield, New Mexico 87413

Facility Status

Corrective Action/Compliance

**US EPA ID** 

NMD089416416

SIC Code

2911

Submittal Date:

**April 2009** 

Purpose of Groundwater Monitoring:

To evaluate present contamination

Type of Groundwater Monitoring:

Semi-annual, Annual, and Investigative

#### **BACKGROUND INFORMATION**

#### SITE LOCATION AND DESCRIPTION

The Bloomfield Refinery is a crude oil refining facility with a crude capacity of 18,000 barrels per day. It is located approximately 1 mile south of Bloomfield, New Mexico, in San Juan County, latitude N36 41' 87", longitude W107 58' 70". It is further located approximately ½ mile east of State Route 550 on County Road 4990 (a.k.a. Sullivan Road).

The refinery is located on a bluff 120 feet above the south side of the San Juan River. The top of the bluff is relatively flat and is at an elevation of 5,540 feet above sea level. The geological units that comprise the site include, in order of increasing depth, San Juan River Alluvium, Quaternary apron deposits, Aeolian sand and silt, Jackson Lake Terrace, and the Tertiary Nacimiento Formation. An unnamed arroyo flows toward the San Juan River on the southern and western edges of the site. East of the site, a well-defined arroyo cuts a small canyon from the bluff to the San Juan River. Hammond Ditch lies on the bluff between the limit of the Jackson Lake Terrace and the refinery.

Refinery offices are on the western end of the facility, along with warehouse space, maintenance areas, and a storage yard containing used material (e.g., pipes, valves). Petroleum processing units, located in the northwest portion of the refinery, include the crude unit, fluidized cracking unit, catalytic polymerization unit, and hydrodesulfurization unit. The API Separator and the aeration lagoons are located in the north central section of the refinery.

In the central portion of the site, aboveground storage tanks (AST's) occupy a large percentage of refinery property. South of the refinery and across Sullivan Road are terminals for loading product and off-loading crude, as well as gas storage and hazardous waste storage.

Western Refining merged with San Juan Refining Company (SJRC) May 31, 2007. The refinery is operated by Western Refining Southwest, Inc. The historical and current activities conducted at the refinery are petroleum processing, crude and product storage, crude unloading and product loading, waste management (closed and existing facilities), and offices and non-petroleum material storage

#### HISTORY OF FACILITY MODIFICATIONS AND IMPROVEMENTS

#### **Previous Owner's Activities**

Local entrepreneur, Kimball Campbell, constructed the crude topping unit that eventually became the GRC facility in the late 1950s. O.L. Garretson bought the facility in the early 1960s, renamed it Plateau, Inc. and sold it in 1964 to Suburban Propane of New Jersey.

Operationally, the facility has steadily evolved through a series of improvements, modifications and expansions. Suburban upgraded the facility in 1966, increasing the Crude Unit throughput to 4,100 bpcd and adding 1,850 bpcd Reformer and Naphtha Hydrotreater. In 1975, the Crude Unit was expanded to 8,400 bpcd.

In 1979, the Crude Unit was expanded again to 16,800 bpcd (later demonstrated to have a hydraulic capacity in excess of 18,000 bpcd). A Fluidized Catalytic Cracker (FCC) with a nominal capacity of 6,000 bpcd, an Unsaturated Gas Plant and a Treater Unit were also added at that time. The capacity of the Reformer / Hydrotreater was increased to 2,250 bpcd. The FCC was upgraded in 1982 to conform to State and Federal air quality standards.

#### **Bloomfield Refining Activities**

Bloomfield Refining Company (BRC) acquired the facility from Suburban Propane (Plateau) on October 31, 1984. BRC made many improvements to facility operations and equipment. These improvements are summarized below.

#### 1986

Relocated the spent caustic tank onto a concrete pad with retaining walls.

#### 1987

Upgraded the Reformer and increased its capacity to 3,600 bpcd, modified the Laboratory and Treater Unit and increased tank storage capacity.

Cleaned up the North and South bone yards.

Decommissioned and dismantled old tanks 6 and 7.

Relocated the API recoverd oil tanks 8 & 9 to concrete pads with concrete retaining walls.

Established a systematic inspection, maintenance and repair program for tanks.

#### 1988

Added a 2,000 bpcd Catalytic Polymerization Unit. Removed the facility's two underground storage tanks and replaced them with aboveground storage tanks.

Completed installation of cathodic protection system for the tank farm and underground piping.

Rebuilt the process area sewer system and added curbed, concrete paving to the unpaved process areas.

#### 1989

Increased Reformer throughput to 4,000 bpcd.

Activated the groundwater hydrocarbon recovery system.

Constructed the first double-lined Evaporation Pond as part of discharge plan improvements.

#### 1990

Constructed the second double-lined Evaporation Pond as part of discharge plan improvements.

Constructed a drum storage shed and converted to bulk chemical usage where possible in order to minimize the use of drummed chemicals.

#### 1991

Revamped the burner fuel sales rack with concrete paving and curbing.

Submitted the permit application for a Class 1 disposal well.

Upgraded the groundwater hydrocarbon recovery system.

#### 1992

Submitted an air quality permit application proposing the installation of a Diesel Hydrodesulferization (HDS) Unit and a Sulfur Recovery Unit (SRU) to comply with new EPA low-sulfur diesel regulations and to decrease air emissions.

#### 1993

Began a program under a consent agreement with the US EPA to conduct interim measures (IM), a RCRA facility investigation (RFI) and a corrective measures study (CMS) addressing groundwater contamination.

Replaced portions of the underground cooling water piping.

Added concrete paving around the API Separator.

Added process units: HDS Unit (2,000 bpcd) and SRU...

#### 1994

Completed the Class 1 injection well.

Retrofitted the Aeration Lagoons with two additional liners.

Installed a floating cover for the API Separator.

Closed the clay-lined evaporation ponds and spray evaporation area.

#### **Giant Activities**

In 1995, San Juan Refining Company, a wholly owned subsidiary of Giant Industries Arizona, Inc., purchased the Bloomfield Refinery from BRC.

#### 1995

Improved the diking South of the Refinery to further reduce storm water runoff.

Began implementation of additional corrective measures for groundwater cleanup as determined from the CMS.

#### 1998

Converted the former evaporation ponds on the East side of the Refinery to raw water storage ponds.

#### 1999

Sheet pilings and a bentonite slurry wall were installed adjacent to the San Juan River, North of the process units, in order to intercept a small hydrocarbon seep that had been detected in the area.

#### 2001

A program was initiated to inoculate the Aeration Lagoons with sludge-consuming micro-organisms.

#### 2002

A concrete liner was installed on the Hammond Ditch. At that time, Giant constructed the Hammond Ditch French Drain Recovery System to address contamination under the ditch.

#### 2003

Several monitoring wells were converted into recovery wells to further enhance the continuing ground water remediation efforts. MW #45, #46 & #47 were installed to facilitate sample colection. East Outfall #1 Recovery System was set up to return impacted water back to the refinery.

#### 2004

MW #48 & MW #49 and 8 temporary piezometers were installed to launch a River Terrace Investigation. Several temporary piezometers were drilled on the north side of Hammond Ditch to chart the Naciemento Formation. Design of a slurry wall to be constructed on the north side of Hammond Ditch was completed. Lined containments were constructed in the draws north of Hammond Ditch in order to collect potentially contaminated groundwater which discharged to the land surface.

Sewer lines were replaced in the Treater and FCC.

#### 2005

The North Boundary Barrier Wall installation was completed March 2005. Fourteen observation wells were installed on the north side of the slurry wall and fifteen collection wells were installed on the south side of the slurry wall in April 2005

As a matter of preventive maintenance, the lined containments in the draws north of the slurry wall were upgraded periodically.

In April, five more temporary piezometers were installed at the River Terrace. In August, Dewatering Wells #1 and #2 and thirteen bioventing wells were drilled and construction of the River Terrace Bioventing Project was initiated.

#### 2006

The River Terrace Bioventing System was put on-line in January 2006. Monitoring data from that project is submitted in a separate report to the regulatory agencies.

During the week of February 13, 2006 seven sump wells were installed along the bluff north of the barrier wall. These wells were drilled in accordance with the North Barrier Wall Work Plan which was submitted to OCD February 7, 2006. Fluids extraction from the observation and collection wells, the north draws, and the sump wells continued throughout 2006.

As a matter of preventive maintenance, the lined containments in the draws north of the slurry wall were upgraded periodically.

#### 2007

On May 31, 2007, Giant Industries, Inc. became a wholly-owned subsidiary of Western Refining, Inc. of El Paso, Texas.

Construction of the Ammonia Refrigeration Unit (ARU) was completed and the system put on line by March 2007. This unit is used to recover propane from hydrogen streams.

Construction of the Benzene Stripper was completed and the system put in service by October 2007. This unit is used to strip benzene from process waste water.

Discharge piping was installed at RW #1 to increase the recovery capacity of he well

As a matter of preventive maintenance, the lined containments in the draws north of the slurry wall (seeps 1-9) were upgraded periodically.

#### 2008

The Facility-Wide Groundwater Monitoring Plan (Revised May 2008) was approved and implemented in the latter half of 2008.

Group #2 RCRA site investigation activities began in September 2008. Group #2 includes SWMU #2, SWMU #8, SWMU #9, SWMU #11, and SWMU #18. As part of the *Closure Plan North and South Aeration Lagoons* the ponds were drained, cleaned out, inspected, repaired, and put back in service. This process started in October 2008 and was completed in February 2009.

# Section 3.0 Scope of Activities

# **Scope of Activities**

The following is a summary of the activities conducted in 2008.

#### North Boundary Barrier Wall

Installation of the North Boundary Barrier Wall and Collection System was completed by late April 2005. Bloomfield Refinery personnel conducted a biweekly fluid measurement scheme requiring monitoring of all observation and collection wells as well as MW #11, MW #12. MW #20, MW #21, MW #39, MW #45, MW #46, and MW #47. This measurement program was established in August 2005 and continued throughout 2008. Measured depth to groundwater data from January 2008 through December 2008 is located in Appendix B, Section 15.0, Tabs 1 -12.

Using a vacuum truck, fluids were removed from the collection and observation wells on a 3 times per week basis until March 31, 2008. In January 2008, Bloomfield Refinery proposed to discontinue recovery operations using the vacuum truck and to begin using passive methods of separate phase removal in the observation wells. NMED responded with the letter *Approval with Direction Evaluation of Interim Measure* dated March 25, 2008, which allowed the cessation of fluids recovery from the Hammond Ditch wells.

Following the direction of Comment #2 of that letter, Bloomfield Refinery personnel collected depth to water and depth to product measurements from all observation well and collection wells, MW #45, and MW #47 twice a week for 90 days starting April 1, 2008. The collected data was submitted to NMED in the *Evaluation of Interim Measures* letter dated July, 15, 2008.

NMED, in conjunction with the Oil Conservation Division (OCD), replied to the submittal with their *Monitoring Requirements Evaluation of Interim Measures* letter dated September 2, 2008. Bloomfield Refinery personnel are continuing to collect depth to water and depth to product measurements from all observation well, MW #45, and MW #47 twice a week for six months starting October 1, 2008. The program will conclude on April 2, 2009.

Semi-Annual sample collection began during the week of April 7, 2008. Samples were collected and analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), and MTBE using EPA Method 8260 as well as Diesel Range Organics (DRO) and Gasoline Range Organics (GRO) using EPA Method 8015B. Field measurements of pH, temperature, and E.C. were also taken.

Annual sampling occurred the week of August 11, 2008. Observation well samples were analyzed for BTEX, MTBE (EPA Method 8260), and DRO/GRO (8015B). Collection well samples were analyzed for BTEX, MTBE (EPA Method 8260), and DRO (8015B). Field measurements of pH, temperature, and electrical conductivity (E.C.) were also recorded.

During both sampling events, groundwater samples were collected from all observation wells and two collection wells (CW-0+60 and CW25+95) with the exception of wells that contain separate phase hydrocarbon or wells that were dry or did not contain enough water to collect a sample.

Analytical results and field measurements for the sampling events are summarized in Appendix B, Section 15.0, Tabs 13, 14, and 15.

#### Seeps/Sump Wells

A bi-weekly visual inspection of Seeps 1-9 occurred through to March 2008. In April 2008 Bloomfield Refinery personnel began visually inspecting all seep locations on a weekly basis following the direction of Comment 2 in the NMED letter *Approval with Direction Facility-Wide Groundwater Monitoring Plan* dated March 25, 2008.

Before implementation of the *Facility-Wide Groundwater Monitoring Plan* (*Revised May 2008*) and during the week of April 15, 2008, semi-annual samples were collected from Seeps 1, 6, 7, and 9 and analyzed for BTEX by EPA Method 8021B. Analytical results can be found in Section 9.0, Tab 9.0.

During the week of August 11, 2008, samples were collected from Seeps 1, 3, and 6 and as required by the *Facility-Wide Groundwater Monitoring Plan* (*Revised May 2008*) were analyzed for BTEX and MTBE (EPA 8260), SVOCs (EPA 8270), and general chemistry (EPA 300.0 and SM2320B). Results can be found in Section 9.0, Tab 9.0.

A bi-weekly fluid measurement program was utilized to monitor the sump wells. Additional monitoring occurred after major precipitation events in August and December. Monitoring data can be found in Section 9.0, Tab 3.0.

#### **Groundwater Monitoring**

Tank #33 effluent was scheduled for quarterly sampling in 2008. First Quarter 2008 analytical results for benzene exceeded the regulatory limit of 500 ppb. In response to the benzene exceedance the East Outfall #1 system was shut down and steps were taken to reroute the water via vacuum truck to the API Separator and wastewater treatment system. Tanks #38 and #33 were dewatered, cleaned, and inspected. An air compressor was set up to aerate the water in Tank #38 before it is pumped to Tank #33. Tank #33 discharge was sampled on a weekly basis from April 10, 2008 to November 3, 2008 and analyzed for BTEX/MTBE (EPA 8260). Beginning in December 2008, NMED allowed Bloomfield Refinery to reduce the sampling frequency to once per month. Analytical results are in Section 9.0, Tab 10.0.

The facility-wide semi-annual monitoring event occurred during the week of April 7, 2008. Guidelines from the *Facility-Wide Groundwater Monitoring Plan (revised December 2007*) were followed. East Outfall #2 and East Outfall #3 were sampled and analyzed for BTEX/MTBE (EPA 8260), Dissolved Metals (EPA

6010B), Total Metals (EPA 6010b & 7470), Anions (EPA 300.0), and Alkalinity (SM 2320B). Field measurements of E.C., pH, and temperature were also read. Samples were collected from MW #1, MW #8, MW #12, MW #13, MW #30, MW #33, MW #35, MW #37, and MW #38 and analyzed for BTEX/MTBE (EPA 8260) and GRO/DRO (EPA 8015B). Analytical results are summarized in Section 9.0, Tabs 4.0, 5.0, 6.0, 7.0, 8.0, and 9.0.

Annual sampling started the week of August 11, 2008. The Facility-wide Groundwater Monitoring Plan (Revised May 2008) was followed.

The following wells were sampled; MW #1, MW #4, MW #8, MW #11, MW #12, MW #13, MW #26, MW #27, MW #29, MW #30, MW #31, MW #32, MW #33, MW #34, MW #35, MW #37, MW #38, MW #40, MW #44, RW #1, RW #9, RW #15, RW #23, O/F #2, and O/F #3. The samples were analyzed for VOCs by using EPA Method 8260B, SVOCs by EPA Method 8270, TPH through EPA Method 8015B, Total RCRA 8 Metals using EPA Methods 6010B/7470, WQCC Dissolved Metals using EPA Method 6010B, Anions using EPA Methods 300.0, and Alkalinity/Carbon Dioxide by SM 2320B.

The analytical laboratory inadvertently did not analyze for calcium, magnesium, potassium, and sodium from some samples collected during the annual sampling event. This issue has been addressed with the lab and corrected for future monitoring activities. Due to matrix interferences, the selenium reporting level on several samples is above the regulatory level of 0.05 mg/L. Hall Environmental Analytical Laboratory felt it was necessary to dilute the sample in order to accurately report selenium.

MW #3, MW #5, and MW #6 were dry and no samples were taken. MW #20, MW #21,RW #9, RW #18, RW #28, RW #42, and RW #43 contained separate phase hydrocarbon and were not sampled. Results are summarized in Section 9.0, Tabs 4.0, 5.0, 6.0, 7.0, 8.0, and 9.0.

#### San Juan River

The San Juan River was sampled on a semi-annual basis in 2008. Samples were collected in March and August and analyzed for BTEX/MTBE (EPA Method 8021B in March and 8260 in August), TPH (EPA Method 8015B), Total RCRA 8 Metals (EPA Methods 6010B/7470), WQCC Dissolved Metals (EPA Method 6010B), Cations, Anions (EPA Method 300.0), and Alkalinity/Carbon Dioxide using SM 2320B.

Analysis is summarized in Section 9.0, Tab 11.0.

#### **Field Data Collection**

Bloomfield Refinery personnel began a supplemental quarterly groundwater level measurement program in February 2008. All facility monitoring wells, recovery wells, observation and collection wells were measured for groundwater elevation

in February and April. Recovery well pumps were shut off and the extraction of fluids ceased. Measurements of water and product levels were taken 48 hours after the cessation of fluid extraction.

In August, refinery personnel followed the guidelines of the *Facility-Wide Groundwater Monitoring Plan (Revised May 2008)* to collect groundwater levels and SPH thickness measurements. Prior to annual groundwater sampling activities, water elevation measurements were collected in all wells while the recovery wells were in operation and again after the pumps were removed and water levels had stabilized (5 days later). October groundwater level measurement procedures followed the protocol from the February and April program. Measured depth to groundwater information is in Section 9.0, Tabs 1.0, 2.0, and 3.0.

All water/product levels were measured to an accuracy of 0.01 foot using a Geotech Interface Probe. After determining water levels, well volumes were calculated during sampling events.

At least three well volumes were purged from each well prior to sampling. Electrical conductance, pH, and temperature were monitored during purging using an Ultrameter 6P. The wells were considered satisfactorily purged when the pH, E.C., and temperature values did not vary by more than 10 percent for at least three measurements.

Field data and well elevations can be found in `Section 9.0, Tabs1.0, 2.0, 3.0, and 4.0.

All purged water was collected in a fifty-five gallon drum and disposed of through the refinery wastewater system. Section 4.0 Regulatory Criteria / Groundwater Cleanup Standards/ State of New Mexico Soil Screening Levels

Metals	(mg/l)
Antimony	0.006 <sup>2</sup>
Arsenic	0.01 <sup>2</sup>
Barium	1.0
Beryllium	0.004 2
Cadmium	0.005 <sup>2</sup>
Chromium	0.05
Cobalt	0.05
Copper	1.0
Cyanide	0.2
Lead	0.05
Mercury	0.002
Nickel	0.200
Selenium	0.05
Silver	0.05
Uranium	0.03
Vanadium	0.18 <sup>3</sup>
Zinc	10.0

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

- 2 Federal Maximum Contaminant Level
- 3 USEPA Region VI Human Health Medium-Specific Screening Level 2008

Semivolatiles	(ug/l)
1,2,4-Trichlorobenzene	70 <sup>2</sup>
1,2-Dichlorobenzene	49 <sup>3</sup>
1,3-Dichlorobenzene	14 <sup>3</sup>
1,4-Dichlorobenzene	0.47 3
2,4,5-Trichlorophenol	3,700 <sup>3</sup>
2,4,6-Trichlorophenol	6.1 <sup>3</sup>
2,4-Dichlorophenol	110 <sup>3</sup>
2,4-Dimethylphenol	730 <sup>3</sup>
2,4-Dinitrophenol	73 <sup>3</sup>
2,4-Dinitrotoluene	73 <sup>3</sup>
2,6-Dinitrotoluene	37 <sup>3</sup>
2-Chloronaphthalene	490 <sup>3</sup>
2-Chlorophenol	30 <sup>3</sup>
2-Methylnaphthalene	Ne
2-Methylphenol	1,800 <sup>3</sup>
2-Nitroaniline	110 <sup>3</sup>
2-Nitrophenol	Ne
3,3'-Dichlorobenzidine	Ne
3+4-Methylphenol	180 <sup>3</sup>
3-Nitroaniline	Ne
4,6-Dinitro-2-methylphenol	Ne
4-Bromophenyl phenyl ether	Ne
4-Chloro-3-methylphenol	. Ne
4-Chloroaniline	150 <sup>3</sup>
4-Chlorophenyl phenyl ether	Ne
4-Nitroaniline	Ne
4-Nitrophenol	290 <sup>3</sup>
Acenaphthene	370 <sup>3</sup>
Acenaphthylene	Ne

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

- 2 Federal Maximum Contaminant Level
- 3 USEPA Region VI Human Health Medium-Specific Screening Level 2008

Semivolatiles	(ug/l)
Aniline	12 <sup>3</sup>
Anthracene	1,800 3
Azobenzene	0.61 <sup>3</sup>
Benz(a)anthracene	0.029 <sup>3</sup>
Benzo(a)pyrene	0.2 2
Benzo(b)fluoranthene	0.029 <sup>3</sup>
Benzo(g,h,i)perylene	Ne
Benzo(k)fluoranthene	0.29 <sup>3</sup>
Benzoic acid	150,000 <sup>3</sup>
Benzyi alcohol	11,000 3
Bis(2-chloroethoxy)methane	Ne
Bis(2-chloroethyl)ether	0.0098 3
Bis(2-chloroisopropyl)ether	Ne
Bis(2-ethylhexyl)phthalate	4.8 <sup>3</sup>
Butyl benzyl phthalate	7,300 <sup>3</sup>
Carbazole	3.4 <sup>3</sup>
Chrysene	2.9 <sup>3</sup>
Dibenz(a,h)anthracene	0.0029 <sup>3</sup>
Dibenzofuran	12 <sup>3</sup>
Diethyl phthalate	29,000 <sup>3</sup>
Dimethyl phthalate	370,000 <sup>3</sup>
Di-n-butyl phthalate	Ne
Di-n-octyl phthalate	Ne
Fluoranthene	1,500 <sup>3</sup>
Fluorene	240 <sup>3</sup>
Hexachlorobenzene	1.0 <sup>2</sup>
Hexachlorobutadiene	O.86 <sup>3</sup>
Hexachlorocyclopentadiene	50 <sup>2</sup>
Hexachloroethane	4.8 <sup>3</sup>

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

- 2 Federal Maximum Contaminant Level
- 3 USEPA Region VI Human Health Medium-Specific Screening Level 2008

Semivolatiles	(ug/l)
Indeno(1,2,3-cd)pyrene	0.029 <sup>3</sup>
Isophorone	713
Naphthalene	30
Nitrobenzene	3.4 <sup>3</sup>
N-Nitrosodimethylamine	0.00042 <sup>3</sup>
N-Nitrosodi-n-propylamine	0.0096 <sup>3</sup>
N-Nitrosodiphenylamine	14 <sup>3</sup>
Pentachlorophenol	1 <sup>2</sup>
Phenanthrene	Ne
Phenol	Ne
Pyrene	180 <sup>3</sup>
Pyridine	37 <sup>3</sup>

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

- 2 Federal Maximum Contaminant Level
- 3 USEPA Region VI Human Health Medium-Specific Screening Level 2008

Volatiles	(ug/l)
1,1,1,2-Tetrachloroethane	0.43 <sup>3</sup>
1,1,1-Trichloroethane	60
1,1,2,2-Tetrachloroethane	10
1,1,2-Trichloroethane	10
1,1-Dichloroethane	25
1,1-Dichloroethene	5
1,1-Dichloropropene	Ne
1,2,3-Trichlorobenzene	Ne
1,2,3-Trichloropropane	0.034 <sup>3</sup>
1,2,4-Trichlorobenzene	70.0 <sup>2</sup>
1,2,4-Trimethylbenzene	15.0 <sup>3</sup>
1,2-Dibromo-3-chloropropane	0.2 2
1,2-Dibromoethane (EDB)	0.1
1,2-Dichlorobenzene	600.0 <sup>2</sup>
1,2-Dichloroethane (EDC)	10
1,2-Dichloropropane	5.0 <sup>2</sup>
1,3,5-Trimethylbenzene	Ne
1,3-Dichlorobenzene	Ne
1,3-Dichloropropane	. 120 <sup>3</sup>
1,4-Dichlorobenzene	75.0 <sup>2</sup>
1-Methylnaphthalene	Ne
2,2-Dichloropropane	Ne
2-Butanone	710.0 <sup>3</sup>
2-Chlorotoluene	120.0 <sup>3</sup>
2-Hexanone	Ne
2-Methylnaphthalene	Ne
4-Chlorotoluene	Ne
4-Isopropyltoluene	Ne
4-Methyl-2-pentanone	Ne

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

- 2 Federal Maximum Contaminant Level
- 3 USEPA Region VI Human Health Medium-Specific Screening Level 2008

(ug/l)
5,500 <sup>3</sup>
5 <sup>2</sup>
23.0 <sup>3</sup>
0.18 <sup>3</sup>
8.5 <sup>3</sup>
8.7 <sup>3</sup>
1,000 <sup>3</sup>
5.0 <sup>3</sup>
100.0 <sup>2</sup>
Ne
100
190 <sup>3</sup>
70 <sup>2</sup>
0.4 <sup>3</sup>
0.13 <sup>3</sup>
Ne
390 <sup>3</sup>
700 <sup>2</sup>
0.86 <sup>3</sup>
Ne
11 <sup>3</sup>
4.3 <sup>3</sup>
Ne
61 <sup>3</sup>
61 <sup>3</sup>
61 <sup>3</sup>
100 2
61 <sup>3</sup>
5 <sup>2</sup>

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

- 2 Federal Maximum Contaminant Level
- 3 USEPA Region VI Human Health Medium-Specific Screening Level 2008

Volatiles	(ug/l)
Toluene	750
trans-1,2-DCE	100 <sup>2</sup>
trans-1,3-Dichloropropene	0.4 3
Trichloroethene (TCE)	5 <sup>2</sup>
Trichlorofluoromethane	1,300 <sup>3</sup>
Vinyl chloride	1
Xylenes, Total	620

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

- 2 Federal Maximum Contaminant Level
- 3 USEPA Region VI Human Health Medium-Specific Screening Level 2008 Ne - not established

General Chemistry	(mg/l)
Alkalinity, Total (As CaCO3)	Ne
Bicarbonate	Ne
Calcium	Ne
Carbonate	Ne
Chloride	250
Iron	1
Magnesium	Ne
Manganese	0.2
Nitrogen, Nitrate (As N)	10
Nitrogen, Nitrite (As N)	Ne
Nitrate (As N)+Nitrite (As N)	10
Potassium	Ne
Sodium	Ne
Sulfate	600

Groundwater Standards are WQCC 20NMAC 6.2.3103 unless otherwise indicated

- 2 Federal Maximum Contaminant Level
- 3 USEPA Region VI Human Health Medium-Specific Screening Level 2008

20.6.2 NMAC

- 20.6.2.3103 STANDARDS FOR GROUND WATER OF 10,000 mg/l TDS CONCENTRATION OR LESS: The following standards are the allowable pH range and the maximum allowable concentration in ground water for the contaminants specified unless the existing condition exceeds the standard or unless otherwise provided in Subsection D of Section 20.6.2.3109 NMAC. Regardless of whether there is one contaminant or more than one contaminant present in ground water, when an existing pH or concentration of any water contaminant exceeds the standard specified in Subsection A, B, or C of this section, the existing pH or concentration shall be the allowable limit, provided that the discharge at such concentrations will not result in concentrations at any place of withdrawal for present or reasonably foreseeable future use in excess of the standards of this section. These standards shall apply to the dissolved portion of the contaminants specified with a definition of dissolved being that given in the publication "methods for chemical analysis of water and waste of the U.S. environmental protection agency," with the exception that standards for mercury, organic compounds and non-aqueous phase liquids shall apply to the total unfiltered concentrations of the contaminants.

(1)	. / Hacine (/ L3)	
(2)	Barium (Ba)	1.0 mg/l
(3)	Cadmium (Cd)	
(4)	Chromium (Cr)	
(5)	Cyanide (CN)	
(6)	Fluoride (F)	
(7)	Lead (Pb)	0.05 mg/l
(8)	Total Mercury (Hg)	. 0.002 mg/l
(9)	Nitrate (NO <sub>3</sub> as N)	
` '	Selenium (Se)	
(10)		
(11)		
(12)	Uranium (U)	
(13)	Radioactivity: Combined Radium-226 & Radium-228	
(14)	Benzene	0.01 mg/l
(15)	Polychlorinated biphenyls (PCB's)	0.001 mg/l
(16)		
(17)		
(18)		
(19)	·	
(20)		0.02 mg/l
(21)		
(22)		
(23)		
(24)		
(25)	chloroform	0.1 mg/l
(26)	1,1-dichloroethane	0.025 mg/l
(27)	ethylene dibromide (EDB)	0.0001 mg/l
(28)		
(29)		
(30)		
(31)		
(32)		
(33)		0.0007 mg/1
В.	Other Standards for Domestic Water Supply	250.0 //
(1)	Chloride (Cl)	
(2)	Copper (Cu)	
(3)	Iron (Fe)	
(4)	Manganese (Mn)	0.2 mg/l
(6)	Phenols	0.005 mg/l
(7)	Sulfate (SO <sub>4</sub> )	
(8)	Total Dissolved Solids (TDS)	_
(9)	Zinc (Zn)	
(10)		
C.	Standards for Irrigation Use - Ground water shall meet the	standards of Subsection A, B, and C of
•		

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this section unless otherwise provided.

	Aluminum (Al)	
(2)	Boron (B)	0.75 mg/l
(3)	Cobalt (Co)	0.05 mg/l
	Molybdenum (Mo)	
	Nickel (Ni)	

[2-18-77, 1-29-82, 11-17-83, 3-3-86, 12-1-95; 20.6.2.3103 NMAC - Rn, 20 NMAC 6.2.III.3103, 1-15-01; A, 9-26-04] [Note: For purposes of application of the amended numeric uranium standard to past and current water discharges (as of 9-26-04), the new standard will not become effective until June 1, 2007. For any new water discharges, the uranium standard is effective 9-26-04

# NEW MEXICO ENVIRONMENT DEPARTMENT TPH SCREENING GUIDELINES October 2006

In some instances, it may be practical to assess areas of soil contamination that are the result of releases of petroleum products such as jet fuel and diesel, using total petroleum hydrocarbon (TPH) analyses. TPH results may be used to delineate the extent of petroleum-related contamination at these sites and ascertain if the residual level of petroleum products in soil represents an unacceptable risk to future users of the site. Petroleum hydrocarbons represent complex mixtures of compounds, some of which are regulated constituents and some compounds that are not regulated. In addition, the amount and types of the constituent compounds in a petroleum hydrocarbon release differ widely depending on what type of product was spilled and how the spill has weathered. This variability makes it difficult to determine the toxicity of weathered petroleum products in soil solely from TPH results; however, these results can be used to approximate risk in some cases, depending upon the nature of the petroleum product, the release scenario, how well the site has been characterized, and anticipated potential future land uses. In some cases, site clean up cannot be based solely on results of TPH sampling. The New Mexico Environment Department (NMED) will make these determinations on a case by case basis. If NMED determines that additional data are necessary, these TPH guidelines must be used in conjunction with the screening guidelines for individual petroleum-related contaminants in Table 3 and other contaminants, as applicable.

The screening levels for each petroleum carbon range from the Massachusetts Department of Environmental Protection (MADEP) Volatile Petroleum Hydrocarbons/Extractable Petroleum Hydrocarbons (VPH/EPH) approach and the percent composition table below were used to generate screening levels corresponding to total TPH. Except for waste oil, the information in the compositional assumptions table was obtained from the Massachusetts Department of Environmental Protection guidance document *Implementation of the MADEP VPH/EPH Approach* (October 31, 2002). TPH toxicity was based only on the weighted sum of the toxicity of the hydrocarbon fractions listed in Table 1.

Table 1. TPH Compositional Assumptions in Soil

Petroleum Product	C11-C22 Aromatics	C9-C18 Aliphatics	C19-C36 Aliphatics
Diesel #2/ new crankcase oil	60%	40%	0%
#3 and #6 Fuel Oil	70%	30%	0%
Kerosene and jet fuel	30%	70%	0%
Mineral oil dielectric fluid	20%	40%	40%
Unknown oil <sup>a</sup>	100%	0%	0%
Waste Oil <sup>b</sup>	0%	0%	100%

Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

A TPH screening guideline was calculated for each of the types of petroleum product based on the assumed composition from Table 1 for petroleum products and the direct soil standards incorporating ceiling concentrations given in the MADEP VPH/EPH Excel spreadsheet for each of the carbon fractions. Groundwater concentrations are based on the weighted sum of the noncarcinogenic toxicity of the petroleum fractions.

Method 1 from the MADEP VPH/EPH document was applied, which represents generic cleanup standards for soil and groundwater. Method 1 applies if contamination exists in only soil and groundwater. The MADEP VPH/EPH further divides groundwater into standards. Standard GW-1 applies when groundwater may be used for drinking water purposes. GW-1 standards are based upon ingestion and use of groundwater as a potable water supply. The TPH screening guidelines for sites with potable groundwater are presented in Table 2a.

Table 2a. TPH Screening Guidelines for Potable Groundwater (GW-1)

Petroleum Product	Residential Direct Exposure (mg/kg)	Industrial Direct Exposure (mg/kg)	Concentration in Groundwater (mg/L)	
Diesel #2/crankcase oil	520	1120	1.72	
#3 and #6 Fuel Oil	440	890	1.34	
Kerosene and jet fuel	760	. 1810	2.86	
Mineral oil dielectric fluid	1440	3040	3.64	
Unknown oil	. 200	200	0.2	
Waste Oil	2500	5000	Petroleum-Related Contaminants	
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants	

Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

The second standard is GW-2, which is applicable for sites where the depth to groundwater is less than 15 feet from the ground surface and within 30 feet of an occupied structure. The structure may be either residential or industrial. GW-2 standards are based upon "inhalation exposures that could occur to occupants of the building impacted by volatile compounds, which partition from the groundwater" (MADEP 2001). The GW-2 screening guidelines ONLY apply for the evaluation of inhalation exposures. If potential ingestion or contact with contaminated soil and/or

groundwater could occur, then the screening guidelines provided in Table 2.a should be applied. Table 2.b lists the TPH screening guidelines for the inhalation scenario.

Table 2b. TPH Screening Guidelines - Vapor Migration and Inhalation of Groundwater (GW-2)

Petroleum Product	Residential Direct Exposure (mg/kg)	Industrial Direct Exposure (mg/kg)	Concentration in Groundwater (mg/L)	
Diesel #2/crankcase oil	880	2200	30.4	
#3 and #6 Fuel Oil	860	2150	35.3	
Kerosene and jet fuel	940	2350	15.7	
Mineral oil dielectric fluid	1560	3400	10.4	
Unknown oil	800	2000	50.0	
Waste Oil	2500	5000	Petroleum-Related Contaminants	
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants	

Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

Mineral oil based hydraulic fluids can be evaluated for petroleum fraction toxicity using the screening guidelines from Tables 2a and 2b specified for waste oil, because this type of hydraulic fluid is composed of approximately the same range of carbon fractions as waste oil. However, these hydraulic fluids often contain proprietary additives that may be significantly more toxic than the oil itself; these additives must be considered on a site- and product-specific basis (see ATSDR hydraulic fluids profile reference). Use of alternate screening guideline values requires prior written approval from the New Mexico Environment Department. TPH screening guidelines in Tables 2a and 2b must be used in conjunction with the screening levels for petroleum-related contaminants given in Table 3 because the TPH screening levels are NOT designed to be protective of exposure to these individual petroleum-related contaminants. Table 3 petroleum-related contaminants screening levels are based on the NMED Technical Background Document for Development of Soil Screening Levels, Rev 4.0 (June 2006).

The list of petroleum-related contaminants does not include polyaromatic hydrocarbons (PAHs) with individual screening levels that would exceed the total TPH screening levels (acenaphthene, anthracene, flouranthene, flourene, and pyrene). In addition, these TPH screening guidelines are based solely on human health, not ecological risk considerations, protection of surface water, or

potential indoor air impacts from soil vapors. Potential soil vapor impacts to structures or utilities are not addressed by these guidelines. Site-specific investigations for potential soil vapor impacts to structures or utilities must be done to assure that screenings are consistently protective of human health, welfare or use of the property. NMED believes that use of these screening guidelines will allow more efficient screenings of petroleum release sites at sites while protecting human health and the environment. Copies of the references cited below are available on the MADEP website at http://www.state.ma.us/dep/bwsc/vph\_eph.htm and the NMED website at http://www.nmenv.state.nm.us/HWB/guidance.html.

Revised Table 3. Petroleum-Related Contaminants Screening Guidelines

	Values for Direct Exposure to Soil		NMED DAF <sup>a</sup> 20 GW	
Petroleum-Related Contaminants	NMED Residential SSL (mg/kg)	NMED Industrial SSL (mg/kg)	Protection (mg/kg in soil)	NMED DAF <sup>b</sup> 1 GW Protection (mg/kg in soil)
Benzene	1.03E+01	2.58E+01	2.01E-02	1.00E-03
Toluene:	2.52E+02	2.52E+02	2.17E+01	1.08E+00
Ethylbenzene	1.28E+02	1.28E+02	2.02E+01	1.01E+00
Xylenes <sup>c</sup>	8.20E+01	8.20E+01	2.06E+00	1.03E-01
Naphthalene	7.95E+01	3.00E+02	3.94E-01	1.97E-02
2-Methyl naphthalened	5.00E+02	1.00E+03	e ·	e
Benzo(a)anthracene	6.21E+00	2.34E+01	1.09E+01	5.43E-01
Benzo(b)fluoranthene	6.21E+00	2.34E+01	3.35E+01	1.68E+00
Benzo(k)fluoranthene	6.21E+01	2.34E+02	3.35E+02	1.68E+01
Benzo(a)pyrene	6.21E-01	2.34E+00	2.78E+00	1.39E-01
Chrysene	6.15E+02	2.31E+03	3.48E+02	1.74E+01
Dibenz(a,h)anthracene	6.21E-01	2.34E+00	1.04E+01	5.18E-01
Indeno(1.2.3-c,d)pyrene	6.21E+00	2.34E+01	9.46E+01	4.73E+00

<sup>\*</sup>DAF - Dilution Attenuation Factor

#### References

Agency for Toxic Substances and Disease Registry (ATSDR). 1997. Toxicological Profile for Hydraulic fluids.

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 1994. "Background Documentation for the Development of the MCP Numerical Standards."

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 2002. "Characterizing Risks Posed by Petroleum

<sup>&</sup>lt;sup>b</sup> For contaminated soil in contact with groundwater.

<sup>&</sup>lt;sup>c</sup> Based upon total xylenes

<sup>&</sup>lt;sup>d</sup> No NMED value available, value taken from Massachusetts Contingency Plan, 310 CMR 40.0985, 4/3/06.

<sup>&</sup>lt;sup>e</sup> No NMED value available and leachability-based value for DAF =1 or 20 not established in the Massachusetts Contingency Plan, 310 CMR 40.0985, 4/3/06.

Contaminated Sites: Implementation of the MADEP VPH/EPH Approach," Policy, October 31, 2002.

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 2003. "Updated Petroleum Hydrocarbon Fraction Toxicity Values for the VPH/EPH/APH Methodology." November 2003.

New Mexico Environment Department, Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. 2006. "Technical Background Document for Development of Soil Screening Levels." June 2006. Revision 4.0.

# Section 5.0 Groundwater Monitoring Results

Title	Tab/Figure	Section
Measured Depth to Groundwater	Tab 1,2,3	9.0
Groundwater Elevation and Flow Direction	Figures 4, 5, 6, 7, & 8	10.0
Product Thickness Map	Figures 9, 10, 11, &12	10.0
BTEX and MTBE Concentration MapAppendix	AFigures 13 & 14	10.0
Field Water Quality Measurements	Tab 4	9.0
Comparison to Previous Monitoring	jTabs 5, 6, 7, 8, 9, 10, 11	9.0
Measured Depth to Groundwater North Barrier Wall	Appendix BTabs 1 – 12	15.0
North Barrier Wall Analytical DataAp	pendix BTabs 13, 14, 15	15.0

# Section 6.0 Chemical Analytical Data

Title	Tab	Section
Background Wells	Tab 5	9.0
Refinery Wells	Tab 6	9.0
Cross-gradient Wells	Tab 7	9.0
Downgradient Wells	Tab 8	9.0
San Juan River Bluff	Tab 9	9.0
Tank #33	Tab 10	9.0
San Juan River	Tab 11	9.0
North Barrier Wall	Tabs 13, 14, 15App	endix B15.0

# Section 7.0 Remediation System Monitoring

### **Remediation System Monitoring**

### **Total Fluids Pumping**

The total fluids pumping system is used to bring SPH and hydrocarbon impacted groundwater to the surface for treatment or disposal. This is accomplished by pumping wells within the SPH plume and adjacent areas. The recovery wells pump SPH and hydrocarbon impacted groundwater to the refinery API separator and through the refinery process wastewater treatment system. Pumping is most effective in saturated zones with high hydraulic conductivities such as those measured at the refinery. In 2008 total fluids pumping was accomplished through the use of fourteen recovery wells: RW# 1, 2, 9, 14, 15, 16, 17, 18, 19, 22, 23, 28, 42 and 43.

In 2008 the estimated total gallons pumped (SPH and water) from the recovery wells was 1,390,000 gallons.

### North Boundary Barrier Wall

The North Boundary Barrier Wall and Collection System were completed in April of 2005. The primary purpose of the wall is to prevent the flow of hydrocarbon-impacted groundwater to reach the San Juan River. Water that reaches the Barrier Wall is consequently backed up into the French Drain and carried by 8" pipe to Tank 37 from which it is pumped to the API Separator. Collection wells are placed in the depressions or troughs of the Naciemento Formation.

Using a vacuum truck, fluids were removed from the collection and observation wells on a 3 times per week basis until March 31, 2008. Total calculated volume for 2008 from the Observation wells (located on the north side of the slurry wall) is <200 gallons for the time they were vacuumed or <10 gallons per week. Total calculated volume removed from Collection wells (located on the south side of the slurry wall) is 7,128 gallons or 324 gallons per week. The formula used for calculating the amount of water pulled from each well is the following: Total Well Depth – Depth to Water X (Conversion Factor for Pipe Size) X 156 (Wells pulled 3X/week X 22 Weeks).

In January 2008, Bloomfield Refinery proposed to discontinue recovery operations using the vacuum truck and to begin using passive methods of separate phase removal in the observation wells. NMED responded with the letter *Approval with Direction Evaluation of Interim Measure* dated March 25, 2008 which allowed the cessation of fluids recovery from the Hammond Ditch wells.

Following the direction of Comment #2 of that letter, Bloomfield Refinery personnel collected depth to water and depth to product measurements from all observation well and collection wells, MW #45, and MW #47 twice a week for 90

days starting April 1, 2008. The collected data was submitted to NMED in the *Evaluation of Interim Measures* letter dated July, 15, 2008.

NMED, in conjunction with the Oil Conservation Division (OCD), replied to the submittal with their *Monitoring Requirements Evaluation of Interim Measures* letter dated September 2, 2008. Bloomfield Refinery personnel are continuing to collect depth to water and depth to product measurements from all observation well, MW #45, and MW #47 twice a week for six months starting October 1, 2008. The program will conclude on April 2, 2009.

Bloomfield Refinery personnel continued to monitor fluid levels on both sides of the barrier wall by measuring the depth to water and depth to product every other week. Measured depth to groundwater data from January 2008 through December 2008 is located in Appendix B, Section 15.0, Tabs 1 -12.

### **Hammond Ditch Recovery System**

The Hammond Ditch Recovery System consists of recovery Tank #37, which collects groundwater from two 8-inch influent lines connected to the perforated sub-drain (the French Drain) beneath the Hammond Irrigation Canal. The Tk #37 liquid level has a float control system and automatically pumps through a flow meter to the API Separator. The total volume pumped through the flow meter in 2008 was 23,421 barrels (983,682 gallons).

### North Outfalls/Draws

A bi-weekly visual inspection of Seeps 1-9 occurred through to March 2008. In April 2008 Bloomfield Refinery personnel began visually inspecting all seep locations on a weekly basis following the direction of Comment 2 in the NMED letter *Approval with Direction Facility-Wide Groundwater Monitoring Plan* dated March 25, 2008. Comment 2 also included a sampling schedule and criterion of seeps that contained water.

The vast majority of the fluids in the outfalls are from precipitation events. Water recovery at the seeps is dependant on whether the analytical results exceed any regulatory standards. If an exceedance occurs, that water will be pumped for recovery.

Inspections of the draws north of the barrier wall and analysis of samples of water collected in the seeps indicate that the barrier wall is preventing migration of contaminated groundwater toward the San Juan River. Since installation of the barrier wall, all previous areas where seepage of fuel hydrocarbon impacted water was present have been eliminated.

### **River Terrace**

The River Terrace Bioventing Project was put on-line in January 2006. Monitoring and remedial actions are following the Voluntary Measures Bioventing

Monitoring Plan that has been approved by NMED and are submitted in a separate report to the agencies.

### **East Outfall**

The east outfall is collected into a pipe, which flows to Tank #38 and then pumped to Tank #33 located just south of the western fresh water pond. Hydrocarbons are skimmed off the top of the tank into a secondary tank, which is emptied with a vacuum truck and taken to the API separator. The remaining water from Tank #33 is then piped to the fresh water pond. The total gallons pumped in 2008 were 11,213,824 gallons.

Tank #33 effluent analytical summary can be found in Section 9, Tab 10.0.

### **Overall System Capabilities**

The French Drain and the collection wells are in the same column of water. The French Drain removed 98.9% of the water south of the slurry wall. Vacuuming the Collection Wells three times per week only removed 1.1% of the water south of the slurry wall. The three month test results showed that not vacuuming the wells had very little effect on the water table and the removal of any residual SPH that remained on the north side of the slurry wall. The data collection phase of the six month test will be complete on April 2, 2009.

# Section 8.0 Summary – Conclusions and Recommendations

### Summary

### **Compliance Monitoring**

Measured depth to groundwater tables and analytical summaries are located in Section 9.0 of this report.

### **Groundwater Measurements**

Bloomfield Refinery personnel began a quarterly groundwater level measurement program in February 2008. All facility monitoring wells, recovery wells, observation and collection wells were measured for groundwater elevation in February and April. Recovery well pumps were shut off and the extraction of fluids ceased. Measurements of water and product levels were taken 48 hours after the cessation of fluid extraction. In August, refinery personnel followed the guidelines of the *Facility-Wide Groundwater Monitoring Plan (Revised May 2008)* to collect groundwater levels and SPH thickness measurements. Prior to annual groundwater sampling activities, water elevation measurements were collected in all wells while the recovery wells were in operation and again after the pumps were removed and water levels had stabilized (5 days later). October groundwater level procedures followed the protocol from the February and April program.

Wells have been segregated into four separate groups within the Refinery Complex. The background well group consists of MW #3, MW #5, and MW #6. The cross-gradient well list includes MW #1, MW #13, MW #26, MW #27, MW #32, and MW #33. The refinery area well group contains RW #1, MW #4, MW #8, RW #9, RW #15, RW #18, MW #20, MW #21, RW #23, RW #28, MW #29, MW #30, MW #31, RW #42, RW #43, and MW #44. The down-gradient well list consists of MW #11, MW #34, MW #35, MW #37, MW #38, and MW #12.

### Background Wells

MW #5 and MW #6 were dry in February, April, August, and October. MW #3 was practically dry with fluid thickness levels of 0.48 feet to 0.6 feet throughout the year.

### Refinery Wells

MW #4, MW #8, MW #29, MW #30, MW #31, MW #44, and RW #15 did not contain separate phase hydrocarbon (SPH) during any of the four measuring events. MW #40 was SPH-free for three measuring events but had a SPH reading of 0.03 feet in August. RW #23 contained SPH in the first three quarters but was SPH-free in October. RW #1 had an SPH measurement of 1.23 feet in February after the pump had been removed. Subsequent measurements in April, August, and October at RW #1 showed no SPH present in either pre or post recovery well operation.

MW #20, MW #21, RW #9, RW #18, RW #28, RW #42, and RW #43 contained SPH quantities in monitoring wells varied from a low of 0.01 feet (RW #9 – August) to a high of 0.55 feet (MW #20 – February).

### Cross-Gradient Wells

MW #1, MW #13, MW #26, MW #27, MW #32, and MW #33 did not contain SPH during all four measuring events.

### Down-Gradient Wells

There was no SPH present in MW #11, MW #12, MW #34, MW #35, MW #37, and MW #38 throughout 2008.

Figures 4, 5, 6, and 7 in Section 10.0 represent the groundwater elevation contours for the quarterly measuring events.

### **Groundwater Monitoring**

The facility-wide semi-annual monitoring event occurred during the week of April 7, 2008. Guidelines from the *Facility-Wide Groundwater Monitoring Plan (revised December 2007*) were followed. Annual sampling started the week of August 11, 2008. The *Facility-Wide Groundwater Monitoring Plan (Revised May 2008)* was followed.

### Background Wells

MW #5 and MW #6 were dry all through 2008. MW #3 was practically dry with fluid thickness levels of 0.48 feet to 0.6 feet throughout the year and consequently, no analytical samples were taken from these wells in 2008.

### **BTEX**

### Refinery Wells

MW #8, MW #29, and MW #44 analytical results did not exceed regulatory standards for BTEX (Benzene, Toluene, Ethylbenzene, Xylene) and DRO (Diesel Range Organics) in 2008. MW #40 and RW #1 were over the benzene and DRO standards in August. MW #31 and RW #23 topped the benzene, ethylbenzene, and xylene regulatory values. RW #23 also exceeded the DRO standards. MW #4 surpassed limits on benzene, xylene, and DRO. RW #15 and MW #30 surpassed the BTEX and DRO standards. MW #20, MW #21, RW #9, RW #18, RW #28, RW #42, and RW #43 were not sampled since the wells contained separate phase hydrocarbon.

### Cross-Gradient Wells

MW #26 benzene result of 0.12 mg/L exceeded the regulatory standard of 0.005 mg/L. The DRO result of 2.0 mg/L at MW #26 also surpassed the DRO regulatory limit of 1.72 mg/L. The analytical results from the other five wells (MW

#1, MW #13, MW #27, MW #32, and MW #33) in the Cross-Gradient list were either non-detect or did not surpass regulatory limits for BTEX and DRO.

### **Down-Gradient Wells**

Analytical results from the six wells (MW #11, MW #12, MW #34, MW 35, MW #37, and MW #38) in the Down-Gradient list were either non-detect or did not surpass regulatory limits for BTEX. April sampling DRO results for MW #35 and MW #37(2.1 mg/L and 2.3 mg/L respectively) exceeded the DRO regulatory limit of 1.72 mg/L. MW #11and MW #34 surpassed DRO standards in August.

### San Juan River Bluff - Bluff Seeps

Outfalls #2 and #3 analytical results did not exceed regulatory standards for BTEX. Samples collected from Seeps #1, #3, #6, #7, and #9 in either April or August (dependent upon fluids present) did not exceed BTEX regulatory standards.

### **General Chemistry**

General chemistry parameters were analyzed during the annual sampling event in August and not in April 2008.

### Refinery Wells

WQCC TDS standard (1000 mg/L) was exceeded by MW #4, MW #8, MW #30, MW #31, MW #40, MW #44, RW #15, and RW #23. The results ranged from a low of 1139 mg/L in RW #23 to a high of 4080 mg/L in MW #44. The sulfate standard (600 mg/L) was surpassed by MW #8 (790 mg/L) and MW #44 (3000 mg/L). The chloride standard (250 mg/L) was met or exceeded by MW #8, MW #31, MW #40, RW #1, and RW #15 with a low of 250 mg/L in RW #23 to a high of 740 mg/L in MW #31. The nitrogen standard (10 mg/L) was exceeded by MW #8 (24 mg/L).

### Cross-Gradient Wells

MW #13, MW #26, MW #27, MW #32, and MW #33 exceeded the TDS standard with results that ranged from a low of 1973 mg/L at MW #27 to a high of 4364 mg/L at MW #32. The sulfate regulatory limit was surpassed by MW #13, MW #27, MW #32, and MW #33. Chloride standard was topped by results from MW #26, MW #32, and MW #33. The nitrogen standard (10 mg/L) was exceeded by MW #32 (26 mg/L) and MW #33 (19 mg/L).

### Down-Gradient Wells

The TDS standard was exceeded by MW #11, MW #34, MW #35, and MW #37 with a range of 1225 mg/L (MW #34) to 1655 mg/L (MW #11). The sulfate regulatory limit (600 mg/L) was surpassed by MW #12 (830 mg/L),

### San Juan River Bluff - Bluff Seeps

Outfall #2 exceeded sulfate regulatory limits as did Seeps #1, #3, and #6. The chloride standard (250 mg/L) was surpassed by Seeps #1, #3, and #6.

### **Total Metals (RCRA 8)**

Total Metals (RCRA 8) were analyzed only during the annual sampling event in August 2008 but not required during the April 2008 sampling event. Due to matrix interferences, the selenium reporting level on several samples is above the regulatory level of 0.05 mg/L. Hall Environmental Analytical Laboratory felt it was necessary to dilute the sample in order to accurately report selenium.

### Refinery Wells

All total metal constituents other than barium were either non-detect or below regulatory levels for the refinery wells. The barium standard of 1.0 mg/L was exceeded by MW #4 (1.3 mg/L), RW #1 (1.7 mg/L), RW #15 (1.2 mg/L), and MW #23 (1.4 mg/L).

### Cross-Gradient Wells

MW #26 surpassed the barium standard with a result of 2.3 mg/L. Total metals results from all other Cross-Gradient wells were either non-detect or below regulatory levels.

### Down-Gradient Wells

Down-Gradient wells analytical results did not exceed regulatory standards for total metals.

### <u>San Juan River Bluff – Bluff Seeps</u>

Outfalls #2 and #3 analytical results did not exceed regulatory standards for total metals. Total metals analysis was not required for any Seeps.

### **Dissolved Metals**

Samples collected in August 2008 were analyzed for WQCC dissolved metals. Dissolved metals analysis was not required for the April 2008 sampling event. The analytical laboratory inadvertently did not analyze for calcium, magnesium, potassium, and sodium from some samples collected during the annual sampling event. This issue has been addressed with the lab and corrected for future monitoring activities.

### Refinery Wells

MW 34, MW #40, RW #1, RW #15, and RW #23 exceeded barium (1.0 mg/L), iron (1.0 mg/L), and manganese (0.2 mg/L) regulatory limits. Barium exceedances ranged from a low of 1.2 mg/L (RW #15) to a high of 1.8 mg/L (MW #40). Iron varied from a low of 2.9 mg/L (RW #23) to a high of 9.6 mg/L (MW #4). Manganese results ranged from 2.5 mg/L to 4.6 mg/L. MW #29 (0.97 mg/L), MW #30 (1.7 mg/L), and MW #44 (1.7 mg/L) surpassed manganese standards. MW #31 went over barium (1.1 mg/L) and manganese (0.71 mg/L) regulatory levels.

### Cross-Gradient Wells

MW #13 topped manganese standards (0.2 mg/L) with a result of 1.4 mg/L. MW #26 exceeded barium, iron, and manganese regulatory levels with results of 2.3 mg/L, 6.9 mg/L, and 3.0 mg/L respectively. MW #27 surpassed iron and manganese standards with results of 1.5 mg/L and 4.6 mg/L respectively.

### Down-Gradient Wells

MW #11, MW #34, MW #35, and MW #38 exceeded iron and manganese standards. Iron exceedances ranged from a low of 2.2 mg/L at MW #38 to a high of 12.0 mg/L at MW #11. Manganese varied from a low of 1.4 mg/L at MW #35 to a high of 3.1 at MW #34. MW #37 surpassed manganese with a result of 1.2 mg/L.

### San Juan River Bluff - Bluff Seeps

Outfalls #2 and #3 analytical results did not exceed regulatory standards for total metals. Dissolved metals analysis was not required for any Seeps.

### **Semi-Volatile Organic Compounds**

Samples were analyzed for SVOCs by EPA Method 8270 during the annual sampling event in August 2008.

### Refinery Wells

MW #4, MW #30, MW #40, RW #1, RW #15, and RW #23 exceeded the naphthalene standard of 0.03 mg/L with range of 0.096 mg/L at MW #4 to a high of 1.5 mg/L at RW #23. RW #1 also surpassed the Bis(2-ethylexyl)phthalate standard of 0.048 mg/L with result of 0.051 mg/L.

### Cross-Gradient Wells

MW #26 exceeded the naphthalene standard of 0.03 mg/L with a result of 0.06 mg/L.

### Down-Gradient Wells

MW #11 exceeded the naphthalene standard of 0.03 mg/L with a result of 0.032 mg/L.

### San Juan River Bluff - Bluff Seeps

SVOC analysis was not required for Outfalls #2 and #3. The Seeps analysis did not exceed laboratory reporting limit of any SVOC analyte.

### North Boundary Barrier Wall

### Seeps

A bi-weekly visual inspection of Seeps 1-9 occurred through March 2008. In April 2008 Bloomfield Refinery personnel began visually inspecting all seep locations on a weekly basis following the direction of Comment 2 in the NMED letter Approval with Direction Facility-Wide Groundwater Monitoring Plan dated March

25, 2008. Visual inspection continues to confirm that the vast majority of the fluids in the outfalls are from precipitation events.

Before implementation of the Facility-Wide Groundwater Monitoring Plan (Revised May 2008) and during the week of April 15, 2008, semi-annual samples were collected from Seeps 1, 6, 7, and 9. During the week of August 11, 2008, samples were collected from Seeps 1, 3, and 6 and as required by the Facility-Wide Groundwater Monitoring Plan (Revised May 2008). Analyses of these water samples indicate that BTEX volatile organic constituents are non-detect.

Analytical results can be found in Section 9.0, Tab 9.0.

### **Groundwater Measurements**

In August 2005 Bloomfield Refinery personnel established a bi-weekly fluid measurement scheme requiring monitoring of all observation and collection wells as well as MW #11, MW #12. MW #20, MW #21, MW #39, MW #45, MW #46, and MW #47. This measurement program continued throughout 2008. In conjunction with that program, Bloomfield Refinery personnel also followed guidelines from the NMED letter *Approval with Direction Evaluation of Interim Measure* dated March 25, 2008 which instructed additional fluid measurement from all observation wells and collection wells twice a week for 90 days starting April 1, 2008. The collected data was submitted to NMED in the *Evaluation of Interim Measures* letter dated July, 15, 2008.

NMED, in conjunction with the Oil Conservation Division (OCD), replied to the submittal with their *Monitoring Requirements Evaluation of Interim Measures* letter dated September 2, 2008. Bloomfield Refinery personnel are continuing to collect depth to water and depth to product measurements from all observation wells, MW #45, and MW #47 twice a week for six months starting October 1, 2008. The program will conclude on April 2, 2009. This data will be submitted in a separate document.

In February 2008 Bloomfield Refinery personnel began a facility-wide quarterly groundwater level measurement program which included all of the observation wells and collection wells. Groundwater elevation maps were developed using the data gathered in the quarterly measurement program. Data from that program will be discussed in this report.

Separate phase hydrocarbon (SPH) was detected in OW 1+50 in October (0.01 feet), April (0.20 feet), and February (0.02 feet). OW 3+85 had SPH present in April (0.43 feet) and February (0.01 feet). SPH was found in OW 11+15 in October (0.07 feet), August (0.45 feet), and April (0.07 feet). CW 8+45 had SPH present in all four quarters with levels ranging from 0.01 feet to 0.07 feet. OW 6+70, OW 8+1, and OW 14+10 were dry on all four quarters.

### **Groundwater Monitoring**

Semi-Annual sample collection began during the week of April 7, 2008. Annual sampling occurred the week of August 11, 2008. During both sampling events, groundwater samples were collected from all observation wells and two collection wells (CW-0+60 and CW25+95) with the exception of wells that contain separate phase hydrocarbon or wells that were dry or did not contain enough water to collect a sample.

April and August analytical data for CW 0+60 exceeded the benzene regulatory standard of 0.005 mg/L with results of 0.18 mg/L (April) and 0.047 mg/L (August). CW 0+60 surpassed the DRO regulatory limit of 1.72 mg/L in April only with a result of 5.3 mg/L. CW 25+95 sampling data did not exceed regulatory standards except in April for benzene with a result of 0.043 mg/L.

Every observation well that was sampled exceeded the TDS standard of 1000 mg/L. Results ranged from a low of 1055 mg/L at OW 23+90 (August) to a high of 3082 mg/L at OW 22+00 (April). The regulatory limits of benzene (0.005 mg/L), ethylbenzene (0.70 mg/L), and xylene (0.62 mg/L) were surpassed in OW 1+50 (August), OW 3+85(August), and OW 16+60 (April & August). Benzene data ranged from 0.076 mg/L (OW 1+50) to 2.3 mg/L (OW 16+60). Ethylbenzene ranged from 0.95 mg/L (OW 1+50) to 1.4 mg/L(OW 16+60). Xylene levels ranged from 0.98 mg/L (OW 16+60) to 6.7 mg/L (OW 1+50). The DRO regulatory standard of 1.72 mg/L was exceeded by OW 0+60, OW 1+50, OW 3+85, OW 16+60, OW 22+00, and OW 23+10. Results ranged from a low of 2.9 mg/L at OW 1+50 to a high of 34 mg/L at OW 16+60(April).

### **Remedial Action and Conclusions**

### North Boundary Barrier Wall

Visual inspection of Seeps 1-9 has shown ground water discharge from the seeps along the river bluff has decreased significantly since installation of the slurry wall. It now appears that only seeps #1, #6, #7, #8, and #9 have any actual discharge of ground water as opposed to apparent periodic accumulation of stormwater in the other seep basins. Weekly inspections continue to confirm that the vast majority of the fluids in the outfalls are from precipitation events.

Groundwater elevation maps indicate that the wall is performing as intended by capturing the water along the south side of the wall. Inspections of the draws north of the barrier wall and analysis of fluids collected at the seeps indicate that seepage of fuel hydrocarbon impacted water has been eliminated.

### **River Terrace**

The system was put on-line in January 2006. Monitoring and remedial actions are following the *Voluntary Measures Bioventing Monitoring Plan* that has been approved by NMED.

Monitoring results and conclusions were presented in the *River Terrace Bioventing Project Annual Report* submitted March 2009.

### Facility-Wide Monitoring and Remedial Actions

Future monitoring and remedial action will follow the *Facility-Wide Groundwater Monitoring Plan (Revised May 2008)*. As stated in 5.1.2 of the Monitoring Plan, consideration for on-going monitoring of total metals and SVOC analysis will be assessed for necessity during future monitoring events. SVOC analytical results were below the respective laboratory reporting limit on all of the analytes in 15 of the 22 wells sampled as well as Seeps #1, #3, and #6.

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Well ID	_Date	'Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	:Depth:To Water : (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
	10/6/2008	5519.21	21.56	NPP	16.92	5502.29	NPP .
N 40 A / O 4	8/6/2008	5519.21	21.56	NPP	17.08	5502.13 <sup>-</sup>	NPP
MW-01	4/8/2008	5519.21	21.56	NPP	17.15	5502.06	NPP
	2/25/2008	5519.21	21.56	NPP	16.98	5502.23	NPP
	10/6/2008	5539.27	36.75	NPP	36.15	5503.12	NPP
B #10 / O O	8/6/2008	5539.27	36.75	NPP	36.27	5503.00	NPP
<b>MW-0</b> 3	4/8/2008	5539.27	36.75	NPP	36.15	5503.12	NPP
	2/25/2008	5539.27	36.75	NPP	36.15	5503.12	NPP
	10/6/2008	5527.78	30.48	NPP	27.49	5500.29	NPP
	8/6/2008	5527.78	30.48	NPP	27.09	5500.69	NPP
MW-04	4/9/2008	5527.78	30.48	NPP	26.95	5500.83	NPP
	2/25/2008	5527.78	30.48	NPP	27.17	5500.61	NPP
	10/6/2008	5548.56	37.2	NPP	NWP		NPP
104/05	8/6/2008	5548.56	37.2	NPP	NWP		NPP
MW-05	4/9/2008	5548.56	37.2	NPP	NWP		NPP
	2/25/2008	5548.56	37.2	NPP	NWP		NPP .
	10/6/2008	5554.61	48	NPP	NWP		NPP
N 41 A 4 A A	8/6/2008	5554.61	48	NPP	NWP		NPP
<b>M</b> W-06	4/9/2008	5554.61	48	NPP	NWP		NPP
	2/25/2008	5554.61	48	NPP	NWP		NPP
	10/6/2008	5527.66	62.61	NPP	27.39	5500.27	NPP
	8/6/2008	5527.66	62.61	NPP	27.35	5500.31	NPP
<b>M</b> W-07	4/9/2008	5527.66	62.61	NPP	26.94	5500.72	NPP
Ì	2/25/2008	5527.66	62.61	NPP	27.09	5500.57	NPP
	10/6/2008	5534.58	35.93	NPP	31.61	5502.97	NPP
M/M/ (OC)	8/6/2008	5534.58	35.93	NPP	31.76	5502.82	NPP
MW-08	4/8/2008	5534.58	35.93	NPP	31.61	5502.97	NPP
	2/25/2008	5534.58	35.93	NPP	31.48	5503.10	NPP
	10/6/2008	5510.31	22.94	NPP	10.83	5499.48	NPP
NA\A/ 4.4	8/6/2008	5510.31	22.94	NPP	11.23	5499.08	NPP
MVV-11	4/7/2008	5510.31	22.94	NPP	11.13	5499.18	NPP
<u> </u>	2/25/2008	5510.31	22.94	NPP	10.58	5499.73	NPP

.Well ID	Date	Measuring Point Elevation	Total Well	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
	10/6/2008	5501.61	14.98	. NPP	10.91	5490.70	NPP
MW-12	8/6/2008	5501.61	14.98	NPP	10.71	5490.90	NPP
IVIVV-12	4/7/2008	5501.61	14.98	NPP	9.56	5492.05	NPP
	2/25/2008	5501.61	14.98	NPP	9.68	5491.93	NPP
	10/6/2008	5542.04	52.89	NPP	40.23	5501.81	NPP
MW-13	8/6/2008	5542.04	52.89	NPP	40.35	5501.69	NPP
10100-13	4/8/2008	5542.04	52.89	NPP	40.25	5501.79	NPP
	2/25/2008	5542.04	52.89	NPP	40.33	5501.71	NPP
	10/6/2008	5519.9	27.13	20.6	20.92	5499.24	0.32
MVV-20	8/6/2008	5519.9	27.13	20.71	21.15	5499.10	0.44
10100-20	4/7/2008	5519.9	27.13	20.69	21.03	5499.14	0.34
	2/25/2008	5519.9	27.13	20.7	21.25	5499.09	0.55
	10/6/2008	5521.99	30.38	21.61	21.75	5500.35	0.14
MW-21	8/6/2008	5521.99	30.38	21.79	21.9	5500.18	0.11
IVIVV-21	4/7/2008	5521.99	30.38	21.69	21.82	5500.27	0.13
	2/25/2008	5521.99	30.38	21.68	21.84	5500.28	0.16
	10/6/2008	5533.99	41.2	32.6	32.65	5501.38	0.05
MW-25	8/6/2008	5533.99	41.2	32.67	33.05	5501.24	0.38
10100-25	4/9/2008	5533.99	41.2	32.55	32.92	5501.37	0.37
	2/25/2008	5533.99	41.2	32.58	33.05	5501.32	0.47
	10/6/2008	5517.88	25.11	NPP	17.21	5500.67	NPP
MW-26	8/6/2008	5517.88	25.11	NPP	17.37	5500.51	NPP
10100-20	4/9/2008	5517.88	25.11	NPP	17.21	5500.67	NPP
	2/25/2008	5517.88	25.11	NPP	17.19	5500.69	NPP
	10/6/2008	5518.67	24.42	NPP	18.5	5500.17	NPP
MVV-27	8/6/2008	5518.67	24.42	NPP	18.68	5499.99	NPP
IVIVV-4/	4/9/2008	5518.67	24.42	NPP	18.54	5500.13	NPP
	2/25/2008	5518.67	24.42	NPP	18.23	5500.44	NPP

NPP = No Product Present

NWP = No Water Present

Well-ID	. Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
	10/6/2008	5524.97	28.62	NPP	22.88	5502.09	NPP
NAVA / 200	8/6/2008	5524.97	28.62	NPP	23.06	5501.91	NPP
MW-29	4/9/2008	5524.97	28.62	NPP	22.92	5502.05	NPP
	2/25/2008	5524.97	28.62	NPP	22.8	5502.17	NPP
·	10/6/2008	5536.83	40.13	NPP	33.73	5503.10	NPP
MW-30	8/6/2008	5536.83	40.13	NPP	33.85	5502.98	NPP
10100-30	4/8/2008	5536.83	40.13	NPP	33.74	5503.09	NPP
	2/25/2008	5536.83	40.13	NPP	33.73	5503.10	NPP
	10/6/2008	5536.24	39.16	NPP	33.89	5502.35	NPP
MW-31	8/6/2008	5536.24	39.16	NPP	34.01	5502.23	NPP
10100-51	4/9/2008	5536.24	39.16	NPP	33.9	5502.34	NPP
	2/25/2008	5536.24	39.16	NPP	34	5502.24	NPP
	10/6/2008	5525.64	27.51	NPP	24.91	5500.73	NPP
MW-32	8/6/2008	5525.64	27.51	NPP	25.04	5500.60	NPP
10100-32	4/9/2008	5525.64	27.51	NPP	24.92	5500.72	NPP
	2/25/2008	5525.64	27.51	NPP	24.88	5500.76	NPP
	10/6/2008	5521.79	25.51	NPP	22.15	5499.64	NPP
MW-33	8/6/2008	5521.79	25.51	NPP	22.31	5499.48	NPP
10100-33	4/8/2008	5521.79	25.51	NPP	22.2	5499.59	NPP
	2/25/2008	5521.79	25.51	NPP	22.2	5499.59	NPP
	10/6/2008	5511.63	20.96	NPP	13.86	5497.77	NPP
MW-34	8/6/2008	5511.63	20.96	NPP	14.01	5497.62	NPP
10100-34	4/9/2008	5511.63	20.96	NPP	13.76	5497.87	NPP
	2/25/2008	5511.63	20.96	NPP	13.75	5497.88	NPP
	10/6/2008	5518.95	26.45	NPP	22.01	5496.94	NPP
MW-35	8/6/2008	5518.95	26.45	NPP	22.13	5496.82	NPP
14144-22	4/8/2008	5518.95	26.45	NPP	22	5496.95	NPP
	2/25/2008	5518.95	26.45	NPP	21.95	5497.00	NPP
	10/6/2008	5516.95	23.26	NPP	20.52	5496.43	NPP
MW-36	8/6/2008	5516.95	23.26	NPP	20.71	5496.24	NPP
10100-20	4/9/2008	5516.95	23.26	NPP	20.63	5496.32	NPP
<b>_</b>	2/25/2008	5516.95	23.26	NPP	20.44	5496.51	NPP

Well-ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	∴Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
	10/6/2008	5519.62	27.58	NPP	23.34	5496.28	NPP
MW-37	8/6/2008	5519.62	27.58	NPP	23.41	5496.21	NPP
10100-07	4/8/2008	5519.62	27.58	NPP	23.27	5496.35	NPP
	2/25/2008	5519.62	27.58	NPP	23.22	5496.40	NPP
	10/6/2008	5519.19	26.82	NPP	23.53	5495.66	NPP
MW-38	8/6/2008	5519.19	26.82	NPP	23.72	5495.47	NPP
10100-20	4/8/2008	5519.19	26.82	NPP	23.46	5495.73	NPP
	2/25/2008	5519.19	26.82	NPP	23.3	5495.89	NPP
	10/6/2008	5520.83	38.34	NPP	25.83	5495.00	NPP
MANA/ 20	8/6/2008	5520.83	38.34	NPP	25.92	5494.91	NPP
<b>M</b> W-39	4/7/2008	5520.83	38.34	NPP	25.78	5495.05	NPP
	2/25/2008	5520.83	38.34	NPP	25.84	5494.99	NPP
	10/6/2008	5527.31	30.07	NPP	28.1	5499.21	NPP
MVV-40	8/6/2008	5527.31	30.07	28.35	28.38	5498.95	0.03
10100-40	4/9/2008	5527.31	30.07	NPP	28.25	5499.06	NPP
	2/27/2008	5527.31	30.07	NPP	28.31	5499.00	NPP
	10/6/2008	· 5526.41	31.62	26.42	26.7	5499.93	0.28
NAVA / 44	8/6/2008	5526.41	31.62	26.76	27.22	5499.56	0.46
MVV-41	4/9/2008	5526.41	31.62	26.6	26.75	5499.78	0.15
	2/27/2008	5526.41	31.62	26.57	26.77	5499.80	0.20
	10/6/2008	5535.44	50.91	NPP	34.31	5501.13	NPP
RANA AA	8/6/2008	5535.44	50.91	NPP	33.94	5501.50	NPP
MW-44	4/8/2008	5535.44	50.91	NPP	33.59	5501.85	NPP
	2/25/2008	5535.44	50.91	NPP	33.77	5501.67	NPP
	10/6/2008	5506.36	16.92	NPP	11.64	5494.72	NPP
NANA / 45	8/6/2008	5506.36	16.92	NPP	11.72	5494.64	NPP
MW-45	4/7/2008	5506.36	16.92	NPP	11.63	5494.73	NPP
	2/25/2008	5506.36	16.92	NPP	11.77	5494.59	NPP

NPP = No Product Present

NWP = No Water Present



WellID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
	10/6/2008	5504.65	10.39	NPP	NWP		NPP
MW-46	8/6/2008	5504.65	10.39	NPP	NWP		NPP
10100-40	4/7/2008	5504.65	10.39	NPP	NWP		NPP
	2/25/2008	5504.65	10.39	NPP	NWP		NPP
	10/6/2008	5506.77	14.28	NPP	11.87	5494.90	NPP
<b>M</b> W-47	8/6/2008	5506.77	14.28	12.68	13.3	5493.97	0.62
10100-47	4/7/2008	5506.77	14.28	12.57	12.68	5494.18	0.11
·	2/25/2008	5506.77	14.28	12.58	12.68	5494.17	0.10
	10/6/2008	5510.77	22.73	NPP	10	5500.77	NPP
P-03	8/6/2008	5510.77	22.73	NPP	11.04	5499.73	NPP
r-03	4/9/2008	5510.77	22.73	NPP	11.06	5499.71	NPP
,	2/27/2008	5510.77	22.73	NPP	10.61	5500.16	NPP

NPP = No Product Present NWP = No Water Present

# Recovery Well-Groundwater Elevation 4th Quarter 2008

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
RW-01	10/6/2008	5529.34	40.8	NPP	34.1	5495.24	NPP
	10/8/2008	5529.34	40.8	NPP	31.85	5497.49	NPP
RW-02	10/6/2008	5526.94	35.86	28.7	30.35	5497.91	1.65
	10/8/2008	5526.94	35.86	27.15	27.31	5499.76	0.16
RW-03	10/6/2008	5520.35	34.57	NPP	21.73	5498.62	NPP
	10/8/2008	5520.35	34.57	NPP	21.46	5498.89	NPP
RW-09	10/6/2008	5523.21	34.04	27.1	27.18	5496.09	0.08
	10/8/2008	5523.21	34.04	25.11	25.15	5498.09	0.04
RW-14	10/6/2008	5537.5	41.94	NPP	35.46	5502.04	NPP
	10/8/2008	5537.5	41.94	NPP	34.98	5502.52	NPP
RW-15	10/6/2008	5536.83	43.43	NPP	36.33	5500.50	NPP
	10/8/2008	5536.83	43.43	NPP	35.43	5501.40	NPP
RW-16	10/6/2008	5535.45	41.48	NPP	34.67	5500.78	NPP
	10/8/2008	5535.45	41.48	NPP	34.37	5501.08	NPP
RW-17	10/6/2008	5533.84	41.89	NPP	33.73	5500.11	NPP ·
	10/8/2008	5533.84	41.89	NPP	31.57	5502.27	NPP
RW-18	10/6/2008	5529.38	37.58	NPP	35.08	5494.30	NPP
	10/8/2008	5529.38	37.58	34.4	34.8	5494.90	0.40
RW-19	10/6/2008	5530.51	36.64	NPP	30.72	5499.79	NPP
	10/8/2008	5530.51	36.64	NPP	30.39	5500.12	NPP
RW-22	10/6/2008	5524.44	35.6	25.86	27.9	5498.17	2.04
	10/8/2008	5524.44	35.6	25.55	25.6	5498.88	0.05
RW-23	10/6/2008	5521.38	35.53	NPP	30.38	5491.00	NPP
	10/8/2008	5521.38	35.53	NPP	23.49	5497.89	NPP
RW-28	10/6/2008	5527.93	36.99	29.1	29.47	5498.76	0.37
	10/8/2008	5527.93	36.99	29.02	29.05	5498.90	0.03
RW-42	10/6/2008	5527.48	32.02	26.42	26.61	5501.02	0.19
	10/8/2008	5527.48	32.02	25.85	26	5501.60	0.15
RW-43	10/6/2008	5515.74	24.03	21.33	21.4	5494.40	0.07
	10/8/2008	5515.74	24.03	21.19	21.24	5494.54	0.05



# Recovery Well-Groundwater Elevation 3rd Quarter 2008

Wellad	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	• Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
RW-01	8/6/2008	5529.34	40.8	NPP	33.15	5496.19	NPP
	8/11/2008	5529.34	40.8	NPP	30.92	5498.42	NPP
RW-02	8/6/2008	5526.94	35.86	27.04	27.32	5499.84	0.28
	8/11/2008	5526.94	35.86	26.11	27.03	5500.65	0.92
RW-03	8/6/2008	5520.35	34.57	22.12	22.2	5498.21	0.08
	8/11/2008	5520.35	34.57	NPP	21.57	5498.78	NPP
RW-09	8/6/2008	5523.21	34.04	28	28.09	5495.19	0.09
	8/11/2008	5523.21	34.04	24.83	24.84	5498.38	0.01
RW-14	8/6/2008	5537.5	41.94	NPP	35.34	5502.16	NPP
	8/11/2008	5537.5	41.94	NPP	34.94	5502.56	NPP
RW-15	8/6/2008	5536.83	43.43	NPP	35.51	5501.32	NPP
	8/11/2008	5536.83	43.43	NPP	34.67	5502.16	NPP
RW-16	8/6/2008	5535.45	41.48	NPP	35	5500.45	NPP
	8/11/2008	5535.45	41.48	NPP	33.73	5501.72	NPP
RW-17	8/6/2008	5533.84	41.89	NPP	34.59	5499.25	NPP
	8/11/2008	5533.84	41.89	NPP	32.61	5501.23	NPP
RW-18	8/6/2008	5529.38	37.58	NPP	34.98	5494.40	· NPP
	8/11/2008	5529.38	37.58	33.95	33.97	5495.43	0.02
RW-19	8/6/2008	5530.51	36.64	30.19	30.2	5500.32	0.01
	8/11/2008	5530.51	36.64	NPP	29.88	5500.63	NPP
RW-22	8/6/2008	5524.44	35.6	26.02	27.06	5498.21	1.04
	8/11/2008	5524.44	35.6	NPP	25.52	5498.92	NPP
RW-23	8/6/2008	5521.38	35.53	30.72	30.73	5490.66	0.01
	8/11/2008	5521.38	35.53	NPP	22.91	5498.47	NPP
RW-28	8/6/2008	5527.93	36.99	29.22	29.35	5498.68	0.13
	8/11/2008	5527.93	36.99	28.94	29.13	5498.95	0.19
RW-42	8/6/2008	5527.48	32.02	<b>2</b> 7. <b>1</b> 5	27.17	5500.33	0.02
	8/11/2008	5527.48	32.02	26.65	26.78	5500.80	0.13
RW-43	8/6/2008	5515.74	24.03	21.51	21.54	5494.22	0.03
	8/11/2008	5515.74	24.03	20.55	20.68	5495.16	0.13

# Recovery Well-Groundwater Elevation 2nd Quarter 2008

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
RW-01	4/8/2008	5529.34	40.8	NPP .	33.4	5495.94	NPP
	4/10/2008	5529.34	40.8	NPP	31	5498.34	NPP
RW-02	4/8/2008	5526.94	35.86	31.21	31.24	5495.72	0.03
····	4/10/2008	5526.94	35.86	26.22	26.24	5500.72	0.02
RW-03	4/8/2008	5520.35	34.57	22.12	22.25	5498.20	0.13
	4/10/2008	5520.35	34.57	22.02	22.09	5498.32	0.07
RW-09	4/8/2008	5523.21	34.04	27.84	27.86	5495.37	0.02
	4/10/2008	5523.21	34.04	NPP	25.05	5498.16	NPP
RW-14	4/8/2008	5537.5	41.94	NPP	35.42	5502.08	NPP
	4/10/2008	5537.5	41.94	NPP	34.86	5502.64	NPP
RW-15	4/8/2008	5536.83	43.43	NPP	35.56	5501.27	NPP
	4/10/2008	5536.83	43.43	NPP	34.57	5502.26	NPP
RW-16	4/8/2008	5535.45	41.48	NPP	37	5498.45	NPP
	4/10/2008	5535.45	41.48	NPP	33.56	5501.89	NPP
RW-17	4/8/2008	5533.84	41.89	Una	able to measure	- Pump stuck in	the well
	4/10/2008	5533.84	41.89	Una	able to measure	- Pump stuck in	the well
RW-18	4/8/2008	5529.38	37.58	NPP	34.98	5494.40	NPP
	4/10/2008	5529.38	37.58	34.44	34.47	5494.93	0.03
RW-19	4/8/2008	5530.51	36.64	29.95	30.25	5500.50	0.30
	4/10/2008	5530.51	36.64	29.95	. 30.25	5500.50	0.30
RW-22	4/8/2008	5524.44	35.6	NPP	26.29	5498.15	NPP
	4/10/2008	5524.44	35.6	NPP	25.54	5498.90	NPP
RW-23	4/8/2008	5521.38	35.53	24.5	25.01	5496.78	0.51
	4/10/2008	5521.38	35.53	23.3	23.34	5498.07.	0.04
RW-28	4/8/2008	5527.93	36.99	29.18	29.22	5498.74	0.04
	4/10/2008	5527.93	36.99	28.84	28.91	5499.08	0.07
RW-42	4/8/2008	5527.48	32.02	27.08	27.1	5500.40	0.02
	4/10/2008	5527.48	32.02	27.02	27.03	5500.46	0.01
RW-43	4/8/2008	5515.74	24.03	21.55	21.58	5494.18	0.03
	4/10/2008	5515.74	24.03	20.62	20.68	5495.11	0.06

# Recovery Well-Groundwater Elevation 1st QTR 2008

9	Wéll ID	Date	Measuring Point Elevation	Total Well	Depth To Product ( (DTP)	Depth To Water 《(DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
	RW-01	2/27/2008	5529.34	40.8	NPP	33.35	5495.99	NPP
		2/29/2008	5529.34	40.8	30.12	31.35	5498.97	1.23
	RW-02	2/27/2008	5526.94	35.86	25.85	30	5500.26	4.15
		2/29/2008	5526.94	35.86	26.02	27	5500.72	0.98
	RW-03	2/27/2008	5520.35	34.57	NPP	21.95	5498.40	NPP
		2/29/2008	5520.35	34.57	NPP	21.95	5498.40	NPP
	RW-09	2/27/2008	5523.21	34.04	26.32	26.5	5496.85	0.18
		2/29/2008	5523.21	34.04	NPP	25.04	5498.17	NPP
	RW-14	2/27/2008	5537.5	41.94	34.96	34.97	5502.54	0.01
		2/29/2008	5537.5	41.94	34.98	35	5502.52	0.02
	RW-15	2/27/2008	5536.83	43.43	NPP	35.63	5501.20	NPP
		2/29/2008	5536.83	43.43	34.56	34.56	5502.27	0.00
	RW-16	2/27/2008	5535.45	41.48	NPP	34.87	5500.58	NPP
		2/29/2008	5535.45	41.48	NPP	33.63	5501.82	NPP
	RW-17	2/27/2008	5533.84	41.89	NPP	34.32	5499.52	NPP
	·	2/29/2008	5533.84	41.89	NPP	32.89	5500.95	NPP
	RW-18	2/27/2008	5529.38	37.58	NPP	33.9	5495.48	NPP
		2/29/2008	5529.38	37.58	32.6	32.75	5496.75	0.15
	RW-19	2/27/2008	5530.51	36.64	NPP	32.82	5497.69	NPP
		2/29/2008	5530.51	36.64	30.07	30.08	5500.44	0.01
	RW-22	2/27/2008	5524.44	35.6	NPP	26.04	5498.40	NPP
		2/29/2008	5524.44	35.6	NPP	25.64	5498.80	NPP
	RW-23	2/27/2008	5521.38	35.53	24.41	27	5496.45	2.59
L		2/29/2008	5521.38	35.53	NPP	23.43	5497.95	NPP
	RW-28	2/27/2008	5527.93	36.99	29.21	29.24	5498.71	0.03
		2/29/2008	5527.93	36.99	29.21	29.31	5498.70	0.10
	RW-42	2/27/2008	5527.48	32.02	27.17	27.24	5500.30	0.07
		2/29/2008	5527.48	32.02	NPP	27.09	5500.39	NPP
	RW-43	2/27/2008	5515.74	24.03	21.37	21.42	5494.36	0.05
		2/29/2008	5515.74	24.03	NPP	21.4	5494.34	NPP



# **Observation Well Fluids Monitoring**

*Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth:To Water⊸(DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
0	. 10/6/2008	5506.62	12.26	NPP	10.97	5495.65	NPP
9+0	8/11/2008	5506.62	12.26	NPP	11.19	5495.43	NPP
09+0 MO	4/7/2008	5506.62	12.26	NPP	11.66	5494.96	NPP
U	2/25/2008	5506.62	12.26	NPP	11.55	5495.07	NPP
0	10/6/2008	5508.03	14.36	12.85	12.86	5495.18	0.01
1+5	8/11/2008	5508.03	14.36	NPP	12.65	5495.38	NPP
OW 1+50	4/7/2008	5508.03	14.36	13.60	13.80	5494.39	0.20
. 0	2/25/2008	5508.03	14.36	13.64	13.66	5494.39	0.02
rv	10/6/2008	5507.31	15.06	NPP	12.42	5494.89	NPP
OW 3+85	8/11/2008	5507.31	15.06	NPP	12.27	5495.04	NPP
3	4/7/2008	5507.31	15.06	13.01	13.44	5494.21	0.43
0	2/25/2008	5507.31	15.06	13.12	13.13	5494.19	0.01
0	10/6/2008	5507.59	13.67	NPP	13.18	5494.41	NPP
OW 5+50	8/11/2008	5507.59	13.67	NPP	13.52	5494.07	NPP
M	4/7/2008	5507.59	13.67	NPP	13.51	5494.08	NPP
O	2/25/2008	5507.59	13.67	NPP	13.70	5493.89	NPP
0	10/6/2008	5504.78	14.67	NPP	DRY		NPP
OW 6+70	8/11/2008	5504.78	14.67	NPP	DRY		NPP
Š	4/7/2008	5504.78	14.67	NPP	DRY		NPP
	2/25/2008	5504.78	14.67	NPP	DRY		NPP
	10/6/2008	5506.53	15.99	NPP	DRY	menterang and the employer in property and the state of the first of t	NPP
8+1	8/11/2008	5506.53	15.99	NPP	DRY		NPP
OW 8+10	4/7/2008	5506.53	15.99	NPP	DRY		NPP
	2/25/2008	5506.53	15.99	NPP	DRY		NPP.
<b>ਨ</b>	10/6/2008	5506.70	16.59	12.25	12.32	5494.44	0.07
+	8/11/2008	5506.70	16.59	12.24	12.69	5494.37	0.45
OW 11+	4/7/2008	5506.70	16.59	11.35	11.42	5495.34	0.07
6	2/25/2008	5506.70	16.59	NPP	12.50	5494.20	NPP

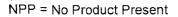


# **Observation Well Fluids Monitoring**

WellID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
10	10/6/2008	5508.14	12.96	NPP	DRY		NPP
++	8/11/2008	5508.14	12.96	NPP	DRY		NPP
OW 14+	4/7/2008	5508.14	12.96	NPP	DRY		NPP
Ö	2/25/2008	5508.14	12.96	NPP	DRY		NPP
09	10/6/2008	5508.14	12.96	NPP	DRY	Commence of the second	NPP
	8/11/2008	5508.43	15.21	NPP	12.78	5495.65	NPP
OW 16+	4/7/2008	5508.43	15.21	NPP	12.28	5496.15	NPP
Ó	2/25/2008	5508.43	15.21	NPP	12.60	5495.83	NPP
20	10/6/2008	5508.03	13.00	NPP	11.63	5496.40	NPP
	8/11/2008	5508.03	13.00	NPP	12.89	5495.14	NPP
OW 19+	4/7/2008	5508.03	13.00	NPP	11.55	5496.48	NPP
ō	2/11/2008	5508.03	13.00	NPP	11.79	5496.24	NPP
00	10/6/2008	5506.91	14.16	NPP	11.45	5495.46	NPP
	8/11/2008	5506.91	14.16	NPP	10.23	5496.68	NPP
OW 22+	4/7/2008	5506.91	14.16	NPP	11.57	5495.34	NPP
Ó	2/25/2008	5506.91	14.16	NPP	11.08	5495.83	NPP
6	10/6/2008	5514.12	18.34	NPP	16.17	5497.95	NPP
	8/11/2008	5514.12	18.34	NPP	15.69	5498.43	NPP
OW 23+	4/7/2008	5514.12	18.34	NPP	16.22	5497.90	NPP
	2/25/2008	5514.12	18.34	NPP	16.19	5497.93	NPP
06	10/6/2008	5515.18	18.01	NPP	17.05	5498.13	NPP
23+	8/11/2008	5515.18	18.01	NPP	16.69	5498.49	NPP
OW 2	4/7/2008	5515.18	18.01	NPP	17.04	5498.14	NPP
The state of the s	2/25/2008	5515.18	18.01	NPP	17.04	5498.14	NPP
20	10/6/2008	5509.00	13.98	NPP	10.68	5498.32	NPP
	8/11/2008	5509.00	13.98	NPP .	10.40	5498.60	NPP
OW 25+	4/7/2008	5509.00	13.98	NPP	- 10.68	5498.32	NPP
ō	2/25/2008	5509.00	13.98	NPP	10.73	5498.27	NPP

# **Collection Well Fluids Monitoring**

<b>W</b> ell ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
0	10/6/2008	5506.68	14.09	NPP	8.24	5498.44	NPP
9+0	8/11/2008	5506.68	14.09	NPP	8.04	5498.64	NPP
CW 0+60	4/7/2008	5506.68	14.09	NPP	8.59	5498.09	NPP
	2/25/2008	5506.68	14.09	NPP	8.39	5498.29	NPP
0	10/6/2008	5505.13	13.74	NPP	6.85	5498.28	NPP
CW 1+50	8/11/2008	5505.13	13.74	NPP	6.75	5498.38	NPP
M.	4/7/2008	5505.13	13.74	NPP	7.11 .	5498.02	NPP
J	2/25/2008	5505.13	13.74	NPP	7.08	5498.05	NPP
5	10/6/2008	5503.87	13.11	NPP	5.62	5498.25	NPP
CW 3+85	8/11/2008	5503.87	13.11	NPP	5.58	5498.29	NPP
, M	4/7/2008	5503.87	13.11	NPP	5.77	5498.10	NPP
O	2/25/2008	5503.87	13.11	NPP	5.83	5498.04	NPP
0	10/6/2008	5503.76	12.27	NPP	. 6.31	5497.45	NPP
CW 5+50	8/11/2008	5503.76	12.27	NPP	6.26	5497.50	NPP
M.	4/7/2008	5503.76	12.27	NPP	6.43	5497.33	NPP
	2/25/2008	5503.76	12.27	NPP	6.4	5497.36	NPP
0	10/6/2008	5503.84	11.45	NPP	6.69	5497.15	NPP
2+9	8/11/2008	5503.84	11.45	NPP	6.62	5497.22	NPP
CW 6+70	4/7/2008	5503.84	11.45	NPP	6.76	5497.08	NPP
	2/25/2008	5503.84	11.45	NPP	6.77	5497.07	NPP
0	10/6/2008	5504.02	11.63	NPP	7.43	5496.59	NPP
8+1	8/11/2008	5504.02	11.63	NPP	7.46	5496.56	NPP
CW 8+10	4/7/2008	5504.02	11.63	NPP	7.66	5496.36	NPP
J	2/25/2008	5504.02	11.63	NPP	7.83	5496.19	NPP
5	10/6/2008	5503.80	12.6	7.53	7.54	5496.27	0.01
CW 8+45	8/11/2008	5503.80	12.6	7.50	7.51	5496.30	0.01
, A	4/7/2008	5503.80	. 12.6	7.63	7.64	5496.17	. 0.01
·	2/25/2008	5503.80	12.6	- 7.80	7.87	5495.99	0.07





# **Collection Well Fluids Monitoring**

Well ID	Date .	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
15	10/6/2008	5503.95	12.27	NPP	6.00	5497.95	NPP
	8/11/2008	5503.95	12.27	NPP	6.07	5497.88	NPP
CW 11+	4/7/2008	5503.95	12.27	NPP	5.98	5497.97	NPP
Ü	2/25/2008	5503.95	12.27	NPP	6.07	5497.88	NPP
10	10/6/2008	5504.39	13.05	NPP	6.47	5497.92	NPP
	8/11/2008	5504.39	13.05	NPP	6.37	5498.02	NPP
CW 14+	4/7/2008	5504.39	13.05	NPP	6.36	5498.03	NPP
Ú	2/25/2008	5504.39	13.05	NPP	6.43	5497.96	NPP
09	10/6/2008	5504.32	12.86	NPP	6.3	5498.02	NPP
	8/11/2008	5504.32	12.86	NPP	6.17	5498.15	NPP
CW 16+	4/7/2008	5504.32	12.86	NPP	6.25	5498.07	NPP
Ú	2/25/2008	5504.32	12.86	NPP	6.28	5498.04	NPP
20	10/6/2008	5504.52	9.99	NPP	6.07	5498.45	NPP
	8/11/2008	5504.52	9.99	NPP	6.00	5498.52	NPP
CW 19+	4/7/2008	5504.52	9.99	NPP	6.53	5497.99	NPP
ပ်	2/25/2008	5504.52	9.99	NPP	6.51	5498.01	NPP
00	10/6/2008	5508.04	12.34	NPP	8.92	5499.12	NPP
CW 22+ 00	8/11/2008	5508.04	12.34	NPP	8.88	8.88	NPP
<b>√</b> 2;	4/7/2008	5508.04	12.34	NPP	9.00	5499.04	NPP
ت ت	2/25/2008	5508.04	12.34	NPP	8.97	5499.07	NPP
0	10/6/2008	5510.04	14.65	NPP	10.6	5499.44	NPP
CW 23+ 10	8/11/2008	5510.04	14.65	NPP	10.53	5499.51	NPP
N 22	4/7/2008	5510.04	14.65	NPP	10.65	5499.39	NPP
Ū	2/25/2008	5510.04	14.65	NPP	10.6	5499.44	NPP
06	10/6/2008	5507.32	11.72	NPP	8.06	5499.26	NPP
	8/11/2008	5507.32	11.72	NPP	8.00	5499.32	NPP
CW 23+	4/7/2008	5507.32	11.72	NPP	8.14	5499.18	NPP
Ú	2/25/2008	5507.32	11.72	NPP	8.10	5499.22	NPP .
95	10/6/2008	5505.90	12.25	NPP	7.13	5498.77	NPP
	8/11/2008	5505.90	12.25	NPP	7.08	5498.82	NPP
CW 25+	4/7/2008	5505.90	12.25	NPP	7.15	5498.75	NPP
ΰ	2/25/2008	5505.90	12.25	NPP	7.15	5498.75	NPP

## **Groundwater Elevation - 3rd Quarter**

(Pre and Post Recovery Well Operation)

'Date'.	Well ID	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
8/6/2008	MW-01	5519.21	21.56	NPP	17.08	5502.13	NPP
8/11/2008		5519.21	21.56	NPP	16.92	5502.29	NPP
8/6/2008	MW-03	5539.27	36.75	NPP	36.27	5503.00	NPP
8/11/2008		5539.27	36.75	NPP	36.27	5503.00	NPP
8/6/2008	MW-04	5527.78	30.48	NPP	27.09	5500.69	NPP
8/11/2008		5527.78	30.48	NPP	27.03	5500.75	NPP
8/6/2008	MW-05	5548.56	37.2	NPP	dry		NPP
8/11/2008		5548.56	37.2	NPP	dry		NPP
8/6/2008	MW-06	5554.61	48	NPP	dry		NPP
8/11/2008		5554.61	48	NPP	dry		NPP
8/6/2008	MW-07	5527.66	62.61	NPP	27.35	5500.31	NPP
8/11/2008		5527.66	62.61	NPP	27.34	5500.32	NPP
8/6/2008	MW-08	5534.58	35.93	NPP	31.76	5502.82	NPP
8/11/2008		5534.58	35.93	NPP	31.65	5502.93	NPP
8/6/2008	MW-11	5510.31	22.94	NPP	11.23	5499.08	NPP
8/11/2008		5510.31	22.94	NPP	10.46	5499.85	NPP
8/6/2008	MW-12	5501.61	14.98	NPP	10.71	5490.90	NPP
8/11/2008		5501.61	14.98	NPP	10.28	5491.33	NPP
8/6/2008	MW-13	5542.04	52.89	NPP	40.35	5501.69	NPP
8/11/2008		5542.04	52.89	NPP	40.36	5501.68	NPP
8/6/2008	MW-20	5519.9	27.13	20.71	21.15	5499.10	0.44
8/11/2008		5519.9	27.13	20.67	21.08	5499.15	0.41
8/6/2008	MW-21	5521.99	30.38	21.79	21.9	5500.18	0.11
. 8/11/2008		5521.99	30.38	21.52	21.68	5500.44	0.16
8/6/2008	MW-25	5533.99	41.2	32.67	33.05	5501.24	0.38
8/11/2008		5533.99	41.2	32.65	33.04	5501.26	0.39
8/6/2008	MW-26	5517.88	25.11	NPP	17.37	5500.51	NPP
8/11/2008		5517.88	25.11	NPP.	17.21	5500.67	NPP
8/6/2008	MW-27	5518.67	24.42	NPP	18.68	5499.99	NPP
8/11/2008		5518.67	24.42	NPP	18.13	5500.54	NPP



# Groundwater Elevation - 3rd Quarter (Pre and Post Recovery Well Operation)

Date	Well.ID	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
8/6/2008	MW-29	5524.97	28.62	NPP	23.06	5501.91	NPP
8/11/2008		5524.97	28.62	NPP	22.8	5502.17	NPP
8/6/2008	MW-30	5536.83	40.13	NPP	33.85	5502.98	NPP
8/11/2008		5536.83	40.13	NPP	33.85	5502.98	NPP
8/6/2008	MW-31	5536.24	39.16	NPP	34.01	5502.23	NPP
8/11/2008		5536.24	39.16	NPP .	34.01	5502.23	NPP
8/6/2008	MW-32	5525.64	27.51	NPP	25.04	5500.60	NPP
8/11/2008		5525.64	27.51	NPP	24.97	5500.67	NPP
8/6/2008	MW-33	5521.79	25.51	NPP	22.31	5499.48	NPP
8/11/2008		5521.79	25.51	NPP	22.25	5499.54	NPP
8/6/2008	MW-34	5511.63	20.96	NPP	14.01	5497.62	NPP
8/11/2008		5511.63	20.96	NPP	13.36	5498.27	NPP
8/6/2008	MVV-35	5518.95	26.45	NPP	22.13	5496.82	NPP
8/11/2008	·	5518.95	26.45	NPP	21.98	5496.97	NPP
8/6/2008	MW-36	5516.95	23.26	NPP	20.71	5496.24	NPP
8/11/2008		5516.95	23.26	NPP	20.37	5496.58	NPP
8/6/2008	MVV-37	5519.62	27.58	NPP	23.41	5496.21	NPP .
8/11/2008		5519.62	27.58	NPP	23.37	5496.25	NPP
8/6/2008	MVV-38	5519.19	26.82	NPP	23.72	5495.47	NPP
8/11/2008		5519.19	26.82	NPP	23.53	5495.66	NPP
8/6/2008	MVV-39	5520.83	38.34	NPP	25.92	5494.91	NPP
8/11/2008		5520.83	38.34	NPP	25.85	5494.98	NPP
8/6/2008	MW-40	5527.31	30.07	28.35	28.38	5498.95	0.03
8/11/2008		5527.31	30.07	NPP	25.25	5502.06	NPP
8/6/2008	MVV-41	5526.41	31.62	26.76	27.22	5499.56	0.46
8/11/2008		5526.41	31.62	26.63	27.07	5499.69	0.44
8/6/2008	MVV-44	5535.44	50.91	NPP	33.94	5501.50	NPP
8/11/2008		5535.44	50.91	NPP	33.91	5501.53	NPP
8/6/2008	MVV-45	5506.36	16.92	NPP	11.72	5494.64	. NPP
8/11/2008	*	5506.36	16.92	NPP	11.64	5494.72	NPP



# Groundwater Elevation - 3rd Quarter (Pre and Post Recovery Well Operation)

Date	Well ID	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
8/6/2008	MW-46	5504.65	10.39	NPP	dry		NPP
8/11/2008		5504.65	10.39	NPP	9.36	5495.29	NPP
8/6/2008	MW-47	5506.77	14.28	12.68	13.3	5493.97	0.62
8/11/2008		5506.77	14.28	NPP	11.67	5495.10	NPP
8/6/2008	P-03	5510.77	22.73	NPP	11.04	5499.73	NPP
8/11/2008		5510.77	22.73	NPP	9.62	5501.15	NPP
8/6/2008	RW-01	5529.34	40.8	NPP	33.15	5496.19	NPP
8/11/2008		5529.34	40.8	NPP	30.92	5498.42	NPP
8/6/2008	RW-02	5526.94	35.86	27.04	27.32	5499.84	0.28
8/11/2008		5526.94	35.86	26.11	27.03	5500.65	0.92
8/6/2008	RW-03	5520.35	34.57	22.12	22.2	5498.21	0.08
8/11/2008		5520.35	34.57	NPP	21.57	5498.78	NPP
8/6/2008	RW-09	5523.21	34.04	28	28.09	5495.19	0.09
8/11/2008		5523.21	34.04	24.83	24.84	5498.38	0.01
8/6/2008	RW-14	5537.5	41.94	NPP	35.34	5502.16	NPP
8/11/2008		5537.5	41.94	NPP	34.94	5502.56	NPP
8/6/2008	RW-15	5536.83	43.43	NPP	35.51	5501.32	NPP
8/11/2008		5536.83	43.43	NPP	34.67	5502.16	NPP
8/6/2008	RW-16	5535.45	41.48	NPP	35	5500.45	NPP
8/11/2008		5535.45	41.48	NPP	33.73	5501.72	NPP
8/6/2008	RW-17	5533.84	41.89	NPP	34.59	5499.25	NPP
8/11/2008		5533.84	41.89	NPP	32.61	5501.23	NPP
8/6/2008	RW-18	5529.38	37.58	NPP	34.98	5494.40	NPP
8/11/2008		5529.38	37.58	33.95	33.97	5495.43	0.02
8/6/2008	RW-19	5530.51	36.64	30.19	30.2	5500.32	0.01
8/11/2008		5530.51	36.64	NPP	29.88	5500.63	NPP

NPP = No Product Present

NWP = No Water Present

# Groundwater Elevation - 3rd Quarter (Pre and Post Recovery Well Operation)

Date	WellilD	Measuring Point Elevation	Total Well Depth	Depth To Product #(DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
8/6/2008	RW-22	5524.44	35.6	26.02	27.06	5498.21	1.04
8/11/2008		5524.44	35.6	NPP	25.52	5498.92	NPP
8/6/2008	RW-23	5521.38	35.53	30.72	30.73	5490.66	0.01
8/11/2008		5521.38	35.53	NPP	22.91	5498.47	NPP
8/6/2008	RW-28	5527.93	36.99	29.22	29.35	5498.68	0.13
8/11/2008		5527.93	36.99	28.94	29.13	5498.95	0.19
8/6/2008	RW-42	5527.48	32.02	27.15	27.17	5500.33	0.02
8/11/2008		5527.48	32.02	26.65	26.78	5500.80	0.13
8/6/2008	RW-43	5515.74	24.03	21.51	21.54	5494.22	0.03
8/11/2008		5515.74	24.03	20.55	20.68	5495.16	0.13

NPP = No Product Present

NWP = No Water Present



# Sump Well Fluids Monitoring Jan. 2008

		The Children of the State of the Children of t					
Wellili	Date	Measuring Point	Total Well Depth	Depth To Product	Depth To Water	Corrected Groundwater	Separate Phase Hydrocarbon
· 是是		LIEVALIOII		יין ייין)	(DI 44)	Lievation	Thickness
- L/V	1/14/2008	5508.27	53.08	NPP	DRY		MPP
1	1/28/2008	5508.27	53.08	NPP	DRY		NPP
90 -2 <i>I</i>	1/14/2008	5507.75	27.69	NPP	DRY	Part of	NPP
70 8N	1/28/2008	5507.75	27.69	NPP	DRY		NPP
38	1/14/2008	5505.29	52.56	NPP	26.51	5478.78	NPP
8N 20	1/28/2008	5505.29	52.56	NPP	26.24	5479.05	NPP
A CONTRACTOR AND A CONT		The second second second second	SA A PROPERTY OF THE PROPERTY OF			AND AND PROPERTY OF THE PROPER	Security and an exercise comments of the second
90: - <b>⊅</b> ∧	1/14/2008	5504.45	42.34	NPP	33.13	5471.32	NPP
	1/28/2008	5504.45	42.34	NPP	33.33	5471.12	NPP
32	and the second second second second	Commercial		A CONTRACTOR OF THE PARTY OF TH			Del year, or establishment and all the re-
907 -91	1/14/2008	5514.34	52.24	33.98	34.03	5480.35	0.05
1	1/28/2008	5514.34	52.24	NPP	33.79	5480.55	NPP
90 -9/\	1/14/2008	5519.72	47.41	MPP	45.96	5473.76	NPP
	1/28/2008	5519.72	47.41	NPP	45.55	5474.17	NPP
And the second of the second o	THE SECTION OF THE SE						
907 -7V	1/14/2008	5517.63	32.95	NPP	21.32	5496.31	NPP
	1/28/2008	5517.63	32.95	NPP	21.55	5496.08	APP

NPP = No Product Present NWP = No Water Present

# Sump Well Fluids Monitoring Feb. 2008

Control of the contro	Date	Measuring Point Elevation	Total Well Depth	Depth to Product (DTP)	Water (DTW)	Corrected Groundwater Elevation	Phase Hydrocarbon Thickness
90	/11/2008	5508.27	53.08	NPP	DRY		NPP
	/25/2008	5508.27	53.08	MPP	DRY		NPP
90	2/11/2008	5507.75	27.69	NPP	DRY		NPP
20 20	/25/2008	5507.75	27.69	NPP	DRY		NPP
90	/11/2008	5505.29	52.56	NPP	26.68	5478.61	AdN
2V 2V	/25/2008	5505.29	52.56	NPP	27.01	5478.28	NPP
9	/11/2008	5504.45	42.34	ddN	40.76	5463.69	NPP
	725/2008	5504.45	42.34	NPP	41.18	5463.27	NPP
90	2/11/2008	5514.34	52.24	NPP	33.82	5480.52	NPP
SVS	/25/2008	5514.34	52.24	NPP	33.68	5480.66	ddN
90	/11/2008	5519.72	47.41	NPP	45.69	5474.03	NPP
020 2/2	/25/2008	5519.72	47.41	NPP	43.54	5476.18	NPP
90	/11/2008	5517.63	32.95	ddN	22.12	5495.51	NPP
20 20	/25/2008	5517.63	32.95	NPP	22.34	5495.29	NPP

NPP = No Product Present · NWP = No Water Present

# Sump Well Fluids Monitoring Mar. 2008

Wellib	Date	Measuring Point	Totaliwell Denth	Depth To Product	Depth To Water	Gorrected Groundwater	Separate Phase Hydrocarbon
IB Section 1		Elevation*		(DTP)	(DTW)	Elevation	Thickness
- ۲ <i>۱</i>	3/10/2008	5508.27	53.08	ddN	YAO		NPP
VS 05	3/24/2008	5508.27	53.08	NPP	DRY		AdN
33.4	3/10/2008	5507.75	27.69	ddN	DRY		NPP
VS VS	3/24/2008	5507.75	27.69	NPP	DRY		NPP
8.V	3/10/2008	5505.29	52.56	NPP	26.84	5478.45	NPP
NS 0	3/24/2008	5505.29	52.56	NPP	26.88	5478.41	NPP
被整	3/10/2008	5504.45	42.34	ddN	41.08	5463.37	NPP
VS VS	3/24/2008	5504.45	42.34	NPP	40.97	5463.48	NPP
9	3/10/2008	5514.34	52.24	NPP	33.72	5480.62	NPP
020 20	3/24/2008	5514.34	52.24	NPP	33.66	5480.68	NPP
S.	3/10/2008	5519.72	47.41	NPP	45.82	5473.90	NPP
05 20	3/24/2008	5519.72	47.41	NPP	45.94	5473.78	NPP
100	3/10/2008	5517.63	32.95	ddN	23.71	5493.92	NPP
VS VS	3/24/2008	5517.63	32.95	ddN	23.45	5494.18	NPP

NPP = No Product Present NWP = No Water Present

# Sump Well Fluids Monitoring April 2006

Consideration and a second of the second of	Committee of the Commit		1 848-11 Transfer (1990) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Control of the second	AND THE PROPERTY OF THE PARTY O		TO SOME THE PARTY OF THE PARTY
- Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
9	4/7/2008	5508.27	53.08	NPP	NWP		NPP
70 VS	4/21/2008	5508.27	53.08	NPP	NWP		NPP
<b>深</b> 和	4/7/2008	5507.75	27.69	MPP	NWP		NPP
050 VS	4/21/2008	5507.75	27.69	NPP	NWP		NPP
25.8	4/7/2008	5505.29	52.56	NPP	26.81	5478.48	NPP
050 8/V	4/21/2008	5505.29	52.56	NPP	26.70	5478.59	NPP
l≋ii	4/7/2008	5504 45	42.34	ddN	39.34	5465.11	NPP
020 020	4/21/2008	5504.45	42.34	NPP	38.05	5466.40	NPP
£2	4/7/2008	5514.34	52.24	ddN	33.54	5480.80	MPP
020 MS	4/21/2008	5514.35	52.24	NPP	33.52	5480.83	NPP
16	4/7/2008	5519.72	47.41	AdN	45.87	5473.85	MPP
050 R/S	4/21/2008	5519.72	47.41	NPP	44.17	5475.55	NPP
224	4/7/2008	5517.63	32.95	NPP	23.07	5494.56	MPP
MS 020	4/21/2008	5517.63	32.95	NPP	21.27	5496.36	NPP

NPP = No Product Present NWP = No Water Present

# Sump Well Fluids Monitoring May 2008

				- 14 - SQ	H 17 - C		Separate
Well ID	Pate:	Measuring Point Elevation	Total Well Depth	Product (DTP)	Deptin 10 Water (DTW)	Corrected Groundwater Elevation	Phase Hydrocarbon Thickness
¥ <b>8</b>	5/5/2008	5508.27	53.08	NPP	DRY		NPP
<b>VS</b>	5/19/2008	5508.27	53.08	NPP	DRY		NPP
85	5/5/2008	5507.75	27.69	ddN	DRY		NPP
VS 0	5/19/2008	5507.75	27.69	NPP	DRY		MPP
33	5/5/2008	5505.29	52.56	AdN	26.63	5478.66	NPP
70 8N	5/19/2008	5505.29	52.56	NPP	26.60	5478.69	APP
8.	5/5/2008	5504.45	42.34	NPP	37.03	5467.42	NPP
020 <b>M</b> S	5/19/2008	5504.45	42.34	NPP	36.23	5468.22	NPP
88	5/5/2008	5514.34	52.24	NPP	33.54	5480.80	ddN
020 MS	5/19/2008	5514.34	52.24	NPP	33.63	5480.71	NPP
25	5/5/2008	5519.72	47.41	ddN	43.34	5476.38	ddN
VS VS	5/19/2008	5519.72	47.41	NPP	43.03	5476.69	NPP
<b>X</b>	5/5/2008	5517.63	32.95	ddN	20.69	5496.94	NPP
05 VS	5/19/2008	5517.63	32.95	NPP	20.29	5497.34	NPP

NPP = No Product Present NWP = No Water Present

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# Sump Well Fluids Monitoring June 2008

							Separate
WellID	Date	Measuring Point Flevation	Total Well Depth	Depth To Product (DTP)	EDepth To Water (DTW)	Corrected Groundwater Elevation	Phase Hydrocarbon
	6/3/2008	5508.27	53.08	ddN	DRY		NPP
- ۱ <b>W</b>	6/16/2008	5508.27	53.08	NPP	DRY .		NPP
	6/30/2008	5508.27	53.08	NPP	DRY		NPP
12	6/3/2008	5507.75	27.69	ddN	DRY		NPP
7/\ \	6/16/2008	5207.75	27.69	NPP	DRY		NPP
	6/30/2008	5507.75	27.69	NPP	DRY		NPP
8 % B	6/3/2008	5505.29	52.56	ddN	26.64	5478.65	NPP
7 <b>\</b> \3	6/16/2008	5505.29	52.56	NPP	26.64	5478.65	NPP
	6/30/2008	5505.29	52.56	NPP	26.71	5478.58	NPP
8	6/3/2008	5504.45	42.34	ddN	35.49	5468.96	NPP
505 7/\4	6/16/2008	5504.45	42.34	NPP	35.00	5469.45	NPP
	6/30/2008	5504.45	42.34	NPP	34.71	5469.74	NPP
36	6/3/2008	5514.34	52.24	33.99	33.73	5480.40	-0.26
90Z 9/\Q	6/16/2008	5514.34	52.24	34.12	33.95	5480.25	-0.17
	6/30/2008	5514.34	52.24	NPP	34.28	5480.06	NPP
<b>3</b>	6/3/2008	5519.72	47.41	42.75	42.85	5476.95	0.10
90Z	6/16/2008	5519.72	47.41	45.95	42.85	5474.39	-3.10
	6/30/2008	5519.72	47.41	NPP	43.04	5476.68	NPP
	6/3/2008	5517.63	32.95	AdN	19.71	5497.92	NPP
020 20	6/16/2008	5517.63	32.95	19.62	19.29	5498.08	-0.33
	6/30/2008	5517.63	32.95	NPP	19.21	5498.42	NPP
		4	0,4114	- No Motor Dropont	+		

NPP = No Product Present NWP = No Water Present



# Sump Well Fluids Monitoring July 2008

				i			Separate
Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth 10 Product (DTP)	Depth fo Water (DTW)	Corrected Groundwater Elevation	Phase Hydrocarbon Thickness
- ۲V 90	7/14/2008	5508.27	53.08	NPP	DRY		NPP
70 VS	7/28/2008	5508.27	53.08	ddN	DRY		NPP
-2 <b>/</b>	7/14/2008	5507.75	27.69	NPP	DRY		NPP
18	7/28/2008	5507.75	27.69	NPP	DRY		NPP
90 -E/	7/14/2008	5505.29	52.56	NPP	26.59	5478.70	- MPP
70 8N	7/28/2008	5505.29	52.56	NPP	26.47	5478.82	NPP
90 - <i>t</i> /f	7/14/2008	5504.45	42.34	NPP	34.41	5470.04	NPP
	7/28/2008	5504.45	42.34	NPP	34.21	5470.24	NPP
**	7/14/2008	5514.34	52.24	34.34	34.36	5480.00	0.02
<b>V</b> S	7/28/2008	5514.34	52.24	34.38	34.46	5479.94	0.08
90 -9/	7/14/2008	5519.72	47.41	NPP	43.14	5476.58	NPP
VS 20	7/28/2008	5519.72	47.41	NPP	43.19	5476.53	NPP
33	7/14/2008	5517.63	32.95	ddN	18.8	5498.83	NPP
70 8	7/28/2008	5517.63	32.95	NPP	18.37	5499.26	NPP

NPP = No Product Present NWP = No Water Present

# Sump Well Fluids Monitoring Aug. 2008

Well ID Date 8/6/2008 8/12/2008 8/18/2008 8/25/2008 8/6/2008 8/12/2008 8/12/2008	Measuring Point Elevation	Total Well	Depth To Product	Depth To Water	Corrected Groundwater	Separate Phase
	1	15 A	. (ОТР)	(MIG)	Elevation	Hydrocarbon Thickness
	2208.57	53.08	ddN	52.59	5455.68	NPP
	5508.27	53.08	ddN	52.56	5455.71	NPP
	5508.27	53.08	ddN	52.53	5455.74	NPP
	5508.27	53.08	NPP	52.58	5455.69	NPP
<u> </u>	5507.75	27.69	ddN	27.59	5480.16	NPP
	5507.75	27.69	ddN	27.58	5480.17	MPP
<u>.                                    </u>	5507.75	27.69	NPP	27.28	5480.47	NPP
0002/02/0	5507.75	27.69	NPP	27.57	5480.18	NPP
	5505.29	52.56	NPP	26.48	5478.81	NPP
8/12/2008	5505.29	52.56	NPP	26.15	5479.14	MPP
8/18/2008	5505.29	52.56	NPP	26.15	5479.14	MPP
8/25/2008	5505.29	52.56	NPP	26.13	5479.16	NPP
8/6/2008	5504.45	42.34	ddN	34.14	5470.31	NPP
8/12/2008	5504.45	42.34	NPP	34.06	5470.39	NPP
8/18/2008	5504.45	42.34	ddN	33.98	5470.47	NPP
8/25/2008	5504.45	42.34	NPP	33.91	5470.54	NPP
<b>6</b> 8/6/2008	5514.34	52.24	34.45	34.55	5479.87	0.10
8/12/2008	5514.34	52.24	34.13	34.44	5480.15	0.31
8/18/2008	5514.34	52.24	34.00	34.15	5480.31	0.15
8/25/2008	5514.34	52.24	33.97	34.10	5480.34	0.13

NPP = No Product Present NWP = No Water Present

Significant Rain Event Before 8-6-08 and a Larger Rain Event 8-6-08 in the Evening



# Sump Well Fluids Monitoring Aug. 2008

5519.72 47.41 5519.72 47.41
5519.72 47.41
5517.63 32.95
5517.63 32.95
5517.63 32.95
5517.63 32.95

NPP = No Product Present NWP = No Water Present

Significant Rain Event Before 8-6-08 and a Larger Rain Event 8-6-08 in the Evening

# Sump Well Fluids Monitoring Sept. 2008

53.08 NPP 53.08 NPP 27.69 NPP 27.69 NPP 52.56 NPP 42.34 NPP 42.34 NPP 42.34 NPP 42.34 NPP 47.41 NPP 47.41 NPP 32.96 NPP	Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon
QQ         QQ<	500	9/8/2008	5508.27	53.08	NPP	52.57	5455.70	NPP
OM         9/8/2008         5507.75         27.69         NPP         27.58         5480.17           OM         9/8/2008         5507.75         27.69         NPP         DRY         5479.24           OM         9/8/2008         5505.29         52.56         NPP         26.05         5479.24           OM         9/8/2008         5504.45         42.34         NPP         25.98         5479.31           OM         9/8/2008         5504.45         42.34         NPP         33.75         5470.70           OM         9/8/2008         5514.34         52.24         33.98         34.15         5480.19           OM         9/8/2008         5514.34         52.24         34.11         34.30         5480.19           OM         9/8/2008         5519.72         47.41         NPP         42.79         5476.93           OM         9/22/2008         5519.72         47.41         NPP         42.65         5476.93           OM         9/22/2008         5517.63         32.95         NPP         17.28         5500.24		9/22/2008	5508.27	53.08	NPP	52.93	5455.34	NPP
QL 	50:-II	9/8/2008	5507.75	27.69	ddN	27.58	5480.17	NPP
OC         9/8/2008         5505.29         52.56         NPP         26.05         5479.24           OC         9/8/2008         5505.29         52.56         NPP         25.98         5479.31           OC         9/8/2008         5504.45         42.34         NPP         33.75         5470.70           OC         9/8/2008         5504.45         42.34         NPP         33.65         5470.70           OC         9/8/2008         5514.34         52.24         33.98         34.15         5480.33           OC         9/8/2008         5514.34         52.24         34.11         34.30         5480.19           OC         9/8/2008         5519.72         47.41         NPP         42.79         5476.93           OC         9/8/2008         5517.63         32.95         NPP         17.39         5500.24           OC         9/8/2008         5517.63         32.95         NPP         17.28         5500.35		9/22/2008	5507.75	27.69	NPP	DRY		NPP
OB         9/22/2008         5505.29         52.56         NPP         25.98         5479.31           OB         9/8/2008         5504.45         42.34         NPP         33.75         5470.70           OB         9/8/2008         5504.45         42.34         NPP         33.65         5470.80           OB         9/8/2008         5514.34         52.24         33.98         34.15         5480.19           OB         9/8/2008         5514.34         52.24         34.11         34.30         5480.19           OB         9/8/2008         5519.72         47.41         NPP         42.65         5476.93           OB         9/8/2008         5517.63         32.95         NPP         17.39         5500.24	128	9/8/2008	5505.29	52.56	NPP	26.05	5479.24	NPP
OB OVA <th></th> <th>9/22/2008</th> <th>5505.29</th> <th>52.56</th> <th>NPP</th> <th>25.98</th> <th>5479.31</th> <th>MPP</th>		9/22/2008	5505.29	52.56	NPP	25.98	5479.31	MPP
OD         OD<	350	9/8/2008	5504.45	42.34	NPP	33.75	5470.70	NPP
%         9/8/2008         5514.34         52.24         33.98         34.15         5480.33           %         9/22/2008         5514.34         52.24         34.11         34.30         5480.19           %         9/8/2008         5519.72         47.41         NPP         42.79         5476.93           %         9/22/2008         5519.72         47.41         NPP         42.65         5477.07           %         9/8/2008         5517.63         32.95         NPP         17.39         5500.24           %         9/22/2008         5517.63         32.95         NPP         17.28         5500.35		9/22/2008	5504.45	42.34	NPP	33.65	5470.80	NPP
O         9/22/2008         5514.34         52.24         34.11         34.30         5480.19           O         9/8/2008         5519.72         47.41         NPP         42.79         5476.93           O         9/22/2008         5519.72         47.41         NPP         42.65         5477.07           O         9/8/2008         5517.63         32.95         NPP         17.39         5500.24           O         9/22/2008         5517.63         32.95         NPP         17.28         5500.35	E61		5514.34	52.24	33.98	34.15	5480.33	0.17
6         9/8/2008         5519.72         47.41         NPP         42.79         5476.93           0         9/22/2008         5519.72         47.41         NPP         42.65         5477.07           0         9/8/2008         5517.63         32.95         NPP         17.39         5500.24           0         9/22/2008         5517.63         32.95         NPP         17.28         5500.35		9/22/2008	5514.34	52.24	34.11	34.30	5480.19	0.19
O         9/22/2008         5519.72         47.41         NPP         42.65         5477.07           O         9/8/2008         5517.63         32.95         NPP         17.39         5500.24           O         9/22/2008         5517.63         32.95         NPP         17.28         5500.35	H WH	9/8/2008	5519.72	47.41	AdN	42.79	5476.93	NPP
6 9/8/20089/8/20085517.6332.95NPP17.395500.243 9/22/20085517.6332.95NPP17.285500.35	i	9/22/2008	5519.72	47.41	NPP	42.65	5477.07	NPP
9/22/2008 5517.63 32.95 NPP 17.28 5500.35	<b>133</b>		5517.63	32.95	AdN	17.39	5500.24	NPP
		9/22/2008	5517.63	32.95	NPP	17.28	5500.35	NPP

NPP = No Product Present NWP = No Water Present

# Sump Well Fluids Monitoring Oct. 2008

\$\frac{\text{L}}{\text{CO}}\text{CO}         \$\frac{\text{L}}{\text{L}}\text{CO}         \$\frac{\text{L}}{\text{L}}\text{CO} <th< th=""><th>WellID</th><th>Date</th><th>Measuring Point Elevation</th><th>Total Well Depth</th><th>Depth To Product (DTP)</th><th>Depth To Water (DTW)</th><th>Corrected Groundwater Elevation</th><th>Separate Phase Hydrocarbon Thickness</th></th<>	WellID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
ND         ND         ND         5455.48         ND           ND         10/20/2008         5508.27         27.69         NPP         52.79         5455.48           ND         10/6/2008         5507.75         27.69         NPP         27.68         5480.07           ND         10/20/2008         5505.29         52.56         NPP         25.91         5479.38           ND         10/6/2008         5506.29         52.56         NPP         25.91         5479.38           ND         10/6/2008         5504.45         42.34         NPP         33.53         5470.92           ND         10/20/2008         5514.34         52.24         34.21         34.46         5480.09           ND         10/20/2008         5519.72         47.41         NPP         42.44         5477.28           ND         10/20/2008         5517.2         47.41         NPP         42.23         5477.49           ND         10/20/2008         5517.63         32.95         NPP         42.23         5500.40			5508.27	53.08	NPP	52.79	5455.48	NPP
00         10/6/2008         5507.75         27.69         NPP         DRY         5480.07           00         10/20/2008         5505.29         52.56         NPP         25.91         5479.38           00         10/6/2008         5505.29         52.56         NPP         25.91         5479.38           00         10/6/2008         5505.29         52.56         NPP         25.91         5479.38           00         10/6/2008         5504.45         42.34         NPP         33.53         5470.92           00         10/6/2008         5514.34         52.24         34.23         34.46         5480.09           00         10/6/2008         5514.34         52.24         34.21         34.46         5480.08           00         10/6/2008         5519.72         47.41         NPP         42.44         5477.49           00         10/6/2008         5519.72         47.41         NPP         42.23         5477.49           00         10/6/2008         5517.63         32.95         NPP         17.07         5500.56		10/20/2008	5508.27	53.08	NPP	52.79	5455.48	NPP
ON         10/20/2008         5507.75         27.69         NPP         27.68         5480.07           ON         10/6/2008         5505.29         52.56         NPP         25.91         5479.38           ON         10/20/2008         5506.29         52.56         NPP         25.91         5479.38           ON         10/20/2008         5504.45         42.34         NPP         33.53         5470.92           ON         10/20/2008         5514.34         52.24         34.23         34.34         5480.09           ON         10/20/2008         5519.72         47.41         NPP         42.44         5480.09           ON         10/20/2008         5519.72         47.41         NPP         42.23         5477.49           ON         10/20/2008         5517.63         32.95         NPP         17.07         5500.56           ON         10/20/2008         5517.63         32.95         NPP         17.07         5500.40	3	10/6/2008	5507.75	27.69	NPP	DRY		ddN
OLORIZO008         5505.29         52.56         NPP         25.91         5479.38           OLORIZO008         5505.29         52.56         NPP         25.91         5479.38           OLORIZO008         5504.45         42.34         NPP         33.53         5470.92           OLORIZO008         5504.45         42.34         NPP         33.45         5470.92           OLORIZO008         5514.34         52.24         34.23         34.34         5480.09           OLORIZO008         5514.34         52.24         34.21         34.46         5480.08           OLORIZO008         5519.72         47.41         NPP         42.44         5477.28           OLORIZO008         5517.63         32.95         NPP         17.07         5500.56	1	10/20/2008	5507.75	27.69	NPP	27.68	5480.07	NPP
OL         10/20/2008         5505.29         52.56         NPP         25.91         5479.38           OL         10/6/2008         5504.45         42.34         NPP         33.53         5470.92           OL         10/20/2008         5504.45         42.34         NPP         33.45         5471.00           OL         10/20/2008         5514.34         52.24         34.23         34.46         5480.09           OL         10/20/2008         5519.72         47.41         NPP         42.44         5480.08           OL         10/20/2008         5519.72         47.41         NPP         42.23         5477.49           OL         10/20/2008         5517.63         32.95         NPP         17.23         5500.40	88	10/6/2008	5505.29	52.56	NPP	25.91	5479.38	AdN
06         10/6/2008         5504.45         42.34         NPP         33.53         5470.92           00         10/20/2008         5504.45         42.34         NPP         33.45         5471.00           00         10/6/2008         5514.34         52.24         34.23         34.46         5480.09           00         10/6/2008         5514.34         52.24         34.21         34.46         5480.08           00         10/6/2008         5519.72         47.41         NPP         42.44         5477.28           00         10/6/2008         5519.72         47.41         NPP         42.23         5477.49           00         10/6/2008         5517.63         32.95         NPP         17.23         5500.56		10/20/2008	5505.29	52.56	NPP	25.91	5479.38	NPP
CONSISTED         10/6/2008         5504.45         42.34         NPP         33.53         5470.92           CONSISTED         5504.45         42.34         NPP         33.45         5471.00           CONSISTED         5514.34         52.24         34.23         34.34         5480.09           CONSISTED         5514.34         52.24         34.21         34.46         5480.08           CONSISTED         47.41         NPP         42.44         5480.08           CONSISTED         47.41         NPP         42.44         5477.28           CONSISTED         47.41         NPP         42.23         5477.49           CONSISTED         32.95         NPP         17.07         5500.56           CONSISTED         32.95         NPP         17.23         5500.40	22			STATE OF STATE OF BOOK STATE OF STATE O			Management of the Control of the Con	Supply dings
0.00         10/20/2008         5504.45         42.34         NPP         33.45         5471.00           0.0         10/6/2008         5514.34         52.24         34.23         34.34         5480.09           0.0         10/6/2008         5514.34         52.24         34.21         34.46         5480.08           0.0         10/6/2008         5519.72         47.41         NPP         42.44         5477.28           0.0         10/6/2008         5519.72         47.41         NPP         42.23         5477.49           0.0         10/6/2008         5517.63         32.95         NPP         17.07         5500.56           0.0         10/20/2008         5517.63         32.95         NPP         17.23         5500.40		10/6/2008	5504.45	42.34	ddN	33.53	5470.92	NPP
0         10/6/2008         5514.34         52.24         34.23         34.34         5480.09           0         10/20/2008         5514.34         52.24         34.21         34.46         5480.09           0         10/6/2008         5519.72         47.41         NPP         42.44         5477.28           0         10/6/2008         5519.72         47.41         NPP         42.23         5477.49           0         10/6/2008         5517.63         32.95         NPP         17.07         5500.56           0         10/20/2008         5517.63         32.95         NPP         17.23         5500.40		10/20/2008	5504.45	42.34	NPP	33.45	5471.00	NPP
CONTACTOR         3514.34         32.24         34.23         34.34         34.80.09           CONTACTOR         5514.34         52.24         34.21         34.46         5480.08           CONTACTOR         5519.72         47.41         NPP         42.44         5477.28           CONTACTOR         5519.72         47.41         NPP         42.23         5477.49           CONTACTOR         5517.63         32.95         NPP         17.23         5500.40	8 <b>i</b>	40/6/2000	FE44 04		0.4.00	70.70	00 000	77.0
0.00         10/20/2008         5514.34         52.24         34.21         34.46         5480.08           0.00         10/6/2008         5519.72         47.41         NPP         42.44         5477.28           0.00         10/20/2008         5519.72         47.41         NPP         42.23         5477.49           0.00         10/6/2008         5517.63         32.95         NPP         17.23         5500.56           0.00         10/20/2008         5517.63         32.95         NPP         17.23         5500.40		10/0/2000	4.01	72.24	04.20	1.01	0400.03	0.0
Moderation         10/6/2008         5519.72         47.41         NPP         42.44         5477.28           Moderation         10/20/2008         5519.72         47.41         NPP         42.23         5477.49           Moderation         10/6/2008         5517.63         32.95         NPP         17.07         5500.56           Moderation         10/20/2008         5517.63         32.95         NPP         17.23         5500.40	43	10/20/2008	5514.34	52.24	34.21	34.46	5480.08	0.25
Omega         10/20/2008         5519.72         47.41         NPP         42.23         5477.49           Omega         10/6/2008         5517.63         32.95         NPP         17.07         5500.56           Omega         10/20/2008         5517.63         32.95         NPP         17.23         5500.40	í.	10/6/2008	5519.72	47.41	NPP	42.44	5477.28	NPP
GO CO 	1		5519.72	47.41	NPP	42.23	5477.49	NPP
<b>O</b> 10/6/2008 5517.63 32.95 NPP 17.07 5500.56 10/20/2008 5517.63 32.95 NPP 17.23 5500.40	從							
O         10/20/2008         5517.63         32.95         NPP         17.23         5500.40		10/6/2008	5517.63	32.95	NPP	17.07	5500.56	NPP
		10/20/2008	5517.63	32.95	NPP	17.23.	5500.40	NPP

NPP = No Product Present NWP = No Water Present

# Sump Well Fluids Monitoring Nov. 2008

\$\frac{\text{Y}}{\text{C}}\text{C}         \$11/3/2008         \$508.27         \$3.08         NPP         \$2.78         \$455.49         NPP           \$\frac{\text{Y}}{\text{C}}\text{C}         \$11/1/2008         \$508.27         \$5.308         NPP         \$2.757         \$480.18         NPP           \$\frac{\text{Y}}{\text{C}}\text{C}         \$11/1/2008         \$5507.75         \$27.69         NPP         \$27.49         \$480.18         NPP           \$\frac{\text{Y}}{\text{C}}\text{C}         \$11/1/2008         \$5505.29         \$2.56         NPP         \$27.49         \$480.18         NPP           \$\frac{\text{Y}}{\text{C}}\text{C}         \$11/1/2008         \$5505.29         \$2.56         NPP         \$25.79         \$479.31         NPP           \$\frac{\text{Y}}{\text{C}}\text{C}         \$11/1/2008         \$5504.45         \$2.56         NPP         \$25.98         \$5470.6         NPP           \$\frac{\text{Y}}{\text{C}}\text{C}         \$11/3/2008         \$5504.45         \$42.34         NPP         \$33.24         \$5470.6         NPP           \$\frac{\text{Y}}{\text{C}}\text{C}         \$11/3/2008         \$5514.34         \$52.24         \$4.19         \$4.53         \$5480.08         \$0.34           \$\frac{\text{Y}}{\text{C}}\text{C}         \$11/1/2008         \$5519.72	QI IIƏAA	Date	Weasuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
02         11/17/2008         5508.27         53.08         NPP         52.78         5455.49           02         11/3/2008         5507.75         27.69         NPP         27.57         5480.18           02         11/3/2008         5507.75         27.69         NPP         27.49         5480.26           02         11/3/2008         5505.29         52.56         NPP         25.79         5479.50           03         11/17/2008         5504.45         42.34         NPP         25.79         5479.50           04         11/3/2008         5504.45         42.34         NPP         33.39         5471.06           05         11/17/2008         5514.34         52.24         34.19         34.53         5480.18           06         11/17/2008         5514.34         52.24         34.19         34.53         5480.08           07         11/17/2008         5519.72         47.41         NPP         41.63         5478.09           08         11/3/2008         5517.63         32.95         NPP         16.98         5500.65           09         11/17/2008         5517.63         32.95         NPP         17.54         5500.09	2		5508.27	53.08	ddN	52.78	5455.49	ddN .
00         11/3/2008         5507.75         27.69         NPP         27.57         5480.18           00         11/17/2008         5507.75         27.69         NPP         27.57         5480.18           00         11/17/2008         5505.29         52.56         NPP         25.79         5479.31           00         11/17/2008         5505.29         52.56         NPP         25.98         5479.31           00         11/17/2008         5504.45         42.34         NPP         33.39         5471.06           00         11/17/2008         5514.34         52.24         34.11         34.38         5480.18           00         11/17/2008         5519.72         47.41         NPP         42.04         5477.68           00         11/17/2008         5519.72         47.41         NPP         41.63         5478.09           00         11/17/2008         5517.63         32.95         NPP         16.98         5500.65           00         11/17/2008         5517.63         32.95         NPP         17.54         5500.09			5508.27	53.08	NPP	52.78	5455.49	NPP
NA         11/17/2008         5507.75         27.69         NPP         27.49         5480.26           NA         11/3/2008         5505.29         52.56         NPP         25.79         5479.50           NA         11/17/2008         5504.45         42.34         NPP         25.98         5479.31           NA         11/17/2008         5504.45         42.34         NPP         33.39         5471.01           NA         11/17/2008         5514.34         52.24         34.11         34.38         5480.18           NA         11/17/2008         5519.72         47.41         NPP         42.04         5477.68           NA         11/17/2008         5519.72         47.41         NPP         41.63         5478.09           NA         11/17/2008         5517.63         32.95         NPP         16.98         5500.65           NA         11/17/2008         5517.63         32.95         NPP         17.54         5500.09	₩ <b>B</b>		5507.75	27.69	ddN	27.57	5480.18	ddN
OLOWITY/2008         5505.29         52.56         NPP         25.79         5479.50           COLOWITY/2008         5505.29         52.56         NPP         25.98         5479.31           COLOWITY/2008         5504.45         42.34         NPP         33.39         5471.06           COLOWITY/2008         5504.45         42.34         NPP         33.24         5480.18           COLOWITY/2008         5514.34         52.24         34.11         34.38         5480.18           COLOWITY/2008         5514.34         52.24         34.19         34.53         5480.18           COLOWITY/2008         5519.72         47.41         NPP         42.04         547.68           COLOWITY/2008         5517.63         32.95         NPP         41.63         5478.09           COLOWITY/2008         5517.63         32.95         NPP         17.54         5500.65			5507.75	27.69	NPP	27.49	5480.26	MPP
Characteristics         5505.29         52.56         NPP         25.98         5479.31           Characteristics         5504.45         42.34         NPP         33.39         5471.06           Characteristics         5504.45         42.34         NPP         33.24         5471.21           Characteristics         5514.34         52.24         34.11         34.38         5480.18           Characteristics         5514.34         52.24         34.19         34.53         5480.08           Characteristics         5519.72         47.41         NPP         42.04         5477.68           Characteristics         5517.63         32.95         NPP         16.98         5500.65           Characteristics         5517.63         32.95         NPP         17.54         5500.09	37		5505.29	52.56	AGN	25.79	5479.50	NPP
OLOWITY (1/17/2008)         5504.45         42.34         NPP         33.39         5471.06           OLOWITY (1/17/2008)         5504.45         42.34         NPP         33.24         5471.21           OLOWITY (1/17/2008)         5514.34         52.24         34.11         34.38         5480.18           OLOWITY (1/17/2008)         5519.72         47.41         NPP         42.04         5477.68           OLOWITY (1/17/2008)         5519.72         47.41         NPP         41.63         5478.09           OLOWITY (1/17/2008)         5517.63         32.95         NPP         16.98         5500.65           OLOWITY (1/17/2008)         5517.63         32.95         NPP         17.54         5500.09			5505.29	52.56	NPP	25.98	5479.31	NPP
CA         11/17/2008         5504.45         42.34         NPP         33.24         5471.21           CA         11/3/2008         5514.34         52.24         34.11         34.38         5480.18           CA         11/17/2008         5514.34         52.24         34.19         34.53         5480.08           CA         11/17/2008         5519.72         47.41         NPP         42.04         5477.68           CA         11/17/2008         5519.72         47.41         NPP         41.63         5478.09           CA         11/17/2008         5517.63         32.95         NPP         16.98         5500.65           CA         11/17/2008         5517.63         32.95         NPP         17.54         5500.09	ei i		5504.45	42.34	ddN	33.39	5471.06	NPP
0.0         11/3/2008         5514.34         52.24         34.11         34.38         5480.18           0.0         11/17/2008         5514.34         52.24         34.19         34.53         5480.08           0.0         11/3/2008         5519.72         47.41         NPP         42.04         5477.68           0.0         11/17/2008         5519.72         47.41         NPP         41.63         5478.09           0.0         11/17/2008         5517.63         32.95         NPP         16.98         5500.65           0.0         11/17/2008         5517.63         32.95         NPP         17.54         5500.09		I — I	5504.45	42.34	NPP	33.24	5471.21	NPP
00         11/17/2008         5514.34         52.24         34.19         34.53         5480.08           00         11/3/2008         5519.72         47.41         NPP         42.04         5477.68           01         11/17/2008         5519.72         47.41         NPP         41.63         5478.09           02         11/3/2008         5517.63         32.95         NPP         16.98         5500.65           03         11/17/2008         5517.63         32.95         NPP         17.54         5500.09			5514.34	52.24	34.11	34.38	5480.18	0.27
OD         11/3/2008         5519.72         47.41         NPP         42.04         5477.68           OD         11/17/2008         5519.72         47.41         NPP         41.63         5478.09           OD         11/3/2008         5517.63         32.95         NPP         16.98         5500.65           OD         11/17/2008         5517.63         32.95         NPP         17.54         5500.09			5514.34	52.24	34.19	34.53	5480.08	0.34
0.         11/17/2008         5519.72         47.41         NPP         41.63         5478.09           0.         11/3/2008         5517.63         32.95         NPP         16.98         5500.65           0.         11/17/2008         5517.63         32.95         NPP         17.54         5500.09	3		5519.72	47.41	NPP	42.04	5477.68	NPP
611/3/20085517.6332.95NPP16.985500.65011/17/20085517.6332.95NPP17.545500.09			5519.72	47.41	NPP	41.63	5478.09	NPP
<b>O</b> 11/17/2008 5517.63 32.95 NPP 17.54 5500.09	99 <b>8</b>		5517.63	32.95	NPP	16.98	5500.65	NPP
			5517.63	32.95	NPP	17.54	5500.09	NPP

NPP = No Product Present NWP = No Water Present



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Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To- Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon
9	12/1/2008	5508.27	53.08	ddN	52.78	5455.49	NPP
020	12/15/2008	5508.27	53.08	ddN	52.77	5455.50	NPP
- LM	12/18/2008	5508.27	53.08	NPP	52.77	5455.50	NPP
ıs	12/29/2008	5508.27	53.08	NPP	52.78	5455.49	NPP
90	12/1/2008	5507.75	27.69	ddN	27.39	5480.36	ddN
020	12/15/2008	5507.75	27.69	NPP	27.29	5480.46	NPP
-Z <b>/</b> /	12/18/2008	5507.75	27.69	NPP	27.27	5480.48	NPP
ıs	12/29/2008	5507.75	27.69	NPP	27.23	5480.52	NPP
9	12/1/2008	5505.29	52.56	AdN	25.89	5479.40	NPP
020	12/15/2008	5505.29	52.56	NPP	25.90	5479.39	NPP
-E <b>/</b> V	12/18/2008	5505.29	52.56	NPP	25.86	5479.43	NPP
ıs	12/29/2008	5505.29	52.56	NPP	26.06	5479.23	NPP
	12/1/2008	5504.45	A2 3A	NPP	33.17	5/171.28	NDD
)506	12/15/2008	5504.45	42.34	ddN	33.05	5471 40	adN
)-⊅∧		5504.45	42.34	NPP	33.01	5471.44	NPP
IS	12/29/2008	5504.45	42.34	NPP	32.97	5471.48	NPP
9	12/1/2008	5514.34	52.24	33.09	33.40	5481.19	0.31
020-	12/15/2008	5514.34	52.24	34.03	34.40	5480.24	0.37
-9M	12/18/2008	5514.34	52.24	33.95	34.30	5480.32	0.35
S	12/29/2008	5514.34	52.24	34.09	34.45	5480.18	0.36
	- 0014	- No Dradinat Drag	- 0,0,14				

NPP = No Product Present NWP = No Water Present

Significant Snow & Rain Event Week of 12-15-08 Significant Snow & Rain Event Week of 12-22-08

# Sump Well Fluids Monitoring Dec. 2008

1/1/2008         5519.72         47.41           1/5/2008         5519.72         47.41           1/8/2008         5519.72         47.41           2/29/2008         5519.72         47.41           1/1/2008         5517.63         32.95           1/1/2008         5517.63         32.95           1/8/2008         5517.63         32.95	g <u>al</u> l	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate  Phase  Hydrocarbon Thickness
12/15/2008       5519.72       47.41         12/18/2008       5519.72       47.41         12/29/2008       5519.72       47.41         12/1/2008       5517.63       32.95         12/15/2008       5517.63       32.95         12/18/2008       5517.63       32.95	12/	/2008	5519.72	47.41	MPP	41.39	5478.33	ddN
12/18/2008     5519.72     47.41       12/29/2008     5519.72     47.41       12/1/2008     5517.63     32.95       12/15/2008     5517.63     32.95       12/18/2008     5517.63     32.95	12/	5/2008	5519.72	47.41	NPP	41.07	5478.65	NPP
12/29/2008     5519.72     47.41       12/1/2008     5517.63     32.95       12/15/2008     5517.63     32.95       12/18/2008     5517.63     32.95	12/	8/2008	5519.72	47.41	NPP	40.96	5478.76	NPP
12/1/2008     5517.63     32.95       12/15/2008     5517.63     32.95       12/18/2008     5517.63     32.95	12/	9/2008	5519.72	47.41	NPP	40.75	5478.97	NPP
12/1/2008     5517.63     32.95       12/15/2008     5517.63     32.95       12/18/2008     5517.63     32.95	HOLES BELLEVIEW CO. C.	AND PARTY OF THE PARTY.	A CONTRACTOR OF THE PARTY OF TH	Section Section (Section Section Secti	1200 102 102 102 102 102 102 102 102 102			
12/15/2008     5517.63     32.95       12/18/2008     5517.63     32.95	12	1/2008	5517.63	32.95	ddN	17.14	5500.49	NPP
12/18/2008 5517.63 32.95	12	5/2008	5517.63	. 32.95	ddN	17.07	5500.56	MPP
	12/	8/2008	5517.63	32.95	NPP	17.06	5500.57	NPP
25.35   35.126   37.82	12	729/2008	5517.63	32.95	NPP	17.59	5500.04	NPP

NPP = No Product Present NWP = No Water Present

Significant Snow & Rain Event Week of 12-15-08 Significant Snow & Rain Event Week of 12-22-08

RW/MW	Date	Depth to H2O (ft)	Depth-to Product (ft)	Well Depth (ft)	TDS (mg/L)	E.C. (umhos/cm)	рH	TEMP. (Farenheit)
	Aug-08	16.92	NPP	21.56	579	831	7.03	61.2
MW #1	Apr-08	17.15	NPP	21.56	617	873	6.93	54.5
	Aug-07	17.29	NPP	21.56	570	854	6.97	64.3
	Aug-08	36.27	NPP	36.75	NS¹	NS <sup>1</sup>	NS¹	NS <sup>1</sup>
MW #3	Aug-07	36.41	NPP	36.75	NS <sup>1</sup>	NS¹	NS¹	NS <sup>1</sup>
	Apr-07	36.35	NPP	36.75	NS¹	NS¹	NS¹	NS <sup>1</sup>
	Aug-08	27.03	NPP	30.48	1680	2287.0	6.96	64.7
MW #4	Aug-07	27.53	27.5	30.48	NR¹	NR¹	NR¹ .	NR1
	` Apr-07	26.53	NPP	30.48	1660	2207	6.99	66.0
	Aug-08	NWP	NPP	37.2	NS¹	NS <sup>1</sup>	NS¹	NS <sup>1</sup>
MW #5	Aug-07	NWP	NPP	37.2	NS <sup>1</sup>	NS¹	NS¹	NS <sup>1</sup>
	Apr-07	NWP	NPP	37.2	NS¹	NS¹	NS¹	NS <sup>1</sup>
	Aug-08	NWP	NPP	47.92	NS¹	NS¹	NS¹	NS¹
MW #6	Apr-08	NWP	NPP	47.92	NS <sup>1</sup>	NS <sup>1</sup>	NS¹	NS¹
	Aug-07	NWP	NPP	47.92	NS¹	NS <sup>1</sup>	NS¹	NS <sup>1</sup>
	Aug-08	27.39	NPP	62.61	NS²	. NS²	NS <sup>2</sup>	NS <sup>2</sup>
MW #7	Aug-07	27.22	NPP	62.61	NR²	NR²	NR²	NR²
	Apr-07	27.14	NPP	62.61	7370	8491	6.93	64.7
	Aug-08	31.65	NPP	35.93	1943	2612	6.96	59.7
MW #8	Apr-08	31.61	NPP	35.93	2184	2851	6.84	59.0
	Aug-07	31.84	NPP	35.93	2800	2471	6.93	61.2
	Aug-08	10.46	NPP	22.94	1655	2226	7.02	66.7
MW #11	Aug-07	10.65	NPP	22.94	1400	2109	7.01	66.9
	Apr-07	10.79	NPP	22.94	1457	1944	6.93	55.0
	Aug-08	10.28	NPP	14.98	541	775	7.10	62.6
MW #12	Apr-08	9.56	NPP	14.98	495	707	6.84	⊴51.1
	Aug-07	10.59	NPP	14.98	1500	987	7.05	68.1
	Aug-08	40.36	NPP	52.89	3079	3943	6.92	60.9
MW #13	Apr-08	40.25	NPP	52.89	3178	4016	6.82	61.8
	Aug-07	40.27	NPP	52.89	3000	4078	6.98	61.8
	Aug-08	21.15	20.71	27.13	NR¹	NR¹	NR¹	NR¹
MW #20	Apr-08	21.03	20.69	27.13	NR¹	NR¹	NR¹	NR¹
	Aug-07	21.15	20.66	27.13	NR¹	NR¹	NR¹	NR¹

NS¹= Well is Dry or Not Enough Water to Sample- No Sample

 ${\sf NS^z}$  = Not Sampled due to approved Facility-Wide Monitoring Plan

NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon

NR² = No Sample Required per OCD and NMED pre-2007 Conditions

NWP = No Water Present

RW/MW	Date	Depth to H2O (ft)	Depth to Product (ft)	Well Depth (ft)	TDS (mg/L)	E.C. (umhos/cm)	ρH	TEMP. (Farenheit)
	Aug-08	21.9	21.79	30.38	NR¹	NR¹	NR¹	NR¹
MW #21	Aug-07	21.82	21.72	30.38	NR¹	NR¹	NR¹	NR¹
	Apr-07	21.73	21.67	30.38	NR¹	NR¹	NR¹	NR¹
	Aug-08	33.05	32.67	41.2	NR¹	NR¹	NR¹	NR¹
MW #25	Aug-07	33.07	32.62	41.2	NR¹	NR <sup>1</sup>	NR¹	NR¹
	Apr-07	32.53	32.33	41.2	NR¹	NR1	NR¹	NR¹
	Aug-08	17.21	NPP	25.11	2179	2878	6.95	63.4
MW #26	Aug-07	17.16	NPP	25.11	1600	2670	6.97	65.3
	Apr-07	16.79	NPP	25.11	1700	2589	6.94	63.0
	Aug-08	18.13	NPP	24.42	1973	2639	7.01	63.4
MW #27	Aug-07	18.34	NPP	24.42	2400	2905	6.99	63.4
	Apr-07	18.04	NPP	24.42	3000	2945	6.89	59.4
<u></u>	Aug-08	22.80	NPP	28.62	637	917	7.0	62.1
MW #29	Aug-07	23.19	NPP	28.62	NR²	NR <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>
	Apr-07	23.15	NPP	28.62	1230	1669	6.91	59.7
	Aug-08	33.85	NPP	40.13	2219	2935	6.94	65.3
MW #30	Apr-08	33.74	NPP	40.13	2252	2930	6.82	62.2
	Aug-07	34.00	NPP	40.13	2400	2995	6.98	65.8
	Aug-08	34.00	NPP	39.16	3250	4144	7.0	62.4
MW #31	Aug-07	34.04	NPP	39.16	NR²	NR²	NR²	NR <sup>2</sup>
	Apr-07	33.92	NPP	39.16	3210	4024	6.96	64.0
	Aug-08	24.97	NPP	27.51	4364	5426	7.00	61.4
MW #32*	Aug-07	24.77	NPP	27.51	3800	5407	6.95	59.1
	Apr-07	24.49	NPP	27.51	3100	5228	6.89	60.5
	Aug-08	22.25	NPP	25.51	2966	3840	6.98	62.6
MW #33	Apr-08	22.2	NPP	25.51	1500	39	6.83	59.7
	Aug-07	21.93	NPP	25.51	3400	4047	6.97	61.1
	Aug-08	13.36	NPP	20.96	1225	1701	7.02	63.2
MW #34	Aug-07	13.57	NPP	20.96	1300	1739	6.98	65.8
	Apr-07	13.53	NPP	20.96	935	1290	6.92	52.5
	Aug-08	21.98	NPP	26.45	1311	1810	7.01	61.4
MW #35	Apr-08	22	NPP	26.45	1228	1679	6.84	58.0
	Aug-07	21.8	NPP	26.45	980	1689	6.98	65.8

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NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan

NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon

NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions

NWP = No Water Present

RW/MW	Date	Depth to H2O (ft)	Depth to Product (ft)	Well Depth (ft)	TDS (mg/L)	E.C. (umhos/cm)	рН	TEMP. (Farenheit)
	Aug-08	20.71	NPP	23.26	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>
MW #36	Aug-07	20.43	NPP	23.26	NR²	NR²	NR²	NR²
	Apr-07	20.46	NPP	23.26	619	864	6.92	58.2
	Aug-08	23.37	NPP	27.58	1601	2164	7.02	62.4
MW #37	Apr-08	23.27	NPP	27.58	1707	2281	6.82	59.2
	Aug-07	23.23	NPP	27.58	1500	2477	6.99	65.3
	Aug-08	23.53	NPP	26.82	932	1306	7.00	62.5
MW #38	Apr-08	23.46	NPP	26.82	1040	1439	6.85	59.4
	Aug-07	23.54	NPP	26.82	890	1481	6.99	64.7
	Aug-08	25.92	NPP	38.34	NS²	NS <sup>2</sup>	NS²	NS <sup>2</sup>
MW #39	Aug-07	26.59	NPP	38.34	NR2	NR²	NR²	NR²
	Apr-07	30.7	NPP	38.34	4689	5561.0	6.90	63.4
	Aug-08	28.25	NPP	30.07	2121	2827.0	6.9	68.4
MW #40	Aug-07	28.37	28.17	30.07	NR¹	NR¹	NR¹	NR¹
	Apr-07	27.23	NPP	30.07	2407	3103	6.95	64.7
	Aug-08	27.22	26.76	31.62	NR¹	NR¹	NR¹	NR1
MW #41	Aug-07	27.35	26.62	31.62	NR¹	NR¹	NR¹	NR¹
	Apr-07	25.87	NPP	31.62	2305	2928	6.91	66.8
	Aug-08	33.91	NPP	50.91	4080	5099.0	6.91	62.4
MW #44	Aug-07	34.19	NPP	50.91	NR²	NR²	NR²	NR²
	Apr-07	33.68	NPP	50.91	4400	5319	6.71	58.4
,	Aug-08	11.72	NPP	16.92	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>
MW #45	Aug-07	11.32	NPP	16.92	NR <sup>2</sup>	NR²	NR²	NR²
	Aug-07	11.28	NPP	16.92	1640	2178	6.88	56.6
·	Aug-08	NS	NPP	10.39	NS¹	NS¹	NS¹	NS <sup>1</sup>
MW #46	Aug-07	NS	NPP	10.39	NS¹	NS¹	NS¹	NS <sup>1</sup>
	Apr-07	NS	NPP	10.39	NS¹	NS¹	NS¹	NS¹
	Aug-08	13.3	12.68	14.28	NR¹	NR¹	NR¹	NR¹
MW#47	Aug-07	13.25	12.39	14.28	NR¹	NR¹	NR¹	NR¹
	Apr-07	12.85	12.02	14.28	NR¹	NR¹	NR¹	NR¹
	Aug-08	Not a Well	Not a Well	Not a Well	1220	1696	7.07	66.7
O/F #2	Apr-08	Not a Well	Not a Well	Not a Well	550	866	6.89	56.5
	Aug-07	Not a Well	Not a Well	Not a Well	730	1026	7.00	64.0

NS1= Well is Dry or Not Enough Water to Sample- No Sample

NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan

NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon

NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions

NWP = No Water Present

RW/MW	Date	Depth to H2O (ft)	Depth to Product (ft)	Well Depth (ft)	TDS (mg/L)	E.C. (umhos/cm)	рН	TEMP. (Farenheit)
	Aug-08	Not a Well	Not a Well	Not a Well	310	455	7.08	68.1
O/F #3	Apr-08	Not a Well	Not a Well	Not a Well	610	920	6.88	53.3
•	Aug-07	Not a Well	Not a Well	Not a Well	230	359	6.99	57.8
	Aug-08	30.92	NPP	40.8	2097	2793	7.03	63.8
RW #1	Aug-07	31.15	NPP	40.8	2100	2896	6.98	65.2
	Apr-07	29.98	NPP	40.8	1700	2380	6.93	64.7
	Aug-08	27.03	26.11	35.86	NR¹	NR¹	NR¹	NR1
RW #2	Aug-07	26.77	26.74	35.86	NR¹	NR¹	NR¹	NR¹
	Apr-07	25.63	NPP	35.86	1687	2236	6.96	64.0
	Aug-08	21.57	NPP	34.57	NS²	NS²	NS²	NS <sup>2</sup>
RW #3	Aug-07	21.74	NPP	34.57	NR²	NR²	NR²	NR²
	Apr-07	20.97	NPP	34.57	2355	3041	6.92	63.4
	Aug-08	24.84	24.83	34.04	∝ NR¹	NR¹	NR¹	NR¹
RW #9	Aug-07	24.76	NPP	34.04	2300	2908.0	6.97	65.5
	Apr-07	24.31	NPP	34.04	3798	5624.0	6.75	59.1
	Aug-08	34.94	NPP	41.94	NS²	NS <sup>2</sup>	NS²	NS²
RW #14	Aug-07	35.42	35.1	41.94	NR¹	NR¹	NR¹	NR¹
	Apr-07	35.6	35.58	41.94	NR¹	NR¹	NR¹	NR¹
	Aug-08	34.67	NPP	43.43	2435	3206.0	6.90	62.0
RW #15	Aug-07	34.84	NPP	43.43	2000	3181.0	7.00	64.8
	Apr-07	34.73	NPP	43.43	2499	3220.0	6.79	59.7
	Aug-08	35.0	NPP	41.48	NS²	NS²	NS <sup>2</sup>	NS <sup>2</sup>
RW #16	Aug-07	33.79	NPP	41.48	NR²	NR²	NR²	NR <sup>2</sup>
	Apr-07	33.63	NPP	41.48	2185	2812	6.81	59.9
	Aug-08	32.61	NPP	41.89	NS²	NS <sup>2</sup>	NS²	NS²
RW #17	Aug-07	33.0	NPP	41.89	NR²	NR²	NR²	NR²
	Apr-07	32.53	32.72	41.89	2365	3061	6.97	69.3
	Aug-08	33.97	33.95	37.58	NR¹	NR¹	NR¹	NR¹
RW #18	Aug-07	29.75	29.58	37.58	NR¹	NR¹	NR¹	NR¹
	Apr-07	29.03	28.94	37.58	NR¹	NR¹	NR¹	NR¹
	Aug-08	29.88	NPP	36.64	NS²	NS²	NS²	NS²
RW #19	Aug-07	30.34	30.31	36.64	NR¹	NR¹	NR¹	NR¹
	Apr-07	29.52	NPP	36.64	2160	2825	6.80	62.1

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NWP = No Water Present

RW/MW	Date	Depth to H2O (ft)	Depth to Product (ft)	Well Depth (ft)	TDS (mg/L)	E.C. (umhos/cm)	рН	TEMP. (Farenheit)
	Aug-08	25.52	NPP	35.61	NS²	NS²	NS²	NS²
RW #22	Aug-07	25.49	NPP	35.61	NR²	NR²	NR²	NR²
	Apr-07	24.92	NPP	35.61	1140	1926	6.81	59.7
	Aug-08	22.91	NPP	35.53	1139	1596.0	7.03	65.8
RW #23	Aug-07	23.1	23.07	35.53	NR¹	NR¹	NR¹	NR¹
	Apr-07	23.09	23.05	35.53	NR¹	NR¹	NR¹	NR¹
	Aug-08	29.13	28.94	36.99	NR¹	NR¹	NR¹	NR¹
RW #28	Aug-07	29.15	28.59	36.99	NR¹	NR¹	NR¹	NR¹
	Aug-07	28.3	28.09	36.99	NR¹	NR¹	NR¹	NR¹
	Aug-08	26.78	26.65	32.02	NR¹	NR¹	NR¹	NR¹
RW #42	Aug-07	27.71	27.2	32.02	NR¹	NR¹	NR¹	NR¹
	Apr-07	26.63	26.5	32.02	NR¹	NR¹	NR¹	NR¹
	Aug-08	20.68	20.55	24.03	NR¹	NR¹	NR¹	NR¹
RW #43	Aug-07	20.74	20.53	24.03	NR¹	NR¹	NR¹	NR¹
	Apr-07	20.22	NPP	24.03	1432	1942	6.93	68.5

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NWP = No Water Present

### **Groundwater Analysis - Organics**

		August 20		- EPA Metho August 2008		od 8260B	EPA Meth	od 8015B.	
Sample Location	Date	Benzene (mg/L)	Toluene. (mg/L)	. (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)	
	Aug-08	0:005 NS <sup>1</sup>	0.75 NS¹	0.70 NS <sup>1</sup>	→ 0.62 → NS¹	NS¹	1.72 NS <sup>1</sup>	NS¹	WQG 40CER141.61( TPH Screening
#3	Apr-08	NS¹	NS <sup>1</sup>	NS <sup>1</sup>	NS <sup>1</sup>	NS <sup>1</sup>	NS <sup>1</sup>	NS <sup>1</sup>	R14 Scree
ΑM	Aug-07	NS¹	NS <sup>1</sup>	NS¹	NS¹	NS <sup>1</sup>	NS <sup>2</sup>	NS²	WQC 41.61 reenin
	Apr-07	NS¹	NS¹	NS¹	NS¹	NS <sup>1</sup>	NS <sup>1</sup>	NS¹	5 B &
	Aug-08	NS¹	NS¹	NS¹	NS¹	NS¹	NS¹	NS¹	C 20 NMAC 6 2.3103 (Benzene and Ethylbenzene) g Güldelines Table 2a (DRO)
#2	Apr-08	NS¹	NS¹	NS¹	NS¹	NS¹	NS²	NS <sup>2</sup>	AC le ar line
<b>&gt;</b>	Aug-07	NS¹	NS¹	NS¹	NS <sup>1</sup>	NS¹	NS¹	NS <sup>1</sup>	nd E
Ţ	Apr-07	NS¹	NS¹	NS <sup>1</sup>	NS¹	NS¹	NS¹	NS¹	3103 Ethyll able 2
	Aug-08	NS¹	NS¹	NS¹	NS¹	NS¹	NS¹	NS¹	ben 2a (
9#	Apr-08	NS¹	NS¹	NS¹	NS¹	NS¹	NS <sup>1</sup>	NS¹	) Ro
Σ	Aug-07	NS¹	NS <sup>1</sup>	NS¹	NS¹	NS¹	NS¹	NS¹	٥
	Apr-07	NS <sup>1</sup>	NS¹	NS¹	NS¹	NS¹	NS¹	NS <sup>1</sup>	

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## Groundwater Analysis - General Chemistry

	*			WQ	C 2	20 N	MAC	6.2	31	)3				
SM 2320B	ALK (mg/L)		NS1	NS.	NS1	680	NS¹	NS¹	NS1	NS¹	NS1	NS.	NS.	NS1
SM2	CO2 (mg/L)		NS¹	NS¹	NS	680	NS1	NS¹	NS.	NS1	NS1	NS1	NS.	NS.
	Sulfate (mg/L)	600	NS.	NS.	NS,	2300	NS1	NS,	NS.	NS1	NS.	NS.	NS.	NS.
	P (mg/L)	0.00	NS1	NS1	NS1	<0.50	NS1	NS1	NS1	NS <sup>1</sup>	NS1	NS1	NS.	NS.
	Nitrogen (mg/L)	. 10	NS.	NS¹	NS1	42	NS	NS.	NS.	NS1	NS.	NS1	NS1	NS.
EPA 300.0	Bromide (mg/L)		NS1	NS1	NS1	4.5	NS.	NS	NS1	NS1	NS₁	NS1	NS₁	NS¹
	Nitrite (mg/L)	100	NS <sup>1</sup>	NS	NS.	<0.50	NS.	NS.	NS,	NS.	NS	NS	NS.	NS.
	Fluoride Chloride (mg/L)	.250	NS	NS1	NS1	1200	NS1	NS1	NS.	NS1	NS.	NS.	NS.	NS.
	Fluoride (mg/L)	3.1	NS,	NS	NS.	0.33	NS1	NS.	NS.	NS.	NS.	NS.	NS1	NS1
	Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
	Sample	Location		٤# ،	WM			9#	WM			9#	ΜM	

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### Groundwater Analysis - Total Metals

				40	ĊF	R1	41.6	2	VICI	_				
	Mercury (mg/L)	0.002	NS¹	NS1	NS1	NS1	NS.	NS¹	NS1	NS¹	NS1	NS1	NS,	NS,
Ŋ	Silver (mg/L)	0.05	,SN	NS1	NS1	NS.	.SN	NS¹	NS¹	NS.	NS¹	NS¹	NS¹	NS¹
470: Mercu	Se ⊤ (mg/೬)	0.05	NS₁	NS1	NS¹	NS¹	NS1	NS <sup>1</sup>	NS1	NS¹	NS,	NS <sup>1</sup>	NS¹	NS1
A Method 7	Lead (mg/L)	0.05	NS,	NS1	<0.005	NS,	NS.	NS,	NS	NS,	NS1	NS1	NS <sub>1</sub>	NS.
6010B, EP/	.('\)(mg/L)	- 0.05	NS,	NS,	0.016	NS1	NS1	NS¹	NS	NS,	NS	NS,	NS,	NS1
EPA Method 6010B, EPA Method 7470: Mercury	Barium   Cadmium (mg/L)   (mg/L)	0.005	NS.	NS₁	NS₁	NS.	NS.	NS.	NS.	NS <sub>1</sub>	NS1	NS	NS1	NS,
	Barium (mg/L)	1	NS1	NS.	NS <sub>1</sub>	NS1	NS.	NS.	¹SN	NS1	NS1	NS₁	NS1	NS.
	Arsenic (mg/L)	0.01	NS,	NS1	NS.	NS.	NS₁	NS,	NS¹	NS.	NS,	NS1	NS <sub>1</sub>	NS
	Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
	Sample	Location		£# /	ΜW			9# /	WW		,	9# /	ww	

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## Groundwater Analysis - Dissolved Metals

Zinc (mg/L)			1	- 1			,				,		
Z (II)	01	NS.	NS	0.018	NS¹	NS	NS	NS	NS¹	NS	NS¹	NS	NS1
Uranium ∼(mÿli⊆)	€0 0	NS¹	NS¹	<0.10	NS1	NS.	NS	NS¹	NS1	NS1	NS¹	NS	NS.
Sodium (mg/L)		NS.	NS	1300	NS1	NS.	NS	NS¹	NS1	NS	NSı	NS	NS,
Silver **(mg/L)	\$60.0	NS,	NS1	<0.005	NS.	NS¹	NS <sup>1</sup>	NS.	NS¹	NS.	NS1	NS.	NS1
Se (mg/L)	** 0:0e	NS1	NS1	<0.050	NS¹	NS1	NS.	NS¹	NS¹	NS₁	NS¹	NS	NS1
K (mg/L)		NS1	NS1	7.6	NS.	NS1	NS	NS1	NS1	NS¹	NS¹	NS1	NS1
Mn (mg/L)	0.2	NS.	NS1	0.43	NS¹	NS¹	NS	NS	NS¹	NS1	NS,	NS	NS¹
Mig (mg/L)		ıSN	NS1	130	NS,	'SN	NS1	NS¹	NS¹	NS1	NS	NS1	NS,
Lead (mg/L)	0:02	,SN	NS₁	<0.005	NS.	,SN	NS,	NS¹	NS1	NS,	NS1	NS <sub>1</sub>	NS.
Iron (mg/L)		ıSN	₃SN	0.047	NSı	₁SN	ıSN	NS₁	NS₁	SN	ıSN	ıSN	NS¹
Copper (mg/L)		SN	,SN	<0.006	NS1	NS1	NS,	NSı	NS1	NS	NS.	NS.	NS¹
CF (mg/L	0.05	NS¹	NS	<0.006	NS1	NS1	NS.	NS	NS	NS	NS1	NS.	NS.
Calcium (mg/L)		NS	NS	480	NS	NS1	NS¹	NS.	NS	NS.	NS	NS1	NS1
Cadmium (mg/L)	0.0	NS.	NS.	<0.002	NS	NS.	NS.	NS.	NS.	NS,	NS.	NS.	NS <sub>1</sub>
Barrium (mg/L)		NS,	NS¹	0.018	NS	NS,	NS,	NS	NS.	NS <sup>1</sup>	NS	NS,	NS,
Arsenič (mg/L)	<b>7</b> .0	NS.	NS	<0.020	NS	NS,	NS.	NS.	NS.	NS.	NS	NS1	NS1
Date		Aug-07	Aug-06	Aug-05	Aug-04	Aug-07	Aug-06	Aug-05	Aug-04	Aug-07	Aug-06	Aug-05	Aug-04
Sample	Location		£#	MΝ	l ·		9#	WN	l		9#	ww	ļ.
	Arsanic Barium Cadmium Calcium Gr Copper Iron Lead Mg Mn K Se Silver Sodium Date [mg/L]	Arsanic Barium Cadmium Calcium Cr. Copper Iron Lead Mg Mn K. Se Silver Sodium Date (mg/L) (mg	Aug-07         NS¹         NS²         NS²<	Aug-06         NS¹         NS²         NS¹         NS¹         NS¹<	Aug-07         NS¹         NS²         NS¹         NS¹         NS¹         NS¹         NS¹         NS²         NS¹         NS¹         NS¹<	Aug-05         NS¹         NS¹<	Aug-07         NS¹         NS¹<	Aug-07         NS¹         NS¹<	Aug-0f         NS¹         NS¹<	Arsavig Barium Cadmiun Calcium         Crigotistic Migus (migus) (migu	Aug-0f         NS¹         NS²         NS²<	Aug-07         NS¹         NS²         NS¹         NS²         NS²<	Pare-information         Rationary (ingrt)         Carried (ingrt)         Copper         Ingrt)         Carried (ingrt)         Carried (ingrt)

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### **Groundwater Analysis - Organics**

		August 2	とは手でも ると 変ながら ない さくかきは	Company to the property of the	od 8021B : - EPA Meth	od 8260B	EPA Meth	od 8015B	
Sample Location	Date	Benzene (mg/L) 0:005	Toluene (mg/L) 0.75	EthylBen (mg/L) 0:70	Xylene (mg/L) 0:62	MTBE (mg/L)	DRO (mg/L) 1.72	GRO (mg/L)	10.5
	Aug-08	0.2	<0.005	0.21	0.067	0.021	47	6.7	
#	Apr-08	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS²	
RW	Aug-07	0.25	<0.005	0.56	0.4	0.013	NR²	NR <sup>2</sup>	
_	Apr-07	0.035	0.041	0.031	0.012	<0.012	NR²	NR <sup>2</sup>	ال ال
	Aug-08	0.53	<0.01	0.11	1.6	<0.01	17	10	ğ
#4	Apr-08	NS²	NS²	NS <sup>2</sup>	NS²	NS <sup>2</sup>	NS²	NS <sup>2</sup>	ç 2
MW	Aug-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	WQCC 20 NMAC 6.2.3103 TPH Scree
	Apr-07	1.2	<0.01	0.068	7.0	<0.025	NR²	NR²	급홍
	Aug-08	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<0.05	C 6.2.3103 <sup>T</sup> .40CER1 TPH Screening Guide
8#	Apr-08	<0.001	<0.001	<0.001	<0.003	<0.0015	<1.0	<0.05	310: Cree
MW	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	NR²	NR²	l# i i i i i i i i i i i i i i i i i i i
	Арг-07	<0.001	<0.001	<0.001	<0.002	<0.0025	NR²	NR²	କୁ ଜୁନ ଜୁନ
	Aug-08	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	
6#	Apr-08	NS²	NS <sup>2</sup>	NS²	NS²	NS <sup>2</sup>	NS²	NS²	41.6 Ines
RW	Aug-07	9.7	<0.02	0.59	4.1	5.7	NR²	NR²	SI (E
	Apr-07	11	<0.10	0.87	4.1	8.6	NR²	NR²	(Benz Table
2	Aug-08	6.0	1.0	4.1	21.0	0.03	2.3	62	zeńe 2a (I
#15	Apr-08	NS²	NS²	NS <sup>2</sup>	NS²	NS²	NS <sup>2</sup>	NS <sup>2</sup>	e and (DRO)
RW	Aug-07	6.9	6.2	3:5	20	0.03	NR²	NR <sup>2</sup>	- ₽
	Apr-07	6.8	2.9	3, ,	15.	<0.62	NR²	NR²	
<b>.</b>	Aug-08	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	400ER(14151) (Benzene and Ethylbenzene) g Guidelines Table 2a (DRO)
RW #18	Арг-08	NS²	NS <sup>2</sup>	NS <sup>2</sup>	NS²	NS <sup>2</sup>	NS²	NS <sup>2</sup>	ne)
RW	Aug-07	NR¹	NR¹	NR¹	NR¹	NR1	NR¹	NR¹	
	Apr-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR1	NR¹	
ဝွ	Aug-08	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	
MW #20	Apr-08	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	
MW	Aug-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	
, , , , , , , , , , , , , , , , , , ,	Apr-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	

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### **Groundwater Analysis - Organics**

100		August 20		- EPA Meth	od 8021B : EPA Meth	od 8260B	EPA Meth	od 8015B	
Sample Location	Date	Benzene (mg/L) 0:005	Toluene (mg/L) 0.75	EthylBen (mg/L) 0.70	Xylene (mg/L) 0.62	MTBE (mg/L)	DRO (mg/L) 1.72	GRO (mg/L)	
	Aug-08	NR¹	NR¹	NR <sup>1</sup>	NR1	NR¹	NR¹	NR¹	
#21	Apr-08	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	
MW #21	Aug-07	NR¹	NR1	NR <sup>1</sup>	NR¹	NR¹	NR1	NR¹	
Σ	Apr-07	NR¹	NR¹	NR <sup>1</sup>	NR¹	NR¹	NR¹	NR¹	
	Aug-08	9.8	<0.10	1.6	9.7	1.5	48	70	Wo
#23	Apr-08	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	ooj
RW #	Aug-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	WQCC 20 NMAC 6.2.3103. TPH Screen
Ēζ.	Apr-07	NR¹	NR¹	NR <sup>1</sup>	NR¹	NR <sup>1</sup>	NR¹	NR¹	18
	Aug-08	NR¹	NR¹	NR <sup>1</sup>	NR <sup>1</sup>	NR¹	NR¹	NR¹	C 6 23103 40CFR141.6 TPH Screening Guidelines
#28	Apr-08	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	231 Sere
RW #	Aug-07	NR¹	NR¹	NR¹	NR¹	NR1	NR¹	NR¹	03 emi
œ	Apr-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	140 110 C
	Aug-08	<0.001	<0.001	<0.001	<0.0015	0.001	<1.0	<0.05	島男
<b>#29</b>	Apr-08	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	
MW #29	Aug-07	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	35 E1 35 T
Σ	Apr-07	<0.001	<0.001	<0.001	<0.002	0.004	NR <sup>2</sup>	NR <sup>2</sup>	(Benzene and Table 2a (DRO
	Aug-08	6.7	6.7	4:5	18.0	<0.1	6.3	80	zeno 2a
#30	Apr-08	6.0	2.4	3.5	13.0	<0.15	7.3	68	문의
MW #30	Aug-07	6.0	2.9	4.0	16.0	<0.02	NR²	NR²	) d E
Σ	Apr-07	-5.7	3.3	5.4	21.0	<0.62	NR²	NR²	₹
	Aug-08	4.0	0.018	1.4	3.0	<0.01	<1.0	<0.05	40GFR141.61 (Benzene and Ethylbenzene 19 Guidelines Table 2a (DRO)
MW #31	Apr-08	NS²	NS <sup>2</sup>	NS²	NS²	NS²	NS <sup>2</sup>	NS²	ene)
	Aug-07	NS³	NS³	NS <sup>3</sup>	NS³	NS <sup>3</sup>	NS <sup>3</sup>	NS³	
2	Apr-07	4.3	<0.10	1.4	4.7	<0.25	NR²	NR²	
	Aug-08	0.034	<0.001	0.0056	0.0018	0.016	41	5.1	
#40	Apr-08	NS²	NS²	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS²	NS²	13 19 T
MW #40	Aug-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	
	Apr-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	

NS1= Well is Dry or Not Enough Water to Sample- No Sample

NS² = Not Sampled due to approved Facility-Wide Monitoring Plan

NS³ = Sample Inadvertently not Collected this Sampling Event

NR1= No Sample Required - Well Contains Separate Phase Hydrocarbon

 $NR^{z} \approx No$  Sample Required per OCD and NMED pre-2007 Conditions

### **Groundwater Analysis - Organics**

		August 20	100 miles 100 mi	- EPA Metho August 2008	AND AND POST OF THE PARTY OF TH	od*8260B	EPA Meth	od 8015B	
Sample Location	Date	Benzene (mg/L)	· Toluene (mg/L)	EthylBen (mg/L)	- Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)	
		0.005	0.75	0.70	0.62		1.72	100	1 d b
<u>.</u>	Aug-08	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	まなっ
#42	Apr-08	NS <sup>2</sup>	NS²	NS²	NS²	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	0144 Te 44
RW	Aug-07	NR¹	NR¹	NR¹	NR1	NR¹	NR¹	NR¹	1 2 8
[	Apr-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	C 20 (Ben ng Gu
	Aug-08	NR¹	NR¹	NR¹ `	NR¹	NR1	NR¹	NR¹	
#43	Apr-08	NS²	NS²	NS <sup>2</sup>	NS²	NS <sup>2</sup>	NS²	NS <sup>2</sup>	NMAC o Zene an Idelines
RW	Aug-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	62 8 Ta
	Apr-07	:: 15	4.5	0.81	6.3	12	NR²	NR²	2:3103 Ethyll Table
]	Aug-08	<0.001	<0.001	<0.001	<0.0015	0.0018	<1.0	<0.05	ben 2a(
#44	Apr-08	NS <sup>2</sup>	NS²	NS²	NS²	NS²	NS <sup>2</sup>	NS <sup>2</sup>	C 20 NMAC 6:2:3103 (Benzene and Ethylbenzene) g Gujdelines Table 2a (DRO)
MW	Aug-07	NS <sup>3</sup>	NS³	NS³	NS³	NS <sup>3</sup>	NS <sup>3</sup>	NS <sup>3</sup>	
	Apr-07	<0.001	0.006	0.003	0.034	<0.0025	NR²	NR²	

NS1= Well is Dry or Not Enough Water to Sample- No Sample

NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan

NS³ = Sample Inadvertently not Collected this Sampling Event

NR1= No Sample Required - Well Contains Separate Phase Hydrocarbon

NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions

## **Groundwater Analysis - General Chemistry**

										wa	CC:	20 N	IMA:	C(6.2	2.31	03											NR¹≈ No Sample Required - Well Contains Separate Phase Hydrocarb
SM 2320B	ALK. (mg/L)		1100	1300	1200	NR¹	1000	NR'	NS³	NR¹	230	190	210	260	NR¹	1000	NR¹	NR¹	1200	1300	1200	NR¹	NR¹	NR'	NR.	NS <sup>2</sup>	Separate Pha
SM2	CO2 (mg/L)		1100	1400	1200	NR1	1000	NR'	NS³	NR¹	220	200	200	260	NR	1200	NR	NR¹	1200	1300	1200	NR¹	NR¹	NR	NR.	590	· Well Contains
	Sulfate (mg/L)	009	<0.50	110	3.8	NR¹	4.4	NR1	₽SN	NR	290	1300	980	740	NR¹	41	NR¹	NR¹	92.0	<0.50	<2.5	NR¹	NR¹	NR.	NR¹	940	nte Reduired
	. P . (mg/L)		<0.50	<2.5	<2.5	NR¹	<0.50	NR.	₽SN	NR	<0.50	<0.50	<0.50	<0.50	NR'	<10	NR¹	NR	<0.50	<0.50	<2.5	NR¹	NR.	NR1	NR¹	<5.0	TION SAID
	Nitrogen (mg/L)	10.	<0.10	<0.50	NS <sup>2</sup>	NR1	<0.10	NR¹	NS³	NR	24	20	NS2	27	NR1	<2.0	NR¹	NR¹	<0.10	<0.10	NS²	NR¹	NR¹	NR¹	NR	<1.0	
EPA:300.0	Bromide (mg/L)		2.3	2.2	2.8	NR'	3.5	NR.	NS³	NR.	1.6	1.6	1.5	<2.5	NR1	3.9	NR'	NR.	7.8	8.4	9.7	NR	NR	NR	NR¹	<5.0	- land
	Nitrite (mg/L)		<0.50	<0.50	<0.50	NR,	<0.10	N F	NS3	NR.	0.12	<0.10	26	<0.50	NR.	<2.0	NR.	NR'	<2.0	<2.0	<0.50	NR.	NR	NR.	NR¹	<1.0	
	Chloride.	250	250	220	230	NR.	190	NR	NS³	NR.	180	410	300	260	NR.	420	NR1	NR'	420	400	370	NR1	NR.	NR.	NR.	110	1 1 1 1 1 1 1 1
	Fluoride (mg/L)	1.6	0.31	<0.50	<0.50	NR.	0.23	NR'	NS³	NR.	69.0	0.74	79.0	0.79	NR.	<2.0	NR.	NR.	0.29	0.32	<0.50	NR¹	NR¹	NR.	NR	<1.0	(1000 Plane)
	Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	
	Sample	Location		l#	WA			<b>v</b> #	WN	i		8#	WN	J.		6#	WF	I .		9 l#	W	<b>H</b>		8 l#	WS	١ .	

NS'= Well is Dry or Not Enough Water to Sample- No Sample

NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan

NS3 = Sample Inadvertently not Collected this Sampling Event

NR² = No Sample Required per OCD and NMED pre-2007 Conditions





## Groundwater Analysis - General Chemistry

											WQ	<b>C</b> G	20 N	IMA	C:6.	2-31	D3					107						Hydrocarbon
20B	ALK	(mg/L)		NR.	NR	NR.	NR.	NR¹	NR'	NR'	NR	780	NR'	NR'	NR'	NR	NR¹	NR'	NR;	210	NS <sub>3</sub>	NR <sup>2</sup>	NR¹	1400	1400	NR <sup>2</sup>	NR²	NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon
SM 2320B		(mg/L)		NR.	NR	NR'	NR.	NR.	NR.	NR,	NR.	850	NR.	NR.	NR.	NR,	NR.	NR.	NR.	200	NS <sup>3</sup>	NR <sup>2</sup>	NR'	1500	1500	NR <sup>2</sup>	NR <sup>2</sup>	Well Contains
	Sulfate	/- (mg/L)	009	NR'	NR'	NR.	NR.	NR¹	NR'	NR.	NR.	3.2	NR.	NR.	NR.	NR'	NR.	NR.	NR.	160	NS3	NR <sup>2</sup>	NR.	12	92	NR <sup>2</sup>	NR <sup>2</sup>	ple Required -
100	d	" (mg/L)		NR.	NR.	NR.	NR.	NR.	NR.	NR1	NR.	<0.50	NR.	NR	NR.	NR.	NR.	NR.	NR.	<0.50	NS³	NR <sup>2</sup>	NR	<0.50	<0.50	NR <sup>2</sup>	NR <sup>2</sup>	NR'= No Sam
	Nitrogen	(mg/L)	10	NR'	N E	NR.	NR.	NR¹	NR.	NR.	NR.	<0.10	NR.	NR'	NR.	NR¹	NR.	NR.	NR.	66.0	NS³	NR <sup>2</sup>	NR¹	<0.10	<0.10	NR <sup>2</sup>	NR <sup>2</sup>	
EPA 300.0	Bromide	· (mg/L)		NR,	N F	NR.	NR1	NR¹	NR.	NR	NR.	<1.0	NR1	NR.	NR1	NR¹	NR¹	NR.	NR	0.4	NS3	NR <sup>2</sup>	NR.	5.6	4.7	NR <sup>2</sup>	NR <sup>2</sup>	nple
	Nitrite	(mg/L)		NR'	N.	Z.	NR.	NR'	NR.	NR.	NR1	<0.10	NR.	NR,	NR.	NR1	Z Z	NR.	NR	<0.10	NS³	NR²	NR.	<0.10	<0.10	NR <sup>2</sup>	NR <sup>2</sup>	ough Water to Sample- No Sample
	Chloride	: (mg/L)	250	NR'	NR.	NR.	NR¹	NR.	N N		NR'	92	NR'	NR'	NR.	NR.	NR.	NR.	NR,	57	NS3	NR <sup>2</sup>	NR'	210	240	NR <sup>2</sup>	NR <sup>2</sup>	ugh Water to S
	Fluoride	· (mg/L)	91	NR1	NR	NR	NR¹	NR	NR¹	NR	NR¹	0.4	NR٬	NR٬	NR.	NR,	NR₁	NR¹	NR.	96.0	₅SN	NR <sup>2</sup>	NR¹	0.15	0.17	NR <sup>2</sup>	NR <sup>2</sup>	
The state of the s		· Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	NS¹= Well is Dry or Not End
		Sample		C	)Z#	WM 1			·Z#	WN	ı	ε	:7#	WЯ	l 	ε	3 <b>7</b> #	W۶	3	6	<b>7</b> #	WN	J	C	£#	WN	J	

NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan

NS3 = Sample Inadvertently not Collected this Sampling Event

**Groundwater Analysis - General Chemistry** 

									WQ	CC.	20 N	MAC	6.2	310	13.					4			
SM 2320B	ALK	(mg/L)		1100	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	1200	NR¹	NR	NR¹	NR.	NR¹	NR¹	NR¹	NR¹	NR	NR¹	NR¹	350	NS³	NR <sup>2</sup>	Ä.
SM2	ැල්ට	(mg/L)		1100	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	1200	NR¹	NR1	NR1	NR¹	NR.	NR,	NR1	NR¹	NR.	NR¹	NR¹	360	NS³	NR <sup>2</sup>	NR.
	Sulfate	. (mg/L)		6.4	NSz	NR <sup>2</sup>	NR <sup>2</sup>	<0.50	NR۱	NR	NR¹	NR	NR¹	'AN	NR¹	NR1	NK،	NR	NR¹	3000	₅SN	NR <sup>2</sup>	NR.
	ď	, (mg/L)		<0.50	NS <sup>2</sup>	NR²	NR <sup>2</sup>	<0.50	NR¹	NR,	NR¹	NR1	NR	NR.	NR¹	NR¹	NR¹	NR¹	NR¹	<0.50	NS3	NR <sup>2</sup>	NR1
	Nitrogen	(mg/L),	× 01	<0.10	NSz	NR <sup>2</sup>	NR	<2.0	NR	NR.	NR	NR	NR	NR.	NR¹	NR¹	NR	NR¹	NR¹	<0.10	NS³	NR <sup>2</sup>	NR¹
EPA 300.0	Bromide	· (mg/L)		17	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	4.4	NR¹	NR,	NR.	NR¹	NR.	NR.	NR¹	NR¹	NR'	NR.	NR,	0.28	NS³	NR <sup>2</sup>	NR¹
	Nitrite	(mg/L)		o.⊦>	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	<2.0	NR	NR	Z F	NR	NR.	NR.	NR.	NR1	NR	NR.	NR1	<0.10	NS3	NR <sup>2</sup>	NR¹
	Chloride	(mg/L).	250	740	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	310	NR¹	NR'	NR.	NR1	NR.	NR.	NR.	NR	NR.	NR.	NR	72	NS³	NR <sup>2</sup>	NR¹
	Fluoride	(mg/L)>	1.6	0.15	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	0.33	NR¹	NR'	NR	NR	NR	NR.	NR	NR¹	NR¹	NR.	NR.	0.62	NS³	NR <sup>2</sup>	NR.
		Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	. Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
	Sample	Location			£#	M	V	,	) <del>//</del> #	W	V		Z <b>v</b> #	WS	1		E <i>t</i> #	W	4	,	v <b>v</b> #	W	V

NS'= Well is Dry or Not Enough Water to Sample- No Sample NS² = Not Sampled due to approved Facility-Wide Monitoring Plan NS³ = Sample Inadvertently not Collected this Sampling Event

NR\*= No Sample Required - Well Contains Separate Phase Hydrocarbon NR\*= No Sample Required per OCD and NMED pre-2007 Conditions

## **Groundwater Analysis - Total Metals**

				9							40	GF	R 1	41.6	31. I	/ICL			44						i e			NR¹≈ No Sample Required - Well Contains Separate Phase Hydrocarbon
	Mercury	(mg/L)	0.002	<0.0002	<0.0002	NR <sup>2</sup>	NR¹	<0.0002	NR¹	NS³	NR¹	<0.0002	<0.0002	NR <sup>2</sup>	NR <sup>2</sup>	NR¹	<0.0002	NR¹	NR¹	<0.001	<0.001	NR <sup>2</sup>	NR1	NR¹	NR¹	NR1	NR <sup>2</sup>	Separate Phys
Ŋ	Silver	(mg/L)	0.05	<0.005	<0.005	NR <sup>2</sup>	NR¹	<0.005	NR.	NS³	NR¹	<0.005	0.069	NR <sup>2</sup>	NR <sup>2</sup>	NR.	<0.005	NR¹	NR¹	<0.005	<0.005	NR <sup>2</sup>	NR¹	NR¹	NR¹	NR1	NR <sup>2</sup>	Well Contains
70: Mercu	Se	(mg/L)	0.05	<0.05	<0.05	NR <sup>2</sup>	NR,	<0.05	NR.	NS³	NR1	<0.05	<0.05	NR <sup>2</sup>	NR <sup>2</sup>	NR¹	<0.05	NR¹	NR'	<0.05	<0.05	NR <sup>2</sup>	NR¹	NR¹	NR¹	NR¹	NR2	ole Required -
Method 74	Lead	(mg/L)	0.05	<0.005	0.019	<0.005	NR.	<0.005	NR.	NS3	NR¹	<0.005	<0.005	<0.005	<0.005	NR.	0.052	NR.	NR.	<0.005	<0.005	<0.005	NR1	NR¹	NR1	NR1	0.16	NR¹≂ No Sami
010B, EPA	Cr	(mg/L)	0.05	<0.006	<0.006	<0.006	NR.	<0.006	NR.	NS <sup>3</sup>	NR.	0.0071	0.56	2.9	0.33	NR.	<0.006	-RA	NR¹	<0.006	<0.006	<0.006	NR1	NR1	NR¹	NR1	0.32	
EPA Method 6010B; EPA Method 7470; Mercury	Cadmium	, (mg/L)	0.005	<0.002	<0.002	NR <sup>2</sup>	NR.	<0.002	NR	NS³	NR.	<0.002	<0.002	NR <sup>2</sup>	NR <sup>2</sup>	NR¹	<0.002	NR.	NR'	<0.002	<0.002	NR <sup>2</sup>	NR¹	NR1	NR1	NR1	NR <sup>2</sup>	nple
EP	Barium	(mg/L)	1	1.7	0.61	NR <sup>2</sup>	NR.	1.3	NR.	NS3	NR.	<0.020	0.027	NR <sup>2</sup>	NR <sup>2</sup>	NR1	1.7	NR.	NR.	1.2	1.8	NR <sup>2</sup>	NR.	NR.	NR1	NR1	NR <sup>2</sup>	ample- No Sar
	Arsenic	(mg/L)	10.0	<0.020	<0.020	NR²	NR	<0.020	NR	NS³	NR	<0.020	<0.020	NR <sup>2</sup>	NR²	NR	<0.020	NR.	NR.	<0.020	<0.020	NR²	NR	NR1	NR	NR¹	NR	ough Water to Sample. No Sample
d		Date	in a	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	iv or Not Engl
Section of the		Sample	Location		l#	WA			<b>v</b> #	—— ₩M			8#	WM			6#	WЯ	•	9	ìl#	W۶	4	8	31#.	Mδ	1	NS1= Well is Dry or Not En

 $\ensuremath{\mathsf{NR}}^2 = \ensuremath{\mathsf{No}}$  Sample Required per OCD and NMED pre-2007 Conditions

NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan

NS<sup>3</sup> = Sample Inadvertently not Collected this Sampling Event

## **Groundwater Analysis - Total Metals**

- 1	er de									.40	CF	R 14	11.6	1 1	/ICL											
	Mercury (mg/L)	0.002	NR¹	NR¹	NR¹	NR¹	NR'	NR1	NR¹	NR1	<0.00020	NR¹	<0.00020	NS <sup>3</sup>	NR <sup>2</sup>	.NR¹	<0.00020	<0.0002	NR <sup>2</sup>	NR²						
ry	Silver (mg/Ľ) ∈	0.05	NR¹	NR¹	NR.	NR¹	NR'	NR¹	NR¹	NR¹	<0.0050	NR¹	<0.0050	NS³	NR <sup>2</sup>	NR¹	<0.0050	<0.005	NR <sup>2</sup>	NR²						
470: <u>Merc</u> u	Şe (mg/L)	0.05	NR¹	NR	NR¹	NR¹	NR1	NR¹	NR¹	NR¹	<0.25	NR۱	NR¹	NR1	NR¹	NR¹	NR¹	NR¹	<0.25	NS³	NR <sup>2</sup>	NR¹	<0.25	<0.05	NR <sup>2</sup>	NR <sup>2</sup>
Method 7	≟ Lead (mg/L)≅	.0:05	NR1	NR¹	NR1	NR¹	NR	NR¹	NR.	NR1	0.013	NR.	NR¹	NR1	NR¹	NR¹	NR1	NR¹	<0.0050	NS³	NR <sup>2</sup>	NR¹	<0.0050	<0.005	NR <sup>2</sup>	NR²
3010B, EPA	Cr (mg/L)	0.05	NR¹	NR1	NR	NR¹	NR.	NR¹	NR.	NR¹	<0.0060	NR1	NR¹	NR1	NR¹	NR¹	NR1	NR1	<0.0060	NS³	NR <sup>2</sup>	NR¹	<0.0060	<0.006	NR2	NR <sup>2</sup>
EPA Method 6010B, EPA Method 7470: Mercury	Cadmium (mg/L)	0.005	NR¹	NR¹	NR1	NR¹	NR.	NR¹	NR¹	NR.	<0.0020	NR¹	NR.	NR¹	NR¹	NR.	NR'	NR'	<0.0020	NS³	NR <sup>2</sup>	NR¹	<0.0020	<0.002	NR <sup>2</sup>	NR <sup>2</sup>
	Barium (mg/b)	F.	NR.	NR.	NR.	NR1	NR¹	NR.	NR.	NR.	1.4	NR¹	NR.	NR.	NR.	NR.	NR.	NR.	0.072	NS³	NR2	NR.	0.72	0.89	NR2	NR <sup>2</sup>
	Arsenic (ma/L)	0:01	NR.	NR'	NR.	NR¹	NR¹	NR1	NR¹	NR,	<0.020	NR¹	NR.	AR.	NR¹	NR.	NR1	NR¹	<0.020	NS³	NR <sup>2</sup>	NR¹	<0.020	<0.020	NR <sup>2</sup>	NR <sup>2</sup>
	Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
	Sample	Location		)Z#	M	V		<b>.</b> 7#	W	<b>V</b>		£Z#	W۶	:		87#	WS	ł	6	6Z#	M	V	,	)E#	M	V

NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan NS'= Well is Dry or Not Enough Water to Sample- No Sample

NS3 = Sample Inadvertently not Collected this Sampling Event

NR'= No Sample Required - Well Contains Separate Phase Hydrocarbon NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions





## Groundwater Analysis - Total Metals

									40 C	CFR	14	1.61	M	CL.		1				Trans.			
	Mercury	_(mg/L)	0.002	<0.00020	NS <sup>2</sup>	NR <sup>2</sup>	NR²	<0.00020	NR'	NR¹	NR¹	NR¹	NR.	NR,	NR¹	NR¹	NR'	NR'	NR¹	<0.00020	NS³	NR <sup>2</sup>	NR1
ry	Silver	(mg/L)=	0.05	<0.0050	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	<0.0050	NR¹	NR	NR¹	NR⁴	NR1	NR1	NR¹	NR¹	NR.	NR¹	NR	<0.0050	NS³	NR <sup>2</sup>	NR¹
170: Mercu	Se	(mg/L)	0.05	<0.050	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	<0.25	NR1	NR1	NR1	NR¹	NR1	NR¹	NR¹	NR¹	NR¹	NR1	NR	<0.25	NS³	NR <sup>2</sup>	NR¹
Method 74	Lead	(mg/L)	0.05	<0.0050	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	<0.0050	NR'	NR¹	NR'	NR¹	NR'	NR¹	NR'	NR'	NR.	NR¹	NR.	<0.0050	NS³	NR <sup>2</sup>	NR1
010B, EPA	Gr.	(mg/L)	0.05	<0.0060	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	<0.0060	NR.	NR.	NR¹	NR1	NR1	NR.	NR1	NR.	NR1	NR¹	NR.	<0.0060	.SN	NR <sup>2</sup>	NR'
EPA Method 6010B, EPA Method 7470: Mercury	Cadmium	- (mg/L)	0.005	<0.0020	NS <sub>2</sub>	NR <sup>2</sup>	NR <sup>2</sup>	<0.0020	NR.	NR¹	NR.	NR1	NR1	NR¹	NR1	NR¹	NR	NR¹	NR	<0.0020	NS3	NR <sup>2</sup>	NR.
	Barium	· (mg/L)	1.5	1.1	NS <sub>2</sub>	NR <sup>2</sup>	NR <sup>2</sup>	1.8	NR.	NR	NR¹	NR.	NR.	NR.	NR.	NR¹	NR.	NR	NR	<0.020	NS³	NR <sup>2</sup>	NR.
	Arsenic	(mg/L)	10.0	<0.020	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	<0.020	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR'	NR¹	NR.	NR¹	NR.	<0.020	NS3	NR <sup>2</sup>	NR.
		. Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
		Sample			LE#	M	V		) <del>1/</del> #	M	V		Zv#	W۶	<u>.</u>		E <del>1/</del> #	WS	4	1	v <b>'v</b> #	M	V .

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										, V	/QC	C 20	NM	AC6	2.3	103										
	Zinć (mg/L)	10	0.052	<0.05	0.057	NR.	<0.05	NR.	NS <sup>3</sup>	NR	960.0	<0.05	0.044	0.014	N R	0.084	R	NR	0.054	0.057	0.034	NR.	NR.	NR.	NR.	0.021
	Uranium (mg/L)	£0.03	<0.001	<0.10	<0.10	NR.	<0.001	NR¹	NS³	NR'	0.01	<0.10	<0.10	<0.10	NR'	<0.10	NR.	NR	<0.001	<0.10	<0.10	NR.	NR.	NR1	NR.	<0.10
	Sodium (mg/l:)		NS <sup>3</sup>	530	500	NR1	NS3	NR.	NS3	NR1	NS <sup>3</sup>	420	380	360	NR.	400	NR.	NR	550	550	260	NR.	NR'	NR	NR¹	200
	Silver (mg/L)	0:05	<0.005	<0.005	<0.005	NR	<0.005	NR.	NS₃	NR	<0.005	<0.005	<0.005	<0.005	NR1	<0.005	NR¹	NR.	<0.005	<0.005	<0.005	NR1	NR¹	NR.	NR¹	<0.005
All Other Metals	Se (mg/L)	0.05	<0.25	<0.25	<0.05	NR1	<0.25	NR'	NS3	NR'	<0.25	0.1	0.05	<0.05	NR	<0.25	NR.	NR1	<0.25	<0.25	<0.05	NR1	NR'	NR¹	NR	<0.050
for All Oth	K (mq/L)		NS3	3.1	3.2	NR'	NS³	NR¹	NS3	NR'	NS3	3.1	3.2	3.1	NR¹	3.0	NR1	NR1	3.7	3.3	3.2	NR.	NR1	NR	NR¹	4.4
od 6010B f	Mn (ma/b)	0.2	2.5	4.2	. 3	NR1	3.1	NR	NS3	NR¹	0.027	0.24	0.42	0.65	NR¹	4.4	NR1	NR1	2.8	. 3.2	3.2	NR¹	NR¹	NR.	NR.	4.1
EPA Method 6010B	Mg (ma/L)		NS <sup>3</sup>	37	32	NR¹	NS3	NR.	NS3	NR1	NS³	35	35	37	NR1	52	NR1	NR¹	44	42	43	NR1	NR.	NR	NR.	64
#1 m	Lead (md/L)	0.05	<0.005	0.007	0.008	NR.	<0.005	NR¹	NS³	NR.	<0.005	<0.005	<0.005	<0.005	NR	0.026	NR	NR1	<0.005	<0.005	0.00	NR.	NR¹	NR	NR.	<0.005
20A for Ur	Iron (ma/c)	1	3.7	8:0	6.4	NR.	9.6	NR.	NS³	NR¹	0.1	0.2	0.033	0.078	NR.	16.0	NR	NR	5.3	16.0	9.9	NR	NR	NR.	NR.	5.0
EPA Method 6020A for Uranium	Copper (ma/L)		<0.006	<0.006	<0.006	NR.	<0.006	NR.	NS³	NR.	<0.006	<0.006	<0.006	<0.006	NR.	<0.006	NR	NR.	<0.006	<0.006	<0.006	NR.	NR.	NR'	.NR¹	<0.006
EPA R	Cr.			<0.006	<0.006	NR.	<0.006	NR	NS³	NR	0.007	<0.006	<0.006	<0.006	NR¹	<0.006	NR.	NR¹	<0.006	<0.006	<0.006	NR'	NR.	NR.	R.	<0.006
	Calcium		NS <sup>3</sup>	140	120	NR.	NS3	NR	NS³	NR	NS3	250	230	230	NR.	180	NR.	NR¹	130	140	140	NR	NR'	NR.	NR	220
	Cadmiun (mn/l)	0.01	<0.002	<0.002	<0.002	NR	<0.002	NR.	NS <sup>3</sup>	NR.	<0.002	<0.002	<0.002	<0.002	NR,	<0.002	NR'	NR.	<0.002	<0.002	<0.002	R	N.	NR	NR.	<0.002
	Barium (mr//1	T. P. S.	4.7	89	1.7	NR	1.3	NR¹	NS3	NR'	<0.02	<0.020	0.018	0.021	NR¹	2.5	NR'	NR.	1.2	1.6	1.3	NR.	NR	NR	NR	0.038
	Arsenic	1.02	<0.02	<0.02	<0.20	NR.	<0.02	NR.	NS <sup>3</sup>	NR.	<0.02	<0.020	<0.020	<0.020	NR	<0.020	NR	NR.	<0.02	<0.020	<0.020	NR.	NR.	NR:	NR.	<0.020
			Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
	Sample	Location		l#	W۶	1		<b>v</b> #	W	V		8#	W	V		6#	WS	1		9 l#	Μ	Я		81#	* M	ย

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## Groundwater Analysis - Dissolved Metals

7918										1	VQC	C 2	ONN	AC	5.2.3	103				i.					1	
	Zinc (mg/L)	10	NR.	NR,	NR.	NR.	NR¹	NR.	NR.	NR¹	<0.05	NR¹	NR,	NR.	NR,	NR.	NR¹	NR¹	0.059	NS³	NR <sup>2</sup>	NR¹	<0.05	<0.05	NR²	NR <sup>2</sup>
	Uranium (mg/L)	≥≤0.03	NR.	NR.	NR.	NR,	NR¹	NR.	NR.	NR¹	<0.001	NR¹	NR.	NR¹	NR	NR.	NR.	NR¹	0.002	NS³	NR <sup>2</sup>	NR1	<0.001	<0.10	NR <sup>2</sup>	NR <sup>2</sup>
	Sodium (mg/L)	1.0	NR¹	NR.	NR¹	NR.	NR.	NR.	NR.	NR,	170	NR.	NR.	NR.	NR.	NR.	NR,	NR.	NS3	NS3	NR <sub>2</sub>	NR.	NS3	260	NR <sup>2</sup>	NR <sup>2</sup>
	Silver (mg/L)	0.05	NR.	, E	NR.	NR.	NR¹	R.	NR.	NR¹	<0.005	NR¹	NR.	NR.	NR¹	NR.	NR.	NR1	<0.005	NS³	NR <sup>2</sup>	N Ā	<0.005	<0.005	NR²	NR <sup>2</sup>
er Metals	Se (mg/L)	0.05	NR¹	NR¹	NR.	NR¹	NR¹	NR.	NR1	NR1	<0.25	NR¹	NR.	NR,	NR,	NR.	NR.	NR.	<0.25	NS³	NR <sup>2</sup>	NR.	<0.25	<0.25	NR2	NR2
or All Oth	K (mg/L)	1	NR¹	NR.	NR¹	NR¹	NR.	NR.	NR.	NR1	6.3	NR.	Z.	NR.	NR.	NR.	NR.	NR,	NS³	NS₃	NR <sup>2</sup>	NR¹	NS3	2.9	NR <sup>2</sup>	NR <sup>2</sup>
EPA Method 6010B for All Other Metal	Mn (mg/L)	0.2	NR	NR.	NR.	NR.	NR¹	NR.	NR.	NR,	4.6	NR1	NR.	NR.	NR.	NR.	NR	NR.	0.97	NS³	NR <sub>2</sub>	NR.	1.7	1.8	NR <sup>2</sup>	NR2
PA Metho	Mg (mg/L)		NR¹	NR.	NR.	NR.	NR1	NR.	NR.	NR.	47	NR¹	NR.	NR¹	NR¹	, R	R.	NR.	NS3	NS³	NR <sup>2</sup>	NR.	NS3	39	NR <sup>2</sup>	NR²
	Lead (mg/L)	0.05	NR¹	NR.	NR.	NR¹	NR1	NR¹	NR.	NR.	0.013	NR1	NR.	NR.	NR'	NR.	I'A'	NR.	<0.005	NS³	NR <sup>2</sup>	NR.	<0.005	<0.005	NR2	NR2
20A för Ur	Iron (mg/L)		NR1	NR.	NR'	NR¹	NR1	NR.	NR.	NR.	2:9	NR¹	NR.	NR,	NR.	NR.	NR.	NR'	<0.02	NS3	NR <sub>2</sub>	NR.	0.37	0.31	NR <sup>2</sup>	NR <sup>2</sup>
EPA Method 6020A for Uranium	Copper (mg/L)		NR¹	NR.	NR	NR1	NR.	NR.	NR.	NR1	<0.006	NR¹	NR1	NR.	NR.	Z.	R.	Ŗ.	>0.006	NS3	NR <sup>2</sup>	NR.	<0.006	<0.006	NR2	NR2
EPAN	Cr (mg/L)	0.05	NR1	NR	NR.	NR1	NR:	NR.	NR¹	NR1	>0.006	NR	NR¹	NR¹	NR.	NR.	NR.	NR.	>0.006	NS³	NR <sub>2</sub>	NR.	>0.006	>0.006	NR <sup>2</sup>	NR2
	Calcium (mg/L),		NR¹	NR1	NR¹	NR¹	NR¹	NR1	NR	NR.	110	NR	NR1	NR.	NR	N.	NR.	NR¹	NS3	NS3	NR <sub>2</sub>	NR.	NS3	190	NR <sup>2</sup>	NR²
	Cadmium (mg/៤)	F0:0	NR.	NR¹	NR1	NR.	NR¹	NR1	NR¹	NR.	<0.002	NR¹	NR1	NR¹	NR¹	NR.	NR¹	NR1	<0.002	NS³	NR2	NR¹	<0.002	<0.002	NR <sup>2</sup>	NR2
	Barium (mg/L)		NR.	NR.	NR	NR.	NR'	NR.	NR.	NR1	1.4	NR.	NR.	NR¹	NR.	NR.	NR¹	NR1	<0.02	NS3	NR <sup>2</sup>	NR1	0.72	0.59	NR <sup>2</sup>	NR <sup>2</sup>
	Arsenic (mg/L)	0.1	NR.	NR,	NR.	NR1	NR¹	NR.	NR.	NR.	<0.02	NR.	NR	NR,	NR	NR.	NR¹	NR¹	<0.02	NS3	NR <sup>2</sup>	NR1	<0.02	<0.02	NR2	NR <sup>2</sup>
	Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
	Sample		0	<b>Z#</b>	WN	!	ŀ	<b>Z#</b>	WW	l	ε	Z#	WA		8	37#	M	1	6	ፘ#	WN	ı	0	£#	WN	J

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## Groundwater Analysis - Dissolved Metals

								Ŋ	QÇ	C 20	ΝM	AC6	2.3	103								
	Zinc (mg/L)	9	<0.05	NS <sub>2</sub>	NR <sup>2</sup>	NR <sup>2</sup>	0.063	NR	NR.	NR	N R	R.	R.	NR.	N N	NR.	NR.	NR.	<0.05	NS³	NR <sup>2</sup>	NR.
	Uranium (mg/L)	0.03	<0.001	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	<0.001	NR.	NR1	NR.	NR.	NR.	NR1	NR¹	NR,	NR.	NR.	NR.	0.001	NS3	NR <sup>2</sup>	I.R.
	Sodium (mg/L)		NS³	NS²	NR <sup>2</sup>	NR <sup>2</sup>	520	NR.	NR.	NR.	NR.	NR.	NR.	NR.	NR.	NR.	NR.	NR.	900	NS <sup>3</sup>	NR <sup>2</sup>	NR1
	Silver (mg/L)	0.05	<0.005	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	<0.005	Z Ž	Z Z	NR.	N E	NR.	NR.	NR	Ν. Έ	Z.	NR.	NR.	<0.005	NS3	NR <sup>2</sup>	NR.
er Metals	Se (mg/L)	0.05	<0.05	NS <sup>2</sup>	NR²	NR <sub>2</sub>	<0.25	"K	NR.	NR.	NR.	NR,	NR.	NR.	NR	N Ā	NR.	NR.	<0.25	NS³	NR <sup>2</sup>	NR.
or All Oth	K (mg/L):		NS <sup>3</sup>	NS <sub>2</sub>	NR <sup>2</sup>	NR <sup>2</sup>	3.5	NR.	NR.	NR1	NR¹	NR¹	NR.	NR¹	NR¹	N.	NR.	R.	8.0	NS³	NR <sup>2</sup>	NR.
EPA Method 6010B for All Other Metal	Mn (mg/L)	0.2	0.71	NS <sub>2</sub>	NR <sup>2</sup>	NR <sup>2</sup>	2.5	NR.	NR1	NR¹	NR¹	NR	NR.	NR.	NR¹	NR.	NR.	NR.	1.7	NS³	NR <sup>2</sup>	NR¹
A Metho	Mg (mg/L)		NS3	NS <sup>2</sup>	NR <sup>2</sup>	NR2	42	NR.	NR1	NR.	NR¹	NR'	NR¹	NR¹	NR.	NR.	NR.	NR.	64	NS³	NR²	NR1
10	Lead (mg/L)	0.05	<0.005	. NS	NR <sup>2</sup>	NR²	<0.005	NR.	NR¹	NR'	NR¹	NR.	NR	NR¹	NR¹	NR.	NR.	NR¹	<0.005	NS3	NR <sup>2</sup>	NR.
0A for Ur	Iron (mg/L)	1.0	0.21	NS <sub>2</sub>	NR2	NR2	5.5	NR.	NR.	NR1	NR.	NR'	NR¹	NR'	NR1	NR¹	NR¹	NR'	0.083	NS3	NR <sup>2</sup>	NR.
EPA Method 6020A for Uranium	Copper (mg/L)	1	<0.006	NS <sub>2</sub>	·NR²	NR	<0.006	NR.	N.	NR.	NR1	NR	NR	NR.	NR.	NR¹	NR¹	NR.	>0.006	NS³	NR <sup>2</sup>	NR'
EPA M	Cr (mg/L)	90'0	>0.006	NS <sup>2</sup>	NR <sup>2</sup>	NR <sup>2</sup>	>0.006	NR¹	NR.	Z. Y.	NR,	Z.	NR.	NR	NR¹	NR.	NR.	NR1	>0.006	NS3	NR²	NR.
	Calcium (mg/L)		NS³	NS <sub>2</sub>	NR2	NR2	16	NR	NR.	NR	NR.	NR	NR.	NR	NR	N.	NR,	NR¹	470	NS³	NR <sup>2</sup>	NR
	Cadmium (mg/៤)	0.07	<0.002	NS <sub>2</sub>	NR²	NR <sup>2</sup>	<0.002	NR.	NR.	NR	NR.	NR	NR	NR,	NR1	NR.	NR.	NR.	<0.002	NS³	NR <sup>2</sup>	NR.
	Barium Cadmium (mg/L):(mg/L):		1.1	NS <sub>2</sub>	NR <sup>2</sup>	NR <sup>2</sup>	1.8	NR.	N.	NR	NR.	NR.	NR.	NR	NR.	NR.	NR	NR¹	<0.02	NS <sup>3</sup>	NR <sup>2</sup>	NR
	Arsenic (mg/L)	0.1	<0.02	NS <sub>2</sub>	NR2	NR²	<0.02	NR	NR.	NR.	NR	NR.	NR.	NR	NR.	NR.	NR	NR1	<0.02	NS <sup>3</sup>	NR <sup>2</sup>	NR.
	Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
	Sample	Location		LE#	W	V	,	) <del>/</del> #	W	N	;	Z <i>\range</i> #	M	A		£ <b>1</b> #	W	4		vv#	M	N

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Groundwater Analysis - Semi-Volatile Organic Compounds

	2 - US	EPA	Reg	ion V					IAC 6 dium			Scre	ening	Lev	el 20	08
	Phenol (ma/L)		<0.01	<0.02	NR¹	0.044	0.018	0.11	<0.05	NR¹	<0.01	NR.	<0.01	<0.01	<0.05	NR¹
	Phenanthrene (mg/L)		0.077	0.093	NR¹	0.026	<0.01	0.068	0.15	NR¹	<0.01	NR¹	<0.01	<0.01	0.056	NR₁
	Naphthalene (mg/L)	0.031	0.29	0.43	NR¹	0.13	0.28	0.35	1.5 gr	NR¹	0.096	NR¹	0.59	0.44	0.14	NR¹
EPA Method 8270B	2- Methylnaphthalene (ma/L)	O min.	0.54	98.0	NR¹	0.12	0.079	0.33	2.6	NR¹	0.082	NR¹	0.21	0.14	0.3	NR¹
EPA Me	Fluorene (mg/L)	0.242	0.058	0.088	NR¹	<0.02	<0.01	<0.05	0.083	NR¹	<0.01	NR¹	<0.01	<0.01	<0.05	NR¹
	2,4 Dimethylphenol (mg/L)		<0.01	<0.02	NR¹	0.029	0.013	0.078	<0.050	NR¹	0.022	NR¹	0.019	<0.01	<0.05	NR¹
	Bis(2-ethylexyl) phthalate (mg/L)	0.0482	0.051	0.077	NR¹	<0.03	<0.01	<0.075	<0.05	NR¹	0.022	NR¹	<0.01	<0.015	<0.05	NR¹
	Acenaphthene (mg/L)	0.372	0.011	0.022	NR1	<0.02	<0.01	<0.05	<0.05	NR¹	<0.01	NR¹	<0.01	<0.01	<0.05	NR¹
	Date		Aug-08	Aug-07	Aug-08	Aug-07	Aug-08	Aug-07	Aug-08	Aug-07	Aug-08	Aug-07	Aug-08	Aug-07	Aug-08	Aug-07
	Sample Location		D.W. #1	#	0# /MQ	G# AAV	DW #15	C # ##VI	DW #23	25	MAYA/#A	***	M/A/ #30	200	MW #AD	

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NR1= No Sample Required - Well Contains Separate Phase Hydrocarbon

 $NR^2$  = No Sample Required per OCD and NMED pre-2007 Conditions

### **Cross - Gradient Wells**

### **Groundwater Analysis - Organics**

		August 20	ARCHER TO THE PROPERTY OF THE PARTY OF THE P	⊸EPA Meth	the second of the second of the second of the second	od 8260B	EPA Meth	od 8015B	
Sample Location	Date	Benzene (mg/L) 0.005	Toluene (mg/L)	EthylBen (mg/L) 0.70	Xylene (mg/L) 0:62	MTBE (mg/L)	DRO (mg/L) 11.72	GRO (mg/L)	
944.38252.9672.25539 <u>8</u> 6	Aug-08	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<0.05	
#1	Apr-08	<0.001	<0.001	0.0023	0.016	<0.0015	<1.0	0.21	
ΜW	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	NR <sup>2</sup>	NR <sup>2</sup>	¥ο
	Apr-07	<0.001	<0.001	<0.001	<0.002	<0.0025	NR <sup>2</sup>	NR²	8
	Aug-08	<0.001	<0.001	<0.001	0.0015	0.0022	<1.0	<0.05	WQCC 20 NMAC 6:23103 TPH-Screen
#13	Apr-08	<0.001	<0.001	<0.001	<0.003	0.0032	<1.0	<0.05	MA T
MW	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	NR²	NR²	6.2 PH 8
2	Apr-07	<0.001	<0.001	<0.001	<0.002	0.005	NR²	NR²	310 300 300
	Aug-08	0.12	<0.002	<0.002	0.0039	0.011	2.0	7.9	з enin
#26	Apr-08	NS²	NS²	NS <sup>2</sup>	NS <sup>2</sup>	NS²	NS²	NS <sup>2</sup>	40c g G
MW	Aug-07	0.079	<0.01	0.18	<0.015	0.011	NR²	NR²	最易
	Apr-07	* 0.72	<0.01	0.37	0.035	<0.025	NR²	NR <sup>2</sup>	41:6 Iline
	Aug-08	<0.001	<0.001	<0.001	<0.0015	<0.001	1.3	<0.05	
#27	Apr-08	NS²	NS²	NS <sup>2</sup>	NS²	NS <sup>2</sup>	NS²	NS²	) bje
MW #27	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	NR²	NR²	ene 2a (l
	Apr-07	<0.001	<0.001	<0.001	<0.002	<0.0025	NR²	NR²	정흥
2	Aug-08	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<0.05	) Eth
MW #32	Apr-08	NS <sup>2</sup>	NS²	NS <sup>2</sup>	NS²	NS <sup>2</sup>	NS²	NS²	C 6.2.3103 40CER141:61 (Benzens and Ethylbenzene) IPH Screening Guidelines Table 2a (DRO)
ΑM	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	NR²	NR²	aZu.
-	Apr-07	<0.001	<0.001	<0.001	<0.002	<0.0025	NR²	NR²	ne)
3	Aug-08	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<0.05	
#33	Apr-08	<0.001	<0.001	<0.001	<0.003	<0.0015	<1.0	<0.05	
MW	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	NR²	NR²	
	Apr-07	<0.001	<0.001	<0.001	<0.002	<0.0025	NR²	NR²	

NS¹= Well is Dry or Not Enough Water to Sample- No Sample

NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan

NS³ = Sample Inadvertently not Collected this Sampling Event

NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon

NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions

### **Cross - Gradient Wells**

## **Groundwater Analysis - General Chemistry**

										WQ)	SC 2	20 N	MAC	2 6.2	2.311	33									12		NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbor
320B	ALK (mid!!)	Ď.	280	290	270	300	970	960	960	1000	1000	1000	960	1000	320	290	370	009	180	190	200	250	140	160	140	160	Separate Pha
SM 2320B	CO2		250	270	240	300	1000	1000	910	1000	1100	1200	980	1000	330	350	380	009	160	180	180	250	130	150	130	160	Well Contains
L. T.	Sulfate.	009	130	160	190	190	1100	1100	1100	1000	<0.50	0.52	0.68	<0.50	066	1300	1700	1000	1400	1300	940	780	1100	1300	1600	1500	ple Required -
	P	1 6 1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NR'= No Sam
	Nitrogen	10	1.2	1.9	NR	2.1	9	7.8	NR	6.1	<0.10	<0.10	NR	<0.10	<0.10	<0.10	NR.	<0.1	26	15	A.	8.7	61	26	NR	- 26	
EPA 300:0	Bromide (mc/l)	(- 6)	0.14	<0.50	<0.50	<0.50	3.6	4	3.7	4.6	5.5	5.4	5.2	4.5	1.2	0.83	1.1	2.1	4.7	4.7	3.4	2.9	2.7	3.0	3.0	3.2	mple
	Nitrite	/a/Kiii)	<0.10	<0.10	1.2	<0.10	0.58	<0.10	8.3	0.23	<1.0	<0.10	<0.50	<0.50	<.1.0	×1.0	<0.50	×4.0	<1.0	<1.0	5.6	<2.0	<1.0	<1.0	33	<0.5	Sample- No Sa
	Chloride	250	19	16	17	31	240	310	310	320	390	330	410	290	170	110	150	260	1000	1100	940	710	540	260	560	560	Enough Water to Sample- No Sample
	Fluoride	914	79.0	0.74	0.65	89.0	0.16	0.2	0.12	0.15	0.34	0.38	0.36	0.42	0.47	0.76	0.38	0.24	0.21	0.36	0.19	0.27	0.35	0.31	0.23	0.3	
		ָרְמְּלֵיהָ ה	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	NS¹= Well is Dry or Not
	Sample	Location		<b>ι</b> #	WIV	1	,	El#	W	Ŋ	,	97#	٨٨١	ΛI		<b>L</b> Z#	W	N.		#35	W	N		#33	W	N	

 $\ensuremath{\mathsf{NR}}^2 = \ensuremath{\mathsf{No}}$  Sample Required per OCD and NMED pre-2007 Conditions

NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan

NS<sup>3</sup> = Sample Inadvertently not Collected this Sampling Event





### **Cross - Gradient Wells**

Groundwater Analysis - Total Metals

										40	CF	R 1	41.6	51 N	ICL											
	Mercury (mg/L)	0.002	<0.0002	<0.0002	<0.0002	NR <sup>2</sup>	<0.0002	<0.0002	<0.0002	NR²	<0.0002	<0.0002	<0.0002	NR <sup>2</sup>	<0.0002	<0.0002	<0.0002	NR <sup>2</sup>	<0.0002	<0.0002	<0.0002	NR²	<0.0002	<0.0002	<0.0002	NR <sup>2</sup>
ij	Silver (mg/L)	0.05	<0.005	<0.005	<0.005	NR²	<0.005	<0.005	<0.005	NR <sup>2</sup>	200'0>	<0.005	<0.005	NR <sup>2</sup>	<0.005	<0.005	<0.005	NR <sup>2</sup>	<0.005	<0.005	200'0>	NR²	<0.005	<0.005	<0.005	NR <sup>2</sup>
EPA Method 6010B, EPA Method 7470: Mercury	Se (mg/L)	0.05	<0.050	<0.050	<0.050	NR <sup>2</sup>	<0.050	<0.050	<0.050	NR <sup>2</sup>	<0.050	<0.050	<0.050	NR <sup>2</sup>	<0.050	<0.050	<0.050	NR²	<0.050	<0.050	<0.050	NR²	<0.050	<0.050	<0.050	NR <sup>2</sup>
V Method 7	Lead (mg/L)	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	9000	0.0078	<0.005	<0.005	600.0	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	900'0>	>0.006	<0.005	<0.005	<0.005	200.0	<0.005	<0.005
6010B, EP/	Cr (mg/L)	0.05	<0.006	<0.006	>0.006	<0.006	<0.006	900.0	<0.006	0.012	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	>0.006	<0.006	<0.006
A Method	Cadmium (mg/L)	0.005	<0.002	<0.002	<0.002	NR <sup>2</sup>	<0.002	<0.002	<0.002	NR <sup>2</sup>	<0.002	<0.002	<0.002	NR <sup>2</sup>	<0.002	<0.002	<0.002	NR <sup>2</sup>	<0.002	<0.002	<0.002	NR <sup>2</sup>	<0.002	<0.002	<0.002	NR <sup>2</sup>
H	Barium (mg/L)		<0.020	980'0	0.023	NR²	0.026	0.026	0.025	NR <sup>2</sup>	2.3	2.3	2.2	NR <sup>2</sup>	0.028	60.0	0.038	NR <sup>2</sup>	0.026	0.037	0.032	NR <sup>2</sup>	<0.020	0.26	0.017	NR <sup>2</sup>
	Arsenic (mg/L)	0:01	<0.020	<0.020	<0.020	NR²	<0.020	<0.020	<0.020	NR²	<0.020	<0.020	<0.020	NR <sup>2</sup>	<0.020	<0.020	<0.020	NR²	<0.020	<0.020	<0.020	NR <sup>2</sup>	<0.020	<0.020	<0.020	NR <sup>2</sup>
	Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
	Sample	Lucation		l# /	WW		٤	: L#	WN	j	ç	<b>9</b> 7#	WN		2	<u>'</u> 7#	W	J	7	<b>.</b> 2#	ΛΛΙΛ	J	3	£#	MΝ	1

NS2 = Not Sampled due to approved Facility-Wide Monitoring Plan NS'= Well is Dry or Not Enough Water to Sample- No Sample

NS3 = Sample Inadvertently not Collected this Sampling Event

NR'= No Sample Required - Well Contains Separate Phase Hydrocarbon NR2 = No Sample Required per OCD and NMED pre-2007 Conditions

Cross - Gradient Wells

Groundwater Analysis - Dissolved Metals

											NO	C 2	ONN	AC	82	103											
	Zinc	(High)	0)	<0.05	<0.05	0.047	<0.005	<0.05	<0.05	0.061	0.0088	<0.05	<0.05	0.048	0.17	0.058	<0.05	0.005	0.0066	<0.05	<0.05	0.046	0.011	<0.05	<0.05	0.12	0.012
	Uranium	(mg/L)	0.03	0.002	<0.1	<0.1	<0.1	0.009	<0.1	<0.1	<0.1	<0.001	<0.1	<0.1	<0.1	0.002	<0.1	<0.1	<0.1	0.01	<0.1	<0.1	<0.1	0.007	<0.1	<0.1	<0.1
	Sodium	(mg/L)		NS3	78	120	140	NS3	640	620	570	NS3	450	450	430	NS <sup>3</sup>	350	440	430	NS3	820	700	580	NS3	620	099	640
	Silver	(mg/L)	90.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.00>	<0.005	<0.005
Wetals	Se	(mg/L).	0.05	<0.05	<0.05	<0.05	<0.05	<0.025	<0.05	<0.05	<0.05	<0.025	<0.05	<0.05	<0.05	<0.025	<0.05	<0.05	<0.05	<0.025	<0.05	<0.05	<0.05	<0.025	<0.05	<0.05	<0.05
All Other	¥	(mg/L)		NS <sup>3</sup>	2	2.4	2.7	NS³	3.6	3.6	3.8	NS³	3	က	2.8	NS³	2.6	3.7	3.4	NS3	3.5	3.1	3	NS	4.1	4.6	4.9
EPA Method 6020A for Uranium - EPA Method 6010B for All Other Metals	Min	(mg/L)	702	0.022	0.027	60.0	0.14	1.4	1.4	- 4.1 like	1.1	.3	3.2	3.1	2.8	4.6	9.6	8	+ 2.7	<0.002	0.002	<0.002	<0.002	<0.002	0.00	0.0077	0.0065
Method 6	Mg	(mg/L)		NS3	16	18	18	NS3	81	82	82	NS³	38	38	32	NS₃	41	52	45	NS3	51	38	32	NS3	37	47	48
um - EPA	Lead	(mg/L)	7 50 0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0078	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
for Urani	Iróh	(mg/L)		<0.02	<0.02	<0.02	0.14	<0.02	0.047	<0.02	<0.02	6.9	6.3	8.9	6.3	1,5	10	7.4	3.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.020	<0.02
iod 6020A	Copper	(mg/L)	1.0	<0.006	<0.006	<0.006	<0.006	<0.006	>0.006	0.0063	<0.006	<0.006	>0.00	<0.006	<0.006	>0.006	<0.006	>0.006	>0.006	<0.006	>0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
EPA Meti	Cr	(mg/L)	0.05	<0.006	<0.006	<0.006	<0.006	>0.006	>0.006	<0.006	<0.006	>0.006	<0.006	<0.006	<0.006	>0.006	<0.006	>0.006	>0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
	Calcium	(mg/L)		NS3	63	74	89	NS³	270	250	240	NS3	110	2	92	NS3	330	360	290	NS3	350	260	200	NS3	270	320	340
	Cadmium	(mg/L)	s Join	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
	Barium (	(mg/L)		<0.02	0.023	0.023	0.022	0.026	0.027	0.025	0.028	2.3	2.3	2.2	1.9	0.028	0.021	0.038	0.063	0.026	0.028	0.032	0.026	<0.02	<0.02	0.017	0.019
	Arsenic	(mg/L)	0.0	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
		Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
	1	Sample	5		L#	WN	<del></del>	,	E L#	W	N	!	97#	M	N ·		<u>.                                    </u>	W	N.	7	ZE#	MI	NI ·		EE#	W	V

NS'= Well is Dry or Not Enough Water to Sample- No Sample NS² = Not Sampled due to approved Facility-Wide Monitoring Plan NS² = Sample Inadvertently not Analyzed this Sampling Event

NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon NR² = No Sample Required per OCD and NMED pre-2007 Conditions





#### **Cross - Gradient Wells**

#### **Groundwater Analysis - Semi-Volatile Organic Compounds**

4 44	of Marine	EPA M	ethod 8270B	
Sample Location	Date	Isophorone (mg/L)	2- Methylnaphthalene (mg/L)	Naphthalene (mg/L)
		0.0712	The second second	0.031
MW #26	Aug-08	0.013	0.013	0.06
14144 #20	Aug-07	0.012		0.051

- 1 WQCC 20 NMAC 6.2.3103
- 2 USEPA Region VI Human Health Medium Specific Screening Level 2008

NS1= Well is Dry or Not Enough Water to Sample- No Sample

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NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions

### **Groundwater Analysis - Organics**

		√August∗20	April 2007 07 & April/	= EPA Metho	ALL OF THE WILLIAM STATES OF THE STATES OF T	od 8260B	EPA Meth	od 8015B	
Sample	Date	Benzene (mg/L)	Toluene (mg/L)	EthylBen (mg/L)	Xylene⊬. ⊮(mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)	
Location	1	0.005	0.75	0.70	0.62		1.72		7
	Aug-08	0.0038	<0.001	0.0022	<0.0015	0.019	9.6	3.4	
#11	Apr-08	NS <sup>2</sup>	NS²	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS²	NS <sup>2</sup>	¥
MW	Aug-07	0:97	<0.01	<0.01	<0.015	0.022	NR²	NR²	QCI
_	Apr-07	.3.9	<0.01	0.038	0.16	<0.025	NR²	NR²	20
<u>C'</u>	Aug-08	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<0.05	Walco zo ninac 6.2 3103 TRH Scree
#12	Apr-08	<0.001	<0.001	<0.001	<0.003	<0.0015	<1.0	<0.05	
MW	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	NR²	NR²	B Z 31
	Apr-07	<0.001	<0.001	<0.001	<0.002	<0.0025	NR²	NR²	cies
•	Aug-08	0.0033	<0.001	<0.001	0.0017	0.0026	3,9	1.4	03 reening:Suidelines Table Za(原稿)
#34	Apr-08	NS <sup>2</sup>	NS²	NS <sup>2</sup>	NS²	NS <sup>2</sup>	NS²	NS²	9 <b>4</b> 0
MW	Aug-07	0.018	<0.001	<0.001	0.0079	0.0046	NR².	NR²	uide
	Apr-07	0.014	<0.005	<0.005	0.044	<0.012	NR²	NR²	uai line
	Aug-08	<0.002	<0.002	<0.002	<0.003	<0.002	1.6	0.54	3 in 1
#35	Apr-08	<0.001	<0.001	<0.001	<0.003	0.0018	2.1	0.52	bie bie
MW	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	NR²	NR²	zen Za (I
	Apr-07	<0.001	<0.001	<0.001	.0.003	<0.0025	NR²	NR²	iUCERTAL-5] (Benzeneand Guidelines Table Za (DR©)
	Aug-08	<0.001	<0.001	<0.001	<0.0015	<0.001	1.5	0.11	
#37	Apr-08	<0.001	<0.001	<0.001	<0.003	>0.0015	2.3	0.15	Emylpenzene
MW	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	NR²	NR²	
	Apr-07	<0.001	<0.001	<0.001	<0.002	<0.0025	NR²	NR²	9
•	Aug-08	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<0.05	
#38	Apr-08	<0.001	<0.001	<0.001	<0.003	0.0024	1.2	0.073	
MM	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	NR²	NR²	
-	Apr-07	<0.001	<0.001	<0.001	<0.002	0.004	NR²	NR²	

NS¹= Well is Dry or Not Enough Water to Sample- No Sample

NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan

NS³ = Sample Inadvertently not Collected this Sampling Event

NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon

. NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions

## **Groundwater Analysis - General Chemistry**

										WΩ	CC	20 N	MAG	<b>3-6.</b> :	2:31	03			l l	1						<0.5 310 720 720
SM 2320B	, ALK (mg/L)		1100	1000	1100	1100	280	260	290	310	750	840	760	1200	870	820	1000	1100	820	068	8	096	009	029	640	720
SM 2	CO2 (mg/L)		1100	1300	1100	1100	270	250	260	310	740	880	730	1100	830	820	980	1100	760	870	720	960	220	610	600	720
	Sulfate (mg/L)	600	1.1	10 🌣	19	20	130	830	140	2400	9.9	89	27	6	3.6	4.3	3.2	3.2	34	37	290	52	150	88	490	310
	(mg/L)	1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5
	Nitrogen (mg/L)	10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.1	<0.10	<0.10	<0.10	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
EPA 300.0	Bromide (mg/L)		1.4	1.03	1	1.4	<0.10	<0.50	<0.50	0.75	1.3	1.3	8.0	1.2	1.3	-	2.3	1.2	2.9	<1.0	4.2	2.1	0.67	0.5	1.1	7.7
	Nitrite (mg/L)		<1.0	<1.0	<1.0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<1.0	<1.0	<0.1	<0.1	<1.0	×1.0	<0.1	<0.10	3.7	<1.0	<0.1	<0.10	<0.10	<0.10	<0.1
	Chloride (mg/L)		110	96	82	85	8.3	19	19	100	110	100	09	100	110	100	180	100	230	320	390	150	09	43	96	100
	Fluoride (mg/ <u>k</u> )	-216	0.57	0.57	0.1	0.56	0.5	0.39	0.36	0.43	0.83	0.83	0.95	0.81	0.76	0.71	0.48	0.45	0.79	0.75	0.45	0.48	0.78	1	79.0	0.62
	Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
	Sample	Location		ν <b>ι</b> #	W	V	7	Z L#	۸۸۷	V		7 <b>E#</b>	W	V	Ş	6E#	W	V .		LE#	MV	N.		B£#	W	N

NS¹= Well is Dry or Not Enough Water to Sample- No Sample NS² = Not Sampled due to approved Facility-Wide Monitoring Plan

NS<sup>a</sup> = Sample Inadvertently not Collected this Sampling Event

NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon NR² = No Sample Required per OCD and NMED pre-2007 Conditions



## **Groundwater Analysis - Total Metals**

			7.0								40	CFR	141	.62	MC	<b>L</b>						1.11				
	Mercury (mg/L)	0,002	<0.0002	<0.0002	<0.0002	NR <sup>2</sup>	<0.0002	<0.0002	<0.0002	NR <sup>2</sup>	<0.0002	<0.0002	<0.0002	NR <sup>2</sup>	<0.0002	<0.0002	<0.0002	NR <sup>2</sup>	<0.0002	<0.0002	<0.0002	NR²	<0.0002	<0.0002	<0.0002	NR <sup>2</sup>
dercury.	Silver (mg/L)	0.05	<0.005	<0.005	<0.005	NR <sup>2</sup>	<0.005	<0.005	<0.005	NR <sup>2</sup>	<0.005	<0.005	<0.005	NR <sup>2</sup>	<0.005	<0.005	<0.005	NR <sup>2</sup>	<0.005	<0.005	<0.005	NR²	<0.005	<0.005	<0.005	NR²
EPA Method 6010B, EPA Method 7470: Mercury	Se (ma/L)	- 0.05	<0.25	<0.050	<0.050	NR <sup>2</sup>	<0.050	<0.050	<0.050	NR <sup>2</sup>	<0.25	<0.050	<0.050	NR2	<0.25	<0.050	<0.050	NR <sup>2</sup>	<0.25	050'0>	<0.050	NR <sup>2</sup>	<0.050	<0.050	<0.050	NR <sup>2</sup>
, EPA Meth	Lead (mg/L)	0.05	0.0074	0.019	<0.005	0.011	<0.005	0:03	<0.005	0.21	<0.005	<0.005	<0.005	0.0078	<0.005	0.008	<0.005	0.017	<0.005	<0.005	<0.005	0.072	<0.005	0:020	<0.005	0.180
thod 6010B	Cr (mg/L)	0.05	600'0	900'0>	900'0>	900'0>	110.0	£6'0	8200.0	4.1	>0.006	900.0>	>0.006	0.011	900'0>	900.0>	<0.006	0.017	900'0>	900'0>	900'0>	0.082	900'0>	900'0>	<0.006	0.340
EPA Me	Cadmium (mg/L)	0.005	<0.002	<0.002	<0.002	NR <sup>2</sup>	<0.002	<0.002	<0.002	NR <sup>2</sup>	<0.002	<0.002	<0.002	NR <sup>2</sup>	<0.002	<0.002	<0.002	NR <sup>2</sup>	<0.002	<0.002	<0.002	NR <sup>2</sup>	<0.002	<0.002	<0.002	NR <sup>2</sup>
	Barium (mg/L)	1	0.7	0.75	69.0	NR <sup>2</sup>	90.0	0.19	0.04	NR <sup>2</sup>	0.57	0.55	0.44	NR <sup>2</sup>	0.65	98'0	0.71	NR <sup>2</sup>	0.43	0.65	0.3	NR <sup>2</sup>	0.17	0.14	0.093	NR <sup>2</sup>
	Arsenic (mg/L)≔	0.01	<0.020	<0.020	<0.020	NR <sup>2</sup>	<0.020	<0.020	<0.020	NR <sup>2</sup>	<0.020	<0.020	<0.020	NR <sup>2</sup>	<0.020	0.022	0.027	NR <sup>2</sup>	<0.020	<0.020	<0.020	NR <sup>2</sup>	<0.020	<0.020	<0.020	NR <sup>2</sup>
	Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05
*	Sample	Сосацоп	ı	. L#	WN	j	7	L#	W	1	t	7 <b>C</b> #	WN	3	٩	F#	M	V	2	.e#	<b>W</b>	V	8	RE#	WN	U

NS¹= Well is Dry or Not Enough Water to Sample- No Sample NS²= Not Sampled due to approved Facility-Wide Monitoring Plan

NS<sup>3</sup> = Sample Inadvertently not Collected this Sampling. Event

NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon NR²= No Sample Required per OCD and NMED pre-2007 Conditions

## Groundwater Analysis - Dissolved Metals

										952849	10000	See Land	ONM	AC6	awa esga	E LA TRATE									,		
	Zinc (mg/L)	£10	<0.05	<0.05	0.051	0.014	0.095	<0.05	0.036	0.022	<0.05	<0.05	0.11	0.1	<0.05	<0.05	0.061	0.095	0.15	<0.05	0.032	0.13	<0.05	<0.05	0.059	0.016	
	Uranium (mg/L)	. 0:03	<0.001	<0.1	<0.1	<0.1	0.003	<0.1	<0.1	<0.1	<0.001	<0.1	<0.1	<0.1	<0.001	<0.1	<0.1	<0.1	<0.001	<0.1	<0.1	<0.1	0.002	<0.1	<0.1	<b>0.1</b>	
	Sodium (mg/L)		NS³	400	390	380	NS³	220	100	260	NS³	520	310	390	NS³	340	410	310	NS³	460	550	370	NS³	230	290	270	
	Silver (mg/L)	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
All Other Metals	Se (mg/L)	0.05	<0.25	<0.05	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	<0.25	<0.05	<0.05	<0.05	
25 1000	K (mg/L).		NS3	1.5	1.4	1.7	NS3	1.1	1.1	2.8	NS3	2.9	<1.0	1.2	NS³	1.9	2.1	2.9	NS³	2.9	3.5	4.2	NS₃	2.5	4.3	4.4	
- EPA Method 6010B for	Mn (mg/L)	-0.2	4.9	1.9	1.8	1.6	0.065	0.46	0.3	0.64	3.1	2.0	2.4	4.2	1.4	17.0	2.9	3	1.2	1.7	2.9	1.4	2.6	.2	3.5	3.7	carbon
A Metho	Mg (mg/L)		NS³	22	22	22	NS3	25	14	97	NS3	30	12	20	NS³	16	26	22	NS3	23	44	20	NS3	16	36	32	NR¹≂ No Sample Required - Well Contains Separate Phase Hydrocarbon
anium - El	Lead (mg/L)	0.05	0.007	0.011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ins Separate
EPA Method 6020A for Uranium	lron (mg/L)	1	12.	9.5	9.3	- 7.6·	0.021	0.042	0.069	0.55	4.1	1,4	3	4.9	2.6	3.5	2.8	2:9	0.95	1,5	1.3	2.5	- 2.2	1.2	3.1	7.1	I - Well Conta
ethod 602	Copper (mg/L)	40.00	<0.006	800.0	>0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	>0.006	0.0065	<0.006	<0.006	9000	<0.006	>0.006	<0.006	<0.006	>0.006	<0.006	<0.006	<0.006	<0.006	>0.006	nple Required
EPAIN	Cr (mg/L)	-0.05	0.00	<0.006	<0.006	<0.006	0.011	0.008	0.0078	0.022	>0.006	>0.006	<0.006	>0.006	>0.006	>0.006	>0.006	<0.006	>0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	NR¹= No San
	Calcium (mg/L)		NS³	86	100	96	NS³	120	7.3	370	NS3	130	110	120	NS3	62	110	120	NS3	110	180	120	NS3	95	210	200	
	Cadmium (mg/L)	- 0.01	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	Sample
	Barium (	200	0.7	9.0	0.69	0.73	90.0	0.05	0.04	0.07	0.57	0.25	0.71	0.54	9.65	0.71	0.71	0.54	0.43	0.47	0.3	0.38	0.17	0.11	0.093	0.18	o Sample- No
	Arsenic (mg/L)	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.027	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	ough Water to
	Date		Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	90-8nV	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Aug-08	Aug-07	Aug-06	Aug-05	Jry or Not End
	Sample	Location	.1	     #	WW	J	7	Z L#	WI	V	1	ν£#	W	v 	!	98#	W	V ·		LE#	W	v	,	BE#	WW	<u> </u>	NS'= Well is Dry or Not Enough Water to Sample- No Sample

NS'= Well is Dry or Not Enough Water to Sample- No Sample NS? = Not Sampled due to approved Facility-Wide Monitoring Plan NS' = Sample Inadvertently not Analyzed this Sampling Event

 $NR^{1*}$  No Sample Required - Well Contains Separate Phase Hydrocarbon  $NR^2 = No$  Sample Required per OCD and NMED pre-2007 Conditions



#### **Groundwater Analysis - Semi-Volatile Organic Compounds**

		EPA Meth	od 8270B
Sample Location	Date	2-methylnaphthalene (mg/L)	(mg/L) - 8.00
			0.03
MW #11	Aug-08	0.01	0.032 S
10100 7711	Aug-07	0.013	0.043

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NS<sup>2</sup> = Sample Inadvertently not Collected this Sampling Event

NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon

NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions

### San Juan River Bluff

#### **Groundwater Analysis - Organics**

		August 2	· 大學 · 100	EPA Metho	A SHOP AND LOW THE PARTY OF THE	od 8260B	
Sample Location	Date	Benzene (mg/L) 40:005	Toluene (mg/L) 2075	EthylBen (mg/L) 0.70	Xylene (mg/L) 0.62	MTBE (mg/L)	40
2	· Aug-08	<0.001	<0.001	<0.001	<0.003	<0.0015	96.
ıll #2	Apr-08	<0.001	<0.001	<0.001	<0.003	<0.0015	日本。 日本と
Outfall	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	\$ 2 <b>3</b>
0	Apr-07	<0.001	<0.001	<0.001	<0.002	<0.0025	Tage A
က	Aug-08	<0.001	<0.001	<0.001	<0.003	<0.0015	62 Zen
#    #3	Apr-08	<0.001	<0.001	<0.001	<0.003	<0.0015	
Outfall	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	
0	Apr-07	<0.001	<0.001	<0.001	<0.002	<0.0025	

NS¹= Well is Dry or Not Enough Water to Sample- No Sample

NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan

NS<sup>3</sup> = Sample Inadvertently not Collected this Sampling Event

NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon

NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions

### San Juan River Bluff

Groundwater Analysis - General Chemistry

		NG	C	20 N	WΑ	2.6.7	2.31	03		
320B	ALK (mg/L)		250	360	280	NS.	120	280	110	270
SM 2320B	CO2 (mg/L)		240	320	270	NS1	110	260	97	270
	Sulfate (mg/L)	009	770	110	290	NS1	100	170	64	270
	(J/Bju) (mg/jr)		<0.50	<0.50	<0.50	NS	<0.50	<0.50	<0.5	<0.5
	Nitrogen (mg/L)≝	10	<0.10	<0.01	0.17	NS₁	0.36	2.8	<0.5	5.2
EPA 300.0	-Bromide (mg/L)		<0.10	<0.01	<0.10	NS¹	<0.10	0.15	<0.5	<0.5
	Nitrite (mg/L)		<0.10	<0.01	<0.10	NS.	<0.10	<0.01	<0.5	<0.1
	Chloride (mg/L)	250	17	14	13	NS.	6.1	23	5.5	37
	(Huoride Fluoride	1.6	1.5	7.0	1.1	NS₁	0.38	0.48	0.25	0.61
	Date		Aug-08	Apr-08	Aug-07	Aug-06	Aug-08	Apr-08	Aug-07	Aug-06
	Sample	Location	7:	#    1	ֈֈՠ	<b>o</b>	E	#    P	дn	0

NS¹= Well is Dry or Not Enough Water to Sample- No Sample NS² = Not Sampled due to approved Facility-Wide Monitoring Plan NS² = Sample Inadvertently not Collected this Sampling Event NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon NR² = No Sample Required per OCD and NMED pre-2007 Conditions

### 3 of 4

## San Juan River Bluff

## Groundwater Analysis - Total Metals

			40	3FR	141	.62	MC	ì.		
	Mercury (mg/L)	. 0.002	<0.0002	<0.0002	<0.0002	NS,	<0.0002	<0.0002	<0.0002	<0.0002
/ercury	Silver (mg/L)	0.05	<0.005	<0.005	<0.005	ıSN	<0.005	<0.005	<0.005	<0.005
EPA Method 6010B, EPA Method 7470: Mercury	Se (mg/L)	0.05	<0.05	<0.050	<0.050	ıSN	<0.05	<0.050	<0.050	090'0>
, EPA Meti	Lead (mg/L)	0.05	0.0062	<0.005	<0.005	\SN	<0.005	<0.005	<0.005	<0.005
thod 6010E	. Gr (mg/L)	0.05	<0.006	<0.006	900'0>	SN	900'0>	900'0>	900'0>	900'0>
EPA Me	Cadmium (mg/៤)	. 0.005	<0.002	<0.002	<0.002	NS	>0.002	<0.002	<0.002	<0.002
	Barium (mg/L)		0.11	0.039	0.051	NS,	0.08	0.033	0.081	0.063
	Arsenic (mg/L)	<b>20.01</b>	<0.02	<0.020	<0.020	NS₁	<0.02	<0.020	<0.020	<0.020
	Date		Aug-08	Apr-08	Aug-07	Aug-06	Aug-08	Apr-08	Aug-07	Aug-06
	Sample Location		yn (	)						

NS¹= Well is Dry or Not Enough Water to Sample- No Sample
NS³ = Not Sampled due to approved Facility-Wide Monitoring Plan
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NR³= No Sample Required - Well Contains Separate Phase Hydrocarbon
NR² = No Sample Required per OCD and NMED pre-2007 Conditions

## San Juan River Bluff

## Groundwater Analysis - Dissolved Metals

		ioe.	: 20 : 1	NV.	VO:	2.6	103		
A Property of the Control of the Con	(night)	0.079	<0.05	<0.05	NS1	<0.05	0.068	<0.05	0.024
		0.004	<0.10	<0.10	NS.	0.001	<0.10	<0.10	<0.10
	Scelliffin (mg/l)	NS³	70	74	NS,	NS³	87	20	23
	Silver (mgls)	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005
	(mg/l)	<0.25	<0.05	<0.05	NS.	<0.05	<0.05	<0.05	<0.05
in a contract of	K (mg/L)	NS³	1.9	1.6	NS.	NS3	1.8	1.5	1.8
010B	(1701) (1701) (1101)	<0.002	<0.002	0.0065	NS.	<0.002	<0.002	<0.002	<0.002
Method 6010B	(Mg. (mg/L)	NS.	21	26	NS1	NS³	20	7	7.3
EPAI	Léad (mg/L): n/05 =	<0.005	<0.005	<0.005	NS1	<0.005	<0.005	<0.005	<0.005
	Hroth (High)	<0.02	<0.02	<0.02	NS1	<0.02	<0.02	<0.020	<0.02
	Copper (mgt.)	<0.006	<0.006	>0.006	NS1	<0.006	<0.006	0.0064	<0.006
	Or (mg/L)	<0.006	900'0>	>0.006	NS	>0.006	<0.006	<0.006	<0.006
in the second	Calcium (mg/L)	NS³	92	120	NS.	.SN	88	39	41
	Caldinii ((((())) (1)(()	<0.002	<0.002	<0.002	NS1	<0.002	<0.002	<0.002	<0.002
	Barium (mg/lt) T (p	0.088	0.042	0.05	NS	0.075	0.034	0.063	0.063
	Arsenic (mg/L) GR	<0.02	<0.02	<0.020	NS.	<0.02	<0.02	<0.020	<0.020
	Date	Aug-08	Apr-08	Aug-07	Aug-06	Aug-08	Apr-08	Aug-07	Aug-06
	Sample Location	2	:Jìn	0					

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Bluff Seeps

## **Groundwater Analysis**

		5.	WQ	CC.	20 N	MA	C 6.	2.31	03 .			
SM/2320B	ALK (mg/L)		250	NS <sup>2</sup>	160	NS <sup>2</sup>	370	zSN	,SN	NS <sub>z</sub>	.SN	NS <sup>2</sup>
SM2	CO2 (mg/L)		250	zSN	160	NS <sup>2</sup>	370	zSN	NS1	NS <sup>2</sup>	¹SN	NS <sup>2</sup>
	Sulfate -(mg/L)	009	⊸ 1500 ⊨	NS²	2500	NSz	7096	NS²	NS1	NS <sup>2</sup>	NS1	NS <sup>2</sup>
	P (mg/L)		<0.50	NS <sup>2</sup>	<0.50	NS <sup>2</sup>	<0.50	NS <sup>2</sup>	NS1	NS <sub>2</sub>	NS1	NS <sub>2</sub>
EPA 300:0	Nitrogen (mg/L)	- 10	<0.10	NS <sup>2</sup>	<0.10	NS <sub>2</sub>	<0.10	NS²	NS <sup>1</sup>	NS <sup>2</sup>	NS¹	NS <sub>2</sub>
EPA	Nitrite (mg/೬)'		<1.0	NS <sup>2</sup>	<1.0	NS <sup>2</sup>	<1.0	NS <sup>2</sup>	NS1	NS <sup>2</sup>	NSı	NS <sub>2</sub>
	Chloride (mg/L)	. 250	370	zSN	028	zSN	2500	zSN	NS.	zSN	ıSN	NS <sup>2</sup>
	Fluoride (mg/L),	- 1.6	0.35	zSN	8.0	NS²	0.47	NS <sup>2</sup>	NS¹	zSN	NS1	NS <sup>2</sup>
	400	CFR					2 6.2 and I			zene	) }	1
	MTBE (mg/L)		0.042	NS <sup>2</sup>	<0.015	NS1	900.0	NS <sup>2</sup>	NS1	NS <sup>2</sup>	NS1	NS <sup>2</sup>
	EthylBera Xylene (mg/L) (mg/L)	0.62	<0.003	<0.002	<0.003	NS¹	<0.003	<0.002	NS1	<0.002	NS1	<0.002
EPA 8260B	22,750,750	. 0.70	<0.001	<0.001	<0.001	NS¹	<0.001	<0.001	NS¹	<0.001	NS1	<0.001
	Toluene (mg/L)	0.75	<0.001	<0.001	<0.001	NS₁	<0.001	<0.001	NS1	<0.001	NS <sub>1</sub>	<0.001
	Benzene (mg/L)	0.005	<0.001	<0.001	<0.001	NS1	<0.001	<0.001	NS1	<0.001	NS1	<0.001
	Date		Aug-08	Apr-08	Aug-08	Apr-08	Aug-08	Apr-08	Aug-08	Apr-08	Aug-08	Apr-08
	Sample		Sagn 1	d 220	Soon 3	o dago	Soon	222	Soon 7	i daan	Soon 9	ocep 3

NS¹= Well is Dry or Not Enough Water to Sample- No Sample
NS² = Not Sampled - Sample was taken before implementation of Facility-Wide Monitoring Plan

Tank #33 Effluent Analytical Results 2008

	Benzene	Toluene	EthylBen	Xylene	MTBE	
Date	(ppb) 500	(ppb)	(ppb)	(ppb)	(ppb)	
3/24/2008	760	1600	170	4700	<1.0	
4/10/2008	130	360	56	1200	NA	
4/15/2008	130	200	<1.0	1100	<1.0	
4/21/2008	140	220	30	1200	<1.0	
4/28/2008	190	170	6.7	1600	3.6	
5/5/2008	160	150	7.9	1600	3.6	
5/12/2008	100	42	<1.0	1100	<1.0	
5/19/2008	93	25	<1.0	970	8.5	
5/27/2008	49	21	<1.0	790	<1.0	<b>–</b> 1
6/2/2008	130	84	6.8	1100	<1.0	oxic
6/9/2008	91	110	25	2100	<1.0	loxicity Characteristic Regulatory Level for Benzene
6/16/2008	11	6.1	<1.0	140	1.00	hara
6/26/2008	31	17	<1.0	180	<1.0	ecter
7/2/2008	4.9	5.1	4.9	55	1.9	istic
7/7/2008	41	42	2.8	410	2.3	Reg
7/16/2008	56	43	<1.0	380	<1.0	Julat
7/22/2008	75	54	<1.0	450	<1.0	9
7/31/2008	71	39	<1.0	430	<1.0	Leve
8/5/2008	25	19	<1.0	210	1.6	할
8/14/2008	110	120	6.6	540	1.9	Ber
8/19/2008	3.6	2.2	<1.0	24	2.0	zen
8/25/2008	25	10	<1.0	790	1.7	9
9/9/2008	10	2.3	<1.0	16	1.8	
9/18/2008	8.2	14	<1.0	6.7	1.7	
9/25/2008	4.6	<1.0	<1.0	<2.0	1.7	10 E
10/1/2008	3.2	<1.0	<1.0	<2.0	1.5	
10/8/2008	2.5	<1.0	<1.0	<2.0	1.5	
10/15/2008	2.2	<1.0	<1.0	<2.0	1.6	
10/22/2008	2.2	<1.0	<1.0	<2.0	2.2	
10/27/2008	2.3	<1.0	<1.0	<2.0	2.4	
11/3/2008	1.5	<1.0	<1.0	<2.0	2.4	
12/2/2008	1.7	<1.0	<1.0	2.6	<1.0	

### San Juan River Analysis - 2008

### Organics

	mg/L	Sampling	Date	North of	North of	Upstream of	Downstream	
only		Event	Sampled	MW #46	MW #45	Refinery	of Refinery	
ō	. <u>ə</u>	Semi-Annual	08/05/08	<0.001	<0.001	<0.001	<0.001	200
2008	enzen (mg/L)	Semi-Annual	03/12/08	<0.001	<0.001	<0.001	<0.001	<b>0:005</b> (mg/L)
7	Benzene (mg/L)	4th Quarter	12/07/07	<0.0005	<0.0005	<0.0005	<0.0005	40CFR141:61
05,	Ш	3rd Quarter	07/10/07	<0.0005	<0.0005	<0.0005	<0.0005	
907 Sec. 10.4	<u>9</u>	Semi-Annual	08/05/08	<0.001	<0.001	<0.001	<0.001	0.75
Aug	Toluene (mg/L)	Semi-Annual	03/12/08	<0.001	<0.001	<0.001	<0.001	(mg/L) WQCC 20
for	o (m)	4th Quarter	12/07/07	<0.0005	<0.0005	<0.0005	<0.0005	NMAC
		3rd Quarter	07/10/07	<0.0005	<0.0005	<0.0005	<0.0005	6.2.3103
8260	e e	Semi-Annual	08/05/08	<0.001	<0.001	<0.001	<0.001	0.7
	thylBe (mg/L)	Semi-Annual	03/12/08	<0.001	<0.001	<0.001	<0.001	(mg/b)
8021B	EthylBen (mg/L)	4th Quarter	12/07/07	<0.0005	<0.0005	<0.0005	<0.0005	40CFR141.61
302	Ш	3rd Quarter	07/10/07	<0.0005	<0.0005	<0.0005	<0.0005	
	Φ	Semi-Annual	08/05/08	<0.003	<0.003	<0.003	<0.003	0.62
Method	Xylene (mg/L)	Semi-Annual	03/12/08	<0.002	<0.002	<0.002	<0.002	(mg/L) WQCC:20 #
/lei	ΣĒ	4th Quarter	12/07/07	<0.0005	<0.0005	<0.0005	<0.0005	NMAC
		3rd Quarter	07/10/07	<0.0005	<0.0005	<0.0005	<0.0005	6.2.3103
EPA		Semi-Annual	08/05/08	<0.0015	<0.0015	<0.0015	<0.0015	
	MTBE (mg/L)	Semi-Annual	03/12/08	<0.0025	<0.0025	<0.0025	<0.0025	
	ΣĘ	4th Quarter	<b>№12/07/07</b>	<0.0025	<0.0025	<0.0025	<0.0025	
		3rd Quarter	07/10/07	<0.0025	<0.0025	<0.0025	<0.0025	5 / 2 /
a i	_	Semi-Annual	08/05/08	<1.0	<1.0	<1.0	<1.0	<b>1.72</b> (mg/L). TPH
	DRO (mg/L)	Semi-Annual	03/12/08	<1.0	<1.0	<1.0	<1.0	Screening
5B	□ <u>E</u>	4th Quarter	12/07/07	<1.0	<1.0	<1.0	<1.0	Guidelines!
801		3rd Quarter	07/10/07	<1.0	<1.0	<1.0	<1.0	: Table 2a
		Semi-Annual	08/05/08	<5.0	<5.0	<5.0	<5.0	
poy	MRO (mg/L)	Semi-Annual	03/12/08	<5.0	<5.0	<5.0	<5.0	
Meth	<b>≥</b> €	4th Quarter	12/07/07	<5.0	<5.0	<5.0	<5.0	
N P		3rd Quarter	07/10/07	<5.0	<5.0	<5.0	<5.0	
EPA		Semi-Annual	08/05/08	<0.050	<0.050	<0.050	<0.050	
	GRO (mg/L)	Semi-Annual	03/12/08	<0.050	<0.050	<0.050	<0.050	
	ع ق	4th Quarter	12/07/07	<0.050	<0.050	<0.050	<0.050	642 - 1
	l	3rd Quarter	<sub>e</sub> 07/10/07	<0.050	<0.050	<0.050	<0.050	

### San Juan River Analysis - 2008

### **General Chemistry**

Land of the								WQCC
	mg/L	Sampling	Date	North of	North of	Upstream of	Downstream	20 NMAC
		Event	Sampled	MW #46	MW #45	Refinery	of Refinery	6:2.3103
		Semi-Annual	08/05/08	0.20	0.20	0.24	0.19	1:60
	Elmanial a	Semi-Annual	03/12/08	0.19	0.20	0.20	0.21	
	Fluoride	4th Quarter	12/07/07	0.20	0.19	0.20	0.20	
		3rd Quarter	07/10/07	0.19	0.19	0.22	0.19	
		Semi-Annual	08/05/08	3.0	2.9	5.5	3.1	250
	Chloride	Semi-Annual	03/12/08	2.7	2.7	2.8	2.8	
	Cilioride	4th Quarter	12/07/07	3.4	3.4	4.4	3.6	
		3rd Quarter	07/10/07	2.8	2.8	4.7	2.8	100
0.0		Semi-Annual	(08/05/08	<0.10	<0.10	<0.10 ···	<0.10	
300.0	Nitrite	Semi-Annual	03/12/08	<0.10	<0.10	<0.10	<0.10	
ਰ	HILLIE	4th Quarter	12/07/07	<0.10	2.1	<0.10	<0.10	
Method		3rd Quarter	07/10/07	<0.10	<0.10	<0.10	<0.10	44.3
llet		Semi-Annual	08/05/08	<0.10	<0.10	<0.10	<0.10	
	Bromide	Semi-Annual	103/12/08	<0.10	<0.10	<0.10	<0.10	
EPA	Diomide	4th Quarter	12/07/07	<0.50	<0.50	<0.50	<0.50	
ш.		3rd Quarter	07/10/07	<0.50	<0.50	<0.50	< 0.50	
		Semi-Annual	// 08/05/08	<0.50	<0.50	<0.50	<0.50	
	  Phosphorous	Semi-Annual	03/12/08	<0.50	<0.50	<0.50	<0.50	
	i ilospilorous	4th Quarter	12/07/07	<0.50	<0.50	<0.50	<0.50	
		3rd Quarter	07/10/07	<0.50	<0.50	<0.50	< 0.50	
		Semi-Annual	08/05/08	60	59	130	62	600
	Sulfate	Semi-Annual	03/12/08	52	53	53	59	
	Gunate	4th Quarter	12/07/07	110	100	110	110	
40.0		3rd Quarter	07/10/07	53	52	- 130	55	
		Semi-Annual	∞ 08/05/08 🤛	190	200	360	200	1000
EPA 160.1	TDS	Semi-Annual	.03/12/08	240	260	480	260	
E E		4th Quarter	12/07/07	270	270	310	300	
		3rd Quarter	07/10/07	180	180	310	180	
200		Semi-Annual	08/05/08	<2.0	<2.0	<2.0	<2.0	
Ξ.	CO3	Semi-Annual	03/12/08	<2.0	<2.0	<2.0	<2.0	
310.		4th Quarter	12/07/07	<2.0	<2.0	<2.0	<2.0	
		3rd Quarter	07/10/07	<2.0	<2.0	<2.0	<2.0	
EPA	·	Semi-Annual	08/05/08	89	91	95	90	
	ALK	Semi-Annual	:03/12/08	85	84	84	86	
		4th Quarter	12/07/07	100	95	94	100	
		3rd Quarter	07/10/07	83	83	110	64	
EPA 20.1	E.C.	Semi-Annual	08/05/08	300	290	450	300	
に記し	(umhos/cm)	Semi-Annual	03/12/08	280	280	280	300	
- 7		4th Quarter	12/07/07	410	410	450	450	
5000000		3rd Quarter	07/10/07	280	280	470	290	

### San Juan River Analysis - 2008

### Total Metals

EPA Me	thod 6010,	EPA Met	hod 7470; N	lercury			40CFR141.62
mg/L	Sampling Event	Date Sampled	North of MW #46	North of MW #45	Upstream of Refinery	Down stream of Refinery	MCL
၁	Semi-Annual	08/05/08	<0.020	<0.020	<0.020	<0.020	0.01
eni	Semi-Annual	03/12/08	<0.020	<0.020	<0.020	<0.020	
Arsenic	4th Quarter	12/07/07	<0.020	<0.020	<0.020	<0.020	
	3rd Quarter	07/10/07	<0.020	<0.020	<0.020	<0.020	
_	Semi-Annual	08/05/08	0.16	0.17	0.13	0.16	1.0
Barium	Semi-Annual	03/12/08	0.4	0.38	0.39	0.46	
3ar	4th Quarter	12/07/07	0.073	0.071	0.069	0.071	
	3rd Quarter	07/10/07	0.068	0.067	0.064	0.066	
E	Semi-Annual	08/05/08	<0.002	<0.002	<0.002	<0.002	0:005
Cadmium	Semi-Annual	03/12/08	<0.002	<0.002	<0.002	<0.002	
adr	4th Quarter	12/07/07	<0.002	<0.002	<0.002	<0.002	
ပိ	3rd Quarter	ø 07/10/07	<0.002	<0.002	<0.002	<0.002	
ш	Semi-Annual	08/05/08	<0.006	<0.006	<0.006	<0.006	0.05
Chromium	Semi-Annual	03/12/08	<0.006	<0.006	<0.006	<0.006	
<u>o</u>	4th Quarter	12/07/07	<0.006	<0.006	<0.006	<0.006	
<u> </u>	3rd Quarter	07/10/07	<0.006	<0.006	<0.006	<0.006	
	Semi-Annual	08/05/08	0.0057	<0.005	0.0065	<0.005	0.05
Lead	Semi-Annual	03/12/08	0.0051	0.0066	0.0064	0.0056	Selection 1
Le	4th Quarter	12/07/07	<0.005	<0.005	<0.005	<0.005	
	3rd Quarter	07/10/07	<0.005	<0.005	<0.005	<0.005	
E	Semi-Annual	08/05/08	<0.050	<0.050	<0.050	<0.050	0.05
niu	Semi-Annual	03/12/08	<0.050	<0.050	<0.050	<0.050	
Selenium	4th Quarter	12/07/07	<0.050	<0.050	< 0.050	<0.050	Activities 19
Ň	3rd Quarter	07/10/07	<0.050	<0.050	<0.050	<0.050	
	Semi-Annual	08/05/08	<0.005	<0.005	<0.005	<0.005	
ver	Semi-Annual	03/12/08	<0.005	<0.005	<0.005	<0.005	
Sil	4th Quarter	12/07/07	<0.005	<0.005	<0.005	<0.005	27.4
	3rd Quarter	07/10/07	<0.005	<0.005	<0.005	<0.005	
≥	Semi-Annual	08/05/08	<0.0002	<0.0002	<0.0002	<0.0002	0:002
in o	Semi-Annual	03/12/08	<0.0002	<0.0002	<0.0002	<0.0002	
Mercury	4th Quarter	12/07/07	<0.0002	<0.0002	<0.0002	<0.0002	
=	3rd Quarter	07/10/07	<0.0002	<0.0002	<0.0002	<0.0002	

### San Juan River Analysis- 2008

### **Dissolved Metals**

<b>EPA</b> :Meth	od 6010B						wqcc
mg/L	Sampling	Date	North of	North of	Upstream of	Downstream	20 NMAC
	Event	Sampled	MW #46	MW #45	Refinery	of Refinery	6:2:3103
()	Semi-Annual	08/05/08	<0.020	<0.020	<0.020	<0.020	0.10
Arsenic	Semi-Annual	03/12/08	<0.020	<0.020	<0.020	<0.020	
Ars(	2nd Quarter	04/16/07	<0.020	<0.020	<0.020	<0.020	
•	1st Quarter	-02/08/07	<0.020	<0.020	<0.020	<0.020	
_	Semi-Annual	08/05/08	0.077	0.081	0.130	0.080	1.00
ium	Semi-Annual	03/12/08	0.086	0.080	0.085	0.081	
Barium	4th Quarter	12/07/07	0.058	0.059	0.059	0.061	
_	3rd Quarter	(07/10/07	0.065	0.065	0.064	0.066	
٤ .	Semi-Annual	708/05/08	<0.002	<0.002	<0.002	<0.002	0.01
Cadmium	Semi-Annual	03/12/08	<0.002	<0.002	<0.002	<0.002	
adı	4th Quarter	12/07/07	<0.002	<0.002	<0.002	<0.002	
O .	3rd Quarter	.07/10/07	<0.002	<0.002	<0.002	<0.002	112
<b>E</b>	Semi-Annual	08/05/08	33	34	39	34	
Calcium	Semi-Annual	03/12/08	28	28	29	28	
Salc	4th Quarter	12/07/07	40	41	40	44	
	3rd Quarter	-(07/10/07)	29	28	33	29	
шı	Semi-Annual	308/05/08	<0.006	<0.006	<0.006	<0.006	0:05
E J	Semi-Annual	03/12/08	0.007	<0.006	0.007	<0.006	
Chromium	4th Quarter	12/07/07	<0.006	<0.006	<0.006	<0.006	
Ü	3rd Quarter	07/10/07	<0.006	<0.006	<0.006	<0.006	
<u>.</u>	Semi-Annual	.08/05/08	<0.006	<0.006	<0.006	<0.006	#1.00
Copper	Semi-Annual	/03/12/08	<0.006	<0.006	<0.006	<0.006	e de la companya de La companya de la co
S	4th Quarter	12/07/07	<0.006	- <0.006	<0.006	0.008	
	3rd Quarter	07/10/07	<0.006	<0.006	<0.006	<0.006	
	Semi-Annual	08/05/08	0.059	0.068	0.074	0.09	1.00
lron	Semi-Annual	03/12/08	0.360	3.800	0.490	0.33	
	4th Quarter	#12/07/07	0.070	0.024	<0.020	<0.020	
	3rd Quarter	07/10/07	<0.020	<0.020	<0.020	<0.020	
	Semi-Annual	08/05/08	<0.005	<0.005	<0.005	<0.005	0.05
Lead	Semi-Annual	03/12/08	<0.005	<0.005	<0.005	<0.005	
	4th Quarter	12/07/07	<0.005	<0.005	<0.005	<0.005	
	3rd Quarter	07/10/07	<0.005	<0.005	<0.005	<0.005	
l mi	Semi-Annual	(08/05/08)	5.5	5.7	7	5.5	960
nes	Semi-Annual	≇03/12/08	4.5	4.9	4.7	4.5	
Magnesium	4th Quarter	:12/07/07	6.5	6.8	6.9	7	
	3rd Quarter	07/10/07	5.1	5.1	6.8	5.1	
Manganese	Semi-Annual	08/05/08	0.008	0.012	0.073	0.012	0.20
gan	Semi-Annual	/03/12/08	0.040	0.037	0.038	0.035	
lani	4th Quarter	12/07/07	0.035	0.036	0.058	0.072	
≥	3rd Quarter	07/10/07	0.009	0.009	0.083	0.015	

### San Juan River Analysis- 2008

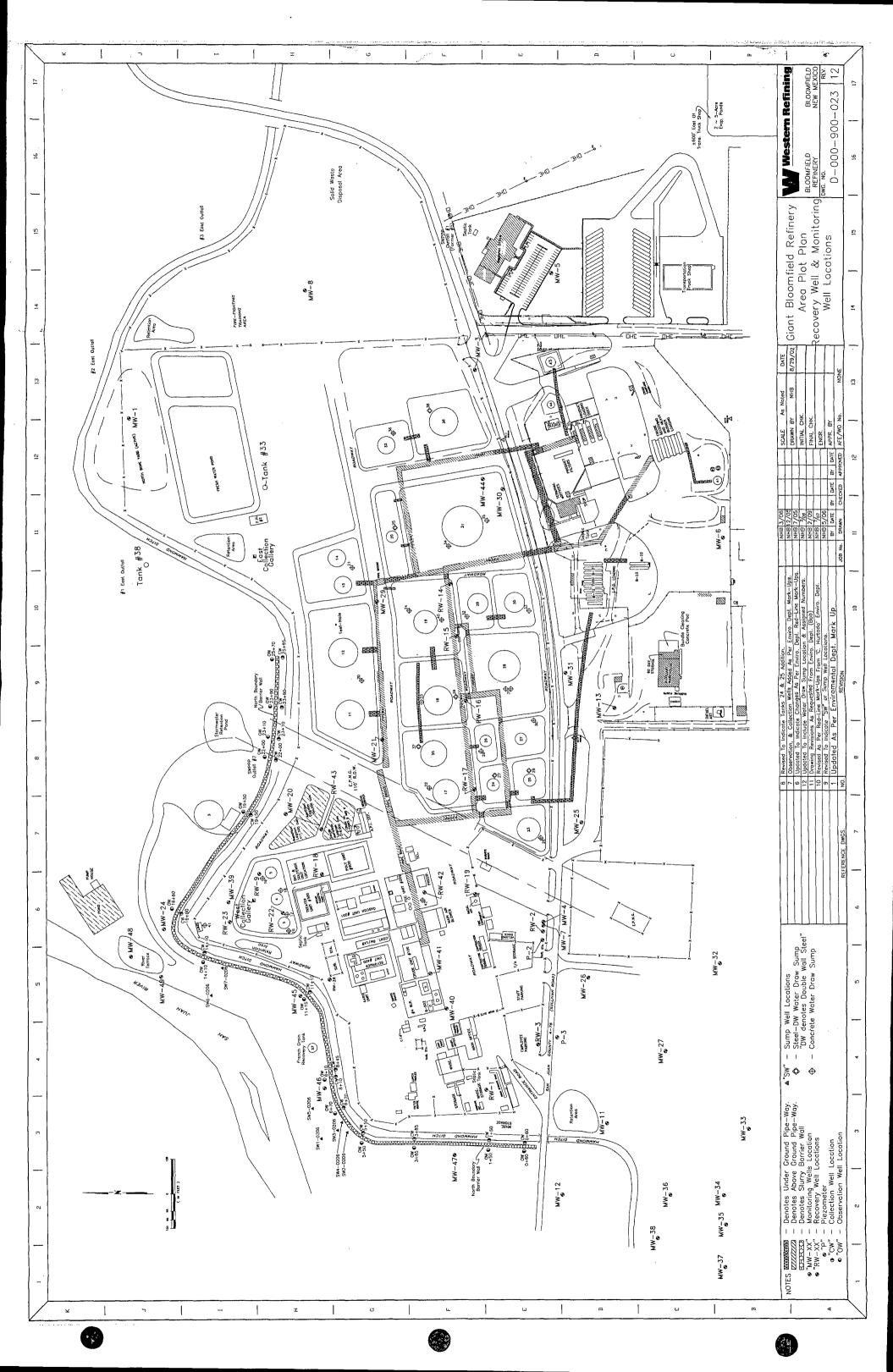
### **Dissolved Metals**

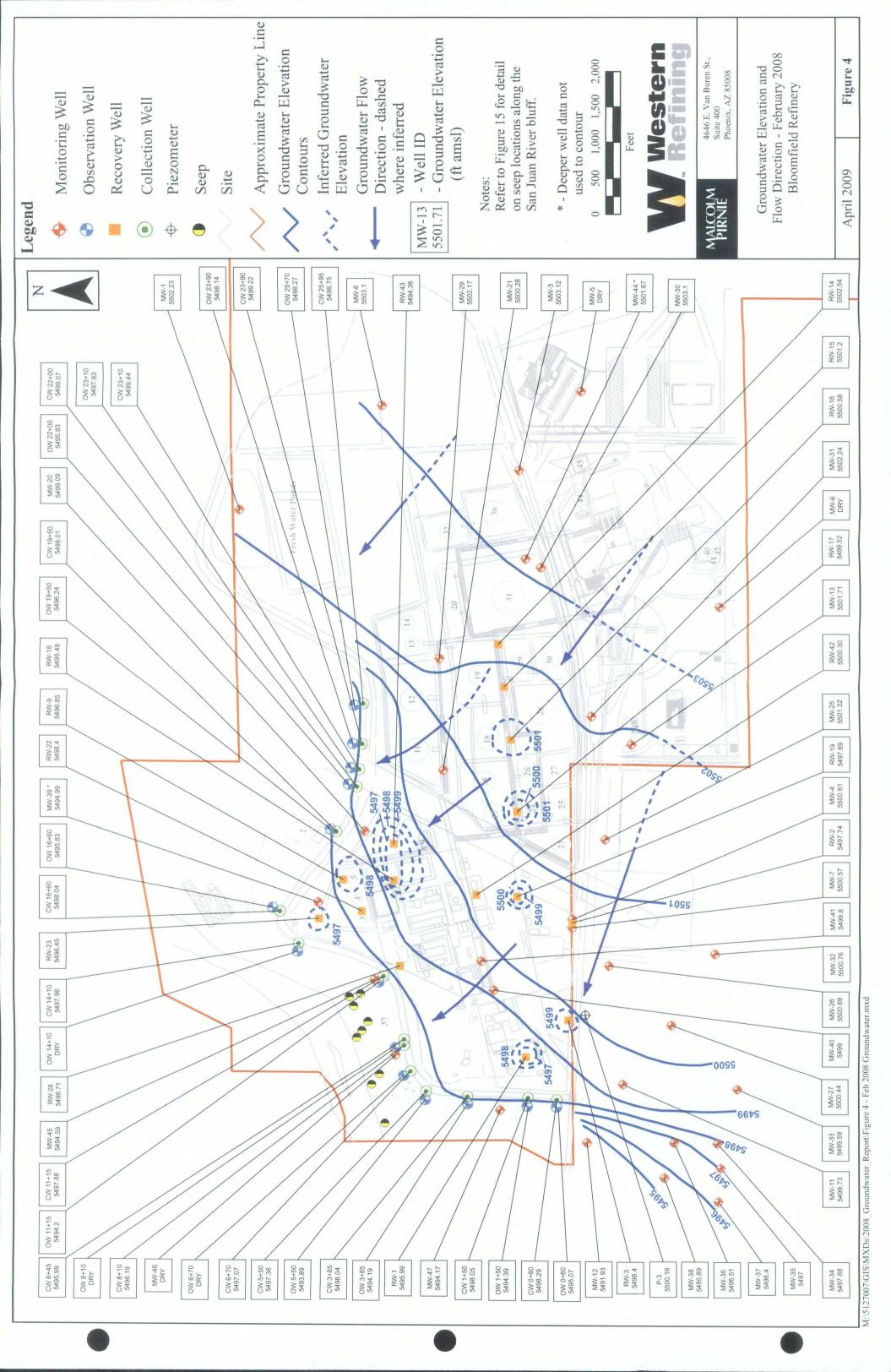
EPA Meth	nod 6010B						- WQCC
mg/L	Sampling Event	Date Sampled	North of MW #46	North of MW #45	Upstream of Refinery	Downstream of Refinery	20 NMAC 6.2.3103
Щ	Semi-Annual	08/05/08	1.8	1.8	2.0	1.9	
Potassium	Semi-Annual	03/12/08	1.7	2.3	1.8	1.7	
otas	4th Quarter	12/07/07	1.8	1.9	1.9	1.9	
Po	3rd Quarter	07/10/07	1.7	1.7	1.8	1.6	
Ε	Semi-Annual	08/05/08	<0.050	<0.050	<0.050	<0.050	0.05
Selenium	Semi-Annual	03/12/08	<0.050	<0.050	<0.050	<0.050	
<u> </u>	4th Quarter	12/07/07	<0.050	<0.050	<0.050	<0.050	
Ś	3rd Quarter	07/10/07	<0.050	<0.050	<0.050	<0.050	
_	Semi-Annual	08/05/08	<0.0050	<0.0050	<0.0050	<0.0050	0:05
Silver	Semi-Annual	03/12/08	<0.0050	<0.0050	<0.0050	<0.0050	
Si	4th Quarter	12/07/07	<0.0050	<0.0050	<0.0050	<0.0050	
	3rd Quarter	07/10/07	<0.0050	<0.0050	<0.0050	<0.0050	
<b>E</b>	Semi-Annual	08/05/08	19	19	49	20	
liun	Semi-Annual	03/12/08	19	21	20	21	
Sodium	4th Quarter	12/07/07	30	31	37	33	en de la companya de La companya de la companya de
(0	3rd Quarter	07/10/07	16	16	46	16	95.

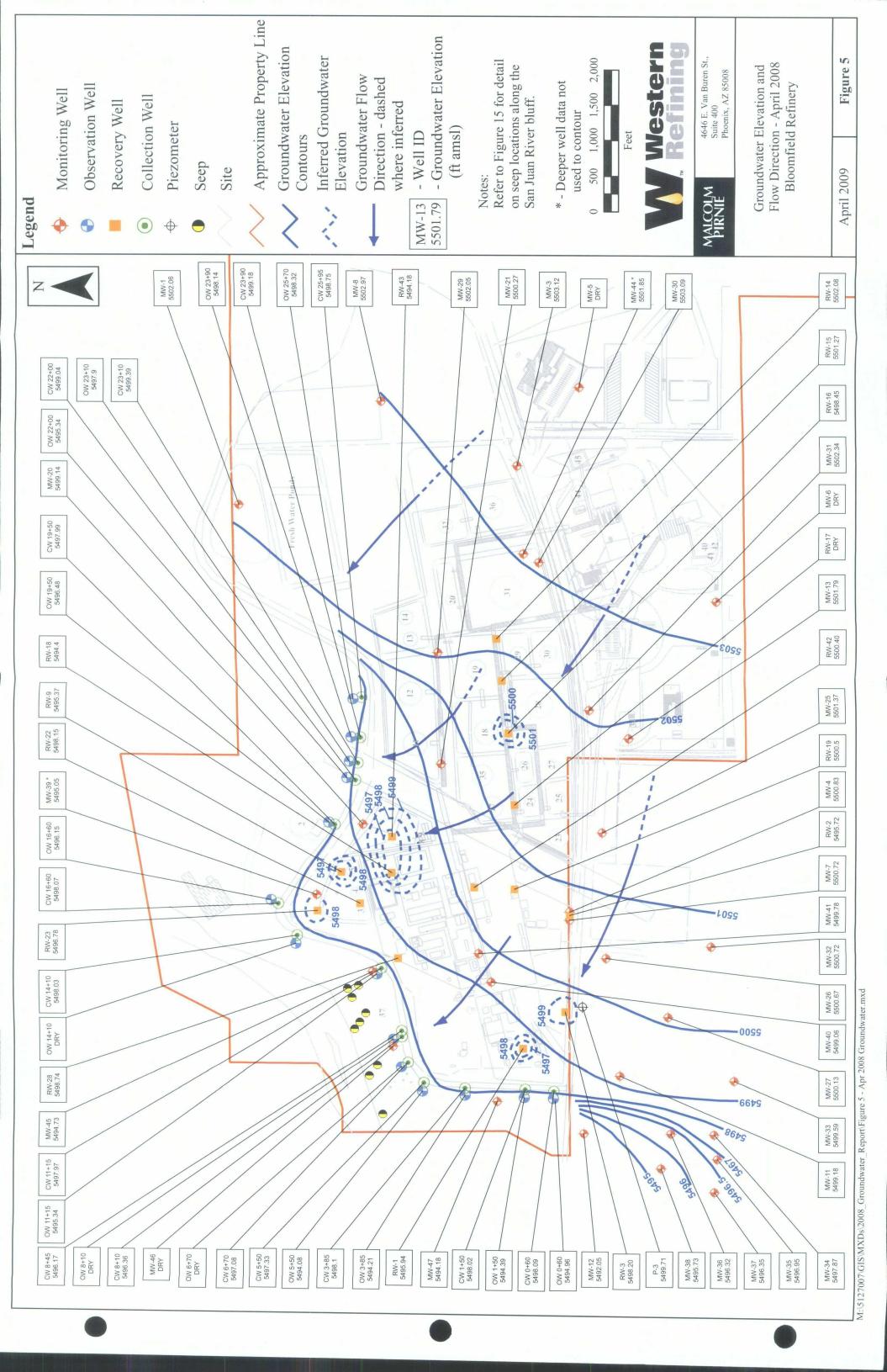
### Section 10.0 Figures

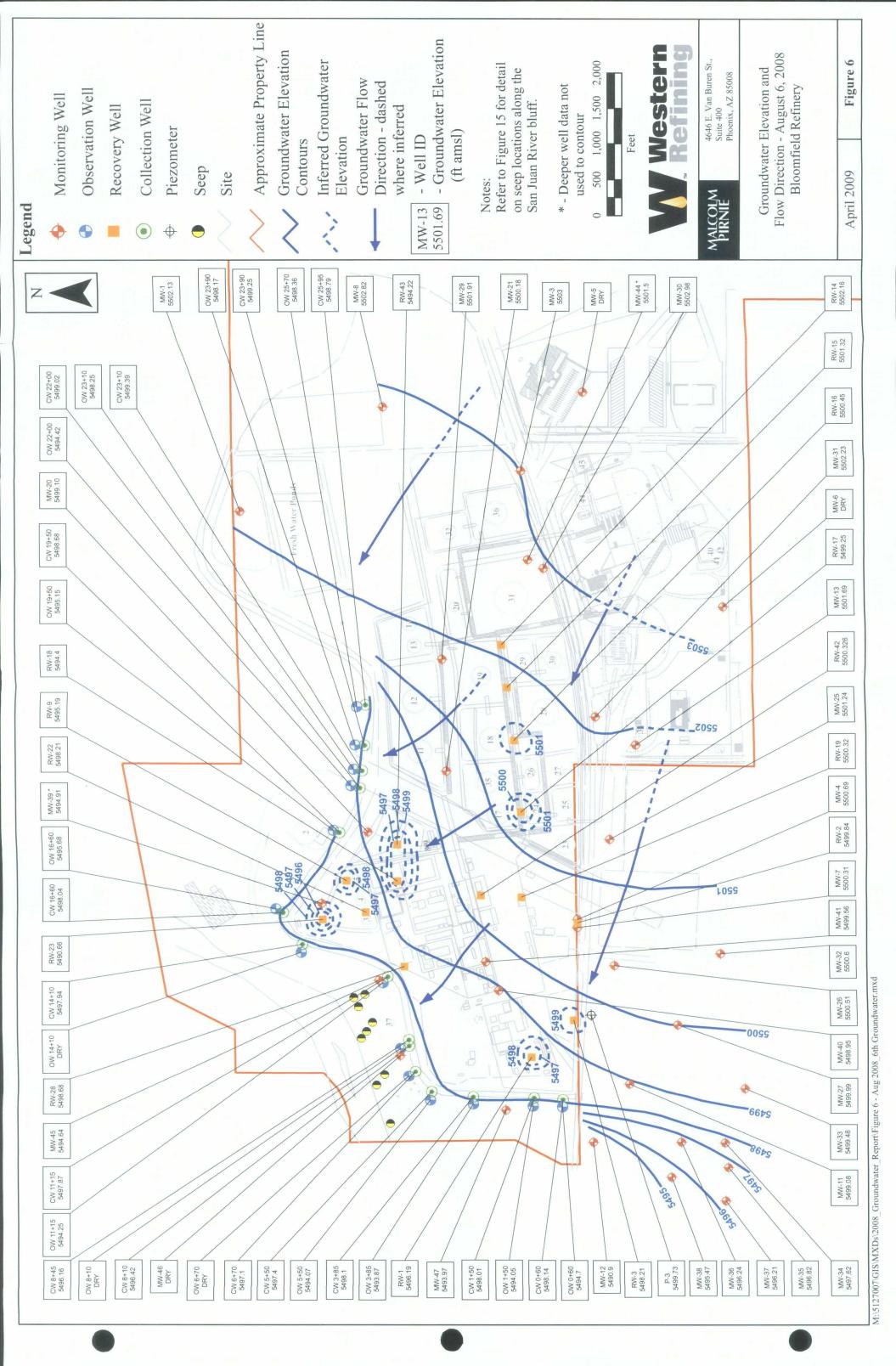
Title	Figure
Vicinity Map	Figures 1
Facility Site Plan (11X17)	Figure 2
Facility Site Plan	Figure 3
Groundwater Elevation and Flow Direction – February – 1 <sup>st</sup> QTR	Figure 4
Groundwater Elevation and Flow Direction – April – 2 <sup>nd</sup> QTR	Figure 5
Groundwater Elevation and Flow Direction – August 6 <sup>th</sup> – 3 <sup>rd</sup> QTR	Figure 6
Groundwater Elevation and Flow Direction – August 11 <sup>th</sup> – 3 <sup>rd</sup> QTR	Figure 7
Groundwater Elevation and Flow Direction – October – 4 <sup>th</sup> QTR	Figure 8
Product Thickness Map – February – 1 <sup>st</sup> QTR	Figure 9
Product Thickness Map – April – 2 <sup>nd</sup> QTR	Figure 10
Product Thickness Map – August – 3 <sup>rd</sup> QTR	Figure 11
Product Thickness Map – October – 4 <sup>th</sup> QTR	Figure 12
BTEX & MTBE Concentration Map – April	Figure 13
BTEX & MTBE Concentration Map – August	Figure 14
San Juan River Bluff – Seen Identification	Figure 15

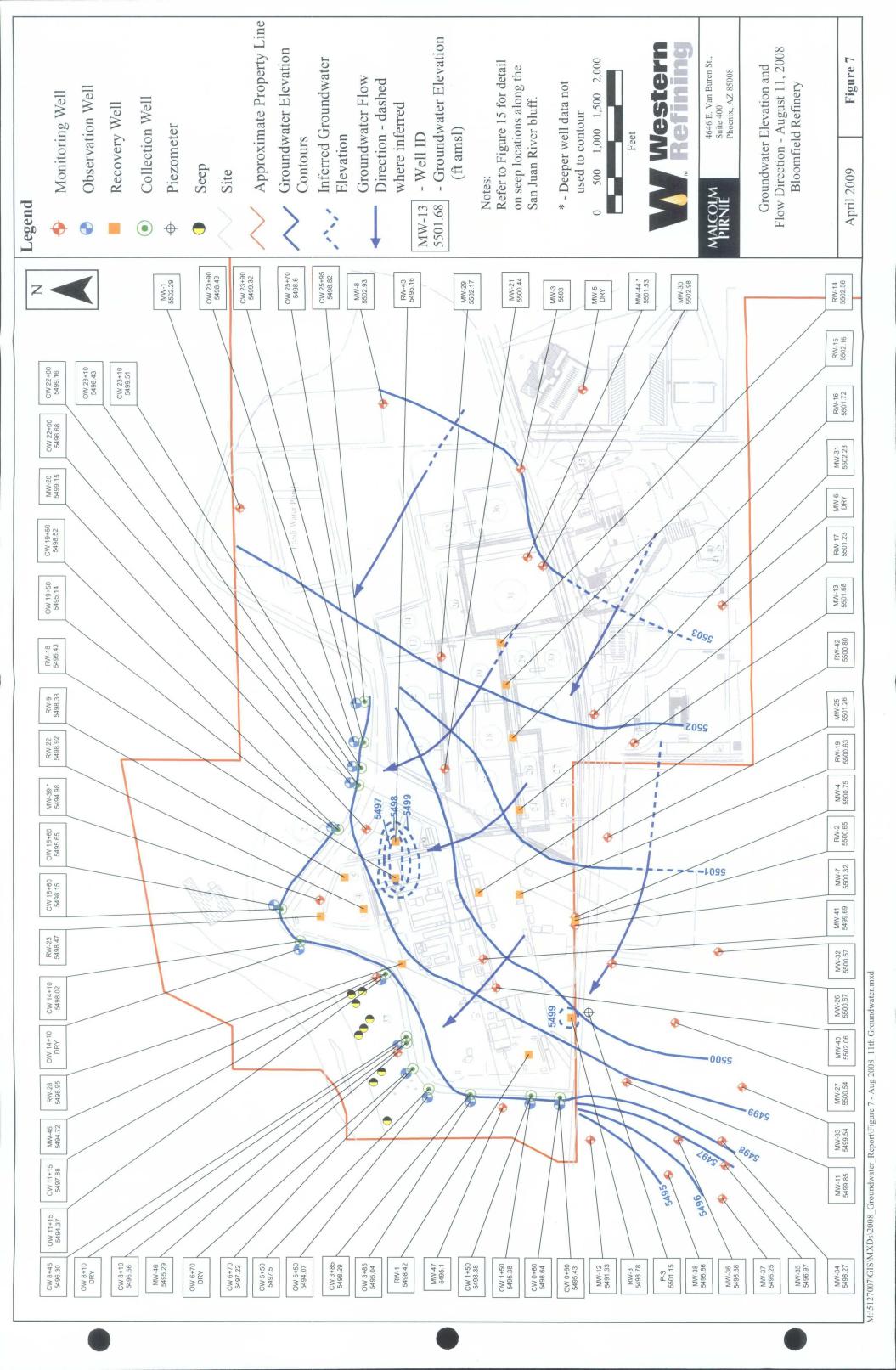


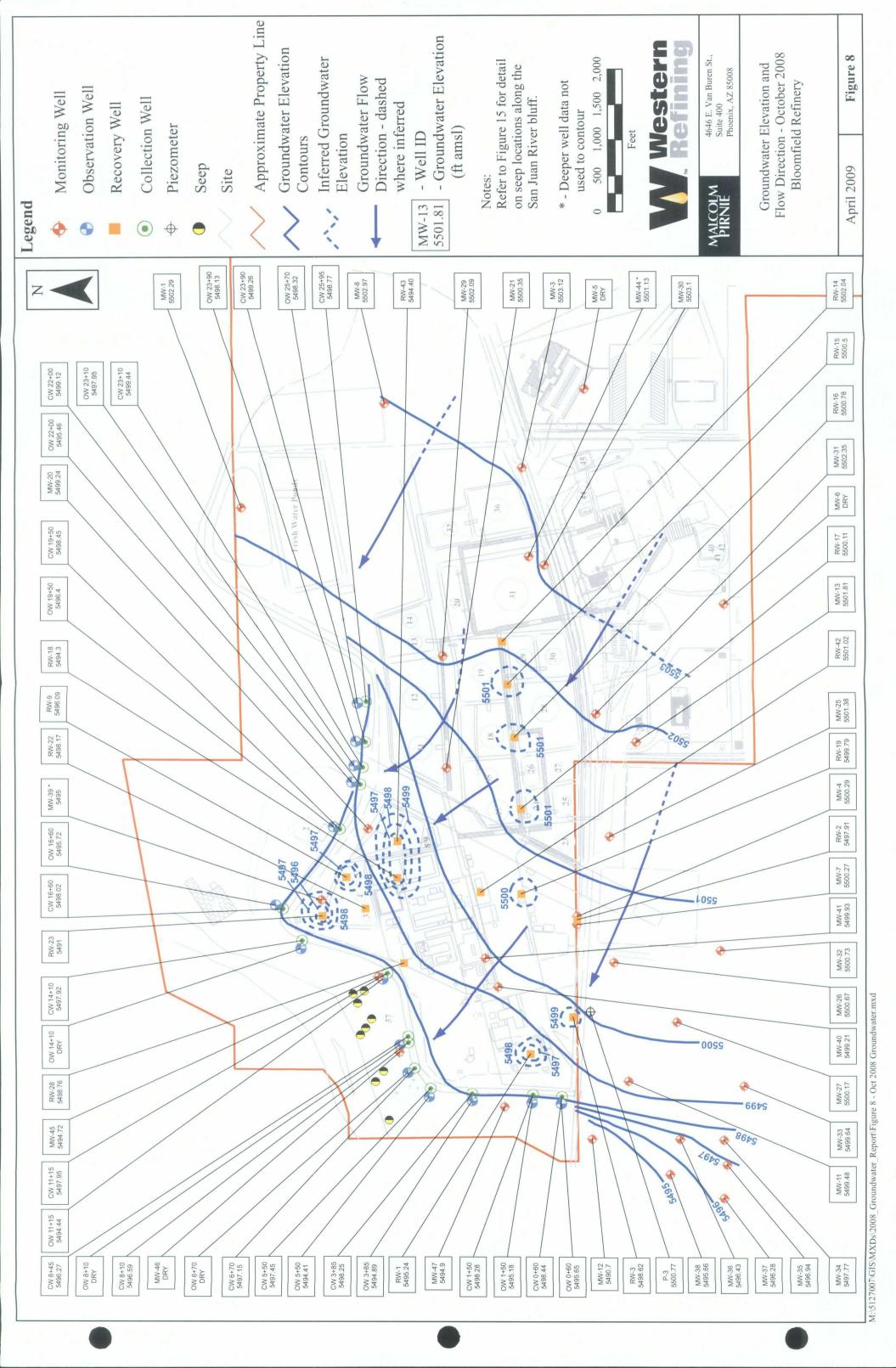












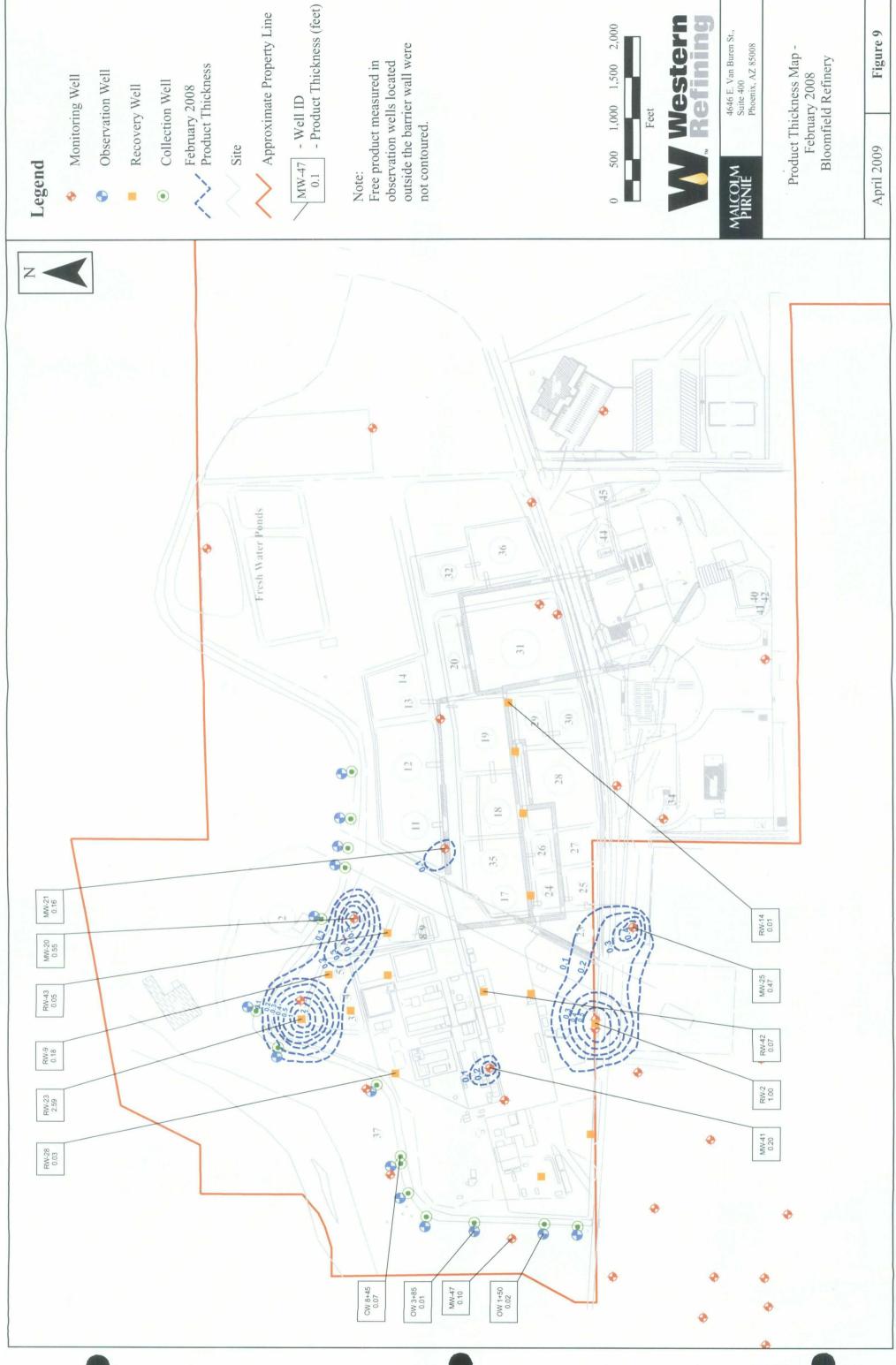


Figure 9

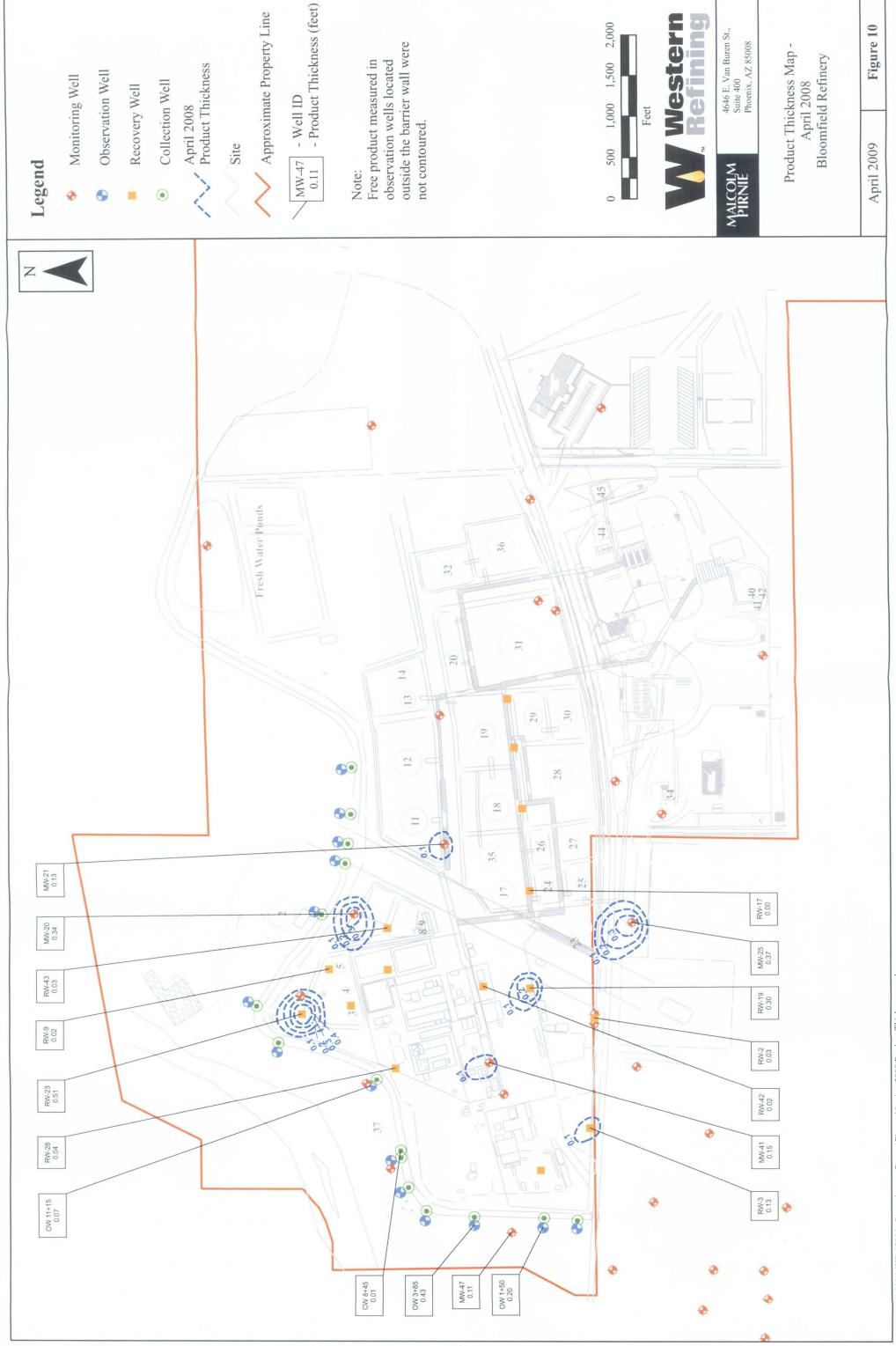
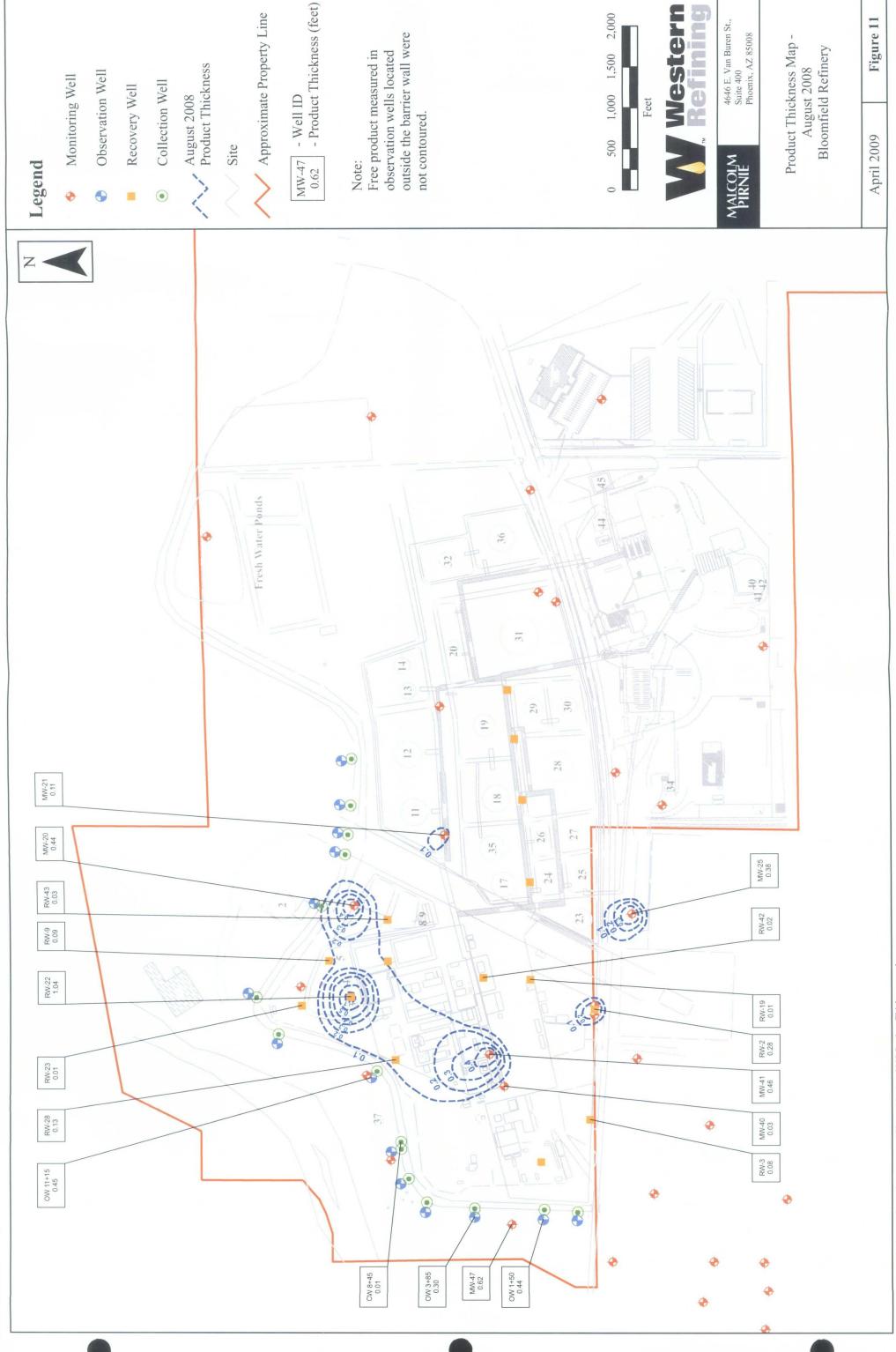
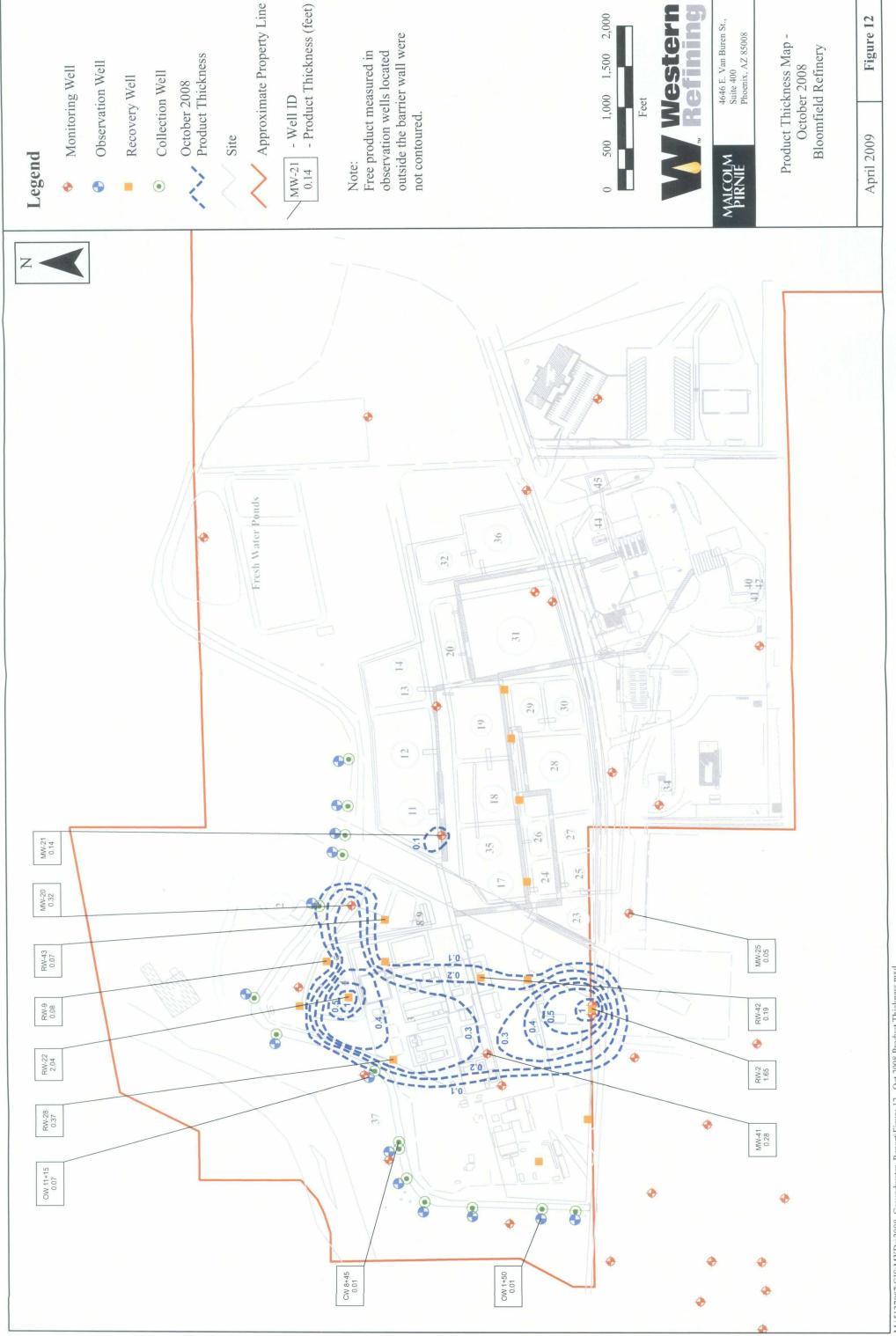
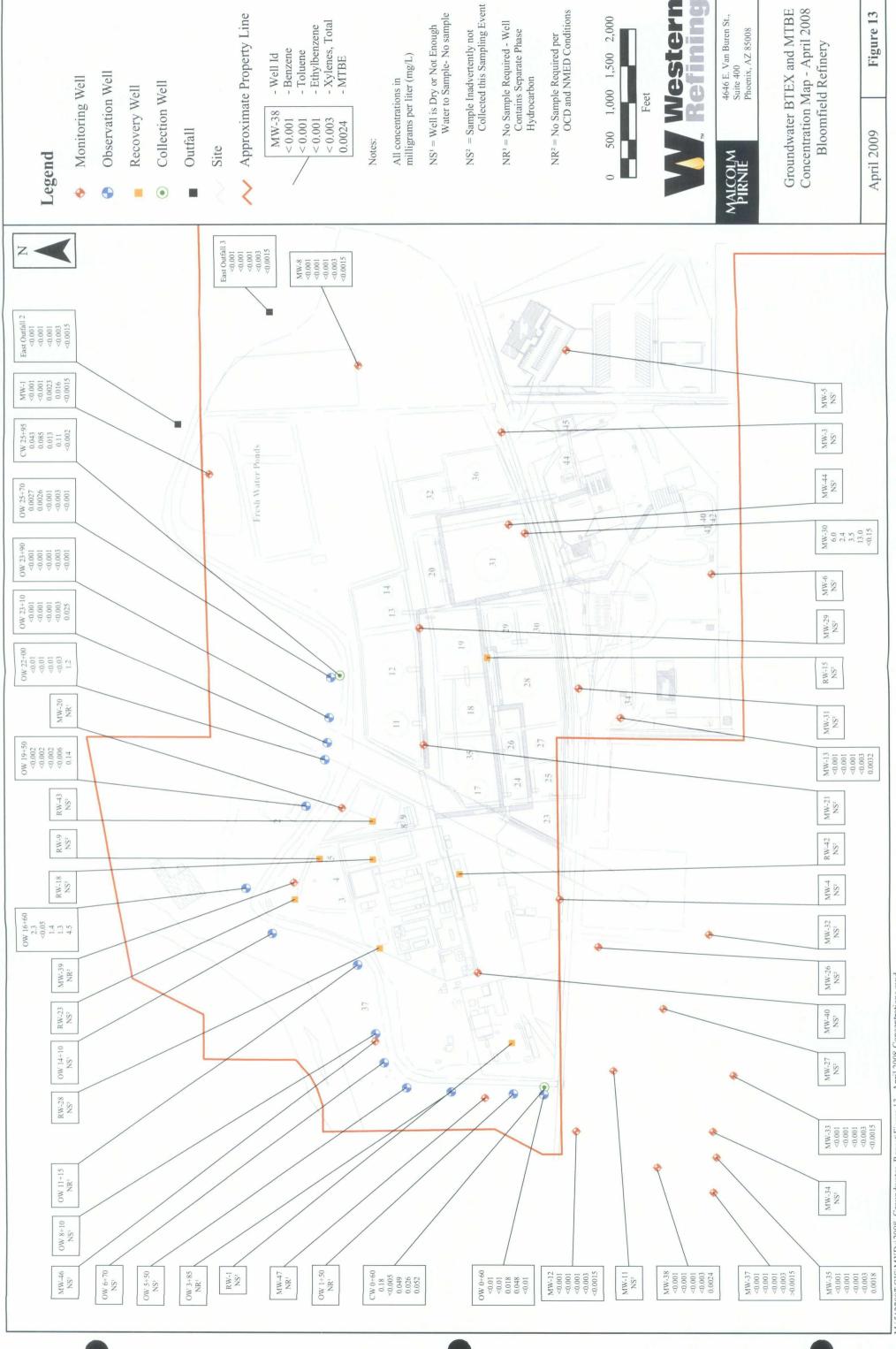
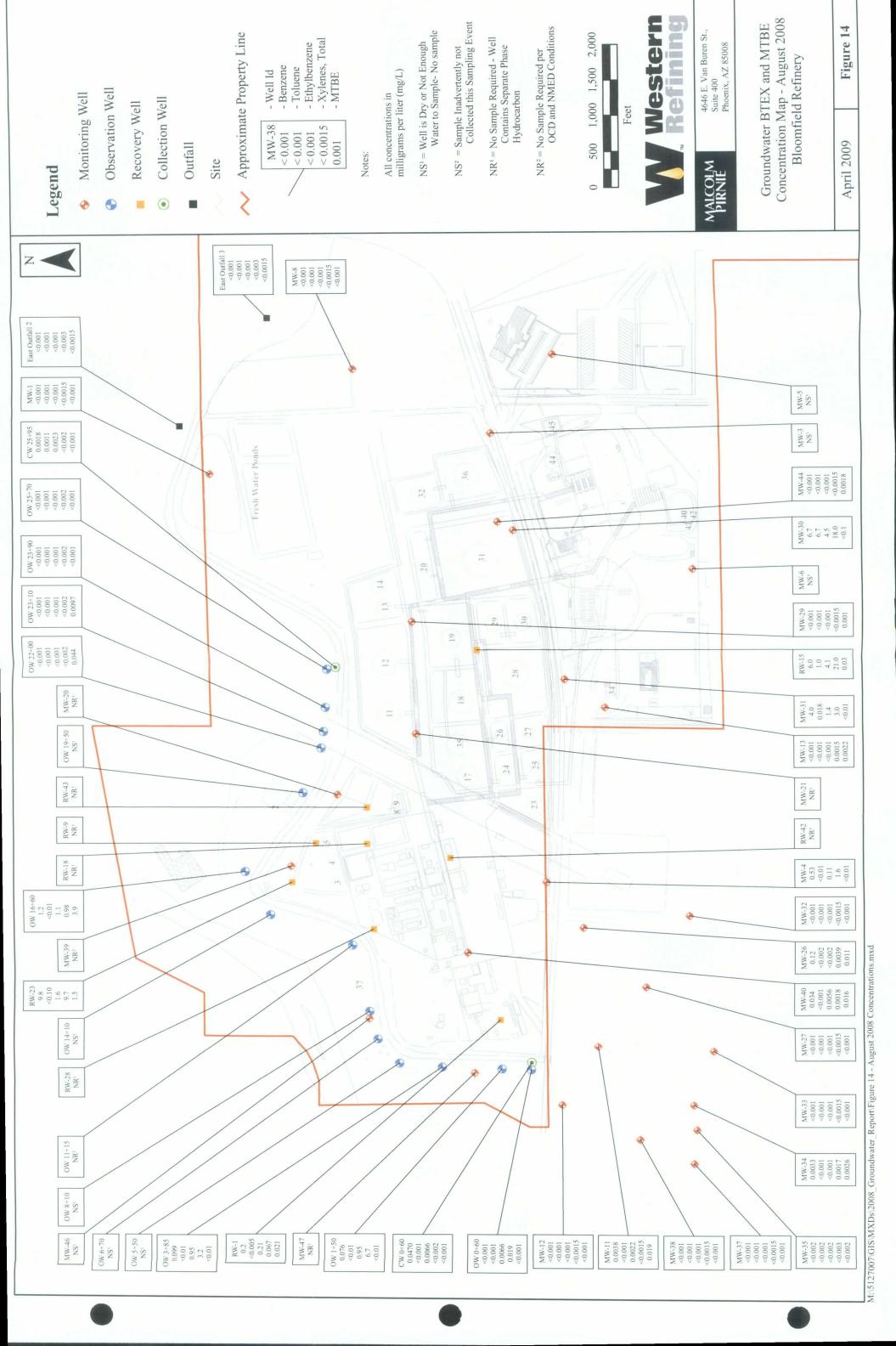


Figure 10



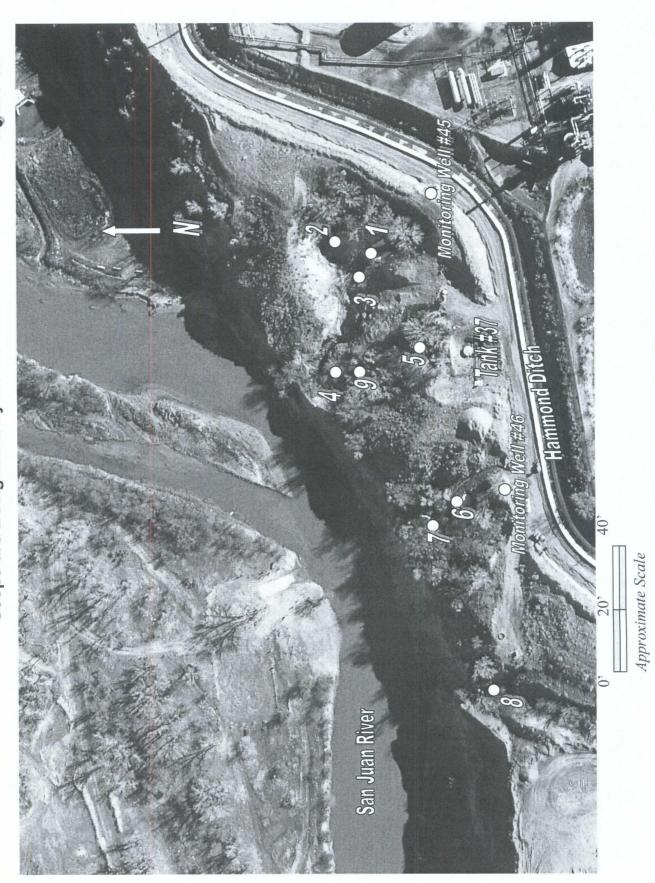






# San Juan River Bluff – Seep Identification Seeps are Designated by Numbers 1-9

Figure 15



### Section 11.0 BTEX & MTBE Concentration vs Time

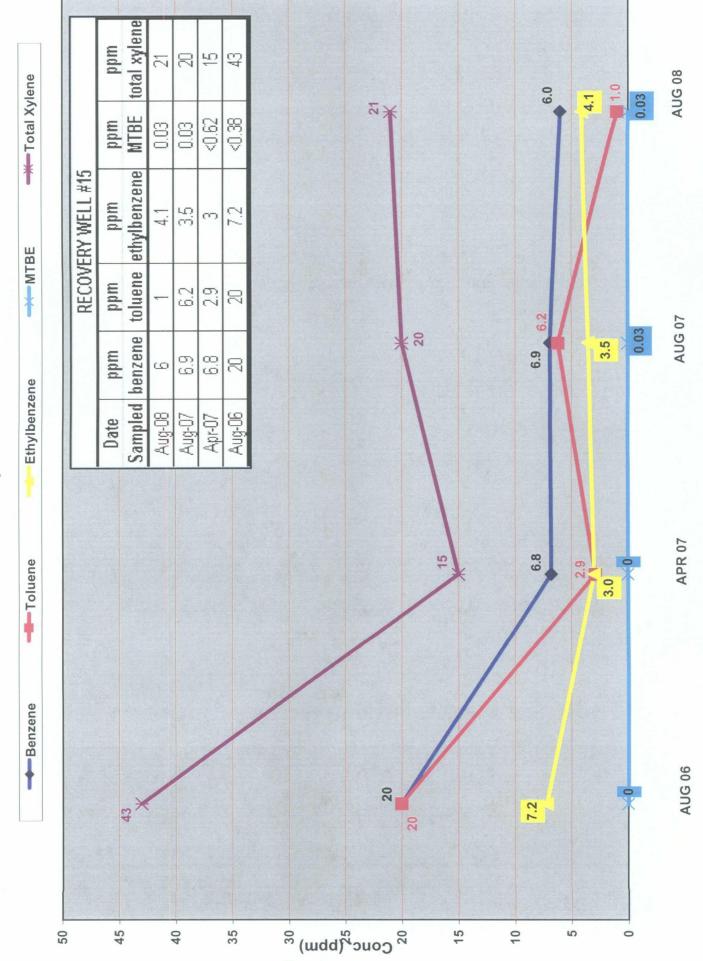
Title	<u>Tab</u>
Refinery Wells	12
Cross-gradient Wells	13
Downgradient Wells	14
San Juan River Bluff	15

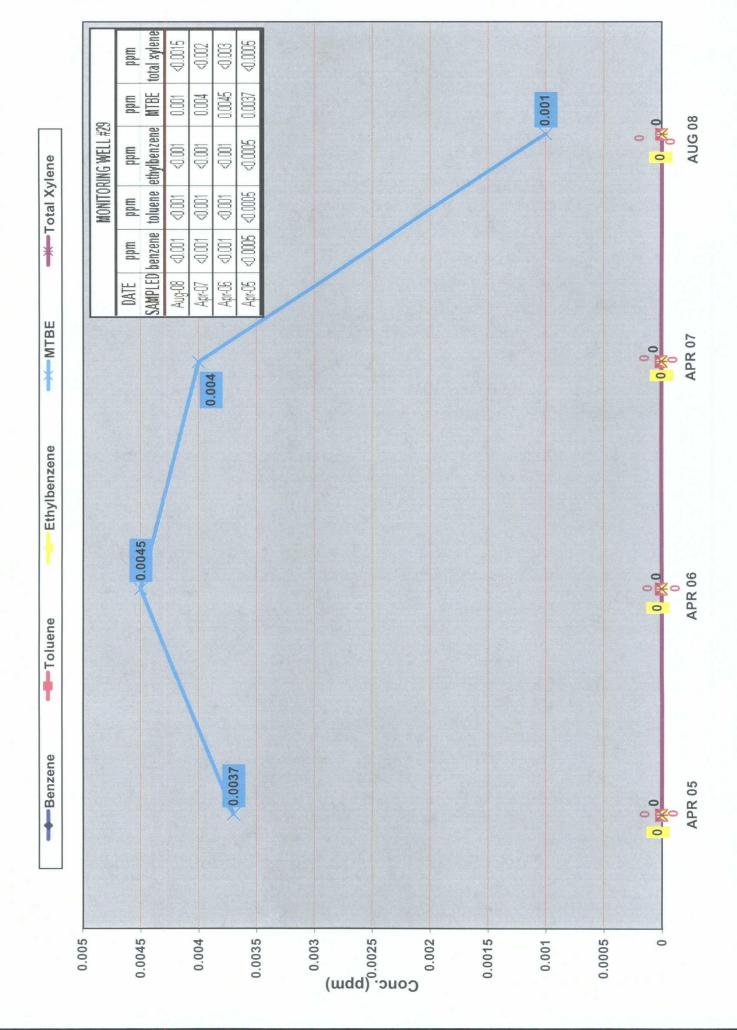
Recovery Well #1

### Monitoring Well #8

0 0
0 0

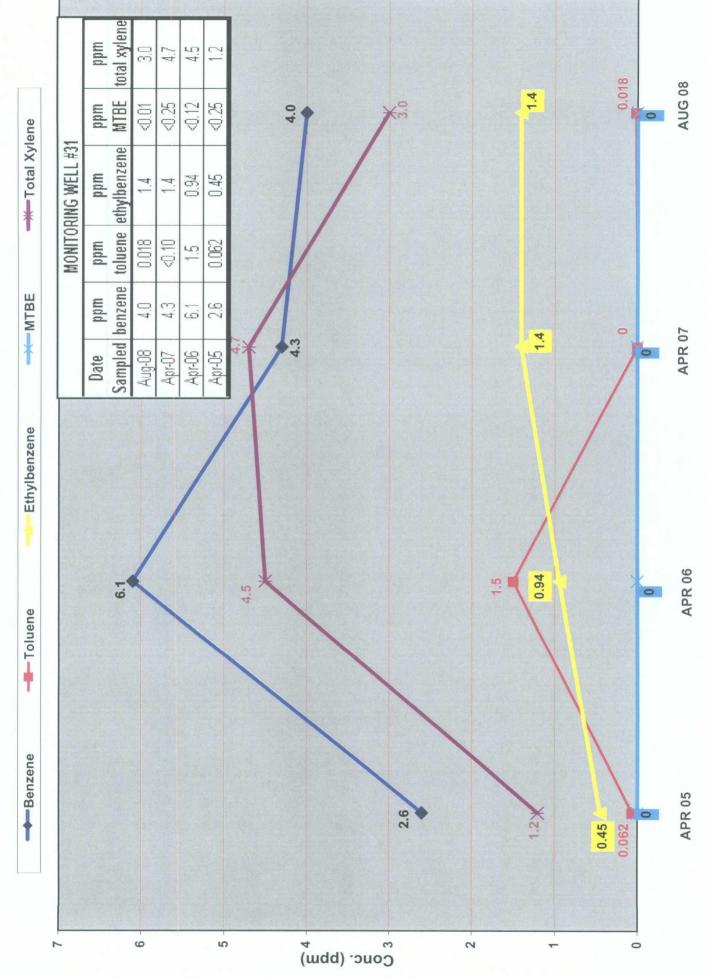
Recovery Well #15

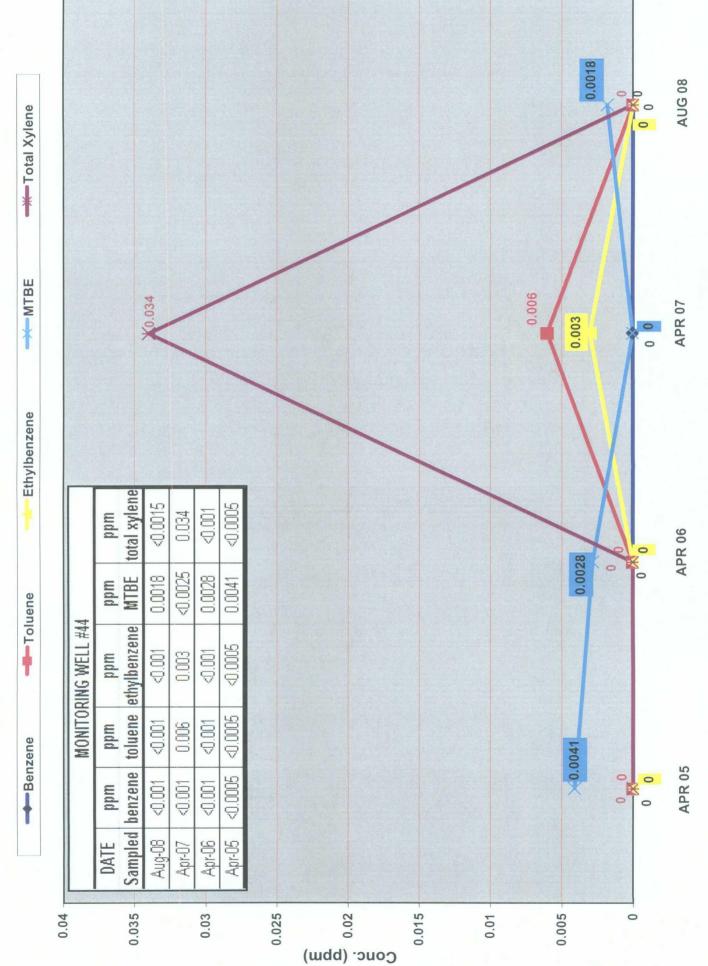




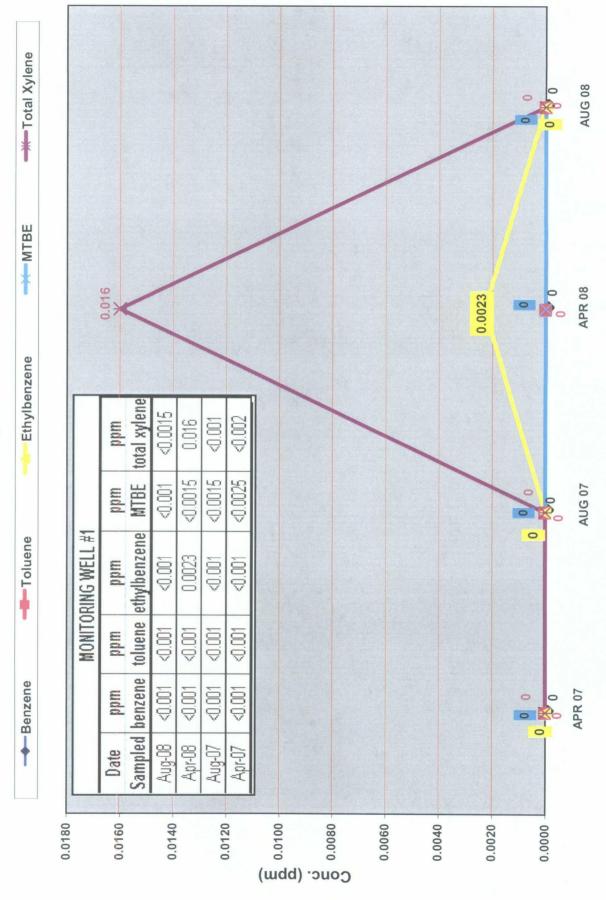
### AUG 08 \* Total Xylene 4.5 6.7 total xylene 9 $\overline{\sim}$ ppm MTBE 40.62 0.02 MTBE **APR 08** MONITORING WELL #30 toluene ethylbenzene mdd 4 9 33 5.4 3.5 2.9 6.7 Ethylbenzene SAMPLED benzene 6 50 $\omega$ 9 Aug-08 Apr-08 Apr-07 Aug-07 AUG 07 2.9 9 ---Toluene Benzene APR 07 5.7 5.4 25 20 2 0 Conc. (ppm)

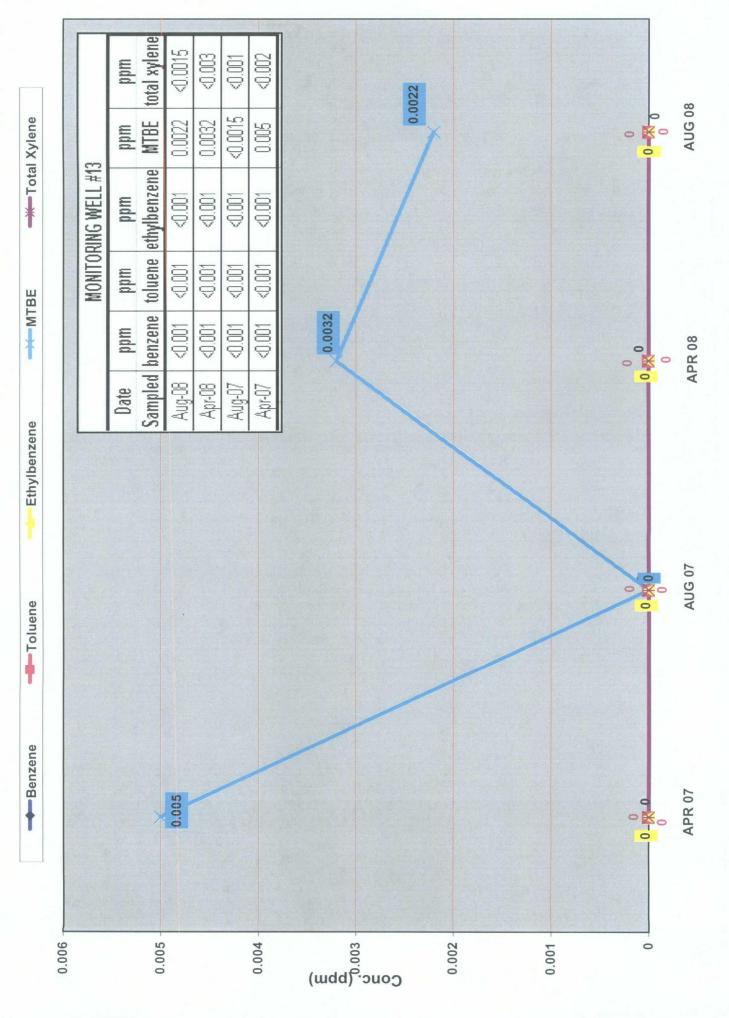
Monitoring Well #31

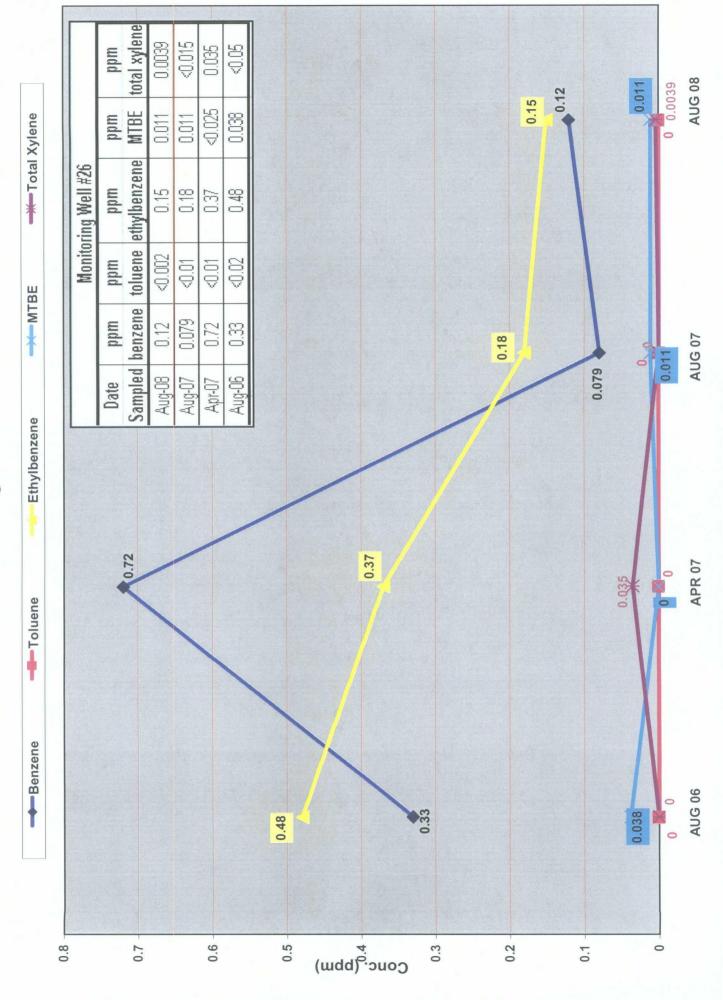


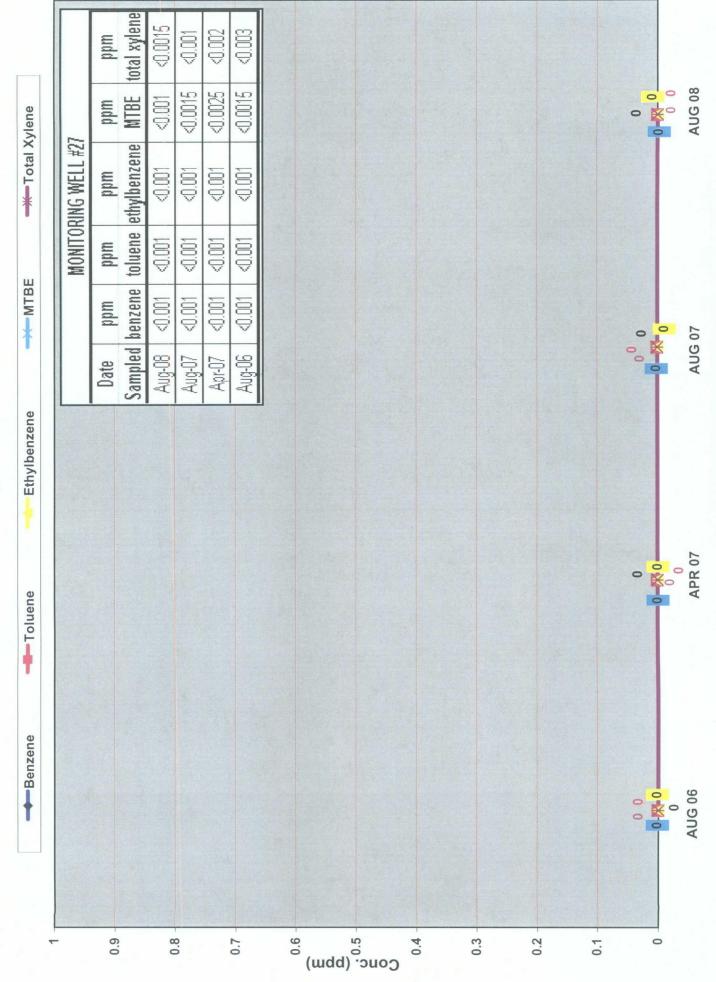


Monitoring Well #1

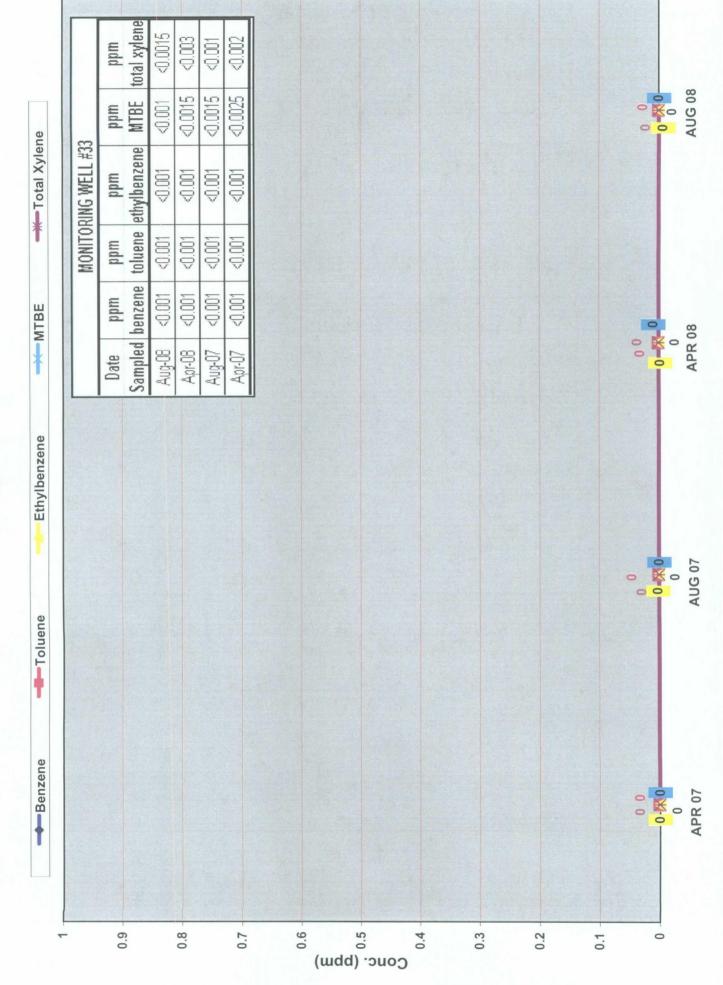


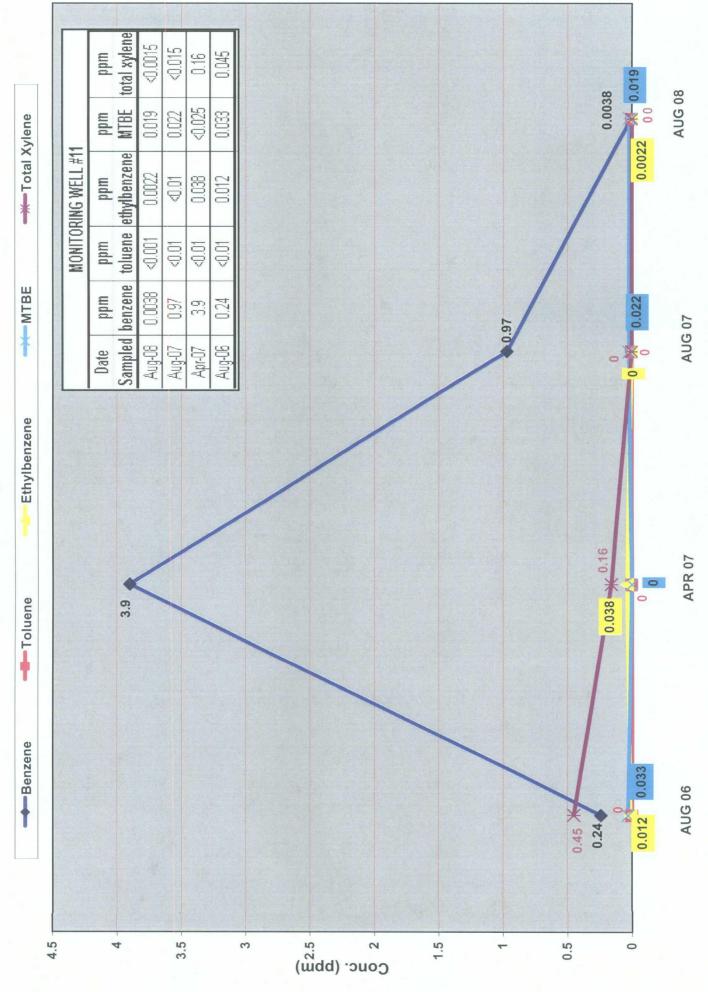


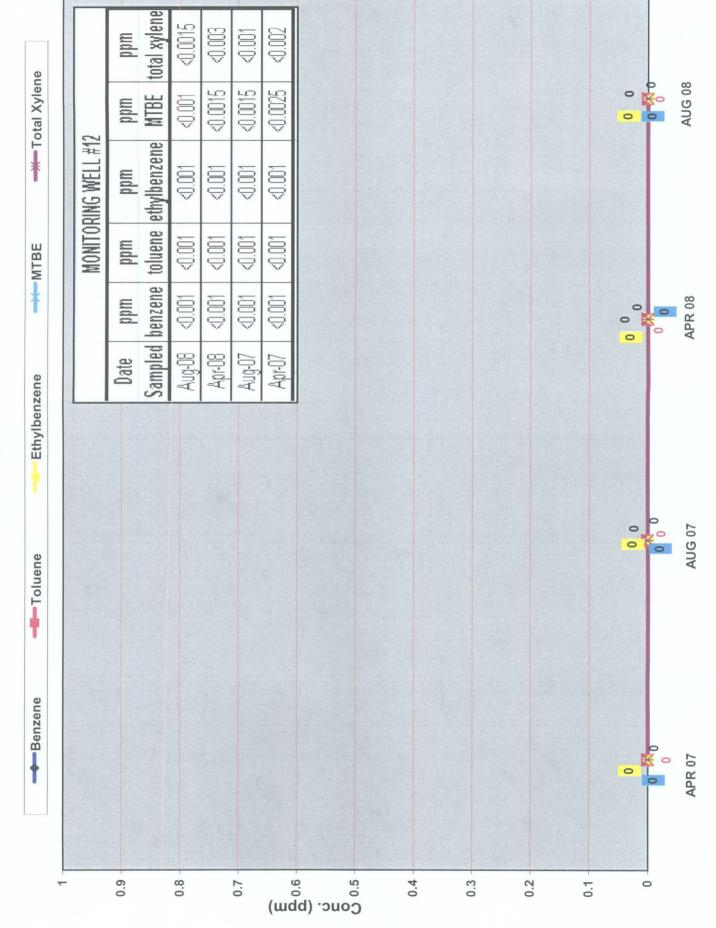




2)		ppm total xylene	<0.0015	<0.001	<0.002	40.003
	2	ppm	Ø.001	<0.0015	<0.0025	<0.0025
	MONITORING WELL #32	ppm ppm toluene ethylbenzene	40.001	40.001	40.001	<0.001
	MONITOR	ppm toluene	Ø.001	∆.001	Q.001	40.001
		ppm benzene	Q.001	40.001	0.001	Q:001
D		Date ppm Sampled benzene	Aug-08	Aug-07	Apr-07	Aug-06
Ethylbenzene						
auanioi						
Denzene						







### total xylene <0.003 Ø.003 0.00 Total Xylene ppm MTBE <0.0015 <0.0025 0.0018 MONITORING WELL #35 toluene ethylbenzene <0.002 0.00 88 0.00 mdd 0.0 8 0.0 MTBE 0.0018 Sampled benzene 0.00 0.00 8.8 mdd Aug-08 Aug-07 Apr-08 Apr-07 Date Ethylbenzene ---Toluene Benzene × 0.003 0.0025 Cgnc. (ppm) 0.002 0.0015 0.003 0.0035 0.0005 0.001

Monitoring Well #35

AUG 08

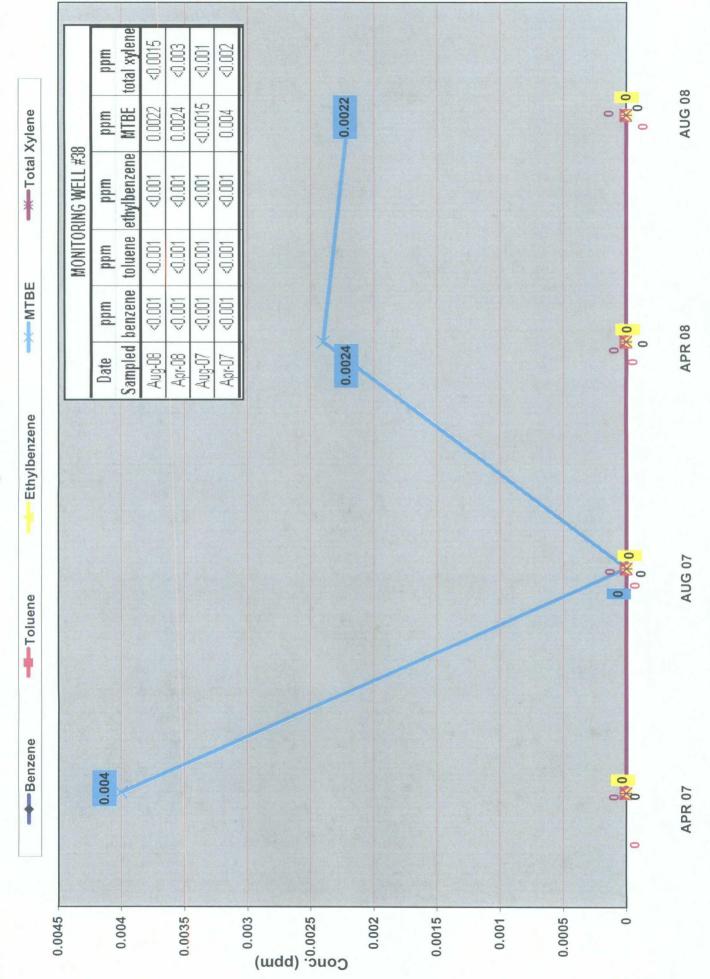
**APR 08** 

AUG 07

**APR 07** 

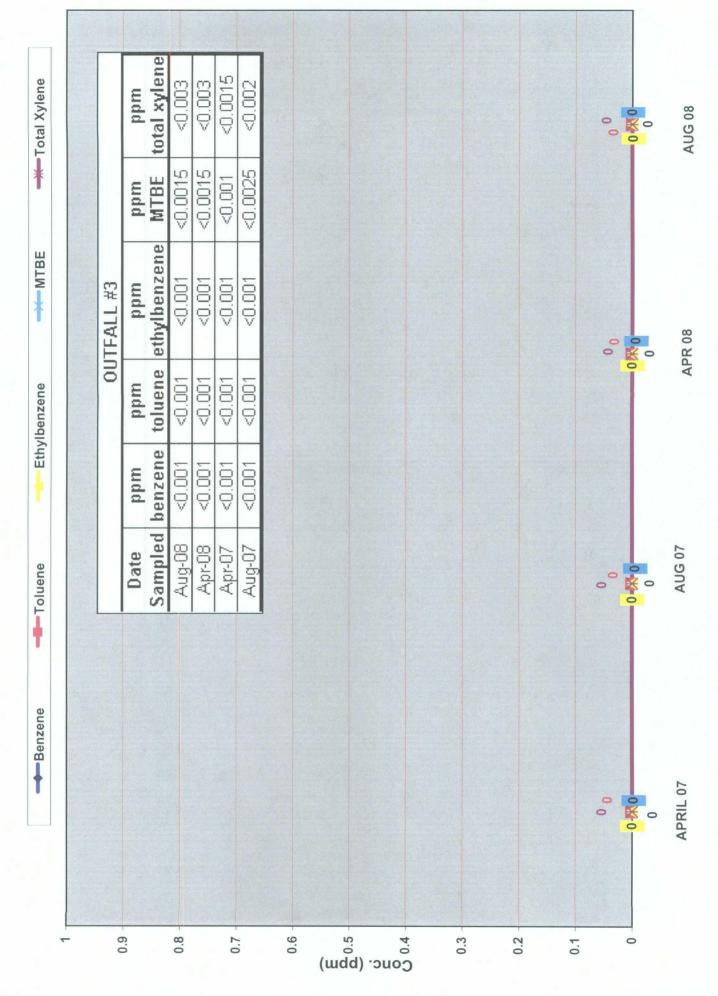
0

	mdd	total xylene	d.WT5	<0.003	<0.001	<0.002
	mdd		₩.	<0.0015	<0.0015	<0.0025
MONITORING WELL #37	mdd .	toluene ethylbenzene	E⊞i	<0.001	<0.001	<0.001
MONITOR	mdd.	toluene	₩ ₩	<0.001	40.001	40.001
	mdd	penzene	Û.W.	<0.001	<0.001	Q:001
	Date		Aug-U8	Apr-08	Aug-07	Apr-07



OUTFALL #2

### OUTFALL #3



### Section 12.0 Field Methods

### **Field Methods**

### **Groundwater Elevation**

All facility monitoring wells, recovery wells, observation and collection wells were measured for groundwater elevation in February and April. Recovery well pumps were shut off and the extraction of fluids ceased. Measurements of water and product levels were taken 48 hours after the cessation of fluid extraction.

In August, refinery personnel followed the guidelines of the *Facility-Wide Groundwater Monitoring Plan (Revised May 2008)* to collect groundwater levels and SPH thickness measurements. Prior to annual groundwater sampling activities, water elevation measurements were collected in all wells while the recovery wells were in operation and again after the pumps were removed and water levels had stabilized (5 days later). October groundwater level measurement procedures followed the protocol from the February and April program. Measured depth to groundwater information is in Section 9.0, Tabs 1.0, 2.0, and 3.0.

All water/product levels are determined to an accuracy of 0.01 foot using a Geotech Interface Meter. The technician records separate phase hydrocarbon, depth to water, and total well depth using this probe.

### Water Quality/Groundwater Sampling

Water quality parameters are measured using an Ultrameter 6P by the Myron L Company. Electrical conductance, oxidation-reduction potential (ORP), pH, and temperature are monitored during purging.

### Well Purging Technique

At least three well volumes are purged from the well. Purge volumes are determined using the following equation:

Well Depth – Casing Height – Depth to Liquid X Conversion Factor X Three. The conversion factor is determined by the diameter of the well casing.

Casing	Conversion Factor
6"	1.50 gal/ft
5"	1.02 gal/ft
4"	0.74 gal/ft
3"	0.367 gal/ft
2"	0.163 gal/ft

Typically disposable bailers are used for purging and sampling. Each bailer holds one liter of liquid. Three well volumes can be calculated by counting the number of times a well is bailed.



On occasion, the submersible pump is used for purging wells that have a large volume of water. All purged water is poured/pumped into a 55-gallon drum designated for sampling events.

### Well Sampling and Sample Handling Procedure

Equipment and supplies needed for collecting representative groundwater samples include:

- Interface Meter
- Ultrameter 6P
- Distilled Water
- Disposable Latex Gloves
- Disposable Bailers
- Submersible pump and Generator (if needed)
- String/Twine
- Cooler with Ice
- Bottle kits with Preservatives (provided by the contract laboratory)
- Disposable 0.45 micron Field Filters and Syringes
- Glass Jar (usually 4 oz.)
- Sharpie Permanent Marker
- Field Paperwork/Logsheet
- Two 5-gallon buckets
- Trash container (plastic garbage bag)
- Ziploc Bags
- Paper towels

After sufficient purging, samples are collected with the bailer and poured into the appropriate sample containers. Two people are usually utilized for sampling. Sampling takes place over a bucket to insure that spills are contained

For dissolved metals, sample water is poured into a jar and then extracted with a syringe. The syringe is then used to push water through a field filter into the proper sample bottle to collect the dissolved metals sample. Volatile organic analysis samples are collected as to allow no head space in the container.

Samples are labeled immediately with location, date, time, analysis, preservative, and sampler. Then they are put in a Ziploc bag and placed in a cooler holding sufficient ice to keep them cool. The field logsheet is reviewed to verify all entries.

### Purge and Decontamination Water Disposal

The Ultrameter 6P and the interface probe are rinsed with distilled water after every well. The rinse procedure takes place over a bucket to insure that spills are contained.

All rinse and purge water is contained and then disposed of through the refinery wastewater system.

The submersible pump is decontaminated by placing it in a 55-gallon barrel filled with plant water and some Alconox. The pump is activated and will pump down the barrel twice. External areas are washed down and rinsed, also. All wash and rinse water is on containment and runs to the refinery wastewater system. Any glassware used is taken to the refinery laboratory and washed with Alconox and water and rinsed with reverse osmosis water. Laboratory wastewater runs through the refinery system.

### **Instrument Calibration**

The Ultrameter 6P instrument calibration occurs at the beginning of each day of sampling. For Conductivity and TDS calibration, the cell is rinsed three times with a 3000 umhos/cm NaCl Standard. The cell cup is refilled with the standard. Either the **COND** or the **TDS** button is pressed and then the **CAL** button is pushed. Press the up or down arrow until the display agrees with the standard. The **CAL** button is pressed to accept the value.

The Ultrameter 6P has an electronic ORP calibration which is automatically calibrated with the 7 pH. The pH sensor well is rinsed three times with 7.0 buffer solution and then refilled again with that buffer. The **pH** button is pressed then the **CAL** button. The up or down arrow is adjusted until the display agrees with the buffer value. The **CAL** button is pushed to accept that value. Repeat the calibration steps using an acid buffer solution and then again with a base buffer solution.

### **Remediation System Measurement**

Recovery well flows are measured using a 1000 ml graduated cylinder. The sample port on the discharge line of the pump is opened and effluent flows into the graduated cylinder. During a pump cycle, a measurement is taken over time and then calculated to a gallon per day rate.

Recovery rates at Tk #37 (Hammond Ditch French Drain) and Tk #38 (#1 East Outfall) are determined through flow meters installed in those systems. Refinery personnel record the rates periodically.

### Section 13.0 Waste Disposition

	Cert. of Disposal/ Consumption	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Treatment	Incineration	Incineration	Incineration	Incineration	Incineration	Incineration	Recycled	Incineration	Landfill	Incineration
	Destination	Clean Harbors El Dorado LLC 309 American Circle El Dorado, Arkansas 71730	Clean Harbors El Dorado LLC 309 American Circle El Dorado, Arkansas 71730	Clean Harbors El Dorado LLC 309 American Circle El Dorado, Arkansas 71730	Clean Harbors El Dorado LLC 309 American Circle El Dorado, Arkansas 71730	Clean Harbors El Dorado LLC 309 American Circle El Dorado, Arkansas 71730	Clean Harbors El Dorado LLC 309 American Circle El Dorado, Arkansas 71730	Catalyst Recovery of Louisiana, LLC 100 American BLVD Lafayette., LA 70508			Clean Harbors Deer Park LP 2027 Battleground Road La Porte, TX 77571
	Quantity	1660 P	650 P	400 P	800 P	2,120	2200 P	13,340 P	28,320	3000 P	450 P
2008	Containers lo. Type	DM	DM	DM	DM	DF	DM	CM (flo-bins)	 DT	DM	DM
Waste 2008	Conta No.	£ .	_	· •	<del>-</del>	8 Total - 5 Drums, 3-5 gal	4	4	_	9	-
N	Description	API Sludge (Hazardous Waste Solid) K-051, D-008	Main Column Bottoms Sludge K-170, D008, D009	Process Sewer Spill Clean-up Hazardous Waste Solid D-018, F-037	Soil/Red Dye (Terminals Cleanup)	Out-Dated Triple F (Fire Fighting Foam) Non-RCRA Hazardous Waste Liquid		Unifiner Spent Catalyst D001, K-171	Soil Contaminated with Sewer Box Overflow D018, F-037	Burner Rack Sludge ( Non-Hazardous)	Sand with Hydrocarbons from the Fire Trainng Grounds (Non- Hazardous)
	Manifest #	001749505 FLE 9a.1	001749505 FLE 9a.2	001749505 FLE 9a.3	001749505 FLE 9a.4	001749505 FLE 27a.5	001749505 FLE 27a.6	004162516 JJK	002049607 FLE	002064458 FLE 9a.1	002064456 FLE 9a.1
	Profile #	CH296877	CH247415	CH296865	CH255646	CH296795	CH296828		CH309573B	CH315168	CH312284
	Pick-up Date	2/26/2008	2/26/2008	2/26/2008	2/26/2008	2/26/2008	2/26/2008	3/5/2008	6/3/2008	6/24/2008	6/24/2008

## **Waste 2008**

Cert. of Disposal/ Consumption	Yes	Yes	ХеУ	002064457 FLE       Soil contaminated with API       T       CF       1,800 P       Clean Harbors El Dorado LLC         9a.2       (D018, K-057)       El Dorado, Arkansas 71730         002064457 FLE       Vacuum Truck Sludge       19       DM       9,500 P       S09 American Circle         9a.3       (F037)       El Dorado, Arkansas 71730		Yes	Yes	Yes	Yes	Yes
Treatment	Incineration	Recycle (Earth Protection Services, Inc) 8-29-08	Incineration	Incineration	Incineration	Recycle (USA Lamp & Ballast Recycling, Inc) 7 22-08	Metals Recovery	Metals Recovery	Landfill	Landfill
Destination	Clean Harbors Deer Park LP 2027 Battleground Road La Porte, TX 77571	Clean Harbors Deer Park LP 2027 Battleground Road La Porte, TX 77571	Clean Harbors El Dorado LLC 309 American Circle El Dorado, Arkansas 71730	Clean Harbors El Dòrado LLC 309 American Circle El Dorado, Arkansas 71730	Clean Harbors El Dorado LLC 309 American Circle El Dorado, Arkansas 71730	Clean Harbors El Dorado LLC 309 American Circle El Dorado, Arkansas 71730	Clean Harbors El Dorado·LLC 309 American Circle El Dorado, Arkansas 71730	Clean Harbors El Dorado LLC 309 American Circle El Dorado, Atkansas 71730	Clean Harbors Arizona, LLC 1340 West Lincoln Street Phoenix, Arizona 85007	Clean Harbors Arizona, LLC 1340 West Lincoln Street Phoenix, Arizona 85007
Quantity	14,400 P	40 P	CF 1,800 P	1,800 P	9,500 P	15 P	10 P	10 P	800 P	400 P
Containers Io. Type	CF	CF	CF	CF	DM	CF	DM (5-gal.)	DM (5-gal.)	WQ	DM
Conta No.	8	. 2	_			. —	——————————————————————————————————————	<del></del>	2	<del>,</del>
Description	Sand with Hydrocarbons from the Fire Trainng Grounds (Non- Hazardous)	Shatershield Halide Bulbs (Universal Waste)	Process Sewer Sludge from spill clean-up (D018, F037)	Soil contaminated with API Separator Sludge (D018, K-057)	Vacuum Truck Sludge (F037)	Fluorecsent Light Bulbs (Universal Waste)	001777972 FLE Mercury Switches 1 (D-009)	Crushed Bulbs for Retort (D-009)	Transformer Oil (non PCB) and Soil from Spill Clean Up (Non-Hazardous)	Waste Oil and Soil from Spill Clean Up (Non-Hazardous)
Manifest #	002064456 FLE 9a.2	002064456 FLE 9a.3	6/24/2008 CH296865 002064457 FLE 9a.1	002064457 FLE 9a.2	002064457 FLE 9a.3	002064457 FLE 9a.4	001777972 FLE 9a.1	001777972 FLE 9a.2	001777973 FLE (9a.1)	001777973 FLE (9a.2)
Profile #	CH312284	CH308191	CH296865	СН296877	CH315430	СН308190	08 CH331097		10/8/2008 CH329171	СН329472
Pick-up Date	6/24/2008	6/24/2008	6/24/2008	6/24/2008	6/24/2008	/20	10/8/2008	10/8/2008	10/8/2008	10/8/2008

Page 2 of 3

## Waste 2008

Cert. of Disposal/	Consumption	Yes	Yes	Yes	Yes
Treatment		Landfill	Incineration	Incineration	Recycle
Destination		Clean Harbors Arizona,  LLC 1340 West Lincoln  Street Phoenix, Arizona  85007	Clean Harbors Deer Park LP 2027 Battleground Road La Porte, TX 77571	Clean Harbors El Dorado LLC 309 American Circle El Dorado, Arkansas 71730	r Recycle 2 pallets 600 P 2027 Battleground Road Recycle Yes  La Porte, TX 77571
Oriantity	edal filey	400 P	2000 P	1600 P	600 P
Containers	Type	DM	DM	MQ	pallets (CW)
Conta	No.	<b>—</b>	5	4	2
Description	Description	Crude Oil and Soil from Spill Clean Up (Non-Hazardous)	10/8/2008 CH106148 (9a.1) (K-050)	Main Column Bottoms Sludge K-170, D008, D009	10/8/2008 CH272262 (9a.3) (Non -Hazardous)
Monifort #	Maillest #	001777973 FLE (9a.3)	001777971 FLE (9a.1)	001777971 FLE (9a.2)	001777971 FLE (9a.3)
# Oliyou	# alloud	CH331091	CH106148	CH247415	CH272262
0+0C di . /0:0	Pick-up Date	10/8/2008	10/8/2008	10/8/2008	10/8/2008

Alka	nst						Consumption
Alka	s D002	<b></b> -	 	4000 gal (30,820 P)	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
	ustic D002			27520 P	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
001066260 FLE Alkali Liquids	ustic D002			29,300 P	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
000557024 FLE Alkali Liquids D	ustic D002			37,560 P	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dist - Landfilled	Yes
<i>t</i>	ustic D002	_		31,960 P	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
4	Waste Caustic Nkali Liquids D002	-			Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
000557237 FLE Alkali Liquids D002	Caustic				Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
000557283 FLE   Waste Caustic   1 TT   38,560	Waste Caustic 1 TT 38,560 Alkali Liquids D002				Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
000557385 FLE Alkali Liquids D	Caustic Is D002	4	·	40,240	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes

				Conta	Containers				Cert of Disnosal/
	Profile #	Manifest #	Description	No.	Type	Quantity	Destination	reatment	Consumption
<del>                                     </del>	CH248999B	000557447 FLE		<del>-</del>	F	38,780	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
	CH248999B	000557448 FLE	Waste Caustic Alkali Liquids D002	( <del>)</del>	<u> </u>	35,980	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
	CH248999B	000557449 FLE	Waste Caustic Alkali Liquids D002		TT 34,16	34,160	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
	CH248999B	002087228 FLE	Waste Caustic Alkali Liquids D002			39,900	Deer Trail, East Highw	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
6/12/2008	CH248999B	001849359FLE					Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
6/20/2008	CH248999B	001849360FLE	Waste Caustic Alkali Liquids D002	-		39,260	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
6/26/2008	CH248999B	001849361FLE				1 TT 39,960	Clean Harbors Grassy Mountain UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
7/1/2008	CH248999B	001849443FLE	Waste Caustic Alkali Liquids D002			39,880	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes
7/10/2008	CH248999B	001849486FLE	Waste Caustic Alkali Liquids D002	-	Þ	39,960	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Nuetralized & Solidified with Kiln Dust - Landfilled	Yes

Cert. of Disposal/ Consumption	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment	Nuetralized & Solidified with Kiln Dust - Landfilled	Nuetralized & Solidified with Kiln Dust - Landfilled	Nuetralized & Solidified with Kiln Dust - Landfilled	Nuetralized & Solidified with Kiln Dust - Landfilled	Nuetralized.8 Solidified with Kiln Dust - Landfilled	Nuetralized & Solidified with Kiln Dust - Landfilled	Nuetralized & Solidified with Kiln Dust - Landfilled	Nuetralized & Solidified with Kiln Dust - Landfilled	Nuetralized & Solidified with Kiln Dust - Landfilled
Destination	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Mc	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	2 <del>-</del> - 19	} ≥ 0 }	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029	Clean Harbors Grassy Mountain, UT Facility 3miles east, 7 miles north of Knolls Grantsville, UT 84029
Quantity	35,640	1 TT 36,260	37,120	42,720	35,200	41,500	37,980	11 37,960 TT	38,500
Containers Io. Type				T				-	<u> </u>
Conta No.	<del>-</del>	-			1		<del>-</del>	4	
Description	Waste Caustic Alkali Liquids D002	Waste Caustic Alkali Liquids D002	002322559 FLE Alkali Liquids D002	Waste Caustic Alkali Liquids D002		Waste Caustic Alkali Liquids D002	Waste Caustic Alkali Liquids D002	Waste Caustic Alkali Liquids D002	Waste Caustic Alkali Liquids D002
Manifest #	002049885 FLE	001192332 FLE	8/28/2008 CH248999B 002322559 FLE	002321314 FLE	002322025 FLE	CH248999B 002322026 FLE	CH248999B 002322027 FLE	109 FLE	110 FLE
Profile #	CH248999B	8/7/2008 CH248999B 00119233:	CH248999B	CH248999B	CH248999B 002322025 FLI	CH248999B	CH248999B	CH248999B	11/25/2008 CH248999B 002322
Pick-up Date	7/24/2008	8/7/2008	8/28/2008	9/18/2008	10/2/2008		10/30/2008	11/13/2008 CH2	11/25/2008

		i							
0;00 all you	# Orofile #	Monifort #	acitalizaco O	Conta	Containers	Organtify	Oestination	Treatment	Cert. of Disposal/
rick-up Date	# DEFOIL	Maliiids! #	Cescibion	No.	Type	Add III.y			Consumption
							Clean Harbors Grassy	Nuetralized &	
00000		1 000000	Waste Caustic	7		007	Mountain, UT Facility 3miles	Solidified with	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
12/2/2008	CH24899B	002322243 FLE	Alkali Liquids D002	_	<u> </u>	40,100	east, 7 miles north of Knolls	Kiln Dust -	SD-
							Grantsville, UT 84029	Landfilled	
		THE RESERVE OF THE PARTY OF THE		Contract of the last	State of the state	京山水 安京七日本大	語のできない。 まななが、そのはないできない。 こまでは、 日本のでは、 日本のでは、 日本のでは、 日本のできない。 これできない。 これできない。 できない できない はっぱい ないかい これのかい これのから これのの これのの これの これの これの これの これの これの これの こ	Contract and the settle of the set of the settle	Section in the second
							Clean Harbors Grassy	Nuetralized &	
	0.000	T	Waste Caustic	*		000	Mountain, UT Facility 3miles	Solidified with	<b>;</b> ;
12/11/2008	CHZ48999B	002322111 FLE	Alkali Liquids D002	_	=	028,62	east, 7 miles north of Knolls	Kiln Dust -	ຂຸ້ນ
	-	:	_				Grantsville, UT 84029	Landfilled	

### Section 14.0 Below Grade Testing

UNDERGROUN	
FINERY	
LD RE	
OMFIE	

D PF

Completion Repairs-Maint Ϋ́Ν Ϋ́ Ϋ́ ΑX Ϋ́ Ϋ́ Ϋ́ Ϋ́ ¥ ¥ Ϋ́ ¥ Repairs/ Maint Needed None Inspection Method Praxair Test/ Praxair nspection Pass/Fail Results Pass Inspection May-08 May-08 May-08 Nov-07 Nov-07 Nov-07 May-08 May-08 May-08 Nov-07 Nov-07 Nov-07 Date Scheduled out of service out of service out of service Inspection 2008 2012 2010 2009 2008 2008 2008 2007 2012 2012 2008 2008 2007 2009 2007 2007 2012 2012 2007 2011 2011 2011 2011 Construction Carbon steel Material PVC ΡVC ΡVC PVC D-700-500-118 D-500-800-043 D-500-800-031 D-500-800-031 D-500-800-031 D-500-800-031 Reference ΑX ٧ ٩ ΑN ΑX ΑN ΑN Α× Ϋ́ ₹ Z Α× ΑX ΑX ٨ Ϋ́ ۲ Ϋ́ ¥. Ϋ́ ΑN ۲ Ϋ́ Manifold @ VRU Unit River Pump Building Pipe Rack Southeast of Rack Area North Of Tk. # 31 Tk. # 23 Pipe Rack Southeast of Area Northeast Of Tk. Pipe Rack Southeast of Area Northeast Of Tk. Manifold @ VRU Unit Tk. # 31 LPG Stg. Tks.
Pipe Rack East Of LPG Pipe Rack Southwest Pipe Rack East Of LPG Pipe Rack Southwest Stg Tks. of Tk. # 31
Pipe Rack Southeast of Filter Pad Area North Area Northeast of Tk # Pipe Rack Southwest Area Northeast Of Tk. # Pipe Rack Southwest 21 of Tk. # 31
Pipe Rack Southeast of Area Northeast Of Tk. Pipe Rack Southeast of Area Northeast Of Tk. Filter Pad Area North Filter Pad Area North Filter Pad Area North Naptha Fill Line To To Meter Spools @ Pipe Rack East Of LPG Pipe Rack Southwest Of Loading Pad Filter Pad Area North Pipe Rack Southeast of Filter Pad Area North Area West Of Bullet Building North Evaporation Pipe Rack East Of North Evaporation **End Location** Of Loading Pad Of Loading Pad Effilent Transfer Of Loading Pad Of Loading Pad Out Of Service Injection Well Water Basin Bays # 182 Pump P-671 of Tk. #31 of Tk. #31 of Tk. #31 Pond Tr. #31
Pipe Rack Southeast of
Tr. #31
Pipe Rack Southeast of F 21 Low Rack West Of Tk.# Tk. # 31 Pipe Rack Southeast of Pipe Rack Southeast of ransfer Pump @ Tk. # Crude Line East Of B # Manifold @ VRU Unit Injection Well Building Starting Location Effilent Trans. Pump Area Northeast Of Tk. 25 Pipe Rack West Of Pipe Rack West Of Tk.# 36 North Evaporation From F-706 Filter Processing Skid Pump P-616 River Terrace Pond Outlet Stg Tks. Tk. #31 TK #31 TK #31 Tk.#36 Stg Tks 7 Length 912 L/F 382 L/F 385 L/F 386 L/F 387 L/F 388 L/F 389 L/F 390 L/F 393 L/F 313 L/F 223 L/F 908 L/F 914 L/F 917 L/F 383 L/F 909 L/F 910 L/F 911 L/F 699 L/F 392 L/F 223 L/F 397 L/F 907 L/F 913 UF 915 L/F 916 L/F 918 L/F 384 L/F TBD Line Size 12 12 12 12 œ 7 4 က က N N N N ω 9 4 9 മ 9 4 4 4 9 9 9 9 9 4 4 #1 Diesel Sales From Tk.18 Reformate from Tk.s # 3 & 4 Naptha Fill/Rerun To Tk. #44 River Terrace Transfer Line Steam Header at Terminals Condensate Return Header Naphta Feed To VRU Unit #1 Diesel To Bays #1 & 2 Description (Service) Effilent Wtr. Transfer Line Efflent Wtr. Trans. Pump Injection Well Recir. Line Lite Straight Run Product Poly Material To Storage Efflent Wtr. Pump Disch DEAD) Out Of Service somerate/Naptha Line Saturate To Storage Slop Line ToTk. #22 Poly Unit Feed Line Crude Transfer Line Diesel Sales Line Lite Natural Line LPG Rerun Line C-4 To Storage C-3 To Storage JP-8 Sales Line Premium Sales Naptha to VRU C-4 To Blend Number 9 12 13 4 5 16 17 8 19 23 25 28 29 5 ω σ Ξ 20 21 22 24 26 27  $\alpha$ 3 4 9



ESS AND WASTEWATER LINES - Inspection & Repail

# BLOOMFIELD REFINERY UNDERGROUND PROCESS AND WASTEWATER LINES - Inspection & Repair Schedule

		1		Ī													1				I					T		
	N/A	N/A	N/A			N/A																						*
	None	None	None			None														-								
	Praxair	Praxair	Praxair			Hydrotest																						
	Pass	Pass	Pass			Pass																						
	Nov-07	Nov-07	Nov-07			Sep-07																						
2011	2007	2007	2007	2009	2009	2007	2009	2009	2011	2011	2011	2011	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010
Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel
D-700-500-118	D-700-500-118	D-700-500-118	D-700-500-123	D-700-500-140	D-700-500-140	B-600-500-296	B-600-500-232	B-600-500-236	D-500-500-011	D-500-500-011	D-201-500-123	D-201-500-123	D-500-500-134	D-500-500-134	D-500-500-134	D-500-500-134	D-500-500-134	D-500-500-134	D-500-500-134	D-500-500-134	D-500-500-134	D-500-500-134	D-500-500-134	D-500-500-106	D-500-500-124	D-500-500-124	D-500-500-124	D-500-500-124
To Meter Spools @ Bays # 3	To Meter Spools @ Bays # 1,2 & 3	To Meter Spools @ Bays # 1,2 & 3	To Meter Spool @ Bay # 4	To P-707 & P-707A Pump Suction	To Tk. # 45 Inlet Nozzel	Jnloading line @ Tk. #18 and 19	To Tk. # 35 Fill Nozzle	To North Pipe Rack Feed To Units	To Rack Area @ Reformer Unit	To #1 Cooling Tower Water Inlet	To S. End of FCC Juit @ Twr. 207 Area	o # 2 Cooling Tower Water Inlet	o Main Sewer Box #	To Observation Access Can	To Observation Access Can	o Main Sewer Box #	<u> </u>	o Main Sewer Box#	o main Sewer Box#	o Main Sewer Box#		To Observation Access Can	2	To Inlet @ API Seperator	To North Side of Sewer Box # 12	To North Side Of Sewer Box # 11	To Northwest Of Sewer Box # 10	To East Side Of Sewer Box #
From F-706 Filter Piping	From F-705 Filter Piping	From F-704 Filter Piping	-				Line From North Pipe Rack Area	-			From # 2 Cooling Tower Pumps	From South End of T	From Main Sewer Box 7 # 12	From Main Sewer Box # 11	From Observation Access Can	_			From Main Sewer Box   1 # 9	From Main Sewer Box 1 #8		From Main Sewer Box #3	-	From Main Sewer Box # 1	Area East Side of # 4 Boiler	Area @ & Around Crude Twr.	Area @ & Around E- 106A & B	Area @ V-101A Desalter
398 L/F	399 L/F	400 L/F	401 L/F	402 L/F	403 L/F	404 L/F	405 L/F	406 L/F	165 UF	165 L/F	145 L/F	145 UF	54 UF	46 L/F	33 L/F	73 UF	69 L/F	86 L/F	62 L/F	66 L/F	86 L/F	145 L/F	100 L/F	TBD	ТВD	TBD	TBD	TBD
9	10	9	ω	80	4	9	ю	4	12	12	20	20	10	10	12	12	14	14	12	12	41	4	14	12/10	8>4	10>4	8>4	9
(Old Kerosene) To Bay # 3	Premiun Sales Line	Old Unleaded Sales Line	Diesel To Bay # 4	Ethanol Pump Suction Line	Ethanol Unloading Line	Naphtha Unloading Line	Naptha Rundown To Tk.# 35	Naptha Feed Line to Unit	Cooling Water Supply Line	Cooling Water Return Line	Cooling Water Supply Line	Cooling Water Return Line	Sewer Transfer Line	Sewer Transfer Line	Sewer Transfer Line	Sewer Transfer Line	Sewer Transfer Line	Sewer Transfer Line	Sewer Transfer Line	Sewer Transfer Line	Sewer Transfer Line	Sewer Transfer Line	Sewer Transfer Line	Sewer Transfer Line	Sewer Collection Manifold	Sewer Collection Manifold	Sewer Collection Manifold	Sewer Collection Manifold
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	- 58
	(Old Kerosene) To Bay #3 6 398 L/F From F-706 Filter To Meter Spools @ D-700-500-118 Carbon steel	(Old Kerosene) To Bay # 3         6         398 L/F Prom F-706 Filter Piping         From F-705 Filter Piping         To Meter Spools @ Bays # 1,2 & 3         D-700-500-118         Carbon steel         2011         Pass         Praxair         None	Cold Kerosene) To Bay # 3         6         398 L/F Prior F-706 Filter Piping Plants         To Meter Spools @ Bays # 1.2 & 3         D-700-500-118         Carbon steel         2011         Nov-07         Pass         Praxair         None           Premiun Sales Line         10         400 L/F         From F-704 Filter Piping Bays # 1,2 & 3         D-700-500-118         Carbon steel         2007         Nov-07         Pass         Praxair         None	Cold Kerosene) To Bay # 3         6         398 L/F Prom F-706 Filter Piping         From F-706 Filter Piping         To Meter Spools @ Bays # 1.2 & 3         D-700-500-118         Carbon steel         2011         Nov-07         Pass         Praxair         None           Premiun Sales Line         10         400 L/F         From F-705 Filter Piping         To Meter Spools @ Bays # 1,2 & 3         D-700-500-118         Carbon steel         2007         Nov-07         Pass         Praxair         None           Old Unleaded Sales Line         10         400 L/F         From F-703 Filter Piping         To Meter Spool @ D-700-500-113         D-700-500-113         Carbon steel         2007         Nov-07         Pass         Praxair         None           Diesel To Bay # 4         8         401 L/F         From F-703 Filter Piping         Bay # 4         D-700-500-123         Carbon steel         2007         Nov-07         Pass         Praxair         None	Cold Kerosene) To Bay # 3         6         398 L/F Prom F-706 Filter Piping         To Meter Spools @ Bays # 3         D-700-500-118         Carbon steel         2011         Nov-07         Praxair         None           Premiun Sales Line         10         400 L/F From F-705 Filter Piping         From F-705 Filter Piping         To Meter Spools @ Bays # 1,2 & 3         D-700-500-118         Carbon steel         2007         Nov-07         Pass         Praxair         None           Old Unleaded Sales Line         10         400 L/F From F-703 Filter Piping         To Meter Spool@ Bays # 1,2 & 3         D-700-500-123         Carbon steel         2007         Nov-07         Pass         Praxair         None           Diesel To Bay # 4         8         401 L/F Piping         From Tx. # 45 Outlet         To P-707 & P-707 & P-707 A P-707 A P-700-500-140         Carbon steel         2009         Nov-07         Pass         Praxair         None	(Old Kerosene) To Bay # 3         6         398 L/F Prom F-706 Filter Piping         To Meter Spools @ Bays # 3         D-700-500-118         Carbon steel         2011         Nov-07         Pass         Praxair         None           Premiun Sales Line         10         400 L/F From F-704 Filter Piping         To Meter Spools @ Bays # 1,2 & 3         D-700-500-118         Carbon steel         2007         Nov-07         Pass         Praxair         None           Diesel To Bay # 4         8         401 L/F From F-708 Filter Piping         From F-707 Filter Piping         To Meter Spool @ D-700-500-123         D-700-500-140         Carbon steel         2007         Nov-07         Pass         Praxair         None           Ethanol Dunloading Line         8         401 L/F A Model         From P-706 Pump         To Tr. # 45 Inlet         D-700-500-140         Carbon steel         2009         Nov-07         Pass         Praxair         None           Ethanol Unloading Line         4         403 L/F A Model         From P-706 Pump         To Tr. # 45 Inlet         D-700-500-140         Carbon steel         2009         Pass         Praxair         None	Cold Kerosene) To Bay # 3   6   398 L/F   From F-705 Filter   To Meter Spools @ Premium Sales Line   10   399 L/F   From F-705 Filter   To Meter Spools @ Premium Sales Line   10   400 L/F   From F-704 Filter   To Meter Spools @ Processed Sales Line   10   400 L/F   From F-704 Filter   To Meter Spools @ Processed Sales Line   10   400 L/F   From F-703 Filter   To Meter Spool @ Processed Sales Line   10   400 L/F   From F-703 Filter   To Meter Spool @ Processed Sales Line   10   400 L/F   From F-703 Filter   To Meter Spool @ Processed Sales Line   2007   Nov-07   Pass   Praxair   None   Premior Processed Sales Line   2007   Nov-07   Pass   Praxair   None   Premior Processed Sales Line   2007   Nov-07   Pass   Praxair   None   Premior Processed Sales Line   2007   Nov-07   Pass   Praxair   None   Premior Processed Sales Line   2007   Nov-07   Pass   Praxair   None   Premior Processed Sales Line   2007   Nov-07   Pass   Praxair   None   Premior Processed Sales Line   2007   Nov-07   Pass   Praxair   None   Premior Processed Sales Line   2007   Nov-07   Pass   Praxair   None   Premior Processed Sales Line   2007   Nov-07   Pass   Praxair   None   Premior Processed Sales Line   2007   Pass   Praxair   None   2007   Pass   Pr	Cold Kerosene) To Bay # 3   6   398 L/F   From F-706 Filter   To Meter Spools @ Premium Sales Line   10   399 L/F   From F-705 Filter   To Meter Spools @ Premium Sales Line   10   400 L/F   From F-705 Filter   To Meter Spools @ Premium Sales Line   10   400 L/F   From F-705 Filter   To Meter Spools @ Premium Sales Line   10   400 L/F   From F-705 Filter   To Meter Spools @ Premium Sales Line   10   400 L/F   From F-705 Filter   To Meter Spools @ Premium Sales Line   10   400 L/F   From F-705 Filter   To Meter Spools @ Premium Sales Line   10   400 L/F   From F-705 Filter   To Meter Spools @ Premium Sales Line   10   More P-706 Fulter   To Meter Spools @ Premium Sales Line   10   More P-706 Fulter   To Meter Spools @ Premium Sales Line   10   More P-706 Fulter   To Meter Spools @ Premium Sales Line   10   More P-706 Fulter   To Meter Spools @ Premium Sales Line Line Line Manifold @ Premium Sales Line Line Line Manifold @ Premium Sales Line Line Line Manifold @ Premium Sales Line Line Manifold @ Premium Sales Line Line Line Manifold @ Premium Sales Line Line Line Line Line Line Line Line	Cold Kerosene) To Bay # 3   6   398 L/F   From F-706 Filter   To Meter Spools @ D-700-500-118   Carbon steel   2017   Nov-07   Pass   Praxair   None   Premiun Sales Line   10   399 L/F   From F-704 Filter   Depth of Premiun Sales Line   10   400 L/F   From F-704 Filter   Depth of Premiun Sales Line   10   400 L/F   From F-704 Filter   Depth of Premiun Sales Line   10   400 L/F   From F-704 Filter   Depth of Premiun Sales Line   10   400 L/F   From F-704 Filter   Depth of Premiun Sales Line   10   400 L/F   From F-704 Filter   Depth of Premiun Sales Line   10   400 L/F   From F-704 Filter   Depth of Premiun Sales Line   10   400 L/F   From F-704 Filter   Depth of Premiun Sales Line   10   400 L/F   From F-705 Filter   Depth of Premiun Sales Line   10   400 L/F   From P-705 Filter   Depth of Premiun Sales   10   10   10   10   10   10   10   1	Cold Kerosene) To Bay # 3	Cold Kerosene) To Bay #3   6   398 UF   From F-706 Filter   To Meter Spools @ P-700-500-118   Carbon steel   2007   Nov-07   Pass   Praxair   None   Planta Rack Area   2007   Nov-07   Pass   Praxair   None   Planta Rack Area   2007   Nov-07   Pass   Praxair   None   Planta Rack Area   2007   Nov-07   Pass   Praxair   None   2007   Pass   Praxair   Nove   2007   Pass   Praxai	Cooling Water Supply Line   10   10   10   10   10   10   10   1	Cooling Water Study Line   250 Line   From F-706 Filler   To Meter Spools & D-700-500-118   Carbon steel   2017   Nov-07   Pass   Praxair   None   Premium Sales Line   10   399 LF   From F-706 Filler   To Meter Spools & D-700-500-118   Carbon steel   2007   Nov-07   Pass   Praxair   None   Premium Sales Line   10   400 LF   From F-704 Filler   To Meter Spools & D-700-500-128   Carbon steel   2007   Nov-07   Pass   Praxair   None   Prom P-708 Filler   To Meter Spools & D-700-500-130   Carbon steel   2007   Nov-07   Pass   Praxair   None   Prom P-708 Filler   To Meter Spools & D-700-500-140   Carbon steel   2007   Nov-07   Pass   Praxair   None   Prom P-708 Filler   Prom P-708	Collic Karcesene) To Bay # 3   6   396 Lf   From F-706 Filter   Defender Shools @ 10-700-500-118   Carbon steel   2017   Nov-07   Pass   Praxair   None   Premiun Sales Line   10   399 Lf   From F-705 Filter   To Meter Spools @ 10-700-500-118   Carbon steel   2007   Nov-07   Pass   Praxair   None   Promesteel Sales Line   10   400 Lf   From F-705 Filter   To Meter Spools @ 10-700-500-118   Carbon steel   2007   Nov-07   Pass   Praxair   None   Promesteel Sales Line   10   400 Lf   From F-705 Filter   To Meter Spools @ 10-700-500-118   Carbon steel   2007   Nov-07   Pass   Praxair   None   Promesteel Sales Line   10   400 Lf   From F-705 Filter   To Meter Spools @ 10-700-500-118   Carbon steel   2007   Nov-07   Pass   Praxair   None   Promesteel Sales Line   10   400 Lf   From F-705 Filter   To Meter Spools @ 10-700-500-140   Carbon steel   2007   Sep-07   Pass   Praxair   None   Promesteel Sales Line   10   400 Lf   From F-705 Filter   To Meter Spools @ 10-700-500-140   Carbon steel   2009   Sep-07   Pass   Praxair   None   Promesteel Sales Line   10   400 Lf   From F-705 Filter   To Meter Spools @ 10-700-500-140   Carbon steel   2007   Sep-07   Pass   Praxair   None   Promesteel Spools @ 10-700-500-140   Carbon steel   2009   Sep-07   Pass   Praxair   None   Promesteel Carbon steel   2001   Carbon	Coling Water Supply Line   10 Say LF   From F-706 Filler   To Meter Spool ©   D-700-500-118   Carbon steel   2011   Nov 07   Peass   Pravair   None   Premiun Sales Line   10 Say LF   From F-706 Filler   To Meter Spool ©   D-700-500-118   Carbon steel   2007   Nov 07   Peass   Pravair   None   Diesa To Bay# 4   8 401 LF   From F-706 Filler   To Meter Spool ©   D-700-500-118   Carbon steel   2007   Nov 07   Peass   Pravair   None   Diesa To Bay# 4   8 401 LF   From F-706 Filler   To Meter Spool ©   D-700-500-118   Carbon steel   2009   Nov 07   Peass   Pravair   None   Pump Suction Line   8 402 LF   From F-706 Filler   To Meter Spool ©   D-700-500-130   Carbon steel   2009   Sep-07   Peass   Pravair   None   Pump Suction Line   4 402 LF   From P-706 Fump Pump Suction Line   4 402 LF   From P-706 Fump Pump Suction Line   5 404 LF   From P-706 Fump Pump Suction Line   5 404 LF   From P-706 Fump Pump Suction Line   5 404 LF   From P-706 Fump Pump Suction Line   5 404 LF   From P-706 Fump Pump Suction Line   5 404 LF   From P-706 Fump Pump Suction Line   5 404 LF   From P-707 Fump Suction Line   5 404 LF   Fr	Old Unleaded Sales Line         10         399 LF         From F-706 Filter         To Mode F-705 Filter         To	Coult Kenosene) To Bay # 3   6   399 LT   From F-105 filler   Town F-105 filler   To	Cold Kenoserua  To Bay # 3   6   339 LP   From F706 Filler   Tokeler School 6   Dirocation   Carbon steel   2011   Mov. 07   Fass   Praxish   Nov. 07   Praxis   No	Permittin Sales Line   10   339 LF   Front File   10 Meter Sporal & D-700-500-118   Carbon steel   2011   Nov-07   Pass   Practice   Nov-07   Pass   Pass	Pearlin Sales Line   10   399 LF   Front F-705 Filter   10 Metris Stool 80   D-700-500-118   Carbon steel   2007   Nov-07   Pears   Pravier   None   Pearlin Sales Line   10   399 LF   Front F-705 Filter   10 Metris Stool 80   D-700-500-118   Carbon steel   2007   Nov-07   Pears   Pravier   None   Pearlin Sales Line   10   400 LF   Front F-705 Filter   10 Metris Stool 80   D-700-500-118   Carbon steel   2007   Nov-07   Pears   Pravier   None   Pearlin Sales Line   10   400 LF   Front F-705 Filter   10 Metris Stool 80   D-700-500-126   Carbon steel   2007   Nov-07   Pears   Pravier   None   Pears   Pravier   Pears   Pravier   Pears   Pravier   Pravier   Pears   Pravier   Pravier   Pears   Pravier   Pears   Pravier   Pears   Pravier   Pears   Pravier   Pears   Pravier   Pravier   Pears   Pears   Pravier   Pears   Pravier   Pears   Pravier   Pears   Pravier   Pears   Pears   Pravier   Pears	Premium Sales Line   10 399 4F   From F-706 Filler   To Medies Salos 80   D-700-dot-114   Carbon steel   2017   Nov-077   Peass   Pravair   None   Peasitin Sales Line   10 399 4F   From F-706 Filler   To Medies Salos 80   D-700-dot-114   Carbon steel   2007   Nov-077   Peass   Pravair   None   Peasitin Salos 80   D-700-dot-114   Carbon steel   2007   Nov-077   Peass   Pravair   None   Peasitin Salos 80   D-700-dot-114   Carbon steel   2007   Nov-077   Peass   Pravair   None   Peasitin Salos 80   D-700-dot-114   Carbon steel   2007   Nov-077   Peass   Pravair   None   Peasitin Salos 80   D-700-dot-114   Carbon steel   2007   Nov-077   Peass   Pravair   None   Pe	Premium Sales Line   10   309 LP   From F-204 File   Town R-506 File   Town R-500 File   D-700-500-118   Carbon steel   2007   Nov-07   Pass   Premair   Nove   Pass   Premair   Premair	Peteruin Sides Line   10   399   F   Front Fire Fire Fire Fire Fire Fire Fire Fire	Code Nationated 1 to 8 spt 47   From Principal Many 1	Province State Line   10   399 LF   State State Line Line Line Line Line Line Line Lin	Code Generation   Degrey 43   6   389 Lt   Form F-706 Films   Degrey 55co 6   D-700-500-116   Carbon steel   D-700-500-116   Carbon steel   D-700-500-116   Carbon steel   D-700-500-116   D	Personnal To Bay 4   2   381 of Front-Tide File   To Base 450.24   D.705.00114   Carbon bear 1   Carbon bear 2   Carbon bear	Continue State Line   10   255 LP   From FibEr Fill   10   Meast Stool 6   D.700 Stool 14   Cachon state   2011   Prop. Prop

# BLOOMFIELD REFINERY UNDERGROUND PROCESS AND WASTEWATER LINES - Inspection & Repair Schedule

Line							;			Inspection	Test	Repairs/	repairs-
	Description (Service)	Line	Line Length	Starting Location	End Location	Drawing Reference	Construction	Scheduled	Inspection Date	Results Pass/Fail	Inspection Method	Maint Needed	Maint Completion date
. 69	Sewer Collection Manifold	10>4	TBD	Area Thru Reformer Pump Row	To Observation Access Can	D-500-500-098	Carbon steel	2010				i	
09	Sewer Collection Manifold	10>4	TBD	Area Along East Side of Reformer	To Observation Access Can	D-500-500-098	Carbon steel	2010					
61	Sewer Collection Manifold	8>4	TBD	Area @ & Around V101 Desalter	To Observation Access Can	D-500-500-124	Carbon steel	2010					
62	Sewer Collection Manifold	8>4	TBD	Area @ & Around T- 101 Tower	To West Side Of Sewer Box # 9	D-500-500-124	Carbon steel	2010					
63	Sewer Collection Manifold	8>4	TBD	Area @ & Around P101 Charge P.	To North Side Of Sewer Box # 9	D-500-500-124	Carbon steel	2010					
64	Sewer Collection Manifold	8>4	TBD	-L pu	To Northwest Side Of Sewer Box # 8	D-500-500-124	Carbon steel	2010					
65	Sewer Collection Manifold	8>4	TBD	Area @ & Around Heavy Oil Exch.	To North Side Of Sewer Box # 8	D-500-500-124	Carbon steel	2010					
99	Sewer Collection Manifold	8>4	TBD	<u></u>	To Northwest Side Of Sewer Box # 3	D-500-500-134	Carbon steel	2010					
29	Sewer Collection Manifold	6>3	TBD	Area @ Burner Fuel Loading	To Observation Access Can	D-600-500-127	Carbon steel	2010					
89	Sewer Collection Manifold	4	TBD	Area Drains @ Air Building	To Sewer Transfer Line( Box # 1 to API)	D-500-500-160	Carbon steel	2010					
69	Sewer Collection Manifold	4	TBD	P-224 Pump & Cat Surface Drain	To Sewer Transfer Line From FCC	N/A	Carbon steel	2011					
70	Sewer Collect./Transfer Line	9	TBD	Gas Con Unit Collection M.H.	To FCC Sewer Box Manhole # 1	D-500-500-102	Carbon steel	2011					
71	Sewer Transfer Line	10	TBD	From FCC Sewer Box M.H. # 1	To FCC Sewer Box Manhole # 2	D-500-500-102	Carbon steel	2011					
72	Sewer Transfer Line	10	TBD	From FCC Sewer Box M.H. # 2	To 20" Inlet @ API	D-500-500-106	Carbon steel	2011					
73	Sewer Collection Manifold	6/4	TBD	Area @ & Around Gas Con. Unit	To Gas Con. Unit Sewer Collection	D-201-500-001	Carbon steel	2011					
74	Sewer Transfer Line	10	TBD	From Treater Main Sewer Box # 4	To (New) MainSewer Box S.E. Of C-204	D-500-500-166	Carbon steel	2011					
75	Sewer Transfer Line	10	TBD	From Main Sewer Box @ C-204	To 20" Inlet @ API	D-500-500-105	Carbon steel	2011					
92	Sewer Collection Manifold	10>4	TBD	Area In & Around Treater Unit	To Treater Sewer Box At South Side Of Unit	D-500-500-122	Carbon steel	2011					
7.7	Sewer Collection Manifold	6>2	TBD	Area In & Around Poly Unit	To Inlet Bay @ API	D-500-500-126	Carbon steel	2011					
78	Sewer Transfer Line	10	TBD	From Sewer Box # 18 @ DHT Unit	To Sewer Box # 17 @ S.E. Corner of Poly	D-500-500-097	Carbon steel	2011					
62	Sewer Transfer Line	12	TBD	From Sewer Box # 17	To Inlet Manifold @ API Basin Area		Carbon steel	2011					
80	Sewer Collection Manifold	10>4	TBD		To Sewer Box # 18 @ S.E. Corner of DHT		Carbon steel	2007	Dec-07	Pass	Hydrotest	None	N/A
81	Crude Transfer Line	12	99 L/F	Pipe Rack East Of LPG Stg Tks.	Pipe Rack South of Crude Unloading	D-000-900-023	Carbon steel	2008	May-08	Pass	Praxair	None	N/A
82	Crude Transfer Line	12	194 L/F	Pipe Rack South of Crude Unloading Bays	Berm South of Tank #43	D-000-900-023	Carbon steel	2008	May-08	Pass	Praxair	None	N/A

3LOO 2* 2* 3* 4* 5* 8* 8* 8* 10* 11* 11* 17* 17* 18* 19* 20* 20*	BLOOMFIELD REFINERY           Tank #         Service           2*         FILTERED WATER           3*         MID-GRADE           4*         MID-GRADE           5*         MID-GRADE           8*         CRUDE SLOP           10*         SPENT CAUSTIC           11*         LOW REFORMATE           12*         CAT / POLY GAS           13*         UNLEAD SALES           14*         UNLEAD SALES           17*         CAT FEED           17*         CAT FEED           18*         #1 DIESEL SALES           19*         #2 DIESEL SALES           19*         MAPHTHA           20*         NAPHTHA           22*         BASE GASOLINE           23*         ULS DIESEL           24*         ULS DIESEL	TANKS  Normal Capacity (bbls) 64,347 9,365 9,365 9096 460 460 50,358 50,358 50,358 50,358 50,358 50,358 127,615 38403 50358 10000 38,402		Last Test/ Inspection         Test/ Inspection Method           2000         Internal           2003         Internal           2007         Internal           2007         Internal           2007         Internal           2007         Internal           2007         Internal           2007         Internal           2008         Internal           2005         Internal           2005         Internal           2007         Internal		## (*schedule s    Date OCD-SFO	et according	(*schedule set according to API 650 & 653 )           Date OCD-SFO         Test         Repairs/Maint           Requirements         Inspection         Needed           2010         3/30/2000         Cleaned Out Sediment           2013         10/1/2003         Seal Replacement           2013         9/17/2003         Seal Replacement           2007         5/28/2008         None           2007         6/7/2007         Repaired Hatch & Floor           2007         8/24/2007         Repaired Hatch & Floor           2008         10/28/1999         Seal Replacement           2009         10/28/1999         Seal Replacement           2009         10/28/1999         Seal Replacement           2009         3/11/1999         Floor Repair           2007         7/8/2007         None           2009         8/1/1999         Floor Repair           2009         10/29/07         New Construction           2010         06/22/00         Roof Replacement & Floor Repair           2007         10/29/07         New Construction           2007         10/29/07         New Construction	Repairs/Maint Completion Date 3/28/2000 10/8/2003 9/24/2003 8/24/2003 N/A N/A N/A 8/22/2007 9/18/2002 11/12/1999 2/28/2008 N/A 7/29/2007 8/11/1999 6/20/2000 N/A 8/11/2002
25* 26* 27* 28*	ULS DIESEL SWEET NAPHTHA HEAVY BURNER FUEL CRUDE	3,264 9,854 77,854	2006 2008 1999	Internal Praxair Internal	2016 2018 2016 2009	2006 2008 2006 2009	02/06/06 05/29/08 08/31/06 11/19/99	New Construction None Floor Repair Floor Repair Renair Auto Gaune &	N/A N/A 8/21/2006 11/18/1999
30* 31* 32* 333*	#2 DIESEL/FCC SLOP PREMIUM UNLEAD BLEND CRUDE PREMIUM UNLEAD SALES RECOVERY WELL WATER	16,676 16,676 98,676 17,913	2005 2004 2003 1999	Internal Internal Internal Internal	2015 2014 2013 2009 2018	2005 2004 2013 2009 2008	04/25/05 12/20/04 01/09/03 12/09/99 04/09/08	Repair Auto Gauge & Install Sample Port Repair Seal & Pontoon Repair Roof Drain Repair Seal & Pontoon None Repair Pinhole	4/23/2005 12/19/2004 1/8/2003 12/8/1999 N/A
35* 36* 37* 37*	INJECTION WELL RESERVIOR REFORMER FEED CAT / POLY GAS FRENCH DRAIN EAST OUTFALL	360 43904 43904 121 302	2002 2005 2005 2001 2001	Internal Internal Internal Internal Internal	2012 2015 2015 2011 2013	2005 2005 2005 2011 2013	08/29/05 08/24/05 12/15/01 04/09/08	Repair Printole Repair Seal & Recoat Roof None New Construction None	8/28/2008 N/A N/A N/A
41* 42A* 42B* 43	CRUDE STORAGE TERMINALS SLOP TERMINALS SLOP TERMINALS SLOP	2798 400 400 560	2008 2007 2007 0/S	Praxair API 650 API 650 O/S	2018 2017 2017 0/S	2008 2007 2007 0/S	05/29/08 06/01/07 06/01/07 O/S	New Construction New Construction Out of Service	N/A N/A O/S
44*	VRU NAPHTHA ETHANOL	1,751	2008	Praxair	2018	2008	05/29/08	None	N/A N/A

# SEWER BOXES - Inspection & Repair Schedule **BLOOMFIELD REFINERY**

Sewer			Drawing	Actual	Test	Inspection	Ronairs/Maint	Renairs/Maint
Box Number	Location	Type Material	Reference	Inspection Date	Inspection Method	results Pass/Fail	Needed	Completion date
-	Northwest of Main Pipe Bridge	Concrete	D-500-500-134	4/21/2008	Visual	Pass	None	A/N
2	Southeast of Precipitator	Concrete	D-500-500-134	4/21/2008	Visual	Pass	None	N/A
3	Southeast of Main Blower	Concrete	D-500-500-134	4/21/2008	Visual	Pass	None	N/A
7	Southeast of Old Desalter	Concrete	D-500-500-134	4/23/2008	Visual	Pass	None	N/A
9	Southeast of Control Room	Concrete	D-500-500-134	4/23/2008	Visual	Pass	None	N/A
9	Southeast of Reformer	Concrete	D-500-500-124	4/23/2008	Visual	Pass	None	N/A
7	Southwest of Mainblower	Concrete	D-500-500-124	4/21/2008	Visual	Pass	None	N/A
8	South of E-113's	Concrete	D-500-500-124	4/21/2008	Visual	Pass	None	N/A
6	South of P-105's	Concrete	D-500-500-124	4/21/2008	Visual	Pass	None	N/A
10	West of New Desalter	Concrete	D-500-500-124	4/23/2008	Visual	Pass	None	N/A
11	South of T-102	Concrete	D-500-500-124	4/23/2008	Visual	Pass	None	W/A
12	South of P-103;s	Concrete	D-500-500-124	4/23/2008	Visual	Pass	None	N/A
13	In Roadway South of FCCU	Concrete	D-500-500-134	4/24/2008	Visual	Pass	None	V/N
14	In Roadway Southwest of C-801's	Concrete	D-500-500-134	4/24/2008	Visual	Pass	None	N/A
15	In Roadway Southeast of Wet Gas	Concrete	D-500-500-134	4/24/2008	Visual	Pass	None	W/A
16	South of Treater	Concrete	D-500-500-134	4/24/2008	Visual	Pass	None	N/A
17	In Roadway East of DHT	Concrete	D-500-500-134	4/24/2008	Visual	Pass	None	N/A
18	In Roadway Southeast of Poly Unit	Concrete	D-500-500-134	4/24/2008	Visual	Pass	None	N/A

# SUMPS - Inspection & Repair Schedule **BLOOMFIELD REFINERY**

dilling			Oramina	Actual	Test	Inspection	Renairs/Maint	Renairs/Maint
Number	Location	Type Material	Reference	Inspection Date	Inspection Method	results Pass/Fail	Needed	Completion date
16	Sump @ S.W. Side Of Tk. 3	Concrete	D-000-900-023	6/9/2008	Hydrotest	Pass	None	N/A
17	Sump Between Tk. 3 & 4	Concrete	D-000-900-023	6/9/2008	Hydrotest	Pass	None	N/A
18	Sump Between Tk. 4 & 5	Concrete	E20-006-000-Q	6/9/2008	Hydrotest	Pass	None	N/A
19	Sump @ N.Side Of Tk. 5	Concrete	D-000-900-023	6/9/2008	Hydrotest	Fail	Concrete repair	6/20/08 - Pass
20	Sump Between Tk. 11 & 12	Concrete	D-000-900-023	6/10/2008	Hydrotest	Pass	None	N/A
21	Sump Between Tk. 13 & 14	Concrete	D-000-900-023	6/9/2008	Hydrotest	Pass	None	N/A
22	Sump @ N. Side Of Tk. 17	Concrete	D-000-900-023	6/11/2008	Hydrotest	Pass	None	N/A
23	Sump @ N.E. Side Of Tk. 18	Concrete	E20-006-000-Q	6/10/2008	Hydrotest	Pass	None	N/A
24	Sump @ N.E. Side Of Tk. 19	Concrete	D-000-900-023	6/10/2008	Hydrotest	Pass	None	N/A
25	Sump @ S.W. Side Of Tk. 20	DW Steel	D-000-900-023	6/11/2008	Hydrotest	Pass	None	N/A
26	Sump @ S. Side Of Tk. 23	Concrete	D-000-900-023	6/16/2008	Hydrotest	Fail	Replace plate	6/24/08 - Pass
27	Sump @ E. Side Of Tk. 24	DW Steel	D-000-900-023	6/16/2008	Hydrotest	Pass	None	N/A
28	Sump @ E. Side Of Tk. 25	DW Steel	D-000-900-023	6/16/2008	Hydrotest	Pass	None	N/A
29	Sump @ N.W. Side Of Tk. 26	Concrete	D-000-900-023	6/11/2008	Hydrotest	Pass	None	N/A
30	Sump @ S.E. Side Of Tk. 27	Concrete	D-000-900-023	6/10/2008	Hydrotest	Pass	None	N/A
31	Sump @ West Side Of Tk 28	Concrete	D-000-900-023	6/17/2008	Hydrotest	Pass	None	N/A
32	Sump @ N.E. Side Of Tk. 29	Concrete	D-000-900-023	6/23/2008	Hydrotest	Pass	None	N/A
33	Sump @ S.W. Side Of Tk. 30	Concrete	D-000-900-023	6/16/2008	Hydrotest	Pass	None	N/A
34	Sump @ N.W. Side Of Tk. 31	Concrete	D-000-900-023	6/17/2008	Hydrotest	Pass	None	N/A
35	Sump @ S.E. Side Of Tk. 31	Concrete	D-000-900-023	6/17/2008	Hydrotest	Pass	None	N/A
36	Sump @ East Side Of Tk. 32	Concrete	D-000-900-023	6/10/2008	Hydrotest	Pass	None	N/A
37	Sump @ N.E. Side Of Tk. 35	Concrete	D-000-900-023	6/11/2008	Hydrotest	Pass	None	N/A
38	Sump @ N.E. Side Of Tk. 36	DW Steel	D-000-900-023	6/10/2008	Hydrotest	Pass	None	N/A
39	Sump @ S. Side Of Tk. 18	DW Steel	D-000-900-023	6/11/2008	Hydrotest	Pass	None	N/A
40	Sump @ S. Side Of Tk. 19	Concrete	E20-006-000-G	6/11/2008	Hydrotest	Pass	None	N/A
41 S	Sump @ S. Side Of Flare	Concrete	D-000-900-023	11/6/2008	Hydrotest	Pass	None	N/A
42   8	Sump @ N.W. Of Precipitator	Concrete	D-000-900-023	10/21/2008	Hydrotest	Pass	None	N/A

Repair Schedule	
Inspection & Re	
Separator/Pond - Ins	
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OOMFIELD REF	
BL	

Inspection Inspection Scheduled Method  2008 Internal  2008 Internal
Concrete 2008 Internal HDPE 2008 Internal
Concrete 2008 Internal HDPE 2008 Internal
HDPE 2008 Internal
מטסכ
in Lagooni #2 nDFE zous internal 12/22/2008
Aeration Lagoon #3 HDPE 2008 Internal 1/19/2009
North Evaporation Pond HDPE 2009
South Evaporation Pond HDPE 2013

#### Section 15.0 North Barrier Wall

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## Observation Well Fluids Monitoring Jan. 2008

Wellib	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
09 M	1/14/2008	5506.62	12.26	ddN	12.06	5494.56	NPP
+0 .O	1/28/2008	5506.62	12.26	AdN	12.04	5494.58	NPP
遊	1/14/2008	5508.03	14.36	13.87	14.30	5494.07	0.43
+} \O	1/28/2008	5508.03	14.36	13.91	14.26	5494.05	0.35
â	1/14/2008	5507.31	15.06	13.46	13.50	5493.84	0.04
O/ 3+	1/28/2008	5507.31	15.06	13.47	13.52	5493.83	0.05
9	1/14/2008	5507.59	13.67	NPP	DRY		NPP
+ <u>9</u> IO	1/28/2008	5507.59	13.67	NPP	DRY		NPP
S-	1/14/2008	5504.78	14.67	ddN	DRY		NPP
+9 \O	1/28/2008	5504.78	14.67	NPP	DRY	TO SHARE THE PARTY OF THE PARTY	NPP
N O1	1/14/2008	5506.53	15.99	NPP	DRY		MPP
+8	1/28/2008	5506.53	15.99	NPP	DRY		NPP
9 +  <i>N</i>	1/14/2008	5506.70	16.59	NPP	12.49	5494.21	NPP
11	1/28/2008	5506.70	16.59	NPP	12.41	5494.29	NPP
0 +1 M	1/14/2008	5508.14	12.96	NPP	DRY		NPP
フレ	1/28/2008	5508.14	12.96	NPP	DRY		NPP
8	1/14/2008	5508.43	15.21	12.71	12.75	5495.71	. 0.04
O   9	1/28/2008	5508.43	15.21	NPP	12.72	5495.71	NPP

### Observation Well Fluids Monitoring Jan. 2008

Wellin	Date	Measuring Point. Elevation	Total Well Depth	Depth To Product (DTP):	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
0 +(	1/14/2008	5508.03	13.00	NPP	DRY		NPP
3 L	1/28/2008	5508.03	13.00	. ddN	DRY		NPP
+7	1/14/2008	5506.91	14.16	NPP	11.65	5495.26	AdN
0 22 0	1/28/2008	5506.91	14.16	NPP	11.69	5495.22	ddN
200 Sept. 100 Se	A STATE OF THE STA			aller trader such rate address			100
0 }+ \/\	1/14/2008	5514.12	18.34	NPP	16.27	5497.85	NPP
53	1/28/2008	5514.12	18.34	NPP	15.38	5498.74	NPP
PRE-BISING STREET, STR			Section of the Commence of the	(2) 200 (2) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	APPLICATION OF THE PROPERTY OF		
0 3+ M	1/14/2008	5515.18	18.01	NPP	17.15	5498.03	NPP
53	1/28/2008	5515.18	18.01	NPP	17.05	5498.13	NPP
12.00.000 000 000 000 000 000 000 000 000	The contract of the property of the contract of			Section 1998 Section 1998 Section 1998			
0 +9 ///	1/14/2008	5509.00	13.98	NPP	10.82	5498.18	NPP
<b>5</b> 6	1/28/2008	5509.00	13.98	NPP	10.73	5498.27	NPP

NPP = No Product Present NWP = No Water Present

#### Collection Well Fluids Monitoring Jan. 2008

NPP = No Product Present

NWP = No Water Present

#### Collection Well Fluids Monitoring Jan. 2008

NPP = No Product Present



#### Monitoring Well Fluids Monitoring Jan. 2008

<b>他の一個の一個の一個の一個の一個の一個の一個の一個の一個の一個の一個の一個の一個の</b>	The state of the s	MANAGEM CHARLES AND		100 Year 100	50 2000 0000000000000000000000000000000	\$100 Miles	CARACTA
Wellib	Date	Measuring Point	Total Well	Depth To Product	Depth To Water	Corrected Groundwater	Phase
		Elevation	nded	(DTP)	(БТW)	Elevation	Thickness
	1/16/2008	5510.31	22.94	ddN	11.09	5499.22	MPP
L# IN	1/28/2008	5510.31	22.94	NPP	10.74	5499.57	NPP
25	1/16/2008	5501.61	14.98	ddN	10.19	5491.42	NPP
L# \[\]	1/28/2008	5501.61	14.98	NPP	10.22	5491.39	NPP
ă.	1/16/2008	5519.90	27.13	20.74	21.45	5499.02	0.71
Z#	1/28/2008	5519.90	27.13	20.72	21.40	5499.04	0.68
	1/16/2008	5521.99	30.38	21.86	21.93	5500.12	0.07
Z# \W	1/28/2008	5521.99	30.38	21.85	21.92	5500.13	0.07
<b>20</b>	1/16/2008	5520.83	38.34	ddN	26.20	5494.63	ddN
E#	1/28/2008	5520.83	38.34	NPP	25.83	5495.00	NPP
8	1/14/2008	5506.36	16.92	AdN	11.82	5494.54	NPP
₩ \W	1/28/2008	5506.36	16.92	NPP	11.66	5494.70	MPP
8	1/14/2008	5504.65	10.39	MPP	DRY		AdN
⊅# \Μ	1/28/2008	5504.65	10.39	NPP	DRY		NPP
S	1/14/2008	5506.77	14.28	12.76	13.06	5493.95	0:30
⁄# ₩	1/28/2008	5506.77	14.28	12.81	12.82	5493.96	0.01

NPP = No Product Present

## Observation Well Fluids Monitoring Feb. 2008

-Welli ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
09 M	2/11/2008	5506.62	12.26	ddN	11.59	5495.03	NPP
E.	2/25/2008	5506.62	12.26	ddN	11.55	5495.07	NPP
20 M	2/11/2008	5508.03	14.36	13.68	13.85	5494.32	0.17
ı	2/25/2008	5508.03	14.36	13.64	13.66	5494.39	0.02
%B	2/11/2008	5507.31	15.06	13.14	13.35	5494.13	0.21
O/ 3+	2/25/2008	5507.31	15.06	13.12	13.13	5494.19	0.01
ál	2/11/2008	5507.59	13.67	NPP	13.68	5493.91	MPP
-9 O	2/25/2008	5507.59	13.67	NPP	13.70	5493.89	NPP
5	2/11/2008	5504.78	14.67	NPP	DRY		NPP
+9 O	2/25/2008	5504.78	14.67	NPP	DRY		MPP
W	2/11/2008	5506.53	15.99	NPP	DRY		NPP
+8 (O	2/25/2008	5506.53	15.99	NPP	DRY		NPP
+ M	2/11/2008	5506.70	16.59	NPP	12.51	5494 19	NPP
	2/25/2008	5506.70	16.59	NPP	12.50	5494.20	NPP
0 +1 M	2/11/2008	5508.14	12.96	NPP	DRY		NPP
71	2/25/2008	5508.14	12.96	NPP	DRY		NPP
0 +9 <b>M</b>	2/11/2008	5508.43	15.21	12.71	12.24	5495.81	-0.47
L	2/25/2008	5508.43	15.21	NPP	12.60	5495.83	NPP

## Observation Well Fluids Monitoring Feb. 2008

			CELEBRATION CONTRACTOR		Automotive for the property of the second second		A STATE OF THE SECOND STAT
WellID	Date	Measuring Point Elevation	Total Well	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
0 +6 ^^	2/11/2008	5508.03	13.00	NPP	DRY		NPP
3 L	2/11/2008	5508.03	13.00	NPP	11.79	5496.24	NPP
0 +7	2/11/2008	5506.91	14.16	ddN	10.25	5496.66	NPP
75	2/25/2008	5506.91	14.16	NPP	11.08	5495.83	NPP
			3 C. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10				
0 +8 •••••••••••••••••••••••••••••••••••	2/11/2008	5514.12	18.34	NPP	16.15	5497.97	NPP
53	2/25/2008	5514.12	18.34	NPP	16.19	5497.93	NPP
STORY THE STORY SERVICE STORY SERVICES			TO THE PERSON OF		100		
0 +8 ///	2/11/2008	5515.18	18.01	NPP	17.01	5498.17	NPP
53	2/25/2008	5515.18	18.01	NPP	17.04	5498.14	NPP
Control of the Contro							
0 +2 //\	2/11/2008	9209.00	13.98	NPP	10.70	5498.30	NPP
<b>5</b> 6	2/25/2008	2509.00	13.98	NPP	10.73	5498.27	NPP

NPP = No Product Present NWP = No Water Present

#### Collection Well Fluids Monitoring Feb. 2008

NPP = No Product Present

NWP = No Water Present

#### Collection Well Fluids Monitoring Feb. 2008

WellID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
0	2/11/2008	5504.32	12.86	NPP	6.25	5498.07	NPP
۵	2/25/2008	5504.32	12.86	NPP	6.28	5498.04	NPP
0	2/11/2008	5504.52	66.6	NPP	6.49	5498.03	NPP
c	2/25/2008	5504.52	66.6	ddN	6.51	5498.01	NPP
0	2/11/2008	5508.04	12.34	ddN	8.98	5499.06	NPP
_	2/25/2008	5508.04	12.34	NPP	8.97	5499.07	NPP
0	2/11/2008	5510.04	14.65	NPP	10.62	5499.42	NPP
L	2/25/2008	5510.04	14.65	ddN	10.6	5499.44	NPP
	2/11/2008	5507.32	11.72	NPP	8.12	5499.20	NPP
6	2/25/2008	5507.32	11.72	NPP	8.10	5499.22	NPP
G	2/11/2008	5505.90	12.25	NPP	7.16	5498.74	NPP
6	2/25/2008	5505.90	12.25	NPP	7.15	5498.75	NPP

NPP = No Product Present NW

#### Monitoring Well Fluids Monitoring Feb. 2008

Weilib	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon
35 <b>8</b>	2/11/2008	5510.31	22.94	ddN	10.24	5500.07	NPP
IVI	2/25/2008	5510.31	22.94	NPP	10.58	5499.73	NPP
9.	2/11/2008	5501.61	14.98	NPP	10.03	5491.58	NPP
IVI	2/25/2008	5501.61	14.98	NPP	9.68	5491.93	NPP
5	2/11/2008	5519.90	27.13	20.73	21.35	5499.05	0.62
Z# \[\]	2/25/2008	5519.90	27.13	20.70	21.25	5499.09	0.55
<b>福</b>	2/11/2008	5521.99	30.38	21.77	21.78	5500.22	0.01
/W	2/25/2008	5521.99	30.38	21.68	21.84	5500.28	0.16
5	2/11/2008	5520.83	38.34	MPP	25.85	5494.98	NPP
E#	2/25/2008	5520.83	38.34	NPP	25.84	5494.99	NPP
<b>E</b>	2/11/2008	5506.36	16.92	ddN	11.78	5494.58	NPP
/# 	2/25/2008	5506.36	16.92	NPP	11.77	5494.59	NPP
35	2/11/2008	5504.65	10.39	AdN	DRY		ddN
\W	2/25/2008	5504.65	10.39	NPP	DRY		NPP
<b>2</b>	2/11/2008	5506.77	14.28	12.63	12.68	5494.13	0.05
\W	2/25/2008	5506.77	14.28	12.58	12.68	5494.17	0.10

NPP = No Product Present

NWP = No Water Present

# Observation Well Fluids Monitoring March 2008

WellID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
09 M	3/10/2008	29.9053	12.26	NPP	11.57	5495.05	NPP
	3/24/2008	5506.62	12.26	NPP	11.61	5495.01	NPP
09 M	3/10/2008	5508.03	14.36	13.62	13.65	5494.40	0.03
	3/24/2008	5508.03	14.36	13.61	13.68	5494.41	0.07
98 M	3/10/2008	5507.31	15.06	13.06	13.18	5494.23	0.12
	3/24/2008	5507.31	15.06	13.02	13.33	5494.23	0.31
09 M	3/10/2008	5507.59	13.67	ddN	13.56	5494.03	ddN
+9 10	3/24/2008	5507.59	13.67	NPP	13.62	5493.97	NPP
02 M	3/10/2008	5504.78	14.67	ddN	DRY		NPP
+9 O	3/24/2008	5504.78	14.67	NPP	DRY		NPP
W	3/10/2008	5506.53	15.99	NPP	DRY		NPP
	3/24/2008	5506.53	15.99	NPP	DRY		NPP
9 +  M	3/10/2008	5506.70	16.59	NPP	12.48	5494.22	MPP
<b> </b>	3/24/2008	5506.70	16.59	NPP	12.52	5494.18	ddN .
0 +1 <b>/</b> /\	3/10/2008	5508.14	12.96	NPP	DRY		NPP
71	3/24/2008	5508.14	12.96	NPP	DRY		NPP
0 +; •	3/10/2008	5508.43	15.21	NPP	12.13	5496.30	ddN
	3/24/2008	5508.43	15.21	NPP	12.27	5496.16	NPP

## Observation Well Fluids Monitoring March 2008

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
R .	3/10/2008	5508.03	13.00	NPP	11.47	5496.56	NPP
O SI S	3/24/2008	5508.03	13.00	NPP	11.52	5496.51	NPP
+7	3/10/2008	5506.91	14.16	NPP	11.42	5495.49	NPP
0 22 00	3/24/2008	5506.91	14.16	NPP	11.54	5495.37	ddN
	で記憶器。1945年の開発を表示。2015年の 1950年の1950年の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の	The second secon	ALCOHOLOGICAL AND	4.00			
0 +8 M	3/10/2008	5514.12	18.34	NPP	16.22	5497.90	NPP .
73	3/24/2008	5514.12	18.34	NPP	16.28	5497.84	NPP
SERVED TO SERVED TO SERVED TO SERVED AND THE RESERVED					21, 1920 part selected in the selection of the selection		
0 3+ M	3/10/2008	5515.18	18.01	NPP	17.05	5498.13	NPP
73	3/24/2008	5515.18	18.01	NPP	17.05	5498.13	NPP
				CONTRACTOR OF THE PROPERTY OF			
0 +9 <b>/</b> /\	3/10/2008	5509.00	13.98	NPP	10.72	5498.28	NPP
56	3/24/2008	2509.00	13.98	NPP	10.72	5498.28	NPP

NPP = No Product Present NWP = No Water Present

## Collection Well Fluids Monitoring March 2008

					3,000		Senarate
Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product: (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Phase Hydrocarbon
200	3/10/2008	5506.68	14.09	. ddN	8.44	5498.24	NPP
0+0 C/	3/24/2008	5506.68	14.09	NPP	8.54	5498.14	NPP
09 <i>M</i>	3/10/2008	5505.13	13.74	NPP	7.05	5498.08	ddN
1+ C	3/24/2008	5505.13	13.74	NPP	7.08	5498.05	NPP
2	3/10/2008	5503.87	13.11	MPP	5.77	5498.10	NPP
3+ C	3/24/2008	5503.87	13.11	NPP	5.76	5498.11	NPP
09 M	3/10/2008	5503.76	12.27	NPP	6.42	5497.34	NPP
2+ C	3/24/2008	5503.76	12.27	NPP	6.43	5497.33	NPP
02 <b>M</b>	3/10/2008	5503.84	11.45	NPP	6.81	5497.03	NPP
B-0	3/24/2008	5503.84	11.45	NPP	6.79	5497.05	AdN
W	3/10/2008	5504.02	11.63	NPP	7.82	5496.20	NPP
8+ C	3/24/2008	5504.02	11.63	NPP	7.77	5496.25	NPP
St M	3/10/2008	5503.80	12.6	7.82	7.86	5495.97	0.04
	3/24/2008	5503.80	12.6	7.76	7.77	5496.04	0.01
9 +1 M	3/10/2008	5503.95	12.27	ddN	6.10	5497.85	NPP
1	3/24/2008	5503.95	12.27	NPP	6.03	5497.92	NPP
0 +1 M	3/10/2008	5504.39	13.05	MPP	6.48	5497.91	NPP
71	3/24/2008	5504.39	13.05	MPP	6.41	5497.98	NPP

NPP = No Product Present

## Collection Well Fluids Monitoring March 2008

WellID		Measuring Point Elevation	Total Well	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Phase Hydrocarbon Thickness
09	3/10/2008	5504.32	12.86	NPP	6.37	5498.01 5498.05	NPP NPP
	3/10/2008	5504.52	66.6	AdN	6.56	5497.96	NPP
g.	3/24/2008	5504.52	66.6	MPP	6.53	5497.99	NPP
0	3/10/2008	5508.04	12.34	NPP	8.98	5499.06	NPP
	3/24/2008	5508.04	12.34	NPP	9.00	5499.04	NPP
0	3/10/2008	5510.04	14.65	ddN	10.59	5499.45	NPP.
	3/24/2008	5510.04	14.65	NPP	10.63	5499.41	NPP
	3/10/2008	5507.32	11.72	NPP	8.11	5499.21	NPP
6	3/24/2008	5507.32	11.72	NPP	8.14	5499.18	NPP
	3/10/2008	5505.90	12.25	ddN	7.15	5498.75	NPP
6	3/24/2008	5505.90	12.25	NPP	7.16	5498.74	NPP

NPP = No Product Present N

## Monitoring Well Fluids Monitoring March 2008

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon
36 B	3/10/2008	5510.31	22.94	NPP	10.84	5499.47	NPP
L#	3/24/2008	5510.31	22.94	NPP	11	5499.31	NPP
9	3/10/2008	5501.61	14.98	ddN	9.62	5491.99	NPP
L# INI	3/24/2008	5501.61	14.98	NPP	9.54	5492.07	NPP
<b>*1</b>	3/10/2008	5519.90	27.13	20.71	21.24	5499.08	0.53
Z# NN	3/24/2008	5519.90	27.13	20.70	21.20	5499.10	0.50
28	3/10/2008	5521.99	30.38	21.62	21.75	5500.34	0.13
Z# \[\]	3/24/2008	5521.99	30.38	21.65	21.8	5500.31	0.15
쳁	3/10/2008	5520.83	38.34	NPP	25.82	5495.01	ddN
E#	3/24/2008	5520.83	38.34	NPP	25.82	5495.01	NPP
28	3/10/2008	5506.36	16.92	NPP	11.82	5494.54	ddN
₩ ₩	3/24/2008	5506.36	16.92	NPP	11.76	5494.60	NPP
<b>#</b>	3/10/2008	5504.65	10.39	NPP	DRY		NPP
ν# \ <b>W</b>	3/24/2008	5504.65	10.39	NPP	DRY		NPP
3	3/10/2008	5506.77	14.28	12.48	12.65	5494.26	0.17
₽# 	3/24/2008	5506.77	14.28	12.55	12.67	5494.20	0.12

NPP = No Product Present

## Observation Well Fluids Monitoring April 2008

WellilD	. Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
Μ	4/7/2008	5506.62	12.26	NPP	11.66	5494.96	NPP
	4/21/2008	5506.62	12.26	NPP	11.66	5494.96	NPP
09 M	4/7/2008	5508.03	14.36	13.60	13.80	5494.39	0.20
1	4/21/2008	5508.03	14.36	13.65	13.86	5494.34	0.21
98 M	4/7/2008	5507.31	15.06	13.01	13.44	5494.21	0.43
i i	4/21/2008	5507.31	15.06	13.03	13.58	5494.17	0.55
09 M	4/7/2008	5507.59	13.67	NPP	13.51	5494.08	ddN
	4/21/2008	5507.59	13.67	NPP	13.47	5494.12	NPP
02 <b>M</b>	4/7/2008	5504.78	14.67	ddN	DRY		NPP
	4/21/2008	5504.78	14.67	NPP	DRY		NPP .
W	4/7/2008	5506.53	15.99	NPP	DRY		NPP
+8 O	4/21/2008	5506.53	15.99	NPP	DRY		NPP
\$ +  <b>M</b>	4/7/2008	5506.70	16.59	11.35	11.42	5495.34	20.0
11	4/21/2008	5506.70	16.59	12.29	12.58	5494.35	0.29
0 +1 <b>^</b>	4/7/2008	5508.14	12.96	ddN	DRY		ddN
71	4/21/2008	5508.14	12.96	NPP	DRY		NPP
<b>*</b>	4/7/2008	5508.43	15.21	NPP	12.28	5496.15	NPP
16 16 8	4/21/2008	5508.43	15.21	NPP	12.36	5496.07	NPP

## Observation Well Fluids Monitoring April 2008

WellID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
+(	4/7/2008	5508.03	13.00	ddN	11.55	5496.48	NPP
0 9 9	4/21/2008	5508.03	13.00	NPP	11.47	5496.56	NPP
+7	4/7/2008	5506.91	14.16	NPP	11.57	5495.34	NPP
0 22 0	4/21/2008	5506.91	14.16	NPP	11.69	5495.22	NPP
				0014		00 2073	
0 +8 <b>//</b> /	4///2008	5514.12	18.34	NFF	10.22	5497.90	L
53	4/21/2008	5514.12	18.34	NPP	16.21	5497:91	NPP
4	4/7/2008	5515.18	18.01	NPP	17.04	5498.14	ADN
00√ 00√ 00√	4/21/2008	5515.18	18.01	NPP	17.07	5498.11	NPP
	Shorter of the second second		(1) 10 10 10 10 10 10 10 10 10 10 10 10 10		MANUTAL PROPERTY OF STREET, PARKET AND STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET,		THE CONTROL TO SHEET SHEET SHEET SHEET SHEET SHEET
+9	4/7/2008	5509.00	13.98	ddN	10.68	5498.32	NPP
7 52 7	4/21/2008	00.6033	13.98	MPP	10.67	5498.33	NPP
	A						

NPP = No Product Present NWP = No Water Present

### Collection Well Fluids Monitoring April 2008

Welling	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
09·	4/7/2008	5506.68	14.09	NPP	8.59	5498.09	NPP
16	4/21/2008	5506.68	14.09	NPP	8.4	5498.28	NPP
20 M	4/7/2008	5505.13	13.74	NPP	7.11	5498.02	NPP
	4/21/2008	5505.13	13.74	NPP	6.87	5498.26	NPP
98 M	4/7/2008	5503.87	13.11	NPP	5.77	5498.10	NPP
	4/21/2008	5503.87	13.11	NPP	5.67	5498.20	NPP
09 M	4/7/2008	5503.76	12.27	ddN	6.43	5497.33	NPP
2+ C	4/21/2008	5503.76	12.27	NPP	6.35	5497.41	NPP
02 <b>M</b>	4/7/2008	5503.84	11.45	NPP	6.76	5497.08	NPP
1	4/21/2008	5503.84	11.45	NPP	99'9	5497.18	MPP
W	4/7/2008	5504.02	11.63	NPP	99'.	5496.36	NPP
B∜	4/21/2008	5504.02	11.63	NPP	7.64	5496.38	NPP
St M	4/7/2008	5503.80	12.6	7.63	7.64	5496.17	0.01
1	4/21/2008	2503.80	12.6	7.61	7.62	5496.19	0.01
9 +I M	4/7/2008	5503.95	12.27	NPP	5.98	5497.97	NPP
11	4/21/2008	5503.95	12.27	NPP	6.03	5497.92	NPP
0 +† M	4/7/2008	5504.39	13.05	NPP	6.36	5498.03	NPP
'L	4/21/2008	5504.39	13.05	NPP	6.44	5497.95	NPP

NPP = No Product Present

## Collection Well Fluids Monitoring April 2008

WellID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Phase Hydrocarbon Thickness
0+9	4/7/2008	5504.32	12.86	NPP	6.25	5498.07	NPP
9	4/21/2008	5504.32	12.86	MPP	6.29	5498.03	ddN
0 +(	4/7/2008	5504.52	9.99	NPP	6.53	5497.99	NPP
2 48 40 C/	4/21/2008	5504.52	9.99	NPP	6.47	5498.05	ddN
0	4/7/2008	5508.04	12.34	MPP	9.00	5499.04	ddN
00 55 CC/	4/21/2008	5508.04	12.34	NPP	9.01	5499.03	NPP
(	4/7/2008	5510.04	14.65	NPP	10.65	5499.39	ddN
10 53 C/	4/21/2008	5510.04	14.65	10.63	10.66	5499.40	0.03
+	4/7/2008	5507.32	11.72	AdN	8.14	5499.18	AdN
6 53 C/	4/21/2008	5507.32	11.72	NPP	8.14	5499.18	NPP
9	4/7/2008	5505.90	12.25	7.13	7.15	5498.77	0.02
6 52 52	4/21/2008	5505.90	12.25	NPP	7.15	5498.75	NPP

NPP = No Product Present

## Monitoring Well Fluids Monitoring April 2008

Mell D	Date	Measuring Point Elevation	Total Well Depth	Depth To- Product (DTP)	Depth To Water (DTW):	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
W	4/7/2008	5510.31	22.94	NPP	11.13	5499.18	NPP
/# .[V]	4/21/2008	5510.31	22.94	NPP	11.07	5499.24	NPP
<b>M</b>	4/7/2008	5501.61	14.98	NPP	9:56	5492.05	NPP
l l	4/21/2008	5501.61	14.98	NPP	9.61	5492.00	NPP
03 <b>M</b>	4/7/2008	5519.90	27.13	20.69	21.03	5499.14	0.34
Z# .[N]	4/21/2008	5519.90	27.13	20.70	21.50	5499.04	0.80
16 B	4/7/2008	5521.99	30.38	21.69	21.82	5500.27	0.13
Z# \Wi	4/21/2008	5521.99	30.38	21.74	21.85	5500.23	0.11
99 B	4/7/2008	5520.83	38.34	NPP	25.78	5495.05	MPP
E# IVI	4/21/2008	5520.83	38.34	NPP	25.75	5495.08	NPP
91 ///	4/7/2008	5506.36	16.92	NPP	11.63	5494.73	MPP
7# .Μ	4/21/2008	5506.36	16.92	NPP	11.66	5494.70	NPP
91	4/7/2008	5504.65	10.39	NPP	DRY		NPP
7# .[\]	4/21/2008	5504.65	10.39	NPP	DRY		NPP
፠.	4/7/2008	5506.77	14.28	12.57	12.68	5494.18	0.11
7# ΔΙΛΙ	4/21/2008	5506.77	14.28	12.51	12.92	5494.18	0.41

NPP = No Product Present

## Observation Well Fluids Monitoring MAY 2008

e d	4	Measuring	11 - 11 - 7 - X	Depth To	Depth To	Corrected	Separate
Well ID.	Date	Point Elevation	iotal Well Depth	Product (DTP)	. Water (DTW)	Groundwater Elevation	rnase Hydrocarbon Thickness
09 M	5/5/2008	5506.62	12.26	NPP	11.61	5495.01	NPP
E d	5/19/2008	5506.62	12.26	NPP	11.55	5495.07	MPP
20 M	5/5/2008	5508.03	14.36	13.63	13.89	5494.35	0.26
3	5/19/2008	5508.03	14.36	13.58	13.90	5494.39	0.32
98 M	5/5/2008	5507.31	15.06	13.04	13.67	5494.14	0.63
8	5/19/2008	5507.31	15.06	13.03	13.76	5494.13	0.73
09 M	5/5/2008	5507.59	13.67	NPP	13.47	5494.12	NPP
	5/19/2008	5507.59	13.67	NPP	13.47	5494.12	NPP
02 M	5/5/2008	5504.78	14.67	NPP	DRY		MPP
	5/19/2008	5504.78	14.67	NPP	DRY		NPP
W	5/5/2008	5506.53	15.99	NPP	DRY	one of the second	ddN
1	5/19/2008	5506.53	15.99	NPP	DRY		NPP
9 +I M	5/5/2008	5506.70	16.59	12.30	12.59	5494.34	0.29
1	5/19/2008	5506.70	16.59	12.24	12.71	5494.37	0.47
0 +1 <b>^</b>	5/5/2008	5508.14	12.96	NPP	DRY		NPP
71	5/19/2008	5508.14	12.96	NPP	DRY		NPP
0 +9 <b>M</b>	5/5/2008	5508.43	15.21	NPP	12.40	5496.03	NPP
3 L	5/19/2008	5508.43	15.21	NPP	12.49	5495.94	NPP

#### Observation Well Fluids Monitoring May 2008

Weil ID-	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
0 +6 M	5/5/2008	5508.03	13.00	ddN	11.7	5496.33	ddN
3 L	5/19/2008	5508.03	13.00	NPP	11.98	5496.05	ddN
SS. 1	5/5/2008	5506.91	14.16	AdN	11.77	5495.14	ddN
0 22 0	5/19/2008	5506.91	14.16	NPP	11.83	5495.08	NPP
4	5/5/2008	5514.12	18.34	ddN	16.25	5497.87	NPP
νο 23.	5/19/2008	5514.12	18.34	AdN	16.23	5497.89	ddN
Constitution of the second sec				digital in the state of the sta		A STATE OF THE PARTY OF THE PARTY.	
0 3+ M	5/5/2008	5515.18	18.01	NPP	17.07	5498.11	NPP
53	5/19/2008	5515.18	18.01	NPP	17.06	5498.12	NPP
and the second s	0.000	100					
0 +9 M	5/5/2008	5509.00	13.98	NPP	10.65	5498.35	NPP
. SE	5/19/2008	5509.00	13.98	NPP	10.68	5498.32	NPP

NPP = No Product Present NWP = No Water Present

#### Collection Well Fluids Monitoring May 2008

WelliD		Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
09 M	5/5/2008	5506.68	14.09	NPP	8.46	5498.22	NPP
	5/19/2008	5506.68	14.09	NPP	8.48	5498.20	NPP
20 M	5/5/2008	5505.13	13.74	NPP	7.02	5498.11	NPP
I.	5/19/2008	5505.13	13.74	NPP	60.7	5498.04	NPP
98 M	5/5/2008	5503.87	13.11	NPP	5.70	5498.17	NPP
	5/19/2008	5503.87	13.11	NPP	5.78	5498.09	NPP
09 M	5/5/2008	5503.76	12.27	AdN	6.35	5497.41	NPP
ı	5/19/2008	5503.76	12.27	NPP	6:39	5497.37	NPP
02 <b>M</b>	5/5/2008	5503.84	11.45	MPP	6.68	5497.16	NPP
+9 )	5/19/2008	5503.84	11.45	NPP	6.73	5497.11	NPP
ë l	5/5/2008	5504.02	11.63	NPP	7.65	5496.37	NPP
+8 C	5/19/2008	5504.02	11.63	NPP	7.65	5496.37	NPP
97 M	5/5/2008	5503.80	12.6	7.61	7.62	5496.19	0.01
i i	5/19/2008	5503.80	12.6	7.64	7.65	5496.16	0.01
9 +	5/5/2008	5503.95	12.27	NPP	5.94	5498.01	NPP
1	5/19/2008	5503.95	12.27	NPP	5.98	5497.97	NPP
0 +t M	5/5/2008	5504.39	13.05	NPP	6.38	5498.01	NPP
71	5/19/2008	5504.39	13.05	NPP	6.43	5497.96	NPP

NPP = No Product Present

## Collection Well Fluids Monitoring May 2008

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
0 +9	5/5/2008	5504.32	12.86	NPP	6.29	5498.03	NPP
1	5/19/2008	5504.32	12.86	ddN	6.31	5498.01	MPP
2	5/5/2008	5504.52	66.6	ddN	6.45	5498.07	NPP
9 61	5/19/2008	5504.52	9.99	NPP	6.48	5498.04	NPP
32 P	5/5/2008	5508.04	12.34	AdN	9.00	5499.04	NPP
0 22	5/19/2008	5508.04	12.34	NPP	9.00	5499.04	ddN
<b>15.</b>	5/5/2008	5510.04	14.65	NPP	10.64	5499.40	NPP
ا 23	5/19/2008	5510.04	14.65	NPP	10.65	5499.39	NPP
8	5/5/2008	5507.32	11.72	ddN	8.13	5499.19	NPP
6 53	5/19/2008	5507.32	11.72	NPP	8.14	5499.18	NPP
5	5/5/2008	5505.90	12.25	ddN	7.14	5498.76	NPP
6 97	5/19/2008	5505.90	12.25	NPP	7.15	5498.75	NPP

NPP = No Product Present N

#### Monitoring Well Fluids Monitoring May 2008

WellilD	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
l l#	5/5/2008	5510.31 5510.31	22.94	NPP QAN	10.95	5499.36	NPP
Z1#		5501.61	14.98	ddN	9.58	5492.03	AdN
<b>#</b>	5/19/2008	5501.61	14.98	NPP	9.57	5492.04	NPP
07	2/5/2008	5519.90	27.13	20.68	21.11	5499.13	0.43
;#	5/19/2008	5519.90	27.13	20.71	21.13	5499.11	0.42
l l	5/5/2008	5521.99	30.38	21.72	21.82	5500.25	0.10
Z#	5/19/2008	5521.99	30.38	21.74	21.85	5500.23	0.11
68	5/5/2008	5520.83	38.34	AdN	25.80	5495.03	NPP
<b>:</b> #	5/19/2008	5520.83	38.34	NPP	25.78	5495.05	NPP
St	5/5/2008	5506.36	16.92	11.38	11.63	5494.93	0.25
7#	5/19/2008	5506.36	16.92	NPP	11.65	5494.71	NPP
91	5/5/2008	5504.65	10.39	ddN	DRY		NPP
7#	5/19/2008	5504.65	10.39	NPP	DRY		NPP
21	5/5/2008	5506.77	14.28	12.54	13.04	5494.13	0.50
7#	5/19/2008	5506.77	14.28	12.60	13.03	5494.08	0.43

NPP = No Product Present

NWP = No Water Present

## Observation Well Fluids Monitoring June 2008

Well ID	Date	Measuring Point Elevation	Total.Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
•	6/2/2008	5506.62	12.26	NPP	11.54	5495.08	NPP
)9+( MC	6/16/2008	5506.62	12.26	ddN	11.61	5495.01	NPP
	6/30/2008	5506.62	12.26	APP	11.74	5494.88	NPP
3	6/2/2008	5508.03	14.36	13.61	13.90	5494.36	0.29
)S+ MC	6/16/2008	5508.03	14.36	13.65	14.09	5494.29	0.44
	6/30/2008	5508.03	14.36	13.68	14.26	5494.23	0.58
8	6/2/2008	5507.31	15.06	13.03	13.84	5494.12	0.81
MO	6/16/2008	5507.31	15.06	13.06	13.97	5494.07	0.91
1	6/30/2008	5507.31	15.06	13.10	14.08	5494.01	0.98
8	6/2/2008	5507.59	13.67	ddN	13.47	5494.12	NPP
)9+9 MO	6/16/2008	5507.59	13.67	NPP	13.47	5494.12	NPP
	6/30/2008	5507.59	13.67	NPP	13.48	5494.11	NPP
<b>4</b>	6/2/2008	5504.78	14.67	ddN	DRY		NPP
<b>M</b> O	6/16/2008	5504.78	14.67	NPP	DRY		NPP
	6/30/2008	5504.78	14.67	NPP	DRY		
(F)	6/2/2008	5506.53	15.99	NPP	DRY		NPP
) MO	6/16/2008	5506.53	15.99	NPP	DRY		NPP
	6/30/2008	5506.53	15.99	NPP	DRY		
+1	6/2/2008	5506.70	16.59	12.27	12.73	5494.34	0.46
SI I N	6/16/2008	5506.70	16.59	12.29	12.78	5494.31	0.49
10	6/30/2008	5506.70	16.59	12.30	12.90	5494.28	09.0

NPP = No Product Present NWP = No Water Present

## Observation Well Fluids Monitoring June 2008

Φ (5/16/2008)         5508.14         12.96         NPP         DRY         NPP         NPP           Φ (5/2/2008)         5508.14         12.96         NPP         DRY         NPP         NPP           Φ (5/16/2008)         5508.43         15.21         NPP         12.49         5495.89         NPP           Φ (5/16/2008)         5508.43         15.21         NPP         12.54         5495.89         NPP           Φ (6/16/2008)         5508.03         13.00         NPP         12.26         5495.82         NPP           Φ (5/2/2008)         5508.03         13.00         NPP         12.43         5495.60         NPP           Φ (6/16/2008)         5508.03         13.00         NPP         12.43         5495.60         NPP           Φ (6/16/2008)         5508.91         14.16         NPP         12.43         5495.60         NPP           Φ (6/16/2008)         5508.91         14.16         NPP         12.25         5494.84         NPP           Φ (6/16/2008)         5508.91         14.16         NPP         12.25         5494.84         NPP           Φ (6/16/2008)         5514.12         18.34         NPP         12.25         5494.84         NPP	**************************************	<b>Date</b> 6/2/2008	Measuring Point Elevation 5508.14	Total Well Depth 12.96	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
6/12/2008         5508.43         15.21         NPP         12.49         5495.94           6/16/2008         5508.43         15.21         NPP         12.54         5495.89           6/20/2008         5508.03         15.21         NPP         12.61         5495.82           6/20/2008         5508.03         13.00         NPP         12.11         5495.92           6/20/2008         5508.03         13.00         NPP         12.43         5495.60           6/20/2008         5506.91         14.16         NPP         12.43         5494.93           6/20/2008         5506.91         14.16         NPP         12.25         5494.84           6/20/2008         5506.91         14.16         NPP         12.25         5494.86           6/20/2008         5506.91         14.16         NPP         12.25         5494.86           6/20/2008         5514.12         18.34         NPP         16.26         5497.86           6/30/2008         5515.18         18.01         NPP         17.04         5498.13           6/16/2008         5515.18         18.01         NPP         17.04         5498.13           6/16/2008         5515.18         18.01	01	6/30/2008	5508.14	12.96	AGN GAN	DRY		ddN ddN
6/16/2008         5508.43         15.21         NPP         12.54         5495.89           6/30/2008         5508.03         15.21         NPP         12.61         5495.82           6/2/2008         5508.03         13.00         NPP         12.11         5495.92           6/16/2008         5508.03         13.00         NPP         12.15         5495.77           6/2/2008         5508.91         14.16         NPP         12.43         5495.60           6/2/2008         5506.91         14.16         NPP         12.25         5494.93           6/16/2008         5506.91         14.16         NPP         12.25         5494.84           6/30/2008         5506.91         14.16         NPP         12.25         5494.86           6/30/2008         5514.12         18.34         NPP         16.25         5497.86           6/30/2008         5515.18         18.34         NPP         17.01         5498.13           6/30/2008         5515.18         18.01         NPP         17.05         5498.13           6/30/2008         5515.18         18.01         NPP         17.04         5498.13           6/30/2008         5515.18         18.01		6/2/2008	5508.43	15.21	NPP	12.49	5495.94	NPP
6/30/2008         5508 43         15.21         NPP         12.61         5495.82           6/2/2008         5508.03         13.00         NPP         12.11         5495.92           6/16/2008         5508.03         13.00         NPP         12.26         5495.60           6/16/2008         5508.03         13.00         NPP         12.43         5495.60           6/2/2008         5508.91         14.16         NPP         12.43         5494.84           6/16/2008         5506.91         14.16         NPP         12.07         5494.84           6/16/2008         5506.91         14.16         NPP         12.25         5497.88           6/16/2008         5514.12         18.34         NPP         16.25         5497.86           6/2/2008         5515.18         18.01         NPP         17.04         5498.07           6/2/2008         5515.18         18.01         NPP         17.04         5498.14           6/2/2008         5515.18         18.01         NPP         17.04         5498.14           6/2/2008         5515.18         18.01         NPP         17.04         5498.14           6/2/2008         5509.00         13.98 <td< th=""><th>09</th><th>6/16/2008</th><th>5508.43</th><th>15.21</th><th>NPP</th><th>12.54</th><th>5495.89</th><th>NPP</th></td<>	09	6/16/2008	5508.43	15.21	NPP	12.54	5495.89	NPP
6/2/2008         5508.03         13.00         NPP         12.11         5495.92           6/16/2008         5508.03         13.00         NPP         12.26         5495.77           6/30/2008         5508.03         13.00         NPP         12.43         5495.60           6/2/2008         5506.91         14.16         NPP         11.243         5494.84           6/30/2008         5506.91         14.16         NPP         12.07         5494.84           6/30/2008         5506.91         14.16         NPP         12.07         5494.84           6/30/2008         5514.12         18.34         NPP         12.25         5497.86           6/30/2008         5514.12         18.34         NPP         16.26         5497.86           6/30/2008         5515.18         18.01         NPP         17.04         5498.13           6/30/2008         5515.18         18.01         NPP         17.04         5498.13           6/16/2008         5509.00         13.98         NPP         10.70         5498.32           6/30/2008         5509.00         13.98         NPP         10.68         5498.32		6/30/2008	5508.43	15.21	NPP	12.61	5495.82	NPP
6/16/2008         5508.03         13.00         NPP         12.26         5495.77           6/20/2008         5508.03         13.00         NPP         12.43         5495.60           6/16/2008         5506.91         14.16         NPP         11.98         5494.93           6/16/2008         5506.91         14.16         NPP         12.07         5494.84           6/30/2008         5506.91         14.16         NPP         12.25         5494.66           6/2/2008         5514.12         18.34         NPP         16.25         5497.86           6/30/2008         5515.18         18.01         NPP         17.05         5498.13           6/16/2008         5515.18         18.01         NPP         17.05         5498.13           6/2/2008         5515.18         18.01         NPP         17.05         5498.13           6/2/2008         5509.00         13.98         NPP         10.70         5498.32           6/30/2008         5509.00         13.98         NPP         10.68         5498.32		6/2/2008	5508.03	13.00	ddN	12.11	5495.92	NPP
6/30/2008         5508.03         13.00         NPP         12.43         5495.60           6/2/2008         5506.91         14.16         NPP         11.98         5494.93         6/294.84           6/16/2008         5506.91         14.16         NPP         12.07         5494.84         6/294.84           6/2/2008         5506.91         14.16         NPP         12.07         5494.86         7           6/2/2008         5514.12         18.34         NPP         16.25         5497.88         7           6/30/2008         5514.12         18.34         NPP         16.24         5497.86         7           6/30/2008         5515.18         18.01         NPP         17.05         5498.13         7           6/30/2008         5515.18         18.01         NPP         17.05         5498.13         7           6/30/2008         5515.18         18.01         NPP         17.05         5498.30         7           6/30/2008         5509.00         13.98         NPP         10.68         5498.32         7           6/30/2008         5509.00         13.98         NPP         10.68         5498.32           6/30/2008         5509.00	09	6/16/2008	5508.03	13.00	MPP	12.26	5495.77	NPP
OG/15/2008         5506.91         14.16         NPP         11.98         5494.93           OG/16/2008         5506.91         14.16         NPP         12.07         5494.84           OG/30/2008         5506.91         14.16         NPP         12.25         5494.66           OG/2008         5514.12         18.34         NPP         16.24         5497.88           OG/2008         5514.12         18.34         NPP         16.26         5497.86           OG/2008         5514.12         18.34         NPP         17.11         5498.07           OG/2008         5515.18         18.01         NPP         17.05         5498.13           OG/2008         5515.18         18.01         NPP         17.04         5498.14           OG/2008         5515.18         18.01         NPP         17.04         5498.14           OG/2008         5509.00         13.98         NPP         10.70         5498.32           OG/30/2008         5509.00         13.98         NPP         10.68         5498.32		6/30/2008	5508.03	13.00	NPP	12.43	5495.60	NPP
O         6/16/2008         5506.91         14.16         NPP         12.07         5494.84           O         6/30/2008         5506.91         14.16         NPP         12.25         5494.86           O         6/16/2008         5514.12         18.34         NPP         16.24         5497.88           O         6/16/2008         5514.12         18.34         NPP         16.26         5497.86           O         6/30/2008         5515.18         18.01         NPP         17.11         5498.07           O         6/30/2008         5515.18         18.01         NPP         17.04         5498.13           O         6/30/2008         5515.18         18.01         NPP         17.04         5498.13           O         6/16/2008         5509.00         13.98         NPP         10.70         5498.32           O         6/30/2008         5509.00         13.98         NPP         10.68         5498.32		6/2/2008	5506.91	14.16	ddN	11.98	5494.93	NPP
6/30/2008         5506.91         14.16         NPP         12.25         5494.66           6/2/2008         5514.12         18.34         16.24         16.25         5497.88           6/30/2008         5514.12         18.34         NPP         16.24         5497.88           6/30/2008         5514.12         18.34         NPP         16.26         5497.86           9         6/2/2008         5515.18         18.01         NPP         17.05         5498.07           6/30/2008         5515.18         18.01         NPP         17.05         5498.13           6/30/2008         5515.18         18.01         NPP         17.04         5498.14           6/30/2008         5509.00         13.98         NPP         10.70         5498.30           9         6/16/2008         5509.00         13.98         NPP         10.68         5498.32		6/16/2008	5506.91	14.16	ddN	12.07	5494.84	NPP
6/2/2008         5514.12         18.34         16.24         16.25         5497.88           6/16/2008         5514.12         18.34         NPP         16.24         5497.88           6/30/2008         5514.12         18.34         NPP         16.26         5497.86           6/2/2008         5515.18         18.01         NPP         17.11         5498.07           6/30/2008         5515.18         18.01         NPP         17.04         5498.13           6/30/2008         5515.18         18.01         NPP         17.04         5498.14           6/2/2008         5509.00         13.98         NPP         10.70         5498.30           6/30/2008         5509.00         13.98         NPP         10.68         5498.32           6/30/2008         5509.00         13.98         NPP         10.68         5498.32		6/30/2008	5506.91	14.16	NPP	12.25	5494.66	NPP
Q         6/16/2008         5514.12         18.34         NPP         16.24         5497.88           G/30/2008         5514.12         18.34         NPP         16.26         5497.86           Q         G/2/2008         5515.18         18.01         NPP         17.11         5498.07           G/30/2008         5515.18         18.01         NPP         17.05         5498.13           G/30/2008         5515.18         18.01         NPP         17.04         5498.14           G/30/2008         5509.00         13.98         NPP         10.70         5498.30           G/30/2008         5509.00         13.98         NPP         10.68         5498.32		6/2/2008	5514.12	18.34	16.24	16.25	5497.88	0.01
6/30/2008         5514.12         18.34         NPP         16.26         5497.86           9         6/2/2008         5515.18         18.01         NPP         17.11         5498.07           6/30/2008         5515.18         18.01         NPP         17.05         5498.13           6/30/2008         5515.18         18.01         NPP         17.04         5498.14           6/16/2008         5509.00         13.98         NPP         10.70         5498.30           6/30/2008         5509.00         13.98         NPP         10.68         5498.32           6/30/2008         5509.00         13.98         NPP         10.68         5498.32		6/16/2008	5514.12	18.34	ddN	16.24	5497.88	MPP
6/2/2008         5515.18         18.01         NPP         17.11         5498.07           6/16/2008         5515.18         18.01         NPP         17.05         5498.13           6/30/2008         5515.18         18.01         NPP         17.04         5498.14           6/2/2008         5509.00         13.98         NPP         10.70         5498.30           6/30/2008         5509.00         13.98         NPP         10.68         5498.32           6/30/2008         5509.00         13.98         NPP         10.68         5498.32	-	6/30/2008	5514.12	18.34	ddN.	16.26	5497.86	NPP
9         6/16/2008         5515.18         18.01         NPP         17.05         5498.13           6/30/2008         5515.18         18.01         NPP         17.04         5498.14           Ch/2/2008         5509.00         13.98         NPP         10.68         5498.30           6/30/2008         5509.00         13.98         NPP         10.68         5498.32           6/30/2008         5509.00         13.98         NPP         10.68         5498.32		6/2/2008	5515.18	18.01	NPP	17.11	5498.07	NPP
6/30/2008         5515.18         18.01         NPP         17.04         5498.14           6/2/2008         5509.00         13.98         NPP         10.68         5498.30           6/30/2008         5509.00         13.98         NPP         10.68         5498.32           6/30/2008         5509.00         13.98         NPP         10.68         5498.32		6/16/2008	5515.18	18.01	MPP	17.05	5498.13	ddN
6/2/2008         5509.00         13.98         NPP         10.70         5498.30           6/16/2008         5509.00         13.98         NPP         10.68         5498.32           6/30/2008         5509.00         13.98         NPP         10.68         5498.32		6/30/2008	5515.18	18.01	NPP	17.04	5498.14	NPP
Q         6/16/2008         5509.00         13.98         NPP         10.68         5498.32           6/30/2008         5509.00         13.98         NPP         10.68         5498.32		6/2/2008	5509.00	13.98	ddN	10.70	5498.30	NPP
6/30/2008 5509.00 13.98 NPP 10.68 5498.32		6/16/2008	5509.00	13.98	NPP	10.68	5498.32	NPP
		6/30/2008	5509.00	13.98	MPP	10.68	5498.32	MPP

NPP = No Product Present NWP = No Water Present

#### Collection Well Fluids Monitoring June 2008

NPP = No Product Present

#### Collection Well Fluids Monitoring June 2008

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
<b>9</b> †4	6/2/2008	5503.80	12.6	7.68	7.7	5496.12	0.02
⊦8 V	6/16/2008	5503.80	12.6	79.7	7.68	5496.13	0.01
CΛ	6/30/2008	5503.80	12.6	7.72	7.73	5496.08	0.01
+	6/2/2008	5503.95	12.27	MPP	6.04	5497.91	AdN
91 1 N	6/16/2008	5503.95	12.27	ddN	6.01	5497.94	ddN .
1	6/30/2008	5503.95	12.27	NPP	80.9	5497.87	NPP
+\$	6/2/2008	5504.39	13.05	ddN	6.41	5497.98	ddN
1 W	6/16/2008	5504.39	13.05	MPP	6.44	5497.95	NPP
C/	6/30/2008	5504.39	13.05	NPP	6.46	5497.93	NPP
+9	6/2/2008	5504.32	12.86	AdN	6:39	5497.93	NPP
09 V V	6/16/2008	5504.32	12.86	MPP	6.32	5498.00	NPP
C/	6/30/2008	5504.32	12.86	NPP	6.34	5497.98	ddN
+6	6/2/2008	5504.52	9.99	NPP	6.48	5498.04	ddN
09 1 N	6/16/2008	5504.52	66.6	MPP	6.46	5498.06	MPP
c/	6/30/2008	5504.52	9.99	NPP	6.42	5498.10	NPP
+7	6/2/2008	5508.04	12.34	ddN	9.27	5498.77	ddN
.00 00	6/16/2008	5508.04	12.34	NPP	9.01	5499.03	NPP
C/	6/30/2008	5508.04	12.34	NPP	9.00	5499.04	NPP

NPP = No Product Present N

NWP = No Water Present

## Collection Well Fluids Monitoring June 2008

%         6/2/2008         5510.04         14.65         NPP         10.68         5499.36           %         6/16/2008         5510.04         14.65         NPP         10.65         5499.39           %         6/30/2008         5510.04         14.65         NPP         10.63         5499.41           %         6/2/2008         5507.32         11.72         NPP         8.15         5499.17           %         6/30/2008         5507.32         11.72         NPP         8.10         5499.25           %         6/30/2008         5507.32         11.72         NPP         8.07         5499.25           %         6/30/2008         5505.90         12.25         NPP         7.15         5498.79           %         6/30/2008         5505.90         12.25         NPP         7.11         5498.79	Well ID	Date -	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
Q         6/16/2008         5510.04         14.65         NPP         10.65           6/30/2008         5510.04         14.65         NPP         10.63           9         6/2/2008         5507.32         11.72         NPP         8.15           6/30/2008         5507.32         11.72         NPP         8.07         1           6/30/2008         5507.32         11.72         NPP         7.15         1           6/30/2008         5505.90         12.25         NPP         7.11         7.11           6/30/2008         5505.90         12.25         NPP         7.11         7.09	+8	6/2/2008	5510.04	14.65	NPP	10.68	5499.36	NPP
6/30/2008         5510.04         14.65         NPP         10.63           9         6/2/2008         5507.32         11.72         NPP         8.15           6/30/2008         5507.32         11.72         NPP         8.07           6/30/2008         5507.32         11.72         NPP         7.15           9         6/2/2008         5505.90         12.25         NPP         7.11           6/30/2008         5505.90         12.25         NPP         7.11           6/30/2008         5505.90         12.25         NPP         7.11			5510.04	14.65	NPP	10.65	5499.39	NPP
90         6/2/2008         5507.32         11.72         NPP         8.15           6/30/2008         5507.32         11.72         NPP         8.10           6/30/2008         5507.32         11.72         NPP         8.07           9         6/2/2008         5505.90         12.25         NPP         7.15           6/30/2008         5505.90         12.25         NPP         7.11           6/30/2008         5505.90         12.25         NPP         7.11	c/		5510.04	14.65	NPP	10.63	5499.41	NPP
96         6/16/2008         5507.32         11.72         NPP         8.10           6/30/2008         5507.32         11.72         NPP         8.07           6/2/2008         5505.90         12.25         NPP         7.15           6/30/2008         5505.90         12.25         NPP         7.11           6/30/2008         5505.90         12.25         NPP         7.09	3+	6/2/2008	5507.32	11.72	NPP	8.15	5499.17	NPP
6/30/2008         5507.32         11.72         NPP         8.07           95         6/2/2008         5505.90         12.25         NPP         7.15           6/30/2008         5505.90         12.25         NPP         7.11           6/30/2008         5505.90         12.25         NPP         7.09			5507.32	11.72	NPP	8.10	5499.22	NPP
6/2/2008         5505.90         12.25         NPP         7.15           95         6/16/2008         5505.90         12.25         NPP         7.11           6/30/2008         5505.90         12.25         NPP         7.09	cı		5507.32	11.72	NPP	8.07	5499.25	NPP
5         6/16/2008         5505.90         12.25         NPP         7.11           6/30/2008         5505.90         12.25         NPP         7.09	+9	6/2/2008	5505.90	12.25	ddN	7.15	5498.75	NPP
6/30/2008 5505.90 12.25 NPP 7.09			5505.90	12.25	NPP	7.11	5498.79	NPP
	C/		5505.90	12.25	ddN	60.7	5498.81	NPP

NPP = No Product Present

NWP = No Water Present

### Monitoring Well Fluids Monitoring June 2008

Corrected Separate Groundwater Hydrocarbon Thickness	5499.41 NPP	5499.36 NPP	5499.26 NPP	5491.79 NPP	5491.57 NPP	5491.23 NPP	5499.07 0.59	5499.11 0.44	5499.11 0.45	5500.21 0.09	5500.22 0.10	5500.22 0.11	5495.01 NPP	5494.95 NPP	5494.93 NPP	5494 68 NPP		5494.92 0.40
Depth To Water (DTW)	10.9	10.95	11.05	9.82	10.04	10.38	21.30	21.14	21.15	21.85	21.85	21.86	25.82	25.88	25.90	11.68	11.70	11.76
Depth To Product (DTP)	NPP	NPP	NPP	ddN	MPP	NPP	20.71	20.70	20.70	21.76	21.75	21.75	NPP	ddN	NPP	ddN	NPP	11.36
Total Well Depth	22.94	22.94	22.94	14.98	14.98	14.98	27.13	27.13	27.13	30.38	30.38	30.38	38.34	38.34	38.34	16.92	16.92	16.92
Measuring Point Elevation	5510.31	5510.31	5510.31	5501.61	5501.61	5501.61	5519.90	5519.90	5519.90	5521.99	5521.99	5521.99	5520.83	5520.83	5520.83	5506.36	5506.36	5506.36
Date	6/3/2008	6/16/2008	6/30/2008	6/3/2008	6/16/2008	6/30/2008	6/3/2008	6/16/2008	6/30/2008	6/3/2008	6/16/2008	6/30/2008	6/3/2008	6/16/2008	6/30/2008	8/0/2/2/8	6/16/2008	6/30/2008
WelliD	LL	# N	\W	12	# /\	\M	07	# N	/NI	12	;# <sub>.</sub> /\/	/M	68	# /\/	/M	9	<b>ν#</b> Λ	ΛM

NPP = No Product Present

#### Monitoring Well Fluids Monitoring June 2008

Separate Phase Hydrocarbon Thickness	NPP	NPP	NPP		0.72	0.81	0.74
Corrected Groundwater Elevation					5494.14	5494.07	5493.94
Depth To Water (DTW)	ANO	PRY	DRY	Carponal Carponal Services	13.21	13.35	13.42
Depth To Product (DTP)	NPP	NPP	NPP	A STATE OF THE PARTY OF THE PAR	12.49	12.54	12.68
Total Well Depth	10.39	10.39	10.39	AND THE RESIDENCE OF THE RESIDENCE OF THE PERSON OF THE PE	14.28	14.28	14.28
Measuring Point Elevation	5504.65	5504.65	5504.65	Service of the servic	5506.77	5506.77	5506.77
Date	8/2/2008	6/16/2008	6/30/2008	A CONTRACTOR OF THE PARTY OF TH	6/2/2008	8/16/2008	6/30/2008
WellID		# N	\IVI	AND COMPANY OF STREET, SAME STR	<b>4</b>	# N	\W

NPP = No Product Present

## Observation Well Fluids Monitoring July 2008

Weil ID	Date	Measuring Point Elevation	Total Well	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
A.	7/14/2008	5506.62	12.26	NPP	11.79	5494.83	NPP
)+0 \O	7/28/2008	5506.62	12.26	NPP	11.88	5494.74	NPP
2	7/14/2008	5508.03	14.36	13.84	14.35	5494.09	0.51
(O	7/28/2008	5508.03	14.36	13.86	14.34	5494.07	0.48
38	7/14/2008	5507.31	15.06	13.35	13.58	5493.91	0.23
3+;	7/28/2008	5507.31	15.06	13.30	13.87	5493.90	0.57
88	7/14/2008	5507.59	13.67	NPP	13.49	5494.10	MPP
+ <u>9</u> IO	7/28/2008	5507.59	13.67	NPP	13.51	5494.08	NPP
70	7/14/2008	5504.78	14.67	NPP	DRY		NPP
<u>′</u> +9 <b>\</b> O	7/28/2008	5504.78	14.67	NPP	DRY		NPP
£	7/14/2008	5506.53	15.99	NPP	DRY		NPP
/O +8	7/28/2008	5506.53	15.99	NPP	DRY		NPP
+	7/14/2008	5506.70	16.59	12.39	12.44	5494.30	0.05
11	7/28/2008	5506.70	16.59	12.24	12.71	5494.37	0.47
+1	7/14/2008	5508.14	12.96	ddN	DRY		NPP
10 14	7/28/2008	5508.14	12.96	NPP	DRY		NPP
+9	7/14/2008	5508.43	15.21	NPP	12.68	5495.75	NPP
10 11 9	7/28/2008	5508.43	15.21	NPP	12.79	5495.64	NPP

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### Observation Well Fluids Monitoring July 2008

WeilID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
+6	7/14/2008	5508.03	13.00	NPP	12.56	5495.47	MPP
(O (S (S)	7/28/2008	5508.03	13.00	NPP	12.73	5495.30	ddN
+	7/14/2008	5506.91	14.16	ddN	12.36	5494.55	NPP
0 0	7/28/2008	5506.91	14.16	NPP	12.43	5494.48	NPP
多种的 计记录器 医骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨骨	10000170001700000		THURSDAY PARKS OF THE		STORY WOOD OF A DEVALUE OF THE STORY OF THE STORY		
0 +3 ///	7/14/2008	5514.12	18.34	NPP	16.25	5497.87	NPP
23	7/28/2008	5514.12	18.34	NPP	16.26	5497.86	NPP
	And the second second second			Consultation with the second			
0 }+ M	7/14/2008	5515.18	18.01	NPP	17.07	5498.11	NPP
53	7/28/2008	5515.18	18.01	NPP	17.04	5498.14	NPP
	A STATE OF S		Carried albert of page	The second secon			
0 +9 M	7/14/2008	9209.00	13.98	NPP	10.67	5498.33	NPP
<b>5</b> 6	7/28/2008	9209.00	13.98	NPP	10.68	5498.32	NPP
	Annual Control of the last of	The same of the sa					

#### Collection Well Fluids Monitoring July 2008

	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	STEP THE STATE OF THE STATE OF THE STATE OF	ACCESS AND PROCESSORS AND A		Carlotte Carlotte Control Control Control	THE SHOOT BEING TO AND A SHOOT TO	Committee of the second second second second second
Well ID	Date	Measuring Point	Total Well	Depth To Product	Depth To Water	Corrected Groundwater	Separate Phase
		Elevation	. Depth	(DTP)	*( <u>0</u> TW)	Elevation	Hydrocarbon Thickness
09 M	7/14/2008	5506.68	14.09	MPP	8.45	5498.23	NPP
	7/28/2008	5506.68	14.09	NPP	8.53	5498.15	NPP
20 M	7/14/2008	5505.13	13.74	ddN	00.7	5498.13	MPP
	7/28/2008	5505.13	13.74	NPP	7.09	5498.04	NPP
e e	7/14/2008	5503.87	13.11	ddN	5.72	5498.15	NPP
3+ C	7/28/2008	5503.87	13.11	NPP	5.77	5498.10	NPP
X	7/14/2008	5503.76	12.27	ddN	6.35	5497.41	NPP
2+ C	7/28/2008	5503.76	12.27	NPP	6.37	5497.39	NPP
S	7/14/2008	5503.84	11.45	ddN	6.74	5497.10	NPP
2+9 C/	7/28/2008	5503.84	11.45	NPP	6.74	5497.10	NPP
20	7/14/2008	5504.02	11.63	NPP	7.62	5496.40	ddN
8+4 CA	7/28/2008	5504.02	11.63	NPP	7.57	5496.45	NPP
St M	7/14/2008	5503.80	12.6	7.62	7.63	5496.18	0.01
	7/28/2008	5503.80	12.6	7.59	7.6	5496.21	0.01
9 + M	7/14/2008	5503.95	12.27	MPP	6.03	5497.92	ddN
11	7/28/2008	5503.95	12.27	NPP	6.05	5497.90	NPP
0 +1	7/14/2008	5504.39	13.05	NPP	6.36	5498.03	NPP
	7/28/2008	5504.39	13.05	NPP	6.43	5497.96	NPP

NPP = No Product Present

NWP = No Water Present

### Collection Well Fluids Monitoring July 2008

J. I.	27.0	Measuring	Total Well	Depth To	Depth To	Corrected -	Separate Phase
	A F	Elevation	- Depth	F (DTP)	(DTW)	Elevation	Hydrocarbon Thickness
+9	7/14/2008	5504.32	12.86	NPP	6.25	5498.07	ddN
) 16	7/28/2008	5504.32	12.86	NPP	6.28	5498.04	NPP
20	7/14/2008	5504.52	9.99	MPP	5.96	5498.56	NPP
G 61	7/28/2008	5504.52	9.99	NPP	6.00	5498.52	NPP
301	7/14/2008	5508.04	12.34	ddN	8.99	5499.05	ddN
0	7/28/2008	5508.04	12.34	NPP	9.00	5499.04	NPP
32	7/14/2008	5510.04	14.65	NPP	10.63	5499.41	MPP
Z3	7/28/2008	5510.04	14.65	NPP	10.65	5499.39	NPP
9	7/14/2008	5507.32	11.72	ddN	8.06	5499.26	NPP
6 23	7/28/2008	5507.32	11.72	NPP	8.08	5499.24	ddN
S.	7/14/2008	5505.90	12.25	ddN	7.09	5498.81	ddN
6 97	7/28/2008	5505.90	12.25	NPP	7.12	5498.78	ddN

NPP = No Product Present

#### Monitoring Well Fluids Monitoring July 2008

5521.99 5520.83 5520.83 5506.36 5506.36 5504.65 5504.65

NPP = No Product Present

## Observation Well Fluids Monitoring August 2008

		Measuring	Total Well	Depth To	Depth To	Corrected	Separate Phase
Well ID	Date	Point Elevation	Depth	_Product ≤(DTP)	Water (DTW)	Groundwater Elevation	Hydrocarbon Thickness
1	8/11/2008	5506.62	12.26	ddN	11.19	5495.43	NPP
+0 \O	8/25/2008	5506.62	12.26	NPP	10.3	5496.32	MPP
	8/11/2008	5508.03	14.36	NPP	12.65	5495.38	NPP
00 +۲	8/25/2008	5508.03	14.36	NPP	12.19	5495.84	NPP
3	8/11/2008	5507.31	15.06	NPP	12.27	5495.04	NPP
.+£	8/25/2008	5507.31	15.06	NPP	11.99	5495.32	ddN
號	8/11/2008	5507.59	13.67	NPP	13.52	5494.07	NPP
+ <u>9</u> IO	8/25/2008	5507.59	13.67	NPP	13.43	5494.16	ddN
18 <b>1</b>	8/11/2008	5504.78	14.67	NPP	DRY		ddN
.+9 \O	8/25/2008	5504.78	14.67	NPP	DRY		NPP
Ž.	8/11/2008	5506.53	15.99	NPP	DRY		NPP
O +8	8/25/2008	5506.53	15.99	NPP	DRY		NPP
+	8/11/2008	5506.70	16.59	12.24	12.69	5494.37	0.45
11	8/25/2008	5506.70	16.59	12.20	12.45	5494.45	0.25
0 +1 <b>M</b>	8/11/2008	5508.14	12.96	NPP	DRY		NPP
	8/25/2008	5508.14	12.96	NPP	DRY		NPP
2	8/11/2008	5508.43	15.21	NPP	12.78	5495.65	NPP
10 91 9	8/25/2008	5508.43	15.21	NPP	12.50	5495.93	NPP

## Observation Well Fluids Monitoring August 2008

Date       8/11/2008       8/25/2008       8/11/2008       8/11/2008       8/11/2008       8/25/2008       8/25/2008	Measuring Point Foint 5508.03 5508.03 5506.91 5514.12 5514.12 5514.12	Total Well Depth 13.00 13.00 14.16 14.16 18.34 18.34 18.34	Depth To Product (DTP) NPP NPP NPP NPP NPP	Mater (DTW) (DTW) 12.89 10.23 10.60 15.69 16.09	Corrected Groundwater Elevation 5495.14 5496.68 5496.31 5498.43 5498.03 5498.49	Separate Phase Phase NPP NPP NPP NPP NPP NPP NPP NPP NPP
8/25/2008	5515.18	18.01	NPP	16.92	5498.26	NPP
8/11/2008	5509.00	13.98	NPP	10.40	5498.60	NPP
 8/25/2008	5509.00	13.98	NPP	10.56	5498.44	NPP

NPP = No Product Present NWP = No Water Present

### Collection Well Fluids Monitoring August 2008

以も60 6141/2008         8171/2008         5506.68         14.09         NPP         8.04         5498.64         NPP           以25/2008         5506.68         14.09         NPP         8.04         5498.68         NPP           以25/2008         5506.13         13.74         NPP         6.75         5498.89         NPP           以25/2008         5505.13         13.74         NPP         6.75         5498.45         NPP           以450         871/2008         5503.87         13.11         NPP         6.26         5498.45         NPP           以5         8/11/2008         5503.76         12.77         NPP         6.26         5497.56         NPP           以6         8/25/2008         5503.76         11.45         NPP         6.26         5497.56         NPP           以6         8/11/2008         5503.84         11.45         NPP         6.26         5497.56         NPP           以6         8/11/2008         5503.84         11.45         NPP         7.46         5496.56         NPP           以6         8/11/2008         5504.02         11.63         NPP         7.44         5496.56         NPP           大44         8/25/2008	Wellib	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
C		8/11/2008	5506.68	14.09	NPP	8.04	5498.64	NPP
### 8/25/2008 5505.13 13.74 NPP 6.75 5498.38  #### 8/25/2008 5505.13 13.74 NPP 6.56 5498.29  #### 8/25/2008 5503.87 13.11 NPP 6.26 5498.29  #### 8/25/2008 5503.76 12.27 NPP 6.26 5497.50  #### 8/25/2008 5503.76 12.27 NPP 6.26 5497.56  #### 8/25/2008 5503.84 11.45 NPP 6.26 5497.26  #### 8/25/2008 5503.84 11.45 NPP 6.26 5497.26  #### 8/25/2008 5503.84 11.63 NPP 7.46 5496.66  #### 8/25/2008 5503.80 12.6 7.50 7.51 5496.86  #### 8/25/2008 5503.95 12.27 NPP 6.07 5497.88  #### 8/11/2008 5503.95 12.27 NPP 6.07 5497.88  #### 8/25/2008 5503.95 12.27 NPP 6.07 5497.88  #### 8/25/2008 5503.95 12.27 NPP 6.07 5497.88  #### 8/25/2008 5503.95 12.27 NPP 6.07 5498.01  #### 8/25/2008 5503.95 12.27 NPP 6.32 5498.07  #### 8/25/2008 5503.95 13.05 NPP 6.32 5498.07		8/25/2008	5506.68	14.09	NPP	8	5498.68	MPP
5	家	8/11/2008	5505.13	13.74	NPP	6.75	5498.38	NPP
CM 545         8/11/2008         5503.87         13.11         NPP         5.58         5498.29           CM 5450         8/25/2008         5503.76         13.11         NPP         5.58         5498.29           CM 5450         8/11/2008         5503.76         12.27         NPP         6.26         5497.50           CM 64         8/25/2008         5503.84         11.45         NPP         6.28         5497.25           CM 8/11/2008         5503.84         11.45         NPP         6.58         5497.26           CM 8/25/2008         5503.84         11.45         NPP         6.58         5497.26           CM 8/11/2008         5504.02         11.63         NPP         7.46         5496.66           CM 8/11/2008         5503.80         12.27         NPP         7.44         5496.37           CM 8/25/2008         5503.95         12.27         NPP         6.07         5497.88           CM 8/25/2008         5503.95         12.27         NPP         6.37         5498.01           CM 8/25/2008         5504.39         13.05         NPP         6.37         5498.07           CM 8/25/2008         5504.39         13.05         NPP         6.37         54			5505.13	13.74	NPP	6.56	5498.57	NPP
C 3+         8/25/2008         5503.87         13.11         NPP         5.42         5498.45           C 4+         8/25/2008         5503.76         12.27         NPP         6.26         5497.50           C 4+         8/25/2008         5503.84         11.45         NPP         6.26         5497.55           C 5+         8/11/2008         5503.84         11.45         NPP         6.62         5497.22           C 8+         8/25/2008         5503.84         11.45         NPP         6.62         5497.25           C 8+         8/25/2008         5503.84         11.45         NPP         6.62         5497.26           C 8+         8/25/2008         5504.02         11.63         NPP         7.46         5496.56           C 8+         8/25/2008         5503.80         12.6         7.43         7.44         5496.30           C 8+         8/25/2008         5503.95         12.27         NPP         6.07         5496.37           C 8/25/2008         5503.95         12.27         NPP         6.94         5498.01           C 8/25/2008         5504.39         13.05         NPP         6.37         5498.07           C 94         8/25/2008		8/11/2008	5503.87	13.11	NPP	5.58	5498.29	NPP
% 56         8/11/2008         5503.76         12.27         NPP         6.26         5497.50           % 56         8/25/2008         5503.76         12.27         NPP         6.26         5497.55           % 56         8/11/2008         5503.84         11.45         NPP         6.28         5497.22           % 66         8/11/2008         5503.84         11.45         NPP         6.58         5497.26           % 11/2008         5504.02         11.63         NPP         7.46         5496.56           % 8/25/2008         5503.80         12.6         7.50         7.51         5496.56           % 8/25/2008         5503.80         12.6         7.43         7.44         5496.37           % 8/25/2008         5503.95         12.27         NPP         6.07         5497.88           * 4         8/25/2008         5503.95         12.27         NPP         6.07         5498.01           * 4         8/25/2008         5504.39         13.05         NPP         6.37         5498.07           * 4         8/25/2008         5504.39         13.05         NPP         6.37         5498.07			5503.87	13.11	NPP	5.42	5498.45	NPP
C b         8/25/2008         5503.76         12.27         NPP         6.21         5497.55           C b         8/11/2008         5503.84         11.45         NPP         6.58         5497.22           C b         8/11/2008         5503.84         11.45         NPP         7.46         5496.56           C b         8/11/2008         5504.02         11.63         NPP         7.46         5496.56           C b         8/11/2008         5503.80         12.6         7.50         7.51         5496.30           C b         8/25/2008         5503.95         12.27         NPP         6.07         5497.88           C b         8/25/2008         5504.39         12.27         NPP         6.37         5498.01           C b         8/25/2008         5504.39         13.05         NPP         6.37         5498.02	Q**	8/11/2008	5503.76	12.27	NPP	6.26	5497.50	ddN
% 6.64         8/11/2008         5503.84         11.45         NPP         6.62         5497.22           % 6.64         8/25/2008         5503.84         11.45         NPP         6.68         5497.26           % 8         8/25/2008         5504.02         11.63         NPP         7.46         5496.56           % 4         8/25/2008         5503.80         12.6         7.50         7.51         5496.30           % 4         8/11/2008         5503.95         12.27         NPP         6.07         5497.88           4 0         8/25/2008         5503.95         12.27         NPP         6.37         5498.01           4 0         8/25/2008         5504.39         13.05         NPP         6.37         5498.07			5503.76	12.27	NPP	6.21	5497.55	NPP
3. ch         8/25/2008         5503.84         11.45         NPP         6.58         5497.26           3. ch         8/11/2008         5504.02         11.63         NPP         7.46         5496.56           3. ch         8/25/2008         5504.02         11.63         NPP         7.36         5496.56           3. ch         8/11/2008         5503.80         12.6         7.50         7.51         5496.30           4 ch         8/11/2008         5503.80         12.6         7.43         7.44         5496.37           4 ch         8/11/2008         5503.95         12.27         NPP         6.07         5497.88           4 ch         8/11/2008         5503.95         12.27         NPP         6.37         5498.01           4 ch         8/11/2008         5504.39         13.05         NPP         6.37         5498.02           4 ch         8/25/2008         5504.39         13.05         NPP         6.37         5498.07	6		5503.84	11.45	NPP	6.62	5497.22	NPP
X L L L L L L L L L L L L L L L L L L L	I		5503.84	11.45	NPP	6.58	5497.26	NPP
5 क्         8/25/2008         5504.02         11.63         NPP         7.36         5496.66           5 क्         8/11/2008         5503.80         12.6         7.50         7.51         5496.30           4 b         8/25/2008         5503.80         12.6         7.43         7.44         5496.37           4 b         8/11/2008         5503.95         12.27         NPP         6.07         5497.88           4 c         8/25/2008         5504.39         13.05         NPP         6.37         5498.01           4 c         8/25/2008         5504.39         13.05         NPP         6.32         5498.07	ù.	8/11/2008	5504.02	11.63	NPP	7.46	5496.56	NPP
X + S   S   S   S   S   S   S   S   S   S		8/25/2008	5504.02	11.63	NPP	7.36	5496.66	MPP
3         8/25/2008         5503.80         12.6         7.43         7.44         5496.37           4         8/11/2008         5503.95         12.27         NPP         6.07         5497.88           4         8/25/2008         5503.95         12.27         NPP         5.94         5498.01           4         8/11/2008         5504.39         13.05         NPP         6.37         5498.02           4         8/25/2008         5504.39         13.05         NPP         6.32         5498.07	§		5503.80	12.6	7.50	7.51	5496.30	0.01
+ Late         8/11/2008         5503.95         12.27         NPP         6.07         5497.88           + Late         8/25/2008         5503.95         12.27         NPP         5.94         5498.01           + Late         8/11/2008         5504.39         13.05         NPP         6.37         5498.02           + Late         8/25/2008         5504.39         13.05         NPP         6.32         5498.07			5503.80	12.6	7.43	7.44	5496.37	0.01
4         8/25/2008         5503.95         12.27         NPP         5.94         5498.01           4         8/11/2008         5504.39         13.05         NPP         6.37         5498.02           4         8/25/2008         5504.39         13.05         NPP         6.32         5498.07	+	8/11/2008	5503.95	12.27	NPP	6.07	5497.88	NPP
4 4 8/25/20088/11/2008 5504.395504.39 13.0513.05 13.05NPP NPP6.32 6.325498.07	<b> </b>		5503.95	12.27	NPP	5.94	5498.01	NPP
8/25/2008 5504.39 13.05 NPP 6.32 5498.07	+1	8/11/2008	5504.39	13.05	NPP	6.37	5498.02	NPP
	71	8/25/2008	5504.39	13.05	NPP	6.32	5498.07	NPP

NPP = No Product Present

NWP = No Water Present

## Collection Well Fluids Monitoring August 2008

40 X 3.400 (20 April 20 April	Daniel Company	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTM)	Corrected Groundwater Elevation	Phase Hydrocarbon Thickness
8/1	11/2008	5504.32	12.86	ddN	6.17	5498.15	ddN N
8/2	8/25/2008	5504.32	12.86	NPP	6.19	5498.13	NPP
8/1	11/2008	5504.52	66.6	NPP	6.00	5498.52	NPP
8/2	8/25/2008	5504.52	66.6	ddN	6.01	5498.51	NPP
8/1	11/2008	5508.04	12.34	NPP	8.88	5499.16	NPP
8/2	8/25/2008	5508.04	12.34	ddN	8.83	5499.21	NPP
8	11/2008	5510.04	14.65	. ddN	10.53	5499.51	NPP
8/2	8/25/2008	5510.04	14.65	ddN	10.45	5499.59	ddN <sup>.</sup>
8	11/2008	5507.32	11.72	NPP	8.00	5499.32	MPP
8/2	8/25/2008	5507.32	11.72	NPP	7.94	5499.38	ddN
8	11/2008	5505.90	12.25	NPP	7.08	5498.82	NPP
8	25/2008	5505.90	12.25	ddN	20'2	5498.83	ddN

NPP = No Product Present NWP

## Monitoring Well Fluids Monitoring August 2008

MW # 8/11/.	pate .	Point Elevation	Total Well Depth	Product (DTP)	Water (D∏W)	Groundwater Elevation	Phase Hydrocarbon Thickness
/ <del>8</del> /#	11/2008	5510.31	22.94	NPP	10.46	5499.85	AdN
The second secon	25/2008	5510.31	22.94	NPP	10.46	5499.85	ddN
δ  Σ	11/2008	5501.61	14.98	ddN	10.28	5491.33	NPP
<b>%</b> # <b>8</b> /25/	/25/2008	5501.61	14.98	NPP	9.50	5492.11	ddN
0	/11/2008	5519.90	27.13	20.67	21.08	5499.15	0.41
## <b>W</b>	/25/2008	5519.90	27.13	20.61	20.91	5499.23	0.30
	/11/2008	5521.99	30.38	21.52	21.68	5500.44	0.16
Z# WI	/25/2008	5521.99	30.38	21.34	21.54	5500.61	0.20
8	/11/2008	5520.83	38.34	NPP	25.85	5494.98	ddN
<sup>®</sup> ∶#	/25/2008	5520.83	38.34	NPP	25.87	5494.96	ddN
W 59 8/11/7	/11/2008	5506.36	16.92	NPP	11.64	5494.72	NPP
<sup>∞</sup>   7#	/25/2008	5506.36	16.92	NPP	11.54	5494.82	NPP
8	/11/2008	5504.65	10.39	NPP	9:36	5495.29	NPP
<sup>8</sup> 7#	/25/2008	5504.65	10.39	NPP	9.83	5494.82	NPP
	/11/2008	5506.77	14.28	NPP	11.67	5495.10	ddN
# 8/22/	/25/2008	5506.77	14.28	NPP	11.46	5495.31	NPP

NPP = No Product Present

## Observation Well Fluids Monitoring Sept. 2008

							Constato
Well:ID	. Date	Measuring Point	Total Well	Depth To Product	Depth To Water	Corrected Groundwater	Phase
		Elevation	Depuii	(DTP)	· (DTW)	Elevation	Thickness
09 M	9/8/2008	5206.62	12.26	ddN	10.56	5496.06	ddN
8	9/22/2008	5506.62	12.26	ddN	10.79	5495.83	NPP
20 M	9/8/2008	5508.03	14.36	12.69	12.74	5495.33	0.05
Š	9/22/2008	5508.03	14.36	NPP	12.68	5495.35	NPP
98 M	9/8/2008	5507.31	15.06	MPP	12.15	5495.16	MPP
3+ O	9/22/2008	5507.31	15.06	NPP	12.27	5495.04	NPP
09 M	9/8/2008	5507.59	13.67	ddN	13.25	5494.34	NPP
+ <b>\$</b> .O	9/22/2008	5507.59	13.67	NPP	13.51	5494.08	NPP
á a	9/8/2008	5504.78	14.67	MPP	DRY		ddN
+9 O	9/22/2008	5504.78	14.67	NPP	DRY		NPP
W	9/8/2008	5506.53	15.99	NPP	DRY		NPP
	9/22/2008	5506.53	15.99	NPP	DRY		NPP
9 +  M	9/8/2008	5506.70	16.59	12.22	12.4	5494.44	0.18
11	9/22/2008	5506.70	16.59	12.35	12.38	5494.34	0.03
0 +1 <b>M</b>	9/8/2008	5508.14	12.96	MPP	DRY	*	ddN
71	9/22/2008	5508.14	12.96	NPP	DRY		MPP
0 +\$ <b>M</b>	9/8/2008	5508.43	15.21	ddN	12.46	5495.97	ddN
9 L	9/22/2008	5508.43	15.21	MPP	12.34	5496.09	NPP

## Observation Well Fluids Monitoring Sept. 2008

WelliD	Date	Measuring Point	Total Well	Depth To Product	Depth To Water	Corrected Groundwater	Separate Phase Hidiocathon
gill Gill Vine Vine M		Elevation	ودادات	(DTP)	(DTW)	Elevation	Thickness
+(	9/8/2008	5508.03	13.00	MPP	12.03	5496.00	ddN
9 61 10	9/22/2008	5508.03	13.00	NPP	11.52	5496.51	NPP
+7	9/8/2008	5506.91	14.16	ddN	10.98	5495.93	NPP
0/0	9/22/2008	5506.91	14.16	ddN	11.29	5495.62	ddN
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	10 mm		20 A SECTION AND	1.45 S PS 2.55 B S C C C C C C C C C C C C C C C C C C	2 4 Company (A)	(A) 20 (A) (A)	
+6	9/8/2008	5514.12	18.34	NPP	16.03	5498.09	NPP
10 52 1	9/22/2008	5514.12	18.34	NPP	16.20	5497.92	NPP
STATE OF THE STATE	S. Besterative		78.78.48.30.70.70.70.70.70.70.70.70.70.70.70.70.70	A CONTRACTOR OF THE PROPERTY O		A CANCELL SECOND	
	9/8/2008	5515.18	18.01	NPP	16.86	5498.32	NPP
6 57 10	9/22/2008	5515.18	18.01	NPP	17.02	5498.16	NPP
	The state of the s		Complete Com	The state of the s		STANDARD STANDARD STANDARD	
0 +9 ///	9/8/2008	5509.00	13.98	NPP	10.53	5498.47	NPP
	9/22/2008	5509.00	13.98	MPP	11.35	5497.65	NPP

NPP = No Product Present NWP = No Water Present

#### Collection Well Fluids Monitoring Sept. 2008

Well:ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
09 M	9/8/2008	5506.68	14.09	NPP	8.19	5498.49	NPP
	9/22/2008	5506.68	14.09	MPP	8.27	5498.41	NPP
20 M	9/8/2008	5505.13	13.74	NPP	6.76	5498.37	NPP
	9/22/2008	5505.13	13.74	MPP	6.78	5498.35	NPP
98 M	8/2/2008	5503.87	13.11	MPP	5.54	5498.33	MPP
3+ C/	9/22/2008	5503.87	13.11	NPP	5.53	5498.34	NPP
20 M	9/8/2008	5503.76	12.27	NPP	6.27	5497.49	NPP
2+ C	9/22/2008	5503.76	12.27	NPP	6.28	5497.48	NPP
	9/8/2008	5503.84	11.45	NPP	6.63	5497.21	NPP
+9 .)	9/22/2008	5503.84	11.45	MPP	99.9	5497.18	NPP
W	9/8/2008	5504.02	11.63	NPP	7.38	5496.64	NPP
	9/22/2008	5504.02	11.63	ddN	7.41	5496.61	NPP
St	9/8/2008	5503.80	12.6	7.45	7.46	5496.35	0.01
	9/22/2008	5503.80	12.6	7.49	7.5	5496.31	0.01
9 +  M	9/8/2008	5503.95	12.27	NPP	5.99	5497.96	NPP
11	9/22/2008	5503.95	12.27	ddN	5.97	5497.98	NPP
0 +1 M	9/8/2008	5504.39	13.05	NPP	6:39	5498.00	NPP
71	9/22/2008	5504.39	13.05	NPP	6.43	5497.96	NPP

NPP = No Product Present

#### Collection Well Fluids Monitoring Sept. 2008

ng Total Well Product Water Groundwater Hydrocarbon (DTP).	2 12.86 NPP 6.24 5498.08 NPP	2 12.86 NPP 6.27 5498.05 NPP	2 9.99 NPP 6.08 5498.44 NPP	2 9.99 NPP 6.14 5498.38 NPP	4 12.34 NPP 8.87 5499.17 NPP	4 12.34 NPP 8.91 5499.13 NPP	4 14.65 NPP 10.57 5499.47 NPP	4 14.65 NPP 10.59 5499.45 NPP	2 11.72 NPP 8.03 5499.29 NPP	2 11.72 NPP 8.08 5499.24 NPP	0 12.25 NPP 7.11 5498.79 NPP	
Measuring Total Well Point Depth	5504.32 12.86	5504.32 12.86	5504.52 9.99	5504.52 9.99	5508.04 12.34	5508.04 12.34	5510.04 14.65	5510.04 14.65	5507.32 11.72	5507.32 11.72	5505.90 12.25	00 1011
WelliD Date E	9/8/2008	<b>6 % 9</b> /22/2008	+ O   9/8/2008	<b>6 % in</b> 9/22/2008	+ 0 9/8/2008	C % O 8/22/2008	+ 0   9/8/2008	C & ~ 9/22/2008	+ 0 9/8/2008	9/22/2008 G & C	+ D 9/8/2008	36 97

NPP = No Product Present NWF

#### Monitoring Well Fluids Monitoring Sept. 2008

	Well ID	Date	Measuring Point	Total Well	Depth To Product	Depth To Water	Corrected Groundwater	Separate Phase Hydrocarbon
#12 9/8/2008 5510.31 22.94 #12 9/22/2008 5510.31 22.94 #13 9/22/2008 5501.61 14.98 #14 9/22/2008 5501.61 14.98 #15 9/22/2008 5519.90 27.13 #16 9/8/2008 5521.99 30.38 #17 9/8/2008 5520.83 38.34 #16 9/8/2008 5506.36 16.92 #17 9/8/2008 5504.65 10.39 #18 9/8/2008 5504.65 10.39 #19 9/8/2008 5504.65 10.39			Elevation		(DTP)	(DTW)	Elevation	Thickness
# 9/22/2008 5510.31 22.94   # 2 9/22/2008 5501.61 14.98		9/8/2008	5510.31	22.94	NPP	10.7	5499.61	NPP
#12         9/8/2008         5501.61         14.98           #22/2008         5501.61         14.98           9/22/2008         5519.90         27.13           9/22/2008         5519.90         27.13           9/22/2008         5521.99         30.38           9/22/2008         5520.83         38.34           9/22/2008         5520.83         38.34           9/22/2008         5520.83         38.34           9/22/2008         5520.83         38.34           9/22/2008         5506.36         16.92           #46         9/22/2008         5504.65         10.39           \$9/22/2008         5504.65         10.39           \$9/22/2008         5504.65         10.39	- 1	9/22/2008	5510.31	22.94	AdN	10.89	5499.42	NPP
#22/2008 5519.90 27.13   9/22/2008 5519.90 27.13     9/22/2008 5519.90 27.13     9/22/2008 5521.99 30.38     9/22/2008 5521.99 30.38     9/22/2008 5520.83 38.34     9/22/2008 5520.83 38.34     9/22/2008 5520.83 38.34     9/22/2008 5506.36 16.92     446 9/22/2008 5504.65 10.39     446 9/22/2008 5504.65 10.39     446 9/22/2008 5504.65 10.39     447 8/2008 5504.65 10.39     448 9/22	8	9/8/2008	5501.61	14.98	NPP	9.40	5492.21	NPP
#20 9/8/2008 5519.90 27.13   20 2/2/2008 5519.90 27.13   20 2/2/2008 5521.99 30.38   20 2/2/2008 5521.99 30.38   20 2/2/2008 5520.83 38.34   20/2/2008 5520.83 38.34   20/2/2008 5506.36 16.92   20/2/2008 5506.36 16.92   20/2/2008 5504.65 10.39   20/2/2008 5504.65 10.39   20/2/2008 5504.65 10.39   20/2/2008 5504.65 10.39   20/2/2008 5504.65 10.39   20/2/2008 5504.65 10.39   20/2/2008 5504.65 10.39   20/2/2008 5506.77 14.28   20/2/2008 5506.77 14.28   20/2/2008 5506.77 14.28   20/2/2008 2506.77 14.28   20/2/2008 2506.77 14.28   20/2/2008 2506.77 14.28   20/2/2008 2506.77   20/2/2008	ı	9/22/2008	5501.61	14.98	NPP	9.73	5491.88	NPP
#2 9/22/2008 5519.90 27.13	X.	9/8/2008	5519.90	27.13	20.61	20.89	5499.23	0.28
#45 9/8/2008 5521.99 30.38		9/22/2008	5519.90	27.13	20.61	20.95	5499.22	0.34
## 9/22/2008 5520.83 38.34	<b>2.</b>	9/8/2008	5521.99	30.38	21.45	21.6	5500.51	0.15
#45 9/8/2008 5520.83   9/8/2008 5520.83   9/22/2008 5506.36   9/22/2008 5504.65   9/22/2008 5504.65   9/22/2008 5504.65   9/22/2008 5504.65   9/22/2008 5504.65   9/22/2008 5504.65   9/22/2008 5504.65   9/22/2008 5506.77		9/22/2008	5521.99	30.38	21.57	21.73	5500.39	0.16
#46 9/22/2008 5520.83	20	9/8/2008	5520.83	38.34	ddN	25.80	5495.03	MPP
#46 9/8/2008 5506.36		9/22/2008	5520.83	38.34	ddN	25.82	5495.01	NPP
#46 9/22/2008 5506.36 #46 9/22/2008 5504.65   24.65   24.65   24.65   25.04.65   25.04.65   25.06.77   24.65   25.06.77   24.65   25.06.77   24.65   25.06.77   24.65   25.06.77   24.65   25.06.77   24.65   25.06.77   24.65   25.06.77   24.65   25.06.77   24.65   25.06.77   24.65   25.06.77   24.65   25.06.77   24.65	27	9/8/2008	5506.36	16.92	NPP	11.57	5494.79	MPP
#46 9/8/2008 5504.65		9/22/2008	5506.36	16.92	NPP	11.65	5494.71	NPP
# 9/22/2008 5504.65 7 9/8/2008 5506.77	31	9/8/2008	5504.65	10.39	MPP	9.83	5494.82	NPP
9/8/2008 5506.77		9/22/2008	5504.65	10.39	NPP	DRY		NPP
	3	9/8/2008	5506.77	14.28	ddN	11.63	5495.14	NPP
		9/22/2008	5506.77	14.28	NPP	11.75	5495.02	NPP

NPP = No Product Present

### Observation Well Fluids Monitoring Oct. 2008

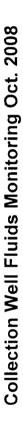
OW 660       10/6/2008       5506.62       12.26         O+60       10/20/2008       5506.62       12.26         OW 67       10/6/2008       5506.62       12.26         10/20/2008       5508.03       14.36         10/20/2008       5507.31       15.06         OW 64       10/6/2008       5507.31       15.06         OW 65       10/6/2008       5507.59       13.67         OW 65       10/6/2008       5507.59       13.67         OW 66       10/6/2008       5506.59       15.99         OW 67       10/6/2008       5506.53       15.99         OW 70       10/6/2008       5506.70       16.59         10/10/20/2008       5506.70       16.59         10/6/2008       5508.14       12.96         10/6/2008       5508.14       12.96         10/6/2008       5508.14       12.96	Measuring Date Point Elevation	g Total Well Depth	Depth To Product	Depth To Water	Corrected Groundwater Elevation	Separate Phase Hydrocarbon
OH       10/20/2008       5506.62       12.26         OH       10/6/2008       5508.03       14.36         OH       10/20/2008       5508.03       14.36         OH       10/20/2008       5507.31       15.06         OH       10/20/2008       5507.59       13.67         OH       10/6/2008       5504.78       14.67         OH       10/6/2008       5504.78       14.67         OH       10/6/2008       5506.53       15.99         OH       10/6/2008       5506.70       16.59         OH       10/6/2008       5506.70       16.59         OH       10/6/2008       5506.70       16.59         OH       10/6/2008       5508.14       12.96         OH       10/6/2008       5508.14       12.96			ddN	10.97	5495.65	- Thickness NPP
OM 650       10/6/2008       5508.03       14.36         OM 560       10/6/2008       5508.03       14.36         OM 34       10/20/2008       5507.31       15.06         OM 560       10/6/2008       5507.31       15.06         OM 560       10/20/2008       5507.59       13.67         OM 560       10/6/2008       5504.78       14.67         OM 560       10/6/2008       5506.53       15.99         OM 10/6/2008       5506.70       16.59         OM 10/6/2008       5506.70       16.59         OM 10/6/2008       5508.14       12.96         OM 10/6/2008       5508.14       12.96		12.26	NPP	11.07	5495.55	NPP
O +       10/20/2008       5508.03       14.36         O +8B       10/6/2008       5507.31       15.06         O +5B       10/20/2008       5507.59       13.67         O + D + D / E/2008       10/20/2008       5507.59       13.67         O + D / E/2008       10/20/2008       5504.78       14.67         O + D / E/2008       10/20/2008       5506.53       15.99         O + D / E/2008       10/6/2008       5506.70       16.59         O + D / E/2008       10/6/2008       5506.70       16.59         O / E/2008       10/6/2008       5506.70       16.59         O / E/2008       10/6/2008       5508.14       12.96         O / E/2008       10/6/2008       5508.14       12.96		14.36	12.85	12.86	5495.18	0.01
OM 3+85       10/6/2008       5507.31       15.06         OM 5+50       10/20/2008       5507.31       15.06         OM 5+50       10/20/2008       5507.59       13.67         OM 5+50       10/6/2008       5504.78       14.67         OM 6+2008       5504.78       14.67         OM 6+2008       5506.53       15.99         OM 10/6/2008       5506.50       16.59         OM 10/6/2008       5506.70       16.59         OM 10/6/2008       5508.14       12.96         OM 10/6/2008       5508.14       12.96		14.36	12.91	13.04	5495.09	0.13
O ♣       10/20/2008       5507.31       15.06         O ♣       10/6/2008       5507.59       13.67         O ♣       10/20/2008       5504.78       14.67         O ♣       10/6/2008       5504.78       14.67         O ♣       10/6/2008       5506.53       15.99         O ♣       10/6/2008       5506.70       16.59         O ←       10/6/2008       5506.70       16.59         O ←       10/6/2008       5508.14       12.96         O ←       10/6/2008       5508.14       12.96		15.06	NPP	12.42	5494.89	ddN
X b         10/6/2008         5507.59         13.67           X b         10/20/2008         5507.59         13.67           X b         10/20/2008         5504.78         14.67           X b         10/6/2008         5506.73         15.99           X b         10/6/2008         5506.70         16.59           X b         10/6/2008         5506.70         16.59           X b         10/6/2008         5508.14         12.96           X b         10/6/2008         5508.14         12.96           X b         10/6/2008         5508.14         12.96		15.06	NPP	12.51	5494.80	NPP
50 th       10/20/2008       5507.59       13.67         50 th       10/6/2008       5504.78       14.67         50 th       10/20/2008       5506.53       15.99         50 th       10/6/2008       5506.70       16.59         50 th       10/20/2008       5506.70       16.59         50 th       10/20/2008       5508.14       12.96         50 th       10/6/2008       5508.14       12.96		13.67	NPP	13.18	5494.41	NPP
A Color       10/6/2008       5504.78       14.67         A color       10/20/2008       5504.78       14.67         A color       10/6/2008       5506.53       15.99         A color       10/6/2008       5506.70       16.59         A color       10/20/2008       5506.70       16.59         A color       10/20/2008       5508.14       12.96         A color       10/6/2008       5508.14       12.96         A color       10/6/2008       5508.14       12.96		13.67	NPP	13.04	5494.55	NPP
50 th       10/20/2008       5504.78       14.67         50 th       10/6/2008       5506.53       15.99         10/20/2008       5506.70       16.59         10/20/2008       5506.70       16.59         10/20/2008       5508.70       16.59         10/20/2008       5508.14       12.96         10/6/2008       5508.14       12.96		14.67	MPP	DRY	MANA DISTRACTION CONTRACTOR STATE OF THE STA	NPP
A + 10/6/2008       5506.53       15.99         + 5 10/20/2008       5506.70       16.59         + 6 10/20/2008       5506.70       16.59         + 6 10/20/2008       5506.70       16.59         + 7 10/6/2008       5508.14       12.96         + 10/6/2008       5508.14       12.96		14.67	NPP	DRY		NPP
10/20/2008       5506.53       15.99         +       10/6/2008       5506.70       16.59         +       10/20/2008       5506.70       16.59         +       10/6/2008       5508.14       12.96         +       10/20/2008       5508.14       12.96         +       10/6/2008       5508.14       12.96		15.99	ddN	DRY		ddN
+       5506.70       16.59         +       5506.70       16.59         +       10/20/2008       5506.70       16.59         +       10/6/2008       5508.14       12.96         +       10/20/2008       5508.14       12.96         +       10/6/2008       5508.14       12.96		15.99	NPP	DRY		NPP
+       10/20/2008       5506.70       16.59         +       10/6/2008       5508.14       12.96         +       10/20/2008       5508.14       12.96         +       10/6/2008       5508.14       12.96		16.59	12.25	12.32	5494.44	20.0
4 0     10/6/2008     5508.14     12.96       10/20/2008     5508.14     12.96       4 0     10/6/2008     5508.14     12.96		16.59	12.34	12.37	5494.35	0.03
+ 10/20/2008 5508.14 12.96 + 10/6/2008 5508.14 12.96		12.96	NPP	DRY		NPP
+ 10/6/2008 5508.14 12.96		12.96	NPP	DRY		NPP
0.00	6/2008 5508.14	12.96	NPP	DRY		NPP
O ~ 6 10/20/2008 5508.43 15.21 NPP		15.21	NPP	12.49	5495.94	NPP

NPP = No Product Present NWP = No Water Present

## Observation Well Fluids Monitoring Oct. 2008

WelliD	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
0 +6 M	10/6/2008	5508.03	13.00	ddN	11.63	5496.40	ddN
	10/20/2008	5508.03	13.00	NPP	11.89	5496.14	NPP
+7	10/6/2008	5506.91	14.16	ddN	11.45	5495.46	MPP
0 22 0	10/20/2008	5506.91	14.16	NPP	11.44	5495.47	MPP
				The street of the street of	100 September 10		
0 +8 M	10/6/2008	5514.12	18.34	NPP	16.17	5497.95	ddN
53	10/20/2008	5514.12	18.34	NPP	16.23	5497.89	ddN
				A CONTRACTOR OF A CAMPACAN AND A CAM	Action of the good of the contract of the cont		
0 3+ M	10/6/2008	5515.18	18.01	NPP	17.05	5498.13	NPP
53	10/20/2008	5515.18	18.01	ddN	17.07	5498.11	NPP
ACTOR SECTION	The Land of the Control of the Contr		PARTER AND THE PARTY OF THE PAR	Property of the Control of the Contr	AND PROPERTY OF STREET	Colored Section 2015 Colored Section (Section 2)	
0 +9	10/6/2008	5509.00	13.98	NPP	10.68	5498.32	NPP
<b>5</b> 6	10/20/2008	00.6033	13.98	ddN	10.70	5498.30	NPP

NPP = No Product Present NWP = No Water Present



Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
09 M	10/6/2008	5506.68	14.09	NPP	8.24	5498.44	NPP
	10/20/2008	5506.68	14.09	NPP	8.3	5498.38	NPP
09 M	10/6/2008	5505.13	13.74	NPP	6.85	5498.28	NPP
	10/20/2008	5505.13	13.74	NPP	6.83	5498.30	NPP
98 M	10/6/2008	5503.87	13.11	NPP	5.62	5498.25	NPP
	10/20/2008	5503.87	13.11	NPP	5.63	5498.24	MPP
09 M	10/6/2008	5503.76	12.27	AdN	6.31	5497.45	ddN
	10/20/2008	5503.76	12.27	NPP	6.31	5497.45	NPP
¥8	10/6/2008	5503.84	11.45	ddN	69.9	5497.15	ddN
+9 .O	10/20/2008	5503.84	11.45	NPP	69.9	5497.15	NPP
W 10	10/6/2008	5504.02	11.63	NPP	7.43	5496.59	NPP
8+ C	10/20/2008	5504.02	11.63	NPP	7.47	5496.55	NPP
9t M	10/6/2008	5503.80	12.6	7.53	7.54	5496.27	0.01
ı	10/20/2008	5503.80	12.6	7.58	7.59	5496.22	0.01
9 + N	10/6/2008	5503.95	12.27	ddN	6.00	5497.95	NPP
L	10/20/2008	5503.95	12.27	NPP	5.93	5498.02	NPP
0 +1 M	10/6/2008	5504.39	13.05	ddN	6.47	5497.92	MPP
	10/20/2008	5504.39	13.05	NPP	6.42	5497.97	NPP

NPP = No Product Present

#### Collection Well Fluids Monitoring Oct. 2008

	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Phase Hydrocarbon Thickness
0 +9	10/6/2008	5504.32	12.86	ddN	6.3	5498.02	ddN <sup>-</sup>
<b>9</b>	/20/2008	5504.32	12.86	NPP	6.28	5498.04	NPP
0 +6	10/6/2008	5504.52	66.6	NPP	6.07	5498.45	MPP
<b>5</b>	/20/2008	5504.52	9.99	NPP	6.23	5498.29	ddN
0	10/6/2008	5508.04	12.34	AdN	8.92	5499.12	NPP
2. 0	/20/2008	5508.04	12.34	NPP	8.93	5499.11	ddN
0+1	10/6/2008	5510.04	14.65	ddN	10.6	5499.44	ddN
C 2 1 10/20	20/2008	5510.04	14.65	NPP	10.58	5499.46	NPP
0 +	10/6/2008	5507.32	11.72	MPP	8.06	5499.26	NPP
23 23 24 10/20	/20/2008	5507.32	11.72	NPP	8.07	5499.25	NPP
9+4	10/6/2008	5505.90	12.25	ddN	7.13	5498.77	ddN
25 5 7 7 7 7 7 7 7 7 7	/20/2008	5505.90	12.25	MPP	7.13	5498.77	ddN

NPP = No Product Present NV



#### Monitoring Well Fluids Monitoring Oct. 2008

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon
f. A	10/6/2008	5510.31	22.94	NPP	10.83	5499.48	NPP
L# \W	10/20/2008	5510.31	22.94	NPP	10.96	5499.35	NPP
E .	10/6/2008	5501.61	14.98	ddN	10.91	5490.70	ddN
↓# .W	10/20/2008	5501.61	14.98	NPP	9.89	5491.72	NPP
<b>21</b>	10/6/2008	5519.90	27.13	20.60	20.92	5499.24	0.32
Z# .WI	10/20/2008	5519.90	27.13	20.60	20.91	5499.24	0.31
l M	10/6/2008	5521.99	30.38	21.61	21.75	5500.35	0.14
Z# .W	10/20/2008	5521.99	30.38	21.61	21.73	5500.36	0.12
81	10/6/2008	5520.83	38.34	ddN	25.83	5495.00	ddN
E#  W	10/20/2008	5520.83	38.34	ddN	25.85	5494.98	NPP
() B	10/6/2008	5506.36	16.92	NPP	11.64	5494.72	NPP
⁄# ₩	10/20/2008	5506.36	16.92	NPP	11.61	5494.75	NPP
9-	10/6/2008	5504.65	10.39	ddN	DRY		MPP
₽# \W	10/20/2008	5504.65	10.39	NPP	DRY		NPP
81	10/6/2008	5506.77	14.28	ddN	11.87	5494.90	ddN
₩ \W	10/20/2008	5506.77	14.28	NPP	11.96	5494.81	NPP

NPP = No Product Present

## Observation Well Fluids Monitoring Nov. 2008

Wellid	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
09 M	11/3/2008	5506.62	12.26	NPP	11.22	5495.40	NPP
	11/17/2008	5506.62	12.26	NPP	11.33	5495.29	NPP
09 M	11/3/2008	5508.03	14.36	13.06	13.14	5494.95	0.08
	11/17/2008	5508.03	14.36	13.13	13.32	5494.86	0.19
9.	11/3/2008	5507.31	15.06	NPP	12.58	5494.73	NPP
3+ O	11/17/2008	5507.31	15.06	NPP	12.66	5494.65	NPP
ia I	11/3/2008	5507.59	13.67	NPP	13.06	5494.53	NPP
+ <b>9</b> O	11/17/2008	5507.59	13.67	NPP	13.09	5494.50	NPP
5	11/3/2008	5504.78	14.67	ddN	DRY		NPP
+9 O	11/17/2008	5504.78	14.67	NPP	DRY		NPP
W	11/3/2008	5506.53	15.99	NPP	DRY		NPP
	11/17/2008	5506.53	15.99	NPP	DRY		ddN
9 +  <b>/</b> \	11/3/2008	5506.70	16.59	12.24	12.26	5494.46	0.02
 	11/17/2008	5506 70	16.59	12.35	12.37	5494.35	0.02
0 +1 <b>M</b>	11/3/2008	5508.14	12.96	MPP	DRY		NPP
76	11/17/2008	5508.14	12.96	NPP	DRY		NPP
0 +; •	11/3/2008	5508.43	15.21	NPP	12.52	5495.91	NPP
) l	11/17/2008	5508.43	15.21	NPP	12.63	5495.80	NPP

## Observation Well Fluids Monitoring Nov. 2008

WellID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon
+	11/3/2008	5508.03	13.00	AdN	12.12	5495.91	NPP
09 61 00	11/17/2008	5508.03	13.00	ddN	12.43	5495.60	NPP
+	11/3/2008	5506.91	14.16	ddN	11.49	5495.42	ddN
00 27	11/17/2008	5506.91	14.16	NPP	11.68	5495.23	NPP
+1	11/3/2008	5514.12	18.34	MPP	16.23	5497.89	NPP
0/ 53	11/17/2008	5514.12	18.34	NPP	16.25	5497.87	NPP
The second second second second	-000 AT 1 A	ost. yersin Himbacka oʻz serinin satirik ildər	April 1980 Cline	TO SERVICE AND PROPERTY OF THE PARTY OF THE		5) Part of the Committee of the Committe	
+	11/3/2008	5515.18	18.01	NPP	17.05	5498.13	NPP
6 53 0/	11/17/2008	5515.18	18.01	MPP	17.10	5498.08	NPP
Control of the Contro	A CONTRACTOR OF THE PROPERTY O		27,000,000,000,000,000,000,000	TO SEE AND SEED AND SEED AND SEED SEEDS	AND AND AND ADDRESS OF THE PARTY OF THE PART		The second secon
+:	11/3/2008	5509.00	13.98	NPP	10.81	5498.19	APP
10 12 12	11/17/2008	5509.00	13.98	NPP	10.73	5498.27	ddN.

NPP = No Product Present NWP = No Water Present

#### Collection Well Fluids Monitoring Nov. 2008

WelliD	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
09 M	11/3/2008	5506.68	14.09	ddN	8.4	5498.28	NPP
	11/17/2008	5506.68	14.09	NPP	8.51	5498.17	ddN
20 M	11/3/2008	5505.13	13.74	NPP	6.91	5498.22	NPP
1+ C)	11/17/2008	5505.13	13.74	NPP	96.9	5498.17	NPP
98 <i>M</i>	11/3/2008	5503.87	13.11	ddN	5.67	5498.20	MPP
i	11/17/2008	5503.87	13.11	NPP	5.69	5498.18	NPP
09 M	11/3/2008	5503.76	12.27	ddN	6.37	5497.39	NPP
2+ C/	11/17/2008	5503.76	12.27	NPP	6.41	5497.35	NPP
dr.	11/3/2008	5503.84	11.45	NPP	6.72	5497.12	NPP
+9 C	11/17/2008	5503.84	11.45	ddN	6.77	5497.07	NPP
<b>4</b>	11/3/2008	5504.02	11.63	NPP	7.47	5496.55	NPP
8+ C	11/17/2008	5504.02	11.63	NPP	7.61	5496.41	NPP
91 M	11/3/2008	5503.80	12.6	7.58	7.61	5496.21	0.03
8+ C/	11/17/2008	5503.80	12.6	7.76	7.79	5496.03	0.03
  +    <b>M</b>	11/3/2008	5503.95	12.27	ddN	5.92	5498.03	ddN
<b>   </b>	11/17/2008	5503.95	12.27	NPP	5.96	5497.99	NPP
0 +1 <b>M</b>	11/3/2008	5504.39	13.05	ddN	6.43	5497.96	ddN
	11/17/2008	5504.39	13.05	NPP	6.54	5497.85	NPP

NPP = No Product Present

#### Collection Well Fluids Monitoring Nov. 2008

WellID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
0 +9 M	11/3/2008	5504.32	12.86	ddN	6.3	5498.02	NPP
) L	11/17/2008	5504.32	12.86	NPP	6.33	5497.99	NPP
0 +6 M	11/3/2008	5504.52	66.6	ddN	6.31	5498.21	NPP
3L	11/17/2008	5504.52	9.99	ddN	6.41	5498.11	NPP
+7	11/3/2008	5508.04	12.34	ddN	8.90	5499.14	NPP
0 55 C	11/17/2008	5508.04	12.34	ddN	8.96	5499.08	NPP
80	11/3/2008	5510.04	14.65	NPP	10.57	5499.47	NPP
ا ت د	11/17/2008	5510.04	14.65	NPP	10.62	5499.42	ddN
0 +1 M	11/3/2008	5507.32	11.72	ddN	8.06	5499.26	NPP
53	11/17/2008	5507.32	11.72	NPP	8.10	5499.22	NPP
+9	11/3/2008	5505.90	12.25	ddN	7.12	5498.78	ddN
6 37 30	11/17/2008	5505.90	12.25	MPP	7.16	5498.74	NPP
		**************************************					

NPP = No Product Present

#### Monitoring Well Fluids Monitoring Nov. 2008

WelliD	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness.
۱۱ M	11/3/2008	5510.31	22.94	NPP	11.16	5499.15	ddN
.# W	11/17/2008	5510.31	22.94	NPP	11.29	5499.02	MPP
W IS	11/3/2008	5501.61	14.98	NPP	6.93	5491.68	MPP
8	11/17/2008	5501.61	14.98	NPP	96.6	5491.65	NPP
07 M	11/3/2008	5519.90	27.13	20.57	20.82	5499.28	0.25
	11/17/2008	5519.90	27.13	20.59	20.89	5499.25	0.30
₽ M	11/3/2008	5521.99	30.38	21.60	21.7	5500.37	0.10
Z# .W	11/17/2008	5521,99	30.38	21.65	21.77	5500.32	0.12
68 M	11/3/2008	5520.83	38.34	NPP	25.78	5495.05	NPP
:# W	11/17/2008	5520.83	38.34	NPP	25.82	5495.01	NPP
St	11/3/2008	5506.36	16.92	NPP	11.57	5494.79	NPP
	11/17/2008	5506.36	16.92	NPP	11.71	5494.65	NPP
91 M	11/3/2008	5504.65	10.39	NPP	DRY		ddN
/# .W	11/17/2008	5504.65	10.39	NPP	DRY	_	NPP
Zt M	11/3/2008	5506.77	14.28	NPP	12.04	5494.73	NPP
7# .W	11/17/2008	5506.77	14.28	NPP	12.09	5494.68	NPP

NPP = No Product Present

NWP = No Water Present

# Observation Well Fluids Monitoring December 2008

Depth To Corrected Phase Water Groundwater (DTW) Elevation Thickness	11.45 5495.17 NPP	11.49 5495.13 NPP	11.57 5495.05 NPP	3.44 5494.76 0.21	13.48 5494.70 0.19	13.57 5494.66 0.25	12.67 5494.64 NPP	12.84 5494.47 NPP	12.81 5494.50 NPP	3.13 5494.46 NPP	13.18 5494.41 NPP	13.23 5494.36 NPP	DRY   NPP	DRY	DRY	DRY   NPP	DRY NPP	DRY	12.35   5494.37   0.02	12.37 5494.34 0.01	
Total Well Product W. Depth (DTP)	12.26 NPP 11	12.26 NPP 11	12.26 NPP 11	14.36 13.23 13	14.36 13.29 13	14.36 13.32 13	15.06 NPP 12	15.06 NPP 12	15.06 NPP 12	13.67 NPP   13	13.67 NPP 13	13.67 NPP 13	14.67 NPP D	14.67 NPP D	14.67 NPP D	15.99 NPP D	15.99 NPP D	15.99 NPP D	16.59   12.33   12	16.59 12.36 12	
Measuring Point Elevation	08 5506.62	008 5506.62	108 5506.62	08 5508.03	5508.03	008 5508.03	08 5507.31	108 5507.31	008 5507.31	08 5507.59	908 5507.59	008 5507.59	08   5504.78	5504.78	008 5504.78	08   5506.53	308 5506.53	008 5506.53	08   5506.70	008 5506.70	0 0
Well ID	12/1/2008	0 <b>W</b>	0		+ <b>2</b> (		9	12/15/20	3	9	+ <b>2</b> (12/12/20	9	2.	<b>MO</b>	9	21	0 <b>W</b>	3	12/1/2008	12/15/2008	

NPP = No Product Present NWP = No Water Present

# Observation Well Fluids Monitoring December 2008

	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
	12/1/2008	5508.14	12.96	NPP	DRY		NPP
	12/15/2008	5508.14	12.96	NPP	DRY		ddN
	12/29/2008	5508.14	12.96	NPP	DRY		NPP
4	12/1/2008	5508.43	15.21	ddN	12.66	5495.77	NPP
	12/15/2008	5508.43	15.21	NPP	12.73	5495.70	ddN
	12/29/2008	5508.43	15.21	NPP	12.78	5495.65	NPP
	12/1/2008	5508.03	13.00	ddN	12.59	5495.44	ddN ·
	12/15/2008	5508.03	13.00	NPP	12.75	5495.28	NPP
	12/29/2008	5508.03	13.00	NPP	12.97	5495.06	ddN
	12/1/2008	5506.91	14.16	NPP	11.57	5495.34	NPP
	12/15/2008	5506.91	14.16	NPP	11.62	5495.29	NPP
	12/29/2008	5506.91	14.16	NPP	10.39	5496.52	NPP
	12/1/2008	5514.12	18.34	ddN	16.25	5497.87	ddN
	12/15/2008	5514.12	18.34	NPP	16.26	5497.86	ddN
	12/29/2008	5514.12	18.34	NPP	16.23	5497.89	NPP
	12/1/2008	5515.18	18.01	NPP	17.1	5498.08	ddN
	12/15/2008	5515.18	18.01	NPP	17.08	5498.10	NPP
	12/29/2008	5515.18	18.01	NPP	17.08	5498.10	NPP
A Company	12/1/2008	5509.00	13.98	NPP	10.74	5498.26	NPP
	12/15/2008	5509.00	13.98	NPP	10.74	5498.26	NPP
	12/29/2008	5509.00	13.98	NPP	10.73	5498.27	NPP
					-		

NPP = No Product Present NWP = No Water Present

## Collection Well Fluids Monitoring December 2008

NPP = No Product Present

NWP = No Water Present

## Collection Well Fluids Monitoring December 2008

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
St-	12/1/2008	5503.80	12.6	7.74	7.77	5496.05	0.03
+8 <i>\</i>	12/15/2008	5503.80	12.6	7.76	7.79	5496.03	0.03
СЛ	12/29/2008	5503.80	12.6	7.85	88.7	5495.94	0.03
+1	12/1/2008	5503.95	12.27	NPP	5.93	5498.02	NPP
91 1 /V	12/15/2008	56.803	12.27	NPP	5.95	5498.00	NPP
c <i>i</i>	12/29/2008	5503.95	12.27	NPP	5.96	5497.99	NPP
+†	12/1/2008	5504.39	13.05	NPP	6.49	5497.90	NPP
0 L	12/15/2008	5504.39	13.05	NPP	6.52	5497.87	NPP
c/	12/29/2008	5504.39	13.05	NPP	6.54	5497.85	NPP
+9	12/1/2008	5504.32	12.86	NPP	6.31	5498.01	AdN
09 09	12/15/2008	5504.32	12.86	NPP	6.32	5498.00	NPP
C/	12/29/2008	5504.32	12.86	NPP	6.33	5497.99	NPP
+6	12/1/2008	5504.52	66.6	NPP	6.37	5498.15	AdN
09 1 //	12/15/2008	5504.52	9.99	NPP	. 6.37	5498.15	NPP
cı	12/29/2008	5504.52	9.99	NPP	6.40	5498.12	NPP
+7	12/1/2008	5508.04	12.34	NPP	8.96	5499.08	NPP
VV S	12/15/2008	5508.04	12.34	NPP	8.98	5499.06	NPP
() ()	12/29/2008	5508.04	12.34	NPP	8.89	5499.15	NPP
,							

NPP = No Product Present NWP = No

# Collection Well Fluids Monitoring December 2008

Separate Phase Hydrocarbon Thickness	APP	NPP	NPP		NPP	NPP	NPP		NPP	APP	NPP
Corrected Groundwater Elevation	5499.41	5499.38	5499.39		5499.20	5499.19	5499.19		5498.74	5498.73	5498.73
Depth To Water (DTW)	10.63	10.66	10.65	er og englyddiadd o'i o'i Chile Gellan	8.12	8.13	8.13		7.16	7.17	7.17
Depth To Product (DTP)	NPP	NPP	NPP	A CONTRACTOR OF THE PROPERTY OF THE	NPP	NPP	NPP		NPP	NPP	NPP
Total Well Depth	14.65	14.65	14.65	And the second s	11.72	11.72	11.72	STATE OF THE STATE	12.25	12.25	12.25
Measuring Point Elevation	5510.04	5510.04	5510.04	STORY STORY	5507.32	5507.32	5507.32	1.00	5505.90	5505.90	5505.90
Date	12/1/2008	12/15/2008	12/29/2008	E Service de l'Age	12/1/2008	12/15/2008	12/29/2008		12/1/2008	12/15/2008	12/29/2008
Well ID	+8	10 10	c	200 m	+8	90 7 N	cı		+9	96 7 N	cı

NPP = No Product Present

# Monitoring Well Fluids Monitoring December 2008

Well ID.         Date Depth To								
12/1/2008         5510.31         22.94         NPP         11.36         5498.95           12/1/5/2008         5510.31         22.94         NPP         11.41         5498.90           12/1/5/2008         5510.31         22.94         NPP         11.41         5498.88           12/1/2008         5501.61         14.98         NPP         10.04         5491.62           12/15/2008         5501.61         14.98         NPP         10.05         5491.57           12/15/2008         5501.61         14.98         NPP         10.05         5491.56           12/15/2008         5519.90         27.13         20.60         20.90         5499.24           12/15/2008         5519.90         27.13         20.60         20.90         5499.26           12/15/2008         5521.99         30.38         21.74         21.85         5500.20           12/15/2008         5521.99         30.38         21.77         21.85         5500.20           12/15/2008         5520.83         38.34         NPP         25.68         5495.05           12/15/2008         5520.83         38.34         NPP         25.75         5495.08           12/15/2008         5506.36	Well ID	Date	Measuring Point Elevation	Total Well	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
12/15/2008         5510.31         22.94         NPP         11.41         5498.90           12/29/2008         5510.31         22.94         NPP         11.43         5498.88           12/15/2008         5501.61         14.98         NPP         10.04         5491.62           12/15/2008         5501.61         14.98         NPP         10.04         5491.57           12/15/2008         5501.61         14.98         NPP         10.04         5491.57           12/15/2008         5519.90         27.13         20.58         5499.26           12/15/2008         5519.90         27.13         20.60         20.90         5499.26           12/15/2008         5519.90         27.13         20.61         20.90         5499.26           12/15/2008         5519.90         27.13         20.61         20.90         5499.24           12/15/2008         5521.99         30.38         21.74         21.85         5500.28           12/15/2008         5520.99         30.38         21.77         21.85         5500.20           12/15/2008         5520.83         38.34         NPP         25.78         5495.06           12/15/2008         5520.83         38.34	LL	12/1/2008	5510.31	22.94	NPP	11.36	5498.95	MPP
12/29/2008         5510.31         22.94         NPP         11.43         5498.88           12/1/2008         5501.61         14.98         NPP         10.04         5491.62           12/15/2008         5501.61         14.98         NPP         10.04         5491.57           12/29/2008         5501.61         14.98         NPP         10.04         5491.57           12/15/2008         5519.90         27.13         20.60         20.90         5499.26           12/15/2008         5519.90         27.13         20.60         20.90         5499.24           12/15/2008         5519.90         27.13         20.61         20.93         5499.24           12/15/2008         5519.90         27.13         20.60         20.90         5499.24           12/15/2008         5521.99         30.38         21.74         21.85         5500.28           12/15/2008         5521.99         30.38         21.77         21.85         5500.20           12/15/2008         5520.83         38.34         NPP         25.68         5495.05           12/15/2008         5520.83         38.34         NPP         25.75         5495.08           12/15/2008         5506.36	# N	12/15/2008	5510.31	22.94	NPP	11.41	5498.90	NPP
12/1/2008         5501.61         14.98         NPP         9.99         5491.62           12/15/2008         5501.61         14.98         NPP         10.04         5491.62           12/15/2008         5501.61         14.98         NPP         10.05         5491.56           12/15/2008         5519.90         27.13         20.58         20.88         5499.26           12/15/2008         5519.90         27.13         20.60         20.90         5499.24           12/15/2008         5519.90         27.13         20.61         20.93         5499.24           12/15/2008         5521.99         30.38         21.69         21.85         5500.28           12/15/2008         5521.99         30.38         21.77         21.85         5500.20           12/15/2008         5520.83         38.34         NPP         25.78         5495.05           12/15/2008         5520.83         38.34         NPP         25.75         5495.08           12/15/2008         5506.36         16.92         NPP         11.70         5494.66           12/15/2008         5506.36         16.92         NPP         11.70         5494.66           12/16/2008         5506.36	١M	12/29/2008	5510.31	22.94	NPP	11.43	5498.88	NPP
12/15/2008         5501.61         14.98         NPP         10.04         5491.57           12/29/2008         5501.61         14.98         NPP         10.05         5491.56           12/17/2008         5519.90         27.13         20.58         20.88         5499.26           12/15/2008         5519.90         27.13         20.61         20.90         5499.24           12/15/2008         5519.90         27.13         20.61         20.93         5499.23           12/15/2008         5521.99         30.38         21.69         21.8         5500.28           12/15/2008         5521.99         30.38         21.74         21.85         5500.20           12/15/2008         5520.83         38.34         NPP         25.68         5495.05           12/15/2008         5560.36         16.92         NPP         11.70         5494.66           12/16/208         5506.36	12	12/1/2008	5501.61	14.98	NPP	66.6	5491.62	MPP
12/29/2008         5501.61         14.98         NPP         10.05         5491.56           12/1/2008         5519.90         27.13         20.58         20.88         5499.26           12/15/2008         5519.90         27.13         20.60         20.90         5499.26           12/15/2008         5519.90         27.13         20.61         20.93         5499.24           12/15/2008         5521.99         30.38         21.69         21.8         5500.28           12/15/2008         5521.99         30.38         21.77         21.85         5500.20           12/15/2008         5520.83         38.34         NPP         25.78         5495.05           12/15/2008         5520.83         38.34         NPP         25.68         5495.05           12/15/2008         5520.83         38.34         NPP         25.68         5495.05           12/15/2008         5506.36         16.92         NPP         11.66         5494.70           12/15/2008         5506.36         16.92         NPP         11.70         5494.66           12/15/208         5506.36         16.92         NPP         11.81         5494.56	# N	12/15/2008	5501.61	14.98	NPP	10.04	5491.57	MPP
12/1/2008         5519.90         27.13         20.58         20.88         5499.26           12/15/2008         5519.90         27.13         20.60         20.90         5499.24           12/29/2008         5519.90         27.13         20.61         20.93         5499.23           12/15/2008         5521.99         30.38         21.69         21.8         5500.28           12/15/2008         5521.99         30.38         21.74         21.85         5500.20           12/15/2008         5520.83         38.34         NPP         25.78         5495.05           12/15/2008         5520.83         38.34         NPP         25.68         5495.05           12/15/2008         5506.36         16.92         NPP         11.66         5494.70           12/15/2008         5506.36         16.92         NPP         11.70         5494.66           12/15/2008         5506.36         16.92         NPP         11.70         5494.66	/M	12/29/2008	5501.61	14.98	NPP	10.05	5491.56	NPP
12/15/2008         5519.90         27.13         20.60         20.90         5499.24           12/29/2008         5519.90         27.13         20.61         20.93         5499.23           12/15/2008         5521.99         30.38         21.69         21.85         5500.28           12/15/2008         5521.99         30.38         21.74         21.85         5500.23           12/15/2008         5520.83         38.34         NPP         25.78         5495.05           12/15/2008         5520.83         38.34         NPP         25.75         5495.08           12/15/2008         5506.36         16.92         NPP         11.70         5494.66           12/15/2008         5506.36         16.92         NPP         11.70         5494.66	50	12/1/2008	5519.90	27.13	20.58	20.88	5499.26	0:30
12/29/2008         5519.90         27.13         20.61         20.93         5499.23           12/1/2008         5521.99         30.38         21.69         21.8         5500.28           12/15/2008         5521.99         30.38         21.74         21.85         5500.23           12/15/2008         5520.83         38.34         NPP         25.78         5495.05           12/15/2008         5520.83         38.34         NPP         25.68         5495.05           12/1/2008         5520.83         38.34         NPP         25.75         5495.08           12/1/2008         5506.36         16.92         NPP         11.66         5494.70           12/1/2008         5506.36         16.92         NPP         11.70         5494.66           12/29/2008         5506.36         16.92         NPP         11.70         5494.56	# N	12/15/2008	5519.90	27.13	20.60	20.90	5499.24	0:30
12/1/2008         5521.99         30.38         21.69         21.85         5500.28           12/15/2008         5521.99         30.38         21.74         21.85         5500.23           12/15/2008         5520.83         30.38         21.77         21.85         5500.20           12/15/2008         5520.83         38.34         NPP         25.78         5495.05           12/15/2008         5520.83         38.34         NPP         25.68         5495.15           12/15/2008         5520.83         38.34         NPP         25.75         5495.05           12/15/2008         5506.36         16.92         NPP         11.66         5494.70           12/15/2008         5506.36         16.92         NPP         11.70         5494.66           12/29/2008         5506.36         16.92         NPP         11.81         5494.55	/M	12/29/2008	5519.90	27.13	20.61	20.93	5499.23	0.32
12/15/2008         5521.99         30.38         21.74         21.85         5500.23           12/29/2008         5521.99         30.38         21.77         21.85         5500.20           12/15/2008         5520.83         38.34         NPP         25.68         5495.05           12/15/2008         5520.83         38.34         NPP         25.75         5495.08           12/15/2008         5506.36         16.92         NPP         11.66         5494.70           12/15/2008         5506.36         16.92         NPP         11.70         5494.66           12/29/2008         5506.36         16.92         NPP         11.81         5494.55	12	12/1/2008	5521.99	30.38	21.69	21.8	5500.28	0.11
12/29/2008         5521.99         30.38         21.77         21.85         5500.20           12/1/2008         5520.83         38.34         NPP         25.68         5495.05           12/15/2008         5520.83         38.34         NPP         25.68         5495.15           12/29/2008         5506.36         16.92         NPP         11.66         5494.70           12/15/2008         5506.36         16.92         NPP         11.70         5494.66           12/29/2008         5506.36         16.92         NPP         11.81         5494.55	# N	12/15/2008	5521.99	30.38	21.74	21.85	5500.23	0.11
12/1/2008         5520.83         38.34         NPP         25.78         5495.05           12/15/2008         5520.83         38.34         NPP         25.68         5495.15           12/29/2008         5520.83         38.34         NPP         25.75         5495.08           12/1/2008         5506.36         16.92         NPP         11.66         5494.70           12/15/2008         5506.36         16.92         NPP         11.70         5494.66           12/29/2008         5506.36         16.92         NPP         11.81         5494.55	/M	12/29/2008	5521.99	30.38	21.77	21.85	5500.20	0.08
12/15/2008         5520.83         38.34         NPP         25.68         5495.15           12/29/2008         5520.83         38.34         NPP         25.75         5495.08           12/1/2008         5506.36         16.92         NPP         11.70         5494.66           12/29/2008         5506.36         16.92         NPP         11.81         5494.55	68	12/1/2008	5520.83	38.34	NPP	25.78	5495.05	NPP
12/29/2008         5520.83         38.34         NPP         25.75         5495.08           12/1/2008         5506.36         16.92         NPP         11.66         5494.70           12/29/2008         5506.36         16.92         NPP         11.70         5494.66           12/29/2008         5506.36         16.92         NPP         11.81         5494.55	# N	12/15/2008	5520.83	38.34	NPP	25.68	5495.15	NPP
12/1/2008         5506.36         16.92         NPP         11.66         5494.70           12/15/2008         5506.36         16.92         NPP         11.70         5494.66           12/29/2008         5506.36         16.92         NPP         11.81         5494.55	/M	12/29/2008	5520.83	38.34	NPP	25.75	5495.08	NPP
12/15/2008         5506.36         16.92         NPP         11.70         5494.66           12/29/2008         5506.36         16.92         NPP         11.81         5494.55	Si	12/1/2008	5506.36	16.92	ddN	11.66	5494.70	NPP
12/29/2008 5506.36 16.92 NPP 11.81 5494.55	7# N	12/15/2008	5506.36	16.92	ddN	11.70	5494.66	ddN
	١M	12/29/2008	5506.36	16.92	NPP	11.81	5494.55	MPP

NPP = No Product Present

## Monitoring Well Fluids Monitoring December 2008

Contract to minimum administration according				·			-
Separate Phase Hydrocarbon Thickness	ddN	ddN	NPP		NPP	ddN	ddN
Corrected Groundwater Elevation					5494.60	5494.55	5494.54
Depth To Water (DTW)	YAO	YAO	DRY		12.17	12.22	12.23
Depth To Product (DTP)	NPP	NPP	NPP	1000000	NPP	NPP	NPP
Total Well	10.39	10.39	10.39		14.28	14.28	14.28
Measuring Point Elevation	5504.65	5504.65	5504.65		5506.77	5506.77	5506.77
Date	12/3/2007	12/17/2007	12/31/2007		12/3/2007	12/17/2007	12/31/2007
WellilD	91⁄	# N	\W		<b>۷</b> ۲	# N	/M

NPP = No Product Present



#### Collection Wells

#### Groundwater Analysis & Field Data

EPA Method hod:8260B	$ \begin{array}{c c} 0.62 \\ (mg/L) \\ \hline (1.72.(mg/L)) \\ \hline \end{array} \begin{array}{c c} \hline \text{TPH Screening} \\ \hline \text{Couldelines Table} \\ \hline \hline (mg/L) \\ \hline \end{array} \begin{array}{c c} \hline \text{Screening} \\ \hline \end{array} \begin{array}{c c} \hline \text{Screening} \\ \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \\ \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \\ \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \\ \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \\ \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \begin{array}{c c} \hline \end{array} \end{array} $	Xylene MTBE DRO E.C. pH Temp. TDS	<0.002 <0.001 <1.0 1173 6.96 68.1 827	0.026 0.052 5.3 1122 6.79 51.8 805	<0.03 <0.01 2:0 1347 7.04 69.0 NS <sup>2</sup>	NR <sup>2</sup> NR <sup>2</sup> NR <sup>2</sup> NR <sup>2</sup> NR <sup>2</sup>	<0.002 <0.001 <1.0 1312 7.07 66.2 931	0.11 <0.002 <1.0 1004 6.92 55.7 714	<0.003 0.0016 <1.0 1401 7.06 70.7 NS <sup>2</sup>	
EPA 80	cuidell									,014
hod 8260B	0.62 (mg/L):					NR <sup>2</sup>				2014
Method 8021B : 2008 - EPA Method 8260B	0.7.0 (mg/L)	Ethylben	9900'0	0.049	0.05	NR <sup>2</sup>	0.0023	0.013	<0.001	7034
50.00	0.75 (mg/L)	Toluene	<0.001	<0.005	<0.01	NR <sup>2</sup>	0.0011	0.085	<0.001	2014
April 2007 - EPA 007 & April/August	0.005 (mg/L)	Benzene	0.047	0.18	0.27	NR <sup>2</sup>	0.0018	0.043	0.02	, CIA
April 2007 - EPA August 2007 & April/August	WQCC.20 NMAC.6.2.3103 40CFR141.61 (Benzene and Ethylbenzene)	Date Sampled	Aug-08	Apr-08	Aug-07	Apr-07	Aug-08	Apr-08	Aug-07	70.20
	WQCC 20 NN 40CFR141.6 and Ethyl		C	9+0	Mo	)	S	6+97	z M:	0

 $NS^{1}=$  Well is Dry or Not Enough Water to Sample- No Sample  $NS^{2}=$  Not Sampled due to approved Facility-Wide Monitoring Plan  $NS^{3}=$  Sample Inadvertently not Analyzed this Sampling Event

 $NR^{1\pm}$  No Sample Required - Well Contains Separate Phase Hydrocarbon  $NR^2 = No$  Sample Required per OCD and NMED pre-2007 Conditions



Observation Wells

Groundwater Analysis & Field Data

Obsci vation	SHOULD INCH		5		Allalysis	5	5.5			S - J - Company Company Company	And a little of the second sec	3 h 20 m 3 k 2 m 3 m 3 m 3 m 3 m 3 m 3 m 3 m 3 m 3 m
	August 20	Angust 2007 & April/August 2008 EPA N	-EPA Meti August 200	10d 8021B. 8 - EPA Mei	B : /lethod 8260B		EPA Meth	EPA Method 8015B		Field Data	)ata	
WQCC:20.N 40CFR141 and Eth)	WQCC 20 NMAC 6.2 3103 40GFR141.61 (Benzene and Ethylberizene)	0:005 (mg/L)	(m8/r) 52.0	0.70 (mg/L)	-0:6 <u>2</u> (mg/L)		TPH Screening Guidelines Table 2a 1.72 (mg/L)	(mg/L)	mmhos/cm	6:0:9:0	Färenheit	1000 (mg/l)
	Date Sampled	Benzene	Toluene	Ethylben	Xylene	MTBE	DRO	GRO	E.C.	Hd	Temp.	TDS
O	Aug-08	<0.001	<0.001	0.0066	0.019	<0.001	6.4	2.3	1577	6.91	69.2	1129
9+0	Apr-08	<0.01	<0.01	0.018	0.048	<0.01	360.0	2.9	1727	8.78	56.2	1257
<b>M</b> (	Aug-07	0.011	<0.005	0.085	0.13	<0.005	5.7	NR <sup>2</sup>	1986	7.05	75.5	NS <sup>2</sup>
o 	Apr-07	<0.02	0.058	0.097	0.15	<0.025	NS <sup>2</sup>	NR <sup>2</sup>	1991	6.95	54.6	1495
C	Aug-08	0.076	<0.01	0.95	6.7	<0.01	2.9	24.0	1562	6.91	9.69	1116
1+2(	Apr-08	NR¹	NR1	NR¹	NR.	NR	NR.	NR¹	NR¹	NR¹	NR1	NR.
. M(	Aug-07	NR¹	NR¹	NR	NR¹	NR¹	NR.	NR <sup>2</sup>	NR¹	NR¹	NR¹	NR,
o —	Apr-07	NR.	NR¹	NR¹	NR.	NR¹	NR.	NR <sup>2</sup>	NR¹	NR¹	NR¹	NR.
9	Aug-08	0.099	<0.01	0.95	3.2	<0.01	12.0	14.0	2835	6.87	67.1	2142
3+8	Apr-08	NR	NR¹	NR¹	NR¹	NR.	NR	NR¹	NR¹	NR¹	NR¹	NR¹
: M(	Aug-07	NR.	NR¹	NR¹	NR¹	NR	NR¹	NR <sup>2</sup>	NR¹	NR¹	NR1	NR¹
)	Apr-07	NR1	NR¹	NR¹	NR¹	NR.	NR¹	NR <sup>2</sup>	NR¹	NR¹	NR¹	NR¹
C	Aug-08	NS¹	NS1	NS1	NS¹	NS1	NS¹	NS₁	NS1	NS₁	NS¹	NS <sup>1</sup>
9+2	Apr-08	NS1	NS1	NS¹	NS¹	NS <sup>1</sup>	NS.	١SN	۱SN	ıSN	NS¹	NS₁
<b>M</b> (	Aug-07	NS¹	NS¹	NS1	NS¹	NS¹	NS1	NR²	NS¹	₁SN	NS¹	NS₁
o 	Apr-07	NR.	NR¹	NR.	NR¹	NR.	NR¹	NR <sup>2</sup>	NR¹	NR¹	NR¹	NR¹
C	Aug-08	NS1	NS¹	NS1	NS.	NS <sup>1</sup>	NS1	ıSN	NS,	¹SN	NS¹	NS₁
) <u>/</u> +9	Apr-08	NS.	NS¹	NS¹	NS1	NS₁	NS¹	NS1	NS¹	NS¹	NS1	NS¹
<b>M</b> C	Aug-07	NS¹	NS <sup>1</sup>	NS¹	NS¹	NS₁	NS1	NR <sup>2</sup>	NS¹	NS،	NS1	NS₁
o	Apr-07	NS₁	NS¹	NS¹	NS1	NS₁	NS¹	NR <sup>2</sup>	NS¹	NS¹	NS¹	NS₁
	NS¹= Well is	NS'= Well is Dry or Not Enough Water to Sample- No	ugh Water to S	Sample- No Sai	Sample		NR¹= No Sample	e Required - We	NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon	rate Phase Hyo	drocarbon	

NS² = Not Sampled due to approved Facility-Wide Monitoring Plan NS³ = Sample Inadvertently not Analyzed this Sampling Event

NR2 = No Sample Required per OCD and NMED pre-2007 Conditions

#### North Barrier Wall

Observation Wells	WGCC 20 NI 40CFR141.		0	l+8	- ΛΛ	0	S	l+1	١M	0	0	l+†	ιM	0	0	9+9	l M	Ο -	
ion Wells	August 20 WQCC 20 NMAC 6.2.3103 40CFR141 61 (Benzene and Ethylbenzene)	Date Sampled	Aug-08	Apr-08	Aug-07	Apr-07	Aug-08	Apr-08	Aug-07	Apr-07	Aug-08	Apr-08	Aug-07	Apr-07	Aug-08	Apr-08	Aug-07	Apr-07	
G April 2007 - EPA M	August 2007 & April/August 2 AC 6.2.3103 0.005 0.75 I (Benzene) (mg/L) (mg/L	Benzene	NS1	NS1	NS	NS1	NR	NR.	1:0	0.84	NS.	NS.	NS¹	NS¹	1.2	2.3	NR¹	3.1	
	0.75 0.75 (mg/L)	Toluene	NS1	NS₁	NS¹	NS	NR1	NR¹	<0.02	<0.02	NS¹	NS¹	NS¹	NS¹	<0.01	<0.05	NR¹	<0.05	
roundwater ethod 8021B	2008 - EPA Method 8 250B 0.70 0.62 ) (mg/L) (mg/L)	Ethylben	NS¹	NS1	NS¹	NS₁	NR¹	NR¹	0.026	<0.02	NS₁	NS₁	NS1	NS1	. V:V	1.4	NR⁴	2	
Analysis	0.62 (mg/L)	Xylene	NS	NS1	NS₁	NS¹	NR	NR1	>0.06	<0.04	NS₁	NS <sub>1</sub>	NS¹	NS1	86.0	7.3	NR¹	7.2	
roundwater Analysis & Field Data		MTBE	NS₁	NS¹	NS1	NS¹	NR¹	NR¹	2.2	1.9	NS¹	NS¹	NS¹	NS¹	3.9	4.5	NR1	6	
	TPH Screening Guidelines Table 2a 1.72 (mg/L)	DRO	NS₁	NS <sup>1</sup>	NS¹	'SN	NR¹	NR¹	42.0	NS <sup>2</sup>	NS.	NS₁	NS₁	NS¹	<u> 7.7</u>	34.0	NR.	NS <sup>2</sup>	
EPA Method 8015B		GRO	NS <sup>1</sup>	NS¹	NR <sup>2</sup>	NR <sup>2</sup>	NR¹	NR¹	NR <sup>2</sup>	NR <sup>2</sup>	NS¹	NS,	NR <sup>2</sup>	NR <sup>2</sup>	17.0	21.0	NR <sup>2</sup>	NR <sup>2</sup>	
	mmhos/cm	E.C.	NS <sup>1</sup>	NS <sup>1</sup>	NS¹	NS¹	NR¹	NR1	2199	2264	NS <sub>1</sub>	NS <sub>1</sub>	NS,	NS¹	2544	2474	NR¹	2457	
Field Data	6.0-9.0	Hd	NS¹	NS¹	NS¹	NS¹	NR¹	NR1	7.03	6.83	NS¹	NS1	NS¹	NS¹	6.91	6.78	NR¹	6.78	
Data	Farenheit	Temp.	NS.	NS1	NS¹	NS1	NR¹	NR¹	69.7	54.5	NS¹	NS¹	NS¹	NS¹	71.9	61.1	NR.	9.09	_
	enheit	mb.	LS.	LS.	VS1	₹S₁		겼	9.7	4.5	IS1	LS.	JS1	IS1	1.9	•	-	[-] [A]	1.1 0.6

1715

NS NS.

NS

(mg/l) 1000

TDS

NS1

NS

NS NS¹ Z Z Z L

> NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon NR2 = No Sample Required per OCD and NMED pre-2007 Conditions

3112

57.8

6.79 SS

> <0.25  $NR^2$  $R^2$

8.8

0.14 NS<sup>1</sup>

<0.006

<0.002 NS.

<0.002

<0.002

09+61 MO

NS.

NS

Aug-08 Apr-08 Aug-07 Apr-07

NS

NS<sup>1</sup>

NS

NS<sup>1</sup> 3937 NS

NS

NS

3403

52.7

69.9

4204

 $NS^2$ 

<0.002

<0.001

<0.001

0.0019

NS

NS 0.27

NS

NS

NS

NS

NS.

NS.

NS

1865

1900

NS

SN

1887

Z L



NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan NS1= Well is Dry or Not Enough Water to Sample- No Sample

NS3 = Sample Inadvertently not Analyzed this Sampling Event







#### Observation Wells

#### Groundwater Analysis & Field Data

Color   Colo
MTBE         DRO         GRO         E.C.           0.044         3:1         0.078         3101           1.2         5.4         0.51         3905           2.3         13:0         NR²         3062           2.4         NS²         NR²         3044           0.0097         13:0         1.2         1648           0.0097         13:0         1.2         1648           0.003         6.2         NR²         2050           0.03         6.2         NR²         1898           <0.001         <1.0         <0.05         1477           <0.001         <1.0         <0.05         1470           <0.001         <1.0         <0.05         1470           <0.0025         NS²         NR²         1695           <0.001         <1.0         <0.05         1695           <0.0025         NS²         NR²         1695           <0.001         <1.0         <0.05         1695           <0.001         <1.0         <0.05         1623           <0.001         <1.0         <0.05         1623
MTBE       DRO       GRO       E.C.         0.044       3:1       0.078       3101         1.2       5:4       0.51       3905         2.3       13:0       NR²       3062         2.4       NS²       NR²       3044         0.0097       13:0       1.2       1648         0.025       11:0       0.94       1689         0.033       6:2       NR²       1898         <0.001       <1.0       <0.05       1477         <0.001       <1.0       <0.05       1477         <0.0012       <1.0       <0.05       1470         <0.0012       <1.0       <0.05       1695         <0.001       <1.0       <0.05       1623         <0.001       <1.0       <0.05       1623
0.044       3.1       0.078       3101         1.2       5.4       0.51       3905         2.3       13.0       NR²       3062         2.4       NS²       NR²       3044         0.0097       13.0       1.2       1648         0.0055       11.0       0.94       1689         0.033       6.2       NR²       1898         <0.004
1.2       5.4       0.51       3905         2.3       13.0       NR²       3062         2.4       NS²       NR²       3044         0.0097       13.0       1.2       1648         0.025       11.0       0.94       1689         0.033       6.2       NR²       1898         <0.004
2.3       13:0       NR²       3062         2.4       NS²       NR²       3044         0.0097       13:0       1.2       1648         0.025       11:0       0.94       1689         0.033       6.2       NR²       2050         0.04       NS²       NR²       1898         <0.001
2.4       NS²       NR²       3044         0.0097       13.0       1.2       1648         0.025       11.0       0.94       1689         0.033       6.2       NR²       2050         0.04       NS²       NR²       1898         <0.001
0.0097       13.0       1.2       1648         0.025       11.0       0.94       1689         0.033       6.2       NR²       2050         0.04       NS²       NR²       1898         <0.001
0.025       11.0       0.94       1689         0.033       6.2       NR²       2050         0.04       NS²       NR²       1898         <0.001
0.033       6.2       NR²       2050         0.04       NS²       NR²       1898         <0.001
0.04       NS²       NR²       1898         <0.001
<0.001
<0.001
0.0012     <1.0
<0.0025         NS²         NR²         1695           <0.001
<0.001
<0.001 <1.0 0.14 1249
<0.003 <0.001 <1.0 NR² 1246 7.05
<0.002 <0.0025 NS <sup>2</sup> NR <sup>2</sup> 1517 6.889

NS'= Well is Dry or Not Enough Water to Sample-No Sample NS² = Not Sampled due to approved Facility-Wide Monitoring Plan NS³ = Sample Inadvertently not Analyzed this Sampling Event

NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon NR² = No Sample Required per OCD and NMED pre-2007 Conditions



**Monitoring Wells** 

Groundwater Analysis & Field Data

	August 200	April 2007 - EPA Me August 2007 & April/August 20	- EPA Metho \ugust 2008	ethod 8021B:: 008 - EPA Mei	od 8021B: - EPA Method 8260B		EPA Method 8015B		Field Data		
WOCC 20 NI 40CFR141 ( and Ethy	WQCC 20 NMAC 6.2:3103 40CFR141.61 (Benzene, and Ethylbenzene)	(0.005 (mg/L)	(1/6m) (mg/L)	0;70 (mg/L)	. 0:62) (mg/L)		TPH Screening Guidelines Table '2a 1.72 (mg/L)	mmhos/cm	0:6-0!9	Farenheit	1000 (mg/l)
	Date Sampled	mg/L Benzene	mg/L Toluene	mg/L Ethylben	mg/L Xylene	mg/L MTBE	mg/L DRO	mmhos/cm E.C.	Hd	°F Temp.	mg/L TDS
	Aug-08	0.0038	<0.001	0.0022	<0.0015	0.019	9:6	2226	7.02	2'99	:= 1655.
l I.# ·	Apr-08	NS <sup>2</sup>	NS <sub>2</sub>	NS <sub>2</sub>	NS <sup>2</sup>	NS <sup>2</sup>	NS <sup>2</sup>	NS²	NS <sup>2</sup>	zSN	NS <sup>2</sup>
· //\/	Aug-07	0.97	<0.01	<0.01	<0.015	0.022	NR²	2109	7.01	6.99	NS <sup>2</sup>
V	Apr-07	3.9	<0.01	0.038	0.16	<0.025	NR <sup>2</sup>	1944	6.93	92.0	1454
7	Aug-08	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	277	7.10	62.6	541
Z L# -	Apr-08	<0.001	<0.001	<0.001	<0.003	<0.0015	<1.0	707	6.84	51.1	495
- //\V	Aug-07	<0.001	<0.001	<0.001	<0.0015	<0.001	NR²	286	7.05	68.1	NS <sup>2</sup>
V	Apr-07	<0.001	<0.001	<0.001	<0.002	<0.0025	NR²	599	6.92	51.8	421
(	Aug-08	NR¹	NR¹	NR¹	NR¹	NR	NR¹	NR1	NR¹	NR¹	NR¹
- #5	Apr-08	NR.	NR	NR¹	NR¹	NR¹	NR¹	NR1	NR¹	NR¹	NR1
· <b>/</b> ///	Aug-07	NR¹	NR	NR	NR,	NR¹	NR¹	NR	NR1	NR¹	NR¹
V	Apr-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹
	Aug-08	NR¹	NR.	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	¹WN	NR¹
-#5 -	Apr-08	NR¹	NR¹	Z Z	NR¹	NR¹	NR¹	NR¹	NR¹	NR٬	NR¹
WN	Aug-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR.	NR¹
1	Apr-07	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR¹	NR	NR¹
	NS¹= Well is	NS1= Well is Dry or Not Enough Water		to Sample- No Sample	ample		NR¹= No Sampl	NR¹= No Sample Required - Well Contains Separate Phase Hydrocarbon	II Contains Sep	arate Phase H	Hydrocarbon

NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan

NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions

NS3 = Sample Inadvertently not Analyzed this Sampling Event

#### North Barrier Wall

#### Monitoring Wells

#### Groundwater Analysis & Field Data

Direction		Herrican Marie San Marie San Ma Ma Marie San Ma Marie San Marie San Marie San Marie San Marie Sa	E 80	EPA Metho 8021B & 826				EPA Method 8015B		Field Data	Data	
Date         mg/L         DRO           Aug-08         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <1.2           Apr-08         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <1.2           Aug-07         <0.001         <0.001         <0.001         <0.001         <0.002         <0.004         NR²           Aug-08         NS²         NS²         NS²         NS²         NS²         NS²         NS²           Aug-08         NS²         NS² <th>Wacc 6.2.</th> <th>20NMAC 3103</th> <th>0:01</th> <th>0.75</th> <th>**************************************</th> <th>0.62</th> <th></th> <th>Guidelines Table</th> <th>mmhos/cm</th> <th>0.6-0.9</th> <th>Farenheit</th> <th>. 1000 (mg/l)</th>	Wacc 6.2.	20NMAC 3103	0:01	0.75	**************************************	0.62		Guidelines Table	mmhos/cm	0.6-0.9	Farenheit	. 1000 (mg/l)
Aug-08         <0.001		Date Sampled	mg/L Benzene	mg/L Toluene	mg/L Ethylben	mg/L Xylene	mg/L MTBE	mg/L DRO	mmhos/cm E.C.	Hd	°F Temp.	mg/L TDS
Appr-08         <0.001         <0.001         <0.001         <0.0024         1.2           Aug-07         <0.001         <0.001         <0.001         <0.001         <0.001         NR²           Appr-07         <0.001         <0.001         <0.001         <0.001         <0.001         NR²           Appr-08         NS²         NS²         NS²         NS²         NS²         NS²           Aug-07         NS²         NS²         NS²         NS²         NS²         NS²           Aug-08         NS²         NS²         NS²         NS²         NS²         NS²           Aug-07         NS²         NS²         NS²         NS²         NS²         NS²           Aug-08         NS²         NS²         NS²         NS²         NS²         NS²           Aug-08         NS¹         NS¹         NS²         NS²         NS²         NS²           Aug-08         NS¹         NS¹         NS¹         NS²         NS²         NS²           Aug-08         NS¹         NS¹         NS¹         NS¹         NS²         NS²           Aug-08         NS¹         NS¹         NS¹         NS¹         NS¹         NS¹		Aug-08	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	1306	7.00	62.5	932
Aug-07         <0.001         <0.001         <0.001         <0.001            Aug-07         <0.001	82#-	Apr-08	<0.001	<0.001	<0.001	<0.003	0.0024	1.2	1439	6.85	59.4	1040
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NS<sup>2</sup> = Not Sampled due to approved Facility-Wide Monitoring Plan NS3 = Sample Inadvertently not Analyzed this Sampling Event

NR<sup>2</sup> = No Sample Required per OCD and NMED pre-2007 Conditions



# Section 16.0 Chemical Analytical Program

# Hall Environmental Analysis Laboratory

## **QUALITY ASSURANCE PLAN**

**Effective Date: January 31st 2009** 

Revision 9.0

www.hallenvironmental.com

Control Number: 0000082

Approved By:

Nancy McDuffie

Laboratory Manager

Date

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## Appendix C TCEQ Accreditation

Full list of approved analytes, methods, analytical techniques and fields of testing **Reserved, available upon request** 

## Appendix D ADHS Accreditation

Full list of approved analytes, methods, analytical techniques and fields of testing Reserved, available upon request

## Appendix E NMED-DWB Certification

Reserved, available upon request

## Appendix F Terms and Definitions

Reserved, available upon request

## Appendix G Chain of Custody Record

Reserved, available upon request

## Appendix H HEAL Forms

Analyst Ethics and Data Integrity Agreement

IDOC Certificate
ADOCP Certificate

**Training Forms** 

Reserved, available upon request

#### 3.0 Introduction

## **Purpose of Document**

The purpose of this Quality Assurance Plan is to formally document the quality assurance policies and procedures of Hall Environmental Analysis Laboratory, Inc. (HEAL), for the benefit of its employees, clients, and accrediting organizations. HEAL continually implements all aspects of this plan as an essential and integral part of laboratory operations in order to ensure that high quality data is produced in an efficient and effective manner.

## **Objectives**

The objective of HEAL is to achieve and maintain excellence in environmental testing. This is accomplished by developing, incorporating and documenting the procedures and policies specified by each of our accrediting authorities and outlined in this plan. A laboratory staff that is analytically competent, well qualified, and highly trained carries out these activities. An experienced management team, knowledgeable in their area of expertise, monitors them. Finally, a comprehensive quality assurance program governs laboratory practices and ensures that the analytical results are valid, defensible, reproducible, reconstructable and of the highest quality.

HEAL establishes and thoroughly documents its activities to ensure that all data generated and processed will be scientifically valid and of known and documented quality. Routine laboratory activities are detailed in method specific standard operating procedures (SOP). All data reported meets the applicable requirements for the specific method that is referenced, ORELAP, TCEQ, EPA, client specific requirements and/or State Bureaus. In the event that these requirements are ever in contention with each other, it is HEAL's policy to always follow the most prudent requirement available. For specific method requirements refer to HEAL's Standard Operating Procedures (SOP's), EPA methods, Standard Methods 20<sup>th</sup> edition, ASTM methods or state specific methods.

HEAL management ensures that this document is correct in terms of required accuracy, data reproducibility, and that the procedures contain proper quality control measures. HEAL management additionally ensures that all equipment is reliable, well maintained and appropriately calibrated. The procedures and practices of the laboratory are geared towards not only strictly following our regulatory requirements but also allowing the flexibility to conform to client specific specifications. Meticulous records are maintained for all samples and their respective analyses so that results are well documented and defensible in a court of law.

The HEAL Quality Assurance/Quality Control Officer (QA/QCO) and upper management are responsible for supervising and administering this quality assurance program, and ensuring each individual is responsible for its proper implementation. All HEAL management remains committed to the encouragement of excellence in analytical testing and will continue to provide the necessary resources and environment conducive to its achievement.

#### **Policies**

Understanding that quality cannot be mandated, it is the policy of this laboratory to provide an environment that encourages all staff members to take pride in the quality of their work. In addition to furnishing proper equipment and supplies, HEAL stresses the importance of continued training and professional development. Further, HEAL recognizes the time required for data interpretation. Therefore, no analyst should feel pressure to sacrifice data quality for data quantity. Each staff member must perform with the highest level of integrity and professional competence, always being alert to problems that could compromise the quality of their technical work.

Management and senior personnel supervise analysts closely in all operations. Under no circumstance is the willful act or fraudulent manipulation of analytical data condoned. Such acts must be reported immediately to HEAL management. Reported acts will be assessed on an individual basis and resulting actions could result in dismissal. The laboratory staff is encouraged to speak with lab managers or senior management if they feel that there are any undo commercial, financial, or other pressures, which might adversely affect the quality of their work; or in the event that they suspect that data quality has been compromised in any way. HEALs Quality Assurance/Quality Control Officer is available if any analyst and/or manager wishes to anonymously report any suspected or known breaches in data integrity.

All proprietary rights and client information at HEAL (including national security concerns) are considered confidential. No information will be given out without the express verbal or written permission of the client. All reports generated will be held in the strictest of confidence.

This is a controlled document. Each copy is assigned a unique tracking number and when released to a client or accrediting agency the QA/QCO keeps the tracking number on file. This document is reviewed on an annual basis to ensure that it is valid and representative of current practices at HEAL.

## 4.0 Organization and Responsibility

## Company

HEAL is accredited in accordance with the 2003 NELAC standard (see NELAC accredited analysis list in the appendix), through ORELAP and TCEQ and by the Arizona Department of Health Services. Additionally, HEAL is qualified as defined under the State of New Mexico Water Quality Control Commission regulations and the New Mexico State Drinking Water Bureau. HEAL is a locally owned small business that was established in 1991. HEAL is a full service environmental analysis laboratory with analytical capabilities that include both organic and inorganic methodologies and has performed analyses of soil, water, air as well as various other matrices for many sites in the region. HEAL's client base includes local, state and federal agencies, private consultants, commercial industries as well as individual homeowners. HEAL has performed as a subcontractor to the state of New Mexico and to the New Mexico Department of Transportation. HEAL has been acclaimed by its customers as producing quality results and as being adaptive to client-specific needs.

The laboratory is divided into an organic section, and an inorganic section. Each section has a designated manager/technical director. The technical directors report directly to the laboratory manager, who oversees all operations.

## Certifications

ORELAP - NELAC Oregon Primary accrediting authority.

TCEQ – NELAC Texas Secondary accrediting authority.

The Arizona Department of Health Services

The New Mexico Drinking Water Bureau

See appendix B-E for copies of current licenses and licensed parameters, or refer to our current list of certifications online at www.hallenvironmental.com.

#### Personnel

HEAL management ensures the competence of all who operate equipment, perform environmental tests, evaluate results, and sign test reports. Personnel performing specific tasks shall be qualified on the basis of appropriate education, training, experience and /or demonstrated skills.

All personnel shall be responsible for complying with HEALs quality assurance/quality control requirements that pertain to their technical function. Each technical staff member must have a combination of experience and education to adequately demonstrate specific knowledge of their

particular function and a general knowledge of laboratory operations, test methods, quality assurance/quality control procedures and records management.

All employees training certificates and diplomas are kept on file with demonstrations of capability for each method they perform. An Organizational Chart can be found in Appendix A.

## **Laboratory Director**

The Laboratory Director is responsible for overall technical direction and business leadership of HEAL. The Laboratory Manager, the Project Manager and Quality Assurance/Quality Control Officer report directly to the Laboratory Director. Someone with a minimum of 7 years of directly related experience and a bachelor's degree in a scientific or engineering discipline should fill this position.

## **Laboratory Manager/Lead Technical Director**

The Laboratory Manager shall exercise day—to-day supervision of laboratory operations for the appropriate fields of accreditation and reporting of results. The Laboratory Manager shall be experienced in the fields of accreditation for which the laboratory is approved or seeking accreditation. The Laboratory Manager shall certify that personnel with appropriate educational and/or technical background perform all tests for which HEAL is accredited. Such certification shall be documented.

The Laboratory Manager shall monitor standards of performance in quality control and quality assurance and monitor the validity of the analyses performed and data generated at HEAL to assure reliable data.

The Laboratory Manager is responsible for the daily operations of the laboratory. The Laboratory Manager is the lead technical director of the laboratory and in conjunction with the section technical directors is responsible for coordinating activities within the laboratory with the overall goal of efficiently producing high quality data with in a reasonable time frame.

In events where employee scheduling or current workload is such that new work cannot be incorporated, with out missing hold times, the Laboratory Manager has authority to modify employee scheduling, re-schedule projects or, when appropriate, allocate the work to approved subcontracting laboratories.

Additionally, the laboratory manager reviews and approves new analytical procedures and methods, and performs a final review of most analytical results. The Laboratory Manager provides technical support to both customers and HEAL staff.

The Laboratory Manager also observes the performance of supervisors to ensure good laboratory practices and proper techniques are being taught and utilized, assisting in overall quality control implementation, and strategic planning for the future of the company. Other duties include assisting in establishing laboratory policies which lead to the fulfillment of requirements for various certification programs, assuring that all Quality

Assurance and Quality Control documents are reviewed and approved, and assisting in conducting Quality Assurance Audits.

The laboratory manager addresses questions or complaints that cannot be answered by the section managers.

The Laboratory Manager shall have a bachelor's degree in a chemical, environmental, biological sciences, physical sciences or engineering field, and at least five years of experience in the environmental analysis of representative inorganic and organic analytes for which the laboratory seeks or maintains accreditation.

## **Quality Assurance Quality Control Officer**

The Quality Assurance/Quality Control Officer (QA/QCO) serves as the focal point for QA/QC and shall be responsible for the oversight and/or review of quality control data. The QA/QCO functions independently from laboratory operations and shall be empowered to halt unsatisfactory work and/or prevent the reporting of results generated from an out-of-control measurement system. The QA/QCO shall objectively evaluate data and perform assessments without any outside/managerial influence. The QA/QCO shall have direct access to the highest level of management at which decisions are made on laboratory policy and/or resources. The QA/QCO shall notify laboratory management of deficiencies in the quality system in periodic, independent reports.

The QA/QCO shall have general knowledge of the analytical test methods, for which data review is performed, have documented training and/or experience in QA/QC procedures and in the laboratory's quality system. The QA/QCO will have a minimum of a BS in a scientific or related field and a minimum of three years of related experience.

The QA/QCO shall schedule and conduct internal audits as per the Internal Audit SOP at least annually, monitor and trend Corrective Action Reports as per the Data Validation SOP, periodically review control charts for out of control conditions and initiate any appropriate corrective actions.

The QA/QCO shall oversee the analysis of proficiency testing in accordance with our standards and monitor any corrective actions issued as a result of this testing.

The QA/QCO reviews all standard operating procedures and statements of work in order to assure their accuracy and compliance to method and regulatory requirements.

The QA/QCO shall be responsible for maintaining and updating this quality manual.

## **Business/Project Manager**

The role of the business/project manager is to act as a liaison between HEAL and our clients. The project manager reviews reports, updates clients on the status of projects inhouse, prepares quotations for new work, and is responsible for HEALs marketing effort.

All new work is assessed by the project manager and reviewed with the other managers so as to not exceed the laboratories capacity. In events where employee scheduling or current workload is such that new work cannot be incorporated with out missing hold times, the Project Manager has authority to re-schedule projects.

It is also the duty of the project manager to work with the Laboratory Manager and QA/QCO to insure that before new work is undertaken the resources required and accreditations requested are available to meet the client's specific needs.

Additionally, the Project Manager can initiate the review of the need for new analytical procedures and methods, and performs a final review of some analytical results. The Project Manager provides technical support to customers. Someone with a minimum of 2 years of directly related experience and a bachelor's degree in a scientific or engineering discipline should fill this position.

## Section Manager/Technical Directors

The Section Manager/Technical Directors are full-time members of the staff at HEAL who exercise day-to-day supervision of laboratory operations for the appropriate fields of accreditation and reporting of results for their department within HEAL. A Technical Director's duties shall include, but not be limited to, monitoring standards of performance in quality control and quality assurance, monitoring the validity of the analyses performed and the data generated in their sections to ensure reliable data, overseeing training and supervising departmental staff, schedule incoming work for their sections and monitor laboratory personnel to ensure that proper procedures and techniques are being utilized. They supervise and implement new Quality Control procedures as directed by the QA/QCO, update and maintain quality control records including, but not limited to, training forms, IDOCs, ADOCPs, MDLs and evaluate laboratory personnel in their Quality Control activities. In addition technical directors are responsible for upholding the spirit and intent of HEAL's data integrity procedures.

They are the technical director of the associated section and review analytical data to acknowledge that data meets all criteria set forth for good Quality Assurance practices. Someone with a minimum of 2 years of experience in the environmental analysis of representative analytes for which HEAL seeks or maintains accreditation and a bachelor's degree in a scientific or related discipline should fill this position.

#### Health and Safety / Chemical Hygiene Officer

Refer to the most recent version of the Health and Safety and Chemical Hygiene Plans for the rolls, responsibilities and basic requirements of the Health and Safety Officer (H&SO) and the Chemical Hygiene Officer (CHO). These jobs can be executed by the same employee.

## Chemist I, II and III

Chemists are responsible for the analysis of various sample matrices including, but not limited to, solid, aqueous, and air as well as the generation of high quality data in accordance with the HEAL SOPs and QA/QC guidelines in a reasonable time as prescribed by standard turnaround schedules or as directed by the Section Manager or Laboratory Manager.

Chemists are responsible for making sure all data generated is entered in the database in the correct manner and the raw data is reviewed, signed and delivered to the appropriate peer for review. A Chemist reports daily to the section manager and will inform them as to material needs of the section specifically pertaining to the analyses performed by the chemist. Additional duties may include preparation of samples for analysis, maintenance of lab instruments or equipment, cleaning and providing technical assistance to lower level laboratory staff.

The senior chemist in the section may be asked to perform supervisory duties as related to operational aspects of the section. The chemist may perform all duties of a lab technician.

The position of Chemist is a full or part time hourly position and is divided into three levels, Chemist I, II, and III. All employees hired into a Chemist position at HEAL must begin as a Chemist I and remain there at a minimum of three months regardless of their education and experience. Chemist I must have a minimum of an AA in a related field or equivalent experience (equivalent experience means years of related experience can be substituted for the education requirement). A Chemist I is responsible for analysis, instrument operation and data reduction. Chemist II must have a minimum of an AA in a related field or equivalent experience and must have documented and demonstrated aptitude to perform all functions of a Chemist II. A Chemist II is responsible for the full analysis of their test methods, routine instrument maintenance, purchase of consumables as dictated by their Technical Director, advanced data reduction and basic data review. Chemist II may also assist Chemist III in method development and as dictated by their Technical Director may be responsible for the review and/or revision of their method specific SOPs. Chemist III must have Bachelors degree or equivalent experience and must have documented and demonstrated aptitude to perform all functions of a Chemist III. Chemist III are responsible for all tasks completed by a Chemist I and II as well as advanced data review, non-routine instrument maintenance, assisting their technical director in basic supervisory duties and method development.

#### **Laboratory Technician**

A laboratory technician is responsible for providing support in the form of sample preparation, basic analysis, general laboratory maintenance, glassware washing, chemical inventories and sample kit preparation. This position can be filled by someone without the education and experience necessary to obtain a position as a chemist.

## Sample Control Manager

The sample control manager is responsible for receiving samples and reviewing the sample login information after it has been entered into the computer. The sample control manager also checks the samples against the chain-of-custody for any sample and/or labeling discrepancies prior to distribution.

The sample control manager is responsible for sending out samples to the sub-contractors along with the review and shipping of field sampling bottle kits. The sample control manager acts as a liaison between the laboratory and field sampling crew to ensure that the appropriate analytical test is assigned. If a discrepancy is noted the sample control manager or sample custodian will contact the customer to resolve any questions or problems. The sample control manager is an integral part the customer service team.

This position should be filled by someone with a high school diploma and a minimum of 2 years of related experience and can also be filled by a senior manager.

## Sample Custodians

Sample Custodians work directly under the Sample Control Manager. They are responsible for sample intake into the laboratory and into the LIMS. Sample Custodians take orders from our clients and prepare appropriate bottle kits to meet the client's needs. Sample Custodians work directly with the clients in properly labeling and identifying samples as well as properly filling out legal COCs. When necessary, Sample Custodians contact clients to resolve any questions or problems associated with their samples. Sample Custodians are responsible for distributing samples throughout the laboratory and are responsible for notifying analysts of special circumstances such as short holding times or improper sample preservation upon receipt.

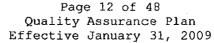
### Delegations in the Absence of Key Personnel

Planned absences shall be preceded by notification to the Laboratory Manager. The appropriate staff members shall be informed of the absence. In the case of unplanned absences, the organizational superior shall either assume the responsibilities and duties or delegate the responsibilities and duties to another appropriately qualified employee.

In the event that the Laboratory Manager is absent for a period of time exceeding fifteen consecutive calendar days, another full-time staff member meeting the basic qualifications and competent to temporarily perform this function will be designated. If this absence exceeds thirty-five consecutive calendar days, HEAL will notify ORELAP in writing of the absence and the pertinent qualifications of the temporary laboratory manager.

#### Laboratory Personnel Qualification and Training

All personnel joining HEAL shall undergo orientation and training. During this period the new personnel shall be introduced to the organization and their responsibilities, as well as









the policies and procedures of the company. They shall also undergo on the job training and shall work with trained staff. They will be shown required tasks and be observed while performing them.

When utilizing staff undergoing training, appropriate supervision shall be dictated and overseen by the appropriate section technical director. Prior to analyzing client samples, a new employee, or an employee new to a procedure, must meet the following basic requirements. The SOP and Method for the analysis must be read and signed by the employee indicating that they read, understood and intend to comply with the requirements The employee must undergo documented training. of the documents. conducted by a senior analyst familiar with the procedure and overseen by the section Technical Director. This training is documented by any means deemed appropriate by the trainer and section Technical Director, and kept on file in the employees file located in the The employee must perform a successful Initial Demonstration of QA/QCO's office. Proficiency (IDOC). See Appendix H for the training documents and checklists utilized at HEAL to ensure that all of these requirements are met. Once all of the above requirements are met it is incumbent upon the section Technical Director to determine at which point the employee can begin to perform the test unsupervised. A Certification to Complete Work Unsupervised (see Appendix H) is them filled out by the employee and technical director.

All IDOCs shall be documented through the use of the certification form which can be found in Appendix H. IDOCs are performed by analyzing four Laboratory Control Spikes (LCSs). Using the results of the LCSs the mean recovery is calculated in the appropriate reporting units and the standard deviations of the population sample (n-1) (in the same units) as well as the relative percent difference for each parameter of interest. When it is not possible or pertinent to determine mean and standard deviations HEAL assesses performance against establish and documented criteria dictated in the method SOP. The mean and standard deviation are compared to the corresponding acceptance criteria for precision and accuracy in the test method (if applicable) or in laboratory-generated acceptance criteria. In the event that the HEAL SOP or test method fail to establish the pass/fail criteria the default limits of +/- 20% for calculated recovery and <20% relative percent difference based on the standard deviation will be utilized. If all parameters meet the acceptance criteria, the IDOC is successfully completed. If any one of the parameters do not meet the acceptance criteria, the performance is unacceptable for that parameter and the analyst must either locate and correct the source of the problem and repeat the test for all parameters of interest or repeat the test for all parameters that failed to meet Repeat failure, however, confirms a general problem with the measurement system. If this occurs the source of the problem must be identified and the test repeated for all parameters of interest.

New employees that do not have prior analysis experience will not be allowed to perform analysis until they have demonstrated attention to detail with minimal errors in the assigned tasks. To ensure a sustained level of quality performance among staff members, continuing demonstration of capability shall be performed at least once a year. These are as an Annual Documentation of Continued Proficiency (ADOCP).

At least once per year an ADOCP must be completed by: the acceptable performance of a blind sample (this is typically done using a PT sample but can be a single blind sample to the analyst), by performing another IDOC, or by summarizing the data of four consecutive

laboratory control samples with acceptable levels of precision and accuracy (these limits are those currently listed in the LIMS for an LCS using the indicated test method.) ADOCPs are documented using a standard form and are kept on file in each analysts employee folder.

Each new employee shall be provided with data integrity training as a formal part of their new employee orientation. Each new employee will sign an ethics and data integrity agreement to ensure that they understand that data quality is our main objective. Every HEAL employee recognizes that although turn around time is important, quality is put above any pressure to complete the task expediently. Analysts are not compensated for passing QC parameters nor are incentives given for the quantity of work produced. Data Integrity and Ethics training are performed on an annual basis in order to remind all employees of HEAL's policy on data quality. Employees are required to understand that any infractions of the laboratory data integrity procedures will result in a detailed investigation that could lead to very serious consequences including immediate termination, debarment or civil/criminal prosecution.

Training for each member of HEALs technical staff is further established and maintained through documentation that each employee has read, understood, and is using the latest version of this Quality Assurance Manual. Training courses or workshops on specific equipment, analytical techniques or laboratory procedures are documented through attendance sheets, certificates of attendance, training forms, or quizzes. This training documentation is located in either analyst specific employee folders in the QA/QCO Office or in the current years group training folder, also located in the QA/QCO Office. On the front of all methods, SOPs and procedures for HEAL there is a signoff sheet that is signed by all pertinent employees, indicating that they have read, understood and agreed to perform the most recent version of the document.

## 5.0 Receipt and Handling of Samples

## Sampling

#### **Procedures**

HEAL does not provide field sampling for any projects. Sample kits are prepared and provided for clients upon request. The sample kits contain the appropriate sampling containers (with a preservative when necessary), labels, blue ice, a cooler, chain-of-custody forms, plastic bags, bubble wrap, and any special sampling instructions. Sample kits are reviewed prior to shipment for accuracy and completeness.

#### **Containers**

Containers which are sent out for sampling are purchased by HEAL from a commercial source. Glass containers are certified "EPA Cleaned" QA level 1. Plastic containers are certified clean when required. These containers are received with a Certificate of Analysis verifying that the containers have been cleaned according to the EPA wash procedure. Containers are used once and discarded. If the samples are collected and stored in inappropriate containers the laboratory may not be able to accurately quantify the amount of the desired components. In this case re-sampling may be required.

#### Preservation

If sampling for an analyte(s) requires preservation, the sample custodians fortify the containers prior to shipment to the field, or provide the preservative for the sampler to add in the field. The required preservative is introduced into the vials in uniform amounts and done so rapidly to minimize the risk of contamination. Vials that contain a preservative are labeled appropriately. If the samples are stored with inappropriate preservatives the laboratory may not be able to accurately quantify the amount of the desired components. In this case re-sampling may be required.

Refer to the current Login SOP and/or the current price book for detailed sample receipt and handling procedures, appropriate preservation and holding time requirements.

#### Sample Custody

#### Chain-of-Custody Form

A Chain-of-Custody (CoC) form is used to provide a record of sample chronology from the field to receipt at the laboratory. HEALs CoC contains the client's name, address, phone and fax numbers, the project name and number, the project manager's name, and the field sampler's name. It also identifies the date and time of sample collection, sample matrix, field sample ID number, number/volume of sample containers, sample temperature upon receipt, and any sample preservative information.

There is also a space to record the HEAL ID number assigned to samples after they are received. Next to the sample information is a space for the client to indicate the desired analyses to be performed. There is a section for the client to indicate the data package level as well as any accreditation requirements. Finally, there is a section to track the actual custody of the samples. The custody section contains lines for signatures, dates and times when samples are relinquished and received. The CoC form also includes a space to record special sample related instructions, sampling anomalies, time constraints, and any sample disposal considerations.

It is paramount that all CoCs arrive at HEAL complete and accurate so that the samples can be processed and allocated for testing in a timely and efficient manor. A sample chain-of-custody form can be found in Appendix G or on line at www.hallenvironmental.com.

## **Receiving Samples**

Samples are received by authorized HEAL personnel. Upon arrival, the CoC is compared to the respective samples. After the samples and CoC have been determined to be complete and accurate, the sampler signs over the CoC. The HEAL staff member in turn signs the chain-of-custody, also noting the current date, time and sample temperature. This relinquishes custody of the samples from the sampler and delegates sample custody to HEAL. The third (pink) copy of the CoC form is given to the person who has relinquished custody of the samples.

#### Logging in Samples and Storage

Standard Operating Procedures have been established for the receiving and tracking of all samples (refer to the current HEAL Login SOP). These procedures ensure that samples are received and properly logged into the laboratory, and that all associated documentation, including chain of custody forms, are complete and consistent with the samples received. Each sample set is given a unique HEAL tracking ID number. Individual sample locations within a defined sample set are given a unique sample ID suffix-number. Labels with the HEAL numbers, and tests requested, are generated and placed on their respective containers. The pH of preserved, non-volatile samples is checked and noted if out of compliance. Due to the nature of the samples, the pHs of volatiles samples are checked after analysis. Samples are reviewed prior to being distributed for analysis.

Samples are distributed for analysis based upon the requested tests. In the event that sample volume is limited and different departments at HEAL are required to share the

sample, volatile work takes precedence and will always be analyzed first before the sample is sent to any other department for analysis.

Each project (sample set) is entered into the Laboratory Information Management System (LIMS) with a unique ID that will be identified on every container. The ID tag includes the Lab ID, Client ID, date and time of collection, and the analysis/analyses to be performed. The LIMS continually updates throughout the lab. Therefore, at any time, an analyst or manager may inquire about a project and/or samples status. For more information about the login procedures, refer to the Sample Login SOP.

## **Disposal of Samples**

Samples are held at HEAL for a minimum of thirty days and then transferred to the HEAL warehouse for disposal. Analytical results are used to characterize their respective sample contamination level(s) so that the proper disposal can be performed. These wastes will be disposed of according to their hazard as well as their type and level of contamination. Refer to the Hall Environmental Analysis Laboratory Chemical Hygiene Plan and current Sample Disposal SOP for details regarding waste disposal.

Waste drums are provided by an outside agency. These drums are removed by the outside agency and disposed of in a proper manner.

The wastes that are determined to be non-hazardous are disposed of as non-hazardous waste in accordance with the Chemical Hygiene Plan and Sample Disposal SOP.

## 6.0 Analytical Procedures

All analytical methods used at HEAL incorporate necessary and sufficient Quality Assurance and Quality Control practices. A Standard Operating Procedure (SOP) is used for each method to provide the necessary criteria to yield acceptable results. These procedures are reviewed at least annually and revised as necessary and are attached as a pdf file in the Laboratory Information Management System (LIMS) for easy access by each analyst. The sample is often consumed or altered during the analytical process. Therefore, it is important that each step in the analytical process be correctly followed in order to yield valid data.

When unforeseen problems arise, the analyst, technical director, and, when necessary, laboratory manager meet to discuss the factors involved. The analytical requirements are evaluated and a suitable corrective action or resolution is established. The client is notified in the case narrative with the final report or before, if the validity of their result is in question.

## **List of Procedures Used**

Typically, the procedures used by HEAL are EPA approved methodologies or 20<sup>th</sup> edition Standard Methods. However, proprietary methods for client specific samples, are sometimes used. The following tables list EPA and Standard Methods Method numbers with their corresponding analytes and/or instrument classification.

### Methods Utilized at HEAL

Methodolo	gyTitle of Method
120.1	"Conductance(Specific Conductance, uohms at 25 ° C)"
180.1	"Turbidity (Nephelometric)"
200.2	"Sample Preparation Procedure For Spectrochemical Determination of Total Recoverable Elements"
200.7	"Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry"
245.1	"Mercury (Manual Cold Vapor Technique)"
300.0	"Determination of Inorganic Anions by Ion Chromatography"
413.2	"Oil and Grease"
418.1	"Petroleum Hydrocarbons (Spectrophotometric, Infrared)"
420.3	"Phenolics (Spectrophotometric, MBTH With Distillation)"
504.1	"EDB, DBCP and 123TCP in Water by Microextraction and Gas Chromatography"

505	"Analysis of Organohalide Pesticides and Commercial Polychlorinated Biphenyl (PCB) Products in Water by Microextraction and Gas Chromatography"
515.1	"Determination of Chlorinated Acids in Water by Gas Chromatography with an Electron Capture Detector"
524.2	"Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry"
531.1	"Measurement of N-Methylcarbomoyloximes and N-Methylcarbamates in Water by Direct Aqueous Injection HPLC with Post Column Dervivatization"
547	"Determination of Glyphosate in Drinking Water by Direct-Aqueous Injection HPLC, Post-Column Derivatization, and Fluorescence Detection"
552.1	"Determination of Haloacetic Acids and Dalapon in Drinking Water by Ion- Exchange Liquid-Solid Extraction and Gas Chromatography with an Electron Capture Detector"
1311	"Toxicity Characteristic Leaching Procedure"
1311ZHE	"Toxicity Characteristic Leaching Procedure"
3005A	"Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by FLAA or ICP Spectroscopy"
3010A	"Acid Digestion of Aqueous Samples and Extracts for Total Metals for Analysis by FLAA or ICP Spectroscopy"
3050B	"Acid Digestion of Sediment, Sludge, and Soils"
3510C	"Separatory Funnel Liquid-Liquid Extraction"
3540	"Soxhlet Extraction"
3545	"Pressurized Fluid Extraction(PFE)"
3665	"Sulfuric Acid/Permanganate Cleanup"
5030B	"Purge-and-Trap for Aqueous Samples"
5035	"Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples"
6010B	"Inductively Coupled Plasma-Atomic Emission Spectrometry"
7470A	"Mercury in Liquid Waste (Manual Cold-Vapor Technique)"
7471A	"Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)"
8021B	"Aromatic and Halogenated Volatiles By Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors"
8015B	"Nonhalogenated Volatile Organics by Gas Chromatography" (Gasoline Range and Diesel Range Organics)

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8015AZ	"C10-C32 Hydrocarbons in Soil-8015AZ"					
8081A	"Organochlorine Pesticides by Gas Chromatography"					
8082	"Polychlorinated Biphenyls (PCBs) by Gas Chromatography"					
8260B	"Volatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS)"					
8270C	Semivolatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS)"					
8310	"Polynuclear Aromatic Hydrocarbons"					
9045C	"Soil and Waste pH"					
9056	"Determination of Inorganic Anions by Ion Chromatography"					
9060	"Total Organic Carbon"					
9067	"Phenolics (Spectrophotometric, MBTH With Distillation)"					
9095	Paint Filter					
Walkley/Black	FOC/TOC WB					
SM2320 B	"Alkalinity"					
SM2540 B	"Total Solids Dried at 103-105° C"					
SM2540 C	"Total Dissolved Solids Dried at 180° C"					
SM2540 D	"Total Suspended Solids Dried at 103-105° C"					
SM 3500 Fe+2	Ferrous Iron					
SM4500-H+B	"pH Value"					
SM4500-NH3 C	"4500-NH3" Ammonia					
SM4500-Norg C	"4500-Norg" Total Kjeldahl Nitrogen (TKN)					
SM4500-P B	"4500-P" Total Phosphorous					
SM4500-S2 F	"4500-S2" Sulfide					
SM5310 B	"5310" Total Organic Carbon (TOC)					

## **Criteria for Standard Operating Procedures**

HEAL has Standard Operating Procedures (SOPs) for each of the test methods listed above. These SOPs are based upon the listed methods and detail the specific procedure and equipment utilized as well as the quality requirements necessary to prove the integrity of the data. SOPs are reviewed or revised every twelve months or sooner if necessary. The review/revision is documented in the Master SOP Logbook filed in the QA/QC Office. All SOPs are available in the LIMS linked under the specific test method. Administrative SOPs, which are not linked in the LIMS are available on desktops throughout the laboratory in the link to administrative SOPs folder.

Each HEAL test method SOP shall include or reference the following topics where applicable:

Identification of the test method;

Applicable matrix or matrices;

Limits of detection and quantitation;

Scope and application, including parameters to be analyzed;

Summary of the test method;

Definitions:

Interferences:

Safety:

Equipment and supplies;

Reagents and standards;

Sample collection, preservation, shipment and storage;

Quality control parameters;

Calibration and standardization;

Procedure:

Data analysis and calculations;

Method performance:

Pollution prevention;

Data assessment and acceptance criteria for quality control measures;

Corrective actions for out-of-control data:

Contingencies for handling out-of-control or unacceptable data;

Waste management;

References; and

Any tables, diagrams, flowcharts and validation data.

#### 7.0 Calibration

All equipment and instrumentation used at HEAL are operated, maintained and calibrated according to manufacturers guidelines, as well as criteria set forth in applicable analytical methodology. Personnel who have been properly trained in their procedures perform operation and calibration. Brief descriptions of the calibration processes for our major laboratory equipment and instruments are found below.

#### **Thermometers**

The thermometers in the laboratory are used to measure the temperatures of the refrigerators/freezers, ovens, water baths, hot blocks, ambient laboratory conditions, TCLP Extractions, digestion blocks and samples at the time of log-in. All NIST traceable thermometers are either removed from use upon their documented expiration date or they are checked annually with a NIST certified thermometer and a correction factor is noted on each thermometer log. See the most current Login SOP for detailed procedures on this calibration procedure.

Dickson Data Loggers are used to record sample and standard storage refrigerators over the weekend when the appropriate staff is not available to record the temperatures. These data loggers are shipped back to the manufacturer once a year to be re calibrated.

## Refrigerators/Freezers

Each laboratory refrigerator or freezer contains a thermometer capable of measuring to a minimum precision of 1°C. The thermometers are kept with the bulb immersed in liquid. Each workday, the temperatures of the refrigerators are recorded in a designated logbook to insure that the refrigerators are within the required designated range. Samples are stored separately from the standards to reduce the risk of contamination.

See the current catastrophic Failure SOP for the procedure regarding how to handle failed refrigerators or freezers.

#### Ovens

The ovens contain thermometers graduated by 1° C. The ovens are calibrated quarterly against NIST thermometers and checked daily as required and in which ever way is dictated by or appropriate for the method in use.

## **Analytical and Table Top Balances**

The table top balances are capable of weighing to a minimum precision of 0.01 grams. The analytical balances are capable of weighing to a minimum precision of 0.0001 grams. Records are kept of daily calibration checks for the balances in use. Working weights are used in these checks. The balances are annually certified by an outside source and the certifications are on file with the QA/QCO.

Balances, unless otherwise indicated by method specific SOPs, will be checked daily with at least two weights that will bracket the working range of the balance for the day. Daily balance checks will be done using working weights that are calibrated annually against Class S weights. Class S weights are calibrated as required by an external provider. The Class S weights are used once a year or more frequently if required, to assign values to the Working Weights. During the daily balance checks the working weights are compared to their assigned values and must pass within 5% of their assigned value in order to validate the calibration of the balance. The assigned values for the working weights, as well as the daily checks, are recorded in the balance logbook for each balance.

#### Instrument Calibration

An instrument calibration is the relationship between the known concentrations of a set of calibration standards introduced into an analytical instrument and the measured response they produce. Calibration curve standards are a prepared series of aliquots at various known concentrations levels from a primary source reference standard. Specific mathematical types of calibration techniques are outlined in SW-846 8000B. The entire initial calibration must be performed prior to sample analyses.

The lowest standard in the calibration curve must be at or below the required reporting limit.

Refer to the current SOP to determine the minimum requirement for calibration points.

Most compounds tend to be linear and a linear approach should be favored when linearity is suggested by the calibration data. Non-linear calibration should be considered only when a linear approach cannot be applied. It is not acceptable to use an alternate calibration procedure when a compound fails to perform in the usual manner. When this occurs it is indicative of instrument issues or operator error.

If a non-linear calibration curve fit is employed, a minimum of six calibration levels must be used for second-order (quadratic) curves.

When more than 5 levels of standards are analyzed in anticipation of using second-order calibration curves, all calibration points MUST be used regardless of the calibration option employed. The highest or lowest calibration point may be excluded for the purpose of narrowing the calibration range, and meeting the requirements for a specific calibration option. Otherwise, unjustified exclusion of calibration data is expressly forbidden.

Analytical methods vary in QC acceptance criteria. HEAL follows the method specific guidelines for QC acceptance. The specific acceptance criteria are outlined in the analytical methods and its corresponding SOP.

## pH Meter

The pH meter measures to a precision of 0.01 pH units. The pH calibration logbook contains the calibration before each use, or each day, if used more than once per day. It is calibrated using a minimum of 3 certified buffers. Also available with the pH meter is a magnetic stirrer with a temperature sensor. See the current pH SOP (SM4500 H+ B) for specific details regarding calibration of the pH probe.

## Other Analytical Instrumentation and Equipment

The conductivity probe is calibrated as needed and checked daily when in use.

Eppendorf (or equivalent brands) pipettes are checked gravimetrically prior to use.

#### **Standards**

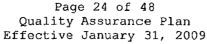
All of the source reference standards used are ordered from a reliable commercial vendor. A Certificate of Analysis (CoA), which verifies the quality of the standard, accompanies the standards from the vendor. The Certificates of Analysis are dated and stored on file by the Technical Directors or their designee. These standards are traceable to the National Institute of Standards (NIST). When salts are purchased and used as standards the certificate of purity must be obtained from the vendor and filed with the CoAs.

All standard solutions, calibration curve preparations, and all other quality control solutions are labeled in a manner that can be traced back to the original source reference standard. All source reference standards are entered into the LIMS with an appropriate description of the standard. Dilutions of the source reference standard (or any mixes of the source standards) are fully tracked in the LIMS. Standards are labeled with the date opened for use, and an expiration date.

As part of the quality assurance procedures at HEAL, analysts strictly adhere to manufacture recommendations for storage times/expiration dates and policies of analytical standards and quality control solutions.

#### Reagents

HEAL ensures that the reagents used are of acceptable quality for their intended purpose. This is accomplished by ordering high quality reagents and adhering to good laboratory





practices so as to minimize contamination or chemical degradation. All reagents must meet any specifications noted in the analytical method. Refer to the current Purchase of Consumables SOP for details on how this is accomplished and documented.

Upon receipt, all reagents are assigned a separate ID number, and logged into the LIMS. All reagents shall be labeled with the date received into the laboratory and again with the date opened for use. Recommended shelf life shall be documented and controlled. Dilutions or solutions prepared shall be clearly labeled, dated, and initialed. These solutions are traceable back to their primary reagents.

All gases used with an instrument shall meet specifications of the manufacturer. All safety requirements that relate to maximum and/or minimum allowed pressure, fitting types, and leak test frequency, shall be followed. When a new tank of gas is placed in use, it shall be checked for leaks and the date put in use will be written in the instrument maintenance logbook.

HEAL continuously monitors the quality of the reagent water and provides the necessary indicators for maintenance of the purification systems in order to assure that the quality of laboratory reagent water meets established criteria for all analytical methods.

Reagent blank samples are also analyzed to ensure that no contamination is present at detectable levels. The frequency of reagent blank analysis is typically the same as calibration verification samples. Refrigerator storage blanks are stored in the volatiles refrigerator for a period of one week and analyzed and replaced once a week.

#### 8.0 Maintenance

Maintenance logbooks are kept for each major instrument and all support equipment in order to document all repair and maintenance. In the front of the logbook, the following information is included:

Unique name of the item or equipment
Manufacturer
Type of Instrument
Model Number
Serial Number
Date received and date placed into service
Location of Instrument
Condition of instrument upon receipt

For routine maintenance, the following information shall be included in the log:

Maintenance Date Maintenance Description Maintenance Performed by Initials

A manufacturer service agreement (or equivalent) covers most major instrumentation to assure prompt and reliable response to maintenance needs beyond HEAL instrument operator capabilities.

Refer to the current Maintenance and Troubleshooting SOP for each section in the laboratory for further information.

## 9.0 Data Integrity

For HEAL's policy on ethics and data integrity see section 3.0 of this document. Upon being hired and annually there after, all employees at HEAL undergo documented data integrity training. All new employees sign an Ethics and Data Integrity Agreement, documenting their understanding of the high standards of integrity required at HEAL and outlining their responsibilities in regards to ethics and data integrity. See Appendix H for a copy of this agreement.

In instances of ethical concern analysts are required to report the known or suspected concern to their Technical Director, the Laboratory Manager or the QA/QCO. This will be done in a confidential and receptive environment, allowing all employees to privately discuss ethical issues or report items of ethical concern.

Once reported and documented the ethical concern will be immediately elevated to the Laboratory Manager and the need for an investigation, analyst remediation or termination will be determined on a case by case basis.

All reported instances of ethical concern will be thoroughly documented and handled in a manner sufficient to rectify any breaches in data integrity with an emphasis on preventing similar incidences from happening in the future.

## 9.0 Quality Control

## **Internal Quality Control Checks**

HEAL utilizes various internal quality control checks, including duplicates, matrix spikes, matrix spike duplicates, method blanks, laboratory control spikes, laboratory control spike duplicates, surrogates, internal standards, calibration standards, quality control charts, proficiency tests and calculated measurement uncertainty.

Refer to the current method SOP to determine the frequency and requirements of all quality controls. In the event that the frequency of analysis is not indicated in the method specific SOP, duplicate samples, laboratory control spikes (LCS), Method Blanks (MB) and matrix spikes and matrix spike duplicates (MS/MSD) are analyzed for every batch of twenty samples.

When sample volume is limited on a test that requires an MS/MSD an LCSD shall be analyzed to demonstrate precision and accuracy and when possible a sample duplicate will be analyzed.

Duplicates, are identical tests repeated for the same sample or matrix spike in order to determine the precision of the test method. A Relative Percent Difference (RPD) is calculated as a measure of this precision. Unless indicated in the SOP, the default acceptance limit is </= 30%.

Matrix Spikes and Matrix Spike Duplicates are spiked samples (MS/MSD) that are evaluated with a known added quantity of a target compound. This is to help determine the accuracy of the analyses and to determine the matrix affects on analyte recovery. A percent recovery is calculated to assess the quality of the accuracy. In the event that the acceptance criteria is not outlined in the SOP a default limits of 70-130% will be utilized. When an MSD is employed an RPD is calculated and when not indicated in the SOP shall be acceptable at </= 30%.

When appropriate for the method, a Method Blank should be analyzed with each batch of samples processed to assess contamination levels in the laboratory. MBs consist of all the reagents measured and treated as they are with samples, except without the samples. This enables the laboratory to ensure clean reagents and procedures. Guidelines should be in place for accepting or rejecting data based on the level of contamination in the blank. In the event that these guidelines are not dictated by the SOP or in client specific work plans, the MB should be less than the MDL reported for the analyte being reported.

A Laboratory Control Spike and Laboratory Control Spike Duplicate (LCS/LCSD) are reagent blanks, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. It is generally used to establish intra-laboratory or analyst-specific precision and bias or to assess the performance of all or a portion of the measurement system. Guidelines are outline in each

SOP for the frequency and pass fail requirements for LCS and LCSDs. These limits can be set utilizing control charts as discussed below.

Surrogates are utilized when dictated by method and are substances with properties that mimic the analytes of interest. The surrogate is an analyte that is unlikely to be found in environmental samples. Refer to the appropriate Method and SOP for guidelines on pass/fail requirements for surrogates.

Internal Standards are utilized when dictated by the method and are known amounts of standard added to a test portion of a sample as a reference for evaluating and controlling the precision and bias of the applied analytical method. Refer to the appropriate Method and SOP for guidelines on pass/fail requirements for Internal Standards.

Proficiency Test (PT) Samples are samples provided by an unbiased third party. They are typically analyzed twice a year, or at any other interval defined in the method SOP. They contain a pre-determined concentration of the target compound, which is unknown to HEAL. HEAL's management and all analyst shall ensure that all PT samples are handled in the same manner as real environmental samples utilizing the same staff, methods, procedures, equipment, facilities and frequency of analysis as used for routine analysis of that analyte. When analyzing a PT, HEAL shall employ the same calibration, laboratory quality control and acceptance criteria, sequence of analytical steps, number of replicates and other procedures as used when analyzing routine samples.

With regards to analyzing PT Samples HEAL shall not send any PT sample, or portion of a PT sample, to another laboratory for any analysis for which we seeks accreditation, or are accredited. HEAL shall not knowingly receive any PT sample or portion of a PT sample from another laboratory for any analysis for which the sending laboratory seeks accreditation, or is accredited. Laboratory management or staff will not communicate with any individual at another laboratory concerning the PT sample. Laboratory management or staff shall not attempt to obtain the assigned value of any PT sample from the PT Provider.

Calibration standards are standards run to calibrate. Once the calibration is established the same standards can be analyzed as Continuing Calibration Verifications (CCV), used to confirm the consistency of the instrumentation. Calibration standards can be utilized at the beginning and end of each batch, or more frequently as required. Typically Continuing Calibration Blanks (CCB) are run in conjunction with CCVs. Refer to the current method SOP for frequency and pass/fail requirements of CCVs and CCBs.

Control Limits are limits of acceptable ranges of the values of quality control checks. If a value falls outside the appropriate range, immediate evaluation and assessment of the procedure is required. Data generated with laboratory control samples that fall outside of the established control limits are judged to be generated during an "out-of-control" situation. These data are considered suspect and shall be repeated or reported with qualifiers.

Control limits should be established and updated according to the requirements of the method being utilized. When the method does not specify, and control limits are to be generated or updated for a test, the following guidelines shall be utilized.

Control Limits should be updated periodically and at least annually. The Limits should be generated utilizing the most recent 20-40 data values and Control Charts should be printed when these limits are updated in the LIMS. The data values used shall not reuse values that were included in the previous Control Limit update. The data values shall also be reviewed by the LIMS for any Grubbs Outliers, and if identified, the outliers must be removed prior to generating new limits. Once new Control Limits have been established and updated in the LIMS, the printed Control Chart shall be reviewed by the appropriate technical director and primary analyst performing the analysis for possible trends and compared to the previous Control Charts. The technical director initials the control charts, indicating that they have reviewed and determined the updated Limits to be accurate and appropriate. These initialed charts are then filed in the QA/QCO office.

Calculated Measurement Uncertainty is calculated annually using LCSs in order to determine the laboratory specific uncertainty associated with each test method. These uncertainty values are available to our clients upon request and are utilized as a trending tool internally to determine the effectiveness of new variables introduced into the procedure over time.

## Precision, Accuracy, Detection Levels

#### Precision

The laboratory uses sample duplicates, laboratory control spike duplicates and matrix spike duplicates to assess precision in terms of relative percent difference (RPD). HEAL requires the RPD to fall within the 99% confidence interval of established control charts or an RPD of less than 30% if control charts are not available. RPD's greater than these limits are considered out-of-control and require an appropriate response.

RPD = 2 x (Sample Result – Duplicate Result) X 100 (Sample Result + Duplicate Result)

#### Accuracy

The accuracy of an analysis refers to the difference between the calculated value and the actual value of a measurement. The accuracy of a laboratory result is evaluated by comparing the measured amount of QC reference material recovered from a sample and the known amount added. Control limits can be established for each analytical method and sample matrix. Recoveries are assessed to determine the method efficiency and/or the matrix effect.

Analytical accuracy is expressed as the percent recovery (%R) of an analyte or parameter. A known amount of analyte is added to an environmental sample before

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the sample is prepared and subsequently analyzed. The equation used to calculate percent recovery is:

%Recovery = {(concentration\* recovered)/(concentration\* added)} X 100

\*or amount

HEAL requires that the Percent Recovery to fall within the 99 % confidence interval of established control limits. A value that falls outside of the confidence interval requires a warning and process evaluation. The confidence intervals are calculated by determining the mean and sample standard deviation. If control limits are not available, the range of 70 to 130% is used unless the specific method dictates otherwise. Percent Recoveries outside of this range mandate additional action such as analyses by Method of Standard Additions, additional sample preparation(s) where applicable, method changes, out-of-control action or data qualification.

#### **Detection Limit**

Current practices at HEAL define the Detection Limit (DL) as the smallest amount that can be detected above the baseline noise in a procedure within a stated confidence level.

HEAL presently utilizes an Instrument Detection Limit (IDL), a Method Detection Limit (MDL), and a Practical Quantitation Limit (PQL). The relationship between these levels is approximately

IDL: MDL: PQL = 1:5:5.

The IDL is a measure of the sensitivity of an analytical instrument. The IDL is the amount which, when injected, produces a detectable signal in 99% of the analyses at that concentration. An IDL can be considered the minimum level of analyte concentration that is detectable above random baseline noise.

The MDL is a measure of the sensitivity of an analytical method. An MDL determination (as required in 40CFR part 136 Appendix B) consists of replicate spiked samples carried through all necessary preparation steps. The spike concentration is three times the standard deviation of three replicates of spikes. At least seven replicates are spiked and analyzed and their standard deviation (s) calculated. Routine variability is critical in passing the 10 times rule and is best achieved by running the MDLs over different days and when possible over several calibration events. The method detection limit (MDL) can be calculated using the standard deviation according to the formula:

MDL = s \* t (99%)

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Where t (99%) is the student's t value for the 99% confidence interval. It depends on the number of trials used in calculating the sample standard deviation, so choose the appropriate value according to the number of trials.

Number of Trials	t(99%)
6	3.36
7	3.14
8	3.00
9	2.90

The calculated MDL must not be less than 10 times the spiked amount or the study must be performed again with a lower concentration.

The PQL is significant because different laboratories can produce different MDLs although they may employ the same analytical procedures, instruments and sample matrices. The PQL is about two to five times the MDL and represents a practical, and routinely achievable, reporting level with a good certainty that the reported value is reliable. It is often determined by regulatory limits. The reported PQL for a sample is dependent on the dilution factor utilized during sample analysis.

## **Quality Control Parameter Calculations**

#### Mean

The sample mean is also known as the arithmetic average. It can be calculated by adding all of the appropriate values together, and dividing this sum by the number of values.

Average = 
$$(\Sigma x_i) / n$$

 $x_I$  = the value x in the  $I^{th}$  trial n = the number of trials

#### Standard Deviation

The sample standard deviation, represented by s, is a measure of dispersion. The dispersion is considered to be the difference between the average and each of the values  $x_i$ . The variance,  $s^2$ , can be calculated by summing the squares of the differences and dividing by the number of differences. The sample standard deviation, s, can be found by taking the square root of the variance.

Standard deviation =  $s = \left[\sum (x_1 - average)^2 / (n-1)\right]^{\frac{1}{2}}$ 

## Percent Recovery (MS, MSD, LCS and LCSD)

Percent Recovery = (Spike Sample Result – Sample Result) X100 (Spike Added)

#### Confidence Intervals

Confidence intervals are calculated by the LIMS using the average (x), the sample standard deviation (s), and the Student's t distribution (s-dist), which depends on the number of values used to calculate the average and sample standard deviation.

The formula is:

confidence interval =  $x \pm s * s$ -dist

#### Student's t Distribution

# values 10 15 20 121 31 41 41 61 121 > 121									
95 %	2.262	2.145	2.093	2.064	2.042	2.021	2.000	1.980	1.960
99%	3.250	2.977	2.861	2.797	2.750	2.704	2.660	2.617	2.576

Unless there is insufficient data, at least 20 values will always be used in calculating the confidence intervals.

## **RPD (Relative Percent Difference)**

Analytical precision is expressed as a percentage of the difference between the results of duplicate samples for a given analyst. Relative percent difference (RPD) is calculated as follows:

RPD = 2 x (Sample Result – Duplicate Result) X 100 (Sample Result + Duplicate Result)

## **Uncertainty Measurements**

Uncertainty, as defined by ISO, is the parameter associated with the result of a measurement that characterizes the dispersion of the values that could reasonably be attributed to the measurement. Ultimately uncertainty measurements are used to state how good a test result is and to allow the end user of data to properly interpret their reported data. All procedures allow for some uncertainty. For most analyses the components and estimates of uncertainty are reduced by following well established test methods. To further reduce uncertainty, results are generally not reported below the lowest calibration point (PQL) or above the highest calibration point (UQL).

Understanding that there are many influence quantities affecting a measurement result, so many in fact that it is impossible to identify all of them, HEAL calculates measurement uncertainty at least annually using LCSs. These estimations of measurement uncertainty are kept on file in the method folders in the QA/QC office.

Measurement Uncertainty contributors are those that may be determined statistically. These shall be generated by estimating the overall uncertainty in the entire analytical process by measuring the dispersion of values obtained from laboratory control samples over time. At least 20 of the most recent LCS data points are gathered. The standard deviation (s) is calculated using these LCSs data points. Since it can be assumed that the possible estimated values of the spikes are approximately normally distributed with approximate standard deviation (s), the unknown value of the spike is believed to lie in 95% confidence interval, corresponding to an uncertainty range of +/- 2(s).

Calculate standard deviation (s) and 95% confidence interval according to the following formulae:

$$s = \sqrt{\frac{\sum (x - \overline{x})^2}{(n-1)}}$$

Where: s = standard deviation

x = number in series

 $\bar{x}$  = calculated mean of series

n = number of samples taken

95% confidence =  $2 \times s$ 

Example: Assuming that after gathering 20 of the most recent LCS results for Bromide, we have calculated the standard deviations of the values and achieved a result of 0.0326, our measurement uncertainty for Bromide (at 95% confidence =  $2 \times s$ ) is 0.0652.

#### **Calibration Calculations**

1. Response Factor or Calibration Factor:

$$RF = ((A_x)(C_{is}))/((A_{is})(C_x))$$

$$CF=(A_x)/(C_x)$$

a. Average RF or CF

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$$RF_{AVE} = \Sigma RF_i / n$$

- b. Standard Deviation  $s = SQRT \{ [\Sigma (RF_i - RF_{AVE})^2] / (n-1) \}$
- c. Relative Standard Deviation

Where:

 $A_x = Area of the compound$ 

 $C_x$  = Concentration of the compound

 $A_{is}$  = Area of the internal standard

 $C_{is}$  = Concentration of the internal standard

n = number of pairs of data

RF<sub>i</sub> = Response Factor (or other determined value)

 $RF_{AVE}$  = Average of all the response factors

 $\Sigma$  = the sum of all the individual values

2. Linear Regression

a. Slope (m)

$$m = (n\Sigma x_i y_i - (n\Sigma x_i)^* (n\Sigma y_i)) / (n\Sigma x_i^2 - (\Sigma x_i)^2)$$

b. Intercept (b)

$$b = y_{AVE} - m^*(x_{AVE})$$

c. Correlation Coefficient (cc)

CC (r) ={ 
$$\Sigma((x_i-x_{ave})^*(y_i-y_{ave}))$$
 } / {  $SQRT((\Sigma(x_i-x_{ave})^2)^*(\Sigma(y_i-y_{ave})^2))$  } Or CC (r) =[( $\Sigma w * \Sigma wxy$ ) - ( $\Sigma wx * \Sigma wy$ )] / ( $sqrt(([(\Sigma w * \Sigma wx^2) - (\Sigma wx * \Sigma wx)])^*[(\Sigma w * \Sigma wy^2) - (\Sigma wy * \Sigma wy)])))]$ 

d. Coefficient of Determination

$$COD(r^2) = CC*CC$$

#### Where:

y = Response (Area) Ratio  $A_x/A_{is}$ 

 $x = Concentration Ratio C_x/C_{is}$ 

m = slope

b = intercept

n = number of replicate x,y pairs

 $x_i$  = individual values for independent variable

 $y_i$  = individual values for dependent variable

 $\Sigma$  = the sum of all the individual values

 $x_{ave}$  = average of the x values

y<sub>ave</sub> = average of the y values

w = weighting factor, for equal weighting w=1

## 3. Quadratic Regression

$$y = ax^2 + bx + c$$

### a. Coefficient of Determination

COD (r<sup>2</sup>) = 
$$(\Sigma(y_i-y_{ave})^2 - \{[(n-1)/(n-p)] * [\Sigma(y_i-Y_i)^2]\}) / \Sigma(y_i-y_{ave})^2$$

### Where:

y = Response (Area) Ratio  $A_x/A_{is}$ 

 $x = Concentration Ratio C_x/C_{is}$ 

 $a = x^2$  coefficient

b = x coefficient

c = intercept

y<sub>i</sub> = individual values for each dependent variable

 $x_i$  = individual values for each independent variable

 $y_{ave}$  = average of the y values

n = number of pairs of data

p = number of parameters in the polynomial equation (I.e., 3 for third order, 2 for second order)

 $Yi = ((2*a*(C_x/C_{is})^2)-b^2+b+(4*a*c))/(4a)$ 

## b. Coefficients (a,b,c) of a Quadratic Regression

$$a = S_{(x2y)}S_{(xx)} - S_{(xy)}S_{(xx2)} / S_{(xx)}S_{(x2x2)} - [S_{(xx2)}]^2$$

$$b = S_{(xy)}S_{(x2x2)} - S_{(x2y)}S_{(xx2)} / S_{(xx)}S_{(x2x2)} - [S_{(xx2)}]^2$$

$$c = [(\Sigma yw)/n] - b^*[(\Sigma xw)/n] - a^*[\Sigma(x^2w)/n]$$

#### Where:

n = number of replicate x,y pairs x = x values y = y values w =  $S^{-2} / (\Sigma S^{-2}/n)$   $S_{(xx)} = (\Sigma x^2 w) - [(\Sigma x w)^2 / n]$   $S_{(xy)} = (\Sigma x^3 w) - [(\Sigma x w)^* (\Sigma y w) / n]$   $S_{(x2)} = (\Sigma x^3 w) - [(\Sigma x w)^* (\Sigma x^2 w) / n]$   $S_{(x2y)} = (\Sigma x^2 y w) - [(\Sigma x^2 w)^* (\Sigma y w) / n]$   $S_{(x2x2)} = (\Sigma x^4 w) - [(\Sigma x^2 w)^2 / n]$  Or If unweighted calibration, w=1 S(xx) = (Sx2) - [(Sx)2 / n]  $S(xy) = (Sxy) - [(Sx)^* (Sy) / n]$   $S(x2y) = (Sx3) - [(Sx)^* (Sy) / n]$   $S(x2y) = (Sx2y) - [(Sx2)^* (Sy) / n]$   $S(x2x2) = (Sx4) - [(Sx2)^2 / n]$ 

## 11.0 Data Reduction, Validation, Reporting, and Record Keeping

All data reported must be of the highest possible accuracy and quality. During the processes of data reduction, validation, and report generation, all work is thoroughly checked to insure that error is minimized.

#### **Data Reduction**

The analyst who generated the data usually performs the data reduction. The calculations include evaluation of surrogate recoveries (where applicable), and other miscellaneous calculations related to the sample quantitation.

If the results are computer generated, then the formulas must be confirmed by hand calculations, at minimum, one per batch.

See the current Data Validation SOP for details regarding data reduction.

#### Validation

A senior analyst, most often the section supervisor, validates the data. All data undergoes peer review. If an error is detected it is brought to the analyst attention to rectify and further checks ensure that all data for that batch is sound. Previous and/or common mistakes are stringently monitored throughout the validation process. Data is reported using appropriate significant figure criteria. In most cases, two significant digits are utilized, but three significant digits can be used in QC calculations. Significant digits are not rounded until after the last step of a sample calculation. All final reports undergo a review by the laboratory manager, or the project manager or their designee, to provide a logical review of all results before they are released to the client.

If data is to be manually transferred from one medium to another, the transcribed data is checked by a peer. This includes data typing, computer data entry, chromatographic data transfer, data table inclusion to a cover letter, or when data results are combined with other data fields.

All hand written data from run logs, analytical standard logbooks, hand entered data logbooks, or on instrument generated chromatograms, are systematically archived should the need for future retrieval arise.

See the current Data Validation SOP for detail regarding data validation.

## Reports and Records

All records at HEAL are retained and maintained through the procedures outlined in the most recent version of the Records Control SOP.

The reports are compiled by the Laboratory Information Management System (LIMS). Most data is transferred directly from the instruments to the LIMS. After being processed by the analyst and reviewed by a data reviewer, final reports are approved and signed by the senior laboratory management. A comparative analysis of the data is performed at this point. For example, if TKN and NH3 are analyzed on the same sample the NH3 result should never be greater than the TKN result. Lab results and reports are released only to appropriately designated individuals. Release of the data can be by fax, email, electronic deliverables, or mailed hard copy.

When a project is completed, the project file folder is stored with a hard copy of the report, relevant supporting data, and the quality assurance/control worksheets. These folders are kept on file and are arranged by project number. Additionally, all electronic data is backed up daily on the HEAL main server. The backup includes raw data, chromatograms and report documents. Hard copies of chromatograms are stored separately according to the instrument and the analysis date. All records and analytical data reports are retained in a secure location as permanent records for a minimum period of five years (unless specified otherwise in a client contract). Access to archived information shall be documented with an access log. Access to archived electronic reports and data will be protected by a project manager password. In the event that HEAL transfers ownership or terminates business practices, complete records will be maintained or transferred according to the client's instructions.

After issuance, the original report shall remain unchanged. If a correction to the report is necessary, then an additional document shall be issued. This document shall have a title of "Addendum to Test Report or Correction to Original Report", or equivalent. Demonstration of original report integrity comes in two forms. First, the report date is included on each page of the final report. Second, each page is numbered in sequential order, making the addition or omission of any data page(s) readily detectable.

#### 12.0 Corrective Action

Refer to the most recent version of the Data Validation SOP for the procedure utilized in filling out a Corrective Action Report.

The limits that have been defined for data acceptability also form the basis for corrective action initiation. Initiation of corrective action occurs when the data generated from continuing calibration standard, sample surrogate recovery, laboratory control spike, matrix spike or sample duplicates exceed acceptance criteria. If corrective action is necessary, the analyst or the section supervisor will coordinate to take the following steps to determine and correct the measurement system deficiency:

Check all calculations and data measurements systems (Calibrations, reagents, instrument performance checks etc.).

Assure that proper procedures were followed.

Unforeseen problems that arise during sample preparation and/or sample analysis that lead to treating a sample differently from documented procedures shall be documented with a corrective action report. The section supervisor and laboratory manager shall be made aware of the problem at the time of the occurrence. See the appropriate SOP regarding departures from documented procedures.

Continuing calibration standards below acceptance criteria can not be used for reporting analytical data unless method specific criteria states otherwise.

Continuing calibration standards above acceptance criteria can be used to report data so long as the failure is isolated to a single standard and the corresponding samples are non-detect for the failing analyte.

Samples with non-compliant surrogate recoveries should be reanalyzed unless deemed unnecessary by the supervisor for matrix, historical data, or other analysis related anomalies.

Laboratory and Matrix Spike acceptance criteria vary significantly depending on method and matrix. Analysts and supervisors meet and discuss appropriate corrective action measures as spike failures occur.

Sample duplicates with RPD values outside control limits require supervisor evaluation and possible reanalysis.

A second mechanism for initiation of corrective action is that resulting from Quality Assurance performance audits, system audits, inter and intra-laboratory comparison studies. Corrective Actions initiated through this mechanism will be monitored and coordinated by the laboratory QA/QCO.

All corrective action forms are entered in the LIMS and included with the raw data for peer review, signed by the technical director of the section and included in the case narrative to

the client whose samples were affected. All Corrective action forms in the LIMS are reviewed by the QA/QCO.

## 13.0 Quality Assurance Audits, Reports and Complaints

## Internal/External Systems' Audits, Performance Evaluations, and Complaints

Several procedures are used to assess the effectiveness of the quality control system. One of these methods includes internal performance evaluations, which are conducted by the use of control samples, replicate measurements and control charts. Another method is external performance audits, which are conducted by the use of inter-laboratory checks, such as participation in laboratory evaluation programs and performance evaluation samples available from a NELAC accredited Proficiency Standard Vendor.

Proficiency samples will be obtained twice per year from an appropriate vendor for all tests and matrices for which we are accredited and for which there are PTs available. HEAL participates in soil, waste water, drinking water and underground storage tank PT studies. Copies of results are available upon request. HEAL's management and all analyst shall ensure that all PT samples are handled in the same manner as real environmental samples utilizing the same staff, methods, procedures, equipment, facilities and frequency of analysis as used for routine analysis of that analyte. When analyzing a PT, HEAL shall employ the same calibration, laboratory quality control and acceptance criteria, sequence of analytical steps, number of replicates and other procedures as used when analyzing routine samples.

With regards to analyzing PT Samples HEAL shall not send any PT sample, or portion of a PT sample, to another laboratory for any analysis for which we seeks accreditation, or are accredited. HEAL shall not knowingly receive any PT sample or portion of a PT sample from another laboratory for any analysis for which the sending laboratory seeks accreditation, or is accredited. Laboratory management or staff will not communicate with any individual at another laboratory concerning the PT sample. Laboratory management or staff shall no attempt to obtain the assigned value of any PT sample from the PT Provider.

Internal Audits are performed annually by the QA/QCO in accordance with the current Internal Audit SOP. They are performed using the guidelines outlined below:

The system audit consists of a qualitative inspection of the QA system in the laboratory and an assessment of the adequacy of the physical facilities for sampling, calibration, and measurement. This audit includes a careful evaluation and review of laboratory quality control procedures. Including but not limited to:

- 1. Review of staff qualifications, demonstration of capability, and personnel training programs
- 2. Storage and handling of reagents, standards and samples
- 3. Standard preparation logbook and LIMS procedures
- 4. Extraction logbooks
- 5. Raw data logbooks
- 6. Analytical logbooks or batch printouts and instrument maintenance logbooks
- 7. Data review procedures

- 8. Corrective action procedures
- 9. Review of data packages is performed regularly by the lab manager/QA Officer.

The QA/QCO will conduct these audits on an annual basis.

#### **Management Reviews**

HEAL management shall periodically, and at least annually conduct a review of the laboratory's quality system and environmental testing activities to ensure their continuing suitability and effectiveness, and to introduce necessary changes or improvements. The review shall take account of:

- 1. the suitability and implementation of policies and procedures
- 2. reports from managerial and supervisory personnel
- 3. the outcome of recent internal audits
- 4. corrective and preventive actions
- 5. assessments by external bodies
- 6. the results of interlaboratory comparisons or proficiency tests
- 7. changes in volume and type of work
- 8. client feed back
- 9. complaints
- 10. other relevant factors, such as laboratory health and safety, QC activities, resources and staff training.

Findings from management reviews and the actions that arise from them shall be recorded and any corrective actions that arise shall be completed in an appropriate and agreed upon timescale.

#### Complaints

Complaints from clients are documented and given to the laboratory manager. The lab manager shall review the information and contact the client. If doubt is raised concerning the laboratories policies or procedures, then an audit of the section or sections may be performed. All records of complaints and subsequent actions shall be maintained in the client compliant logbook for 5 years unless otherwise stated.

## Internal and External Reports

The QA/QCO is responsible for preparation and submission of quality assurance reports to the appropriate management personnel as problems and issues arise. These reports include the assessment of measurement systems, data precision and accuracy, and the results of performance and system audits. Additionally, they also include significant QA problems, corrective actions, and recommended resolution measures. Reports of these Quality Assurance Audits describe the particular activities audited, procedures utilized in

the examination and evaluation of laboratory records, and data validation procedures. Finally, there are procedures for evaluating the performance of Quality Control and Quality Assurance activities, and laboratory deficiencies and the implementation of corrective actions with the review requirements.

## 14.0 Analytical Protocols Utilized at Hall Environmental Analysis Laboratory, Inc.

- 1. <u>Standard Methods for the Examination of Water and Wastewater:</u> AOHA, AWWA, and WPCG; 20th Edition, 1999.
- 2. <u>Methods for Chemical Analysis of Water and Wastes</u>, USEPA, EPA-600/4-79-020, March 1979 and as amended December, 1982 (EPA-600/4-82-055)
- 3. <u>Test Methods for Evaluating Solid Waste: Physical/Chemical Methods</u>, USEPA SW-846, 3rd Edition, Updates I, II, IIA, IIB, III, December, 1996.
- 4. <u>Methods of Soil Analysis</u>: Parts 1 & 2, 2nd Edition, Agronomy Society of America, Monograph 9
- 5. <u>Diagnosis & Improvement of Saline & Alkali Soils</u>, Agriculture Handbook No. 60, USDA, 1954
- 6. <u>Handbook on Reference Methods for Soil Testing.</u> The Council on Soil Testing & Plant Analysis, 1980 and 1992
- 7. <u>Field and Laboratory Methods Applicable to Overburdens and Mine Soils, USEPA, EPA-600/2-78-054, March 1978</u>
- 8. <u>Laboratory Procedures for Analyses of Oilfield Waste.</u> Department of Natural Resources, Office of Conservation, Injection and Mining Division, Louisiana, August 1988
- 9. Soil Testing Methods Used at Colorado State University for the Evaluation of Fertility, Salinity and Trace Element Toxicity, Technical Bulletin LT B88-2 January, 1988
- 10. <u>Manual of Operating Procedures for the Analysis of Selected Soil, Water, Plant Tissue and Wastes Chemical and physical Parameter.</u> Soil, Water, and Plant Analysis Laboratory, Dept. of Soil and Water Science, The University of Arizona, August 1989
- 11. <u>Sampling Procedures and Chemical Methods in Use at the U.S. Salinity Laboratory for Characterizing Salt-Affected Soils and Water.</u> USDA Salinity Laboratory.
- 12. <u>Procedures for Collecting Soil Samples and Methods of Analysis for Soil Survey.</u> USDA Soil Conservation Service, SSIR No. 1.
- 13. <u>Soil Survey Laboratory Methods Manual.</u> Soil Survey Laboratory Staff. Soil Survey Investigations Report No. 42, version 2.0, August 1992.
- 14. <u>Methods for the Determination of Metals in Environmental Samples</u>, USEPA, EPA-600/4-91-010. June 1991
- 15. The Merck Index, Eleventh Edition, Merck & Co., Inc. 1989.

- 16. Handbook of Chemistry and Physics, 62nd Edition, CRC Press, Inc. 1981-1982.
- 17. Analytical Chemistry of PCB's. Erickson, Mitchell D., CRC Press, Inc. 1992.
- 18. <u>Environmental Perspective on the Emerging Oil Shale Industry</u>, EPA Oil & Shale Research Group.
- 19. Polycyclic Aromatic Hydrocarbons in Water Systems, CRC Press, Inc.
- 20. Quality Systems for Analytical Services, Revision 2.2, U.S. Department of Energy, October 2006.

# Appendix A Personnel Chart / Organizational Structure

## Amanda Smolinski Sample Custodian Sample Custodian Tanya Shomin Sample Control Anne Thorne Manager Carolyn Swanson QA/QC Officer Sample Disposal Custodian Jeff Brick Steve Crandell Denise Freiha John Caldwell Semi-Volatile Julie Tuccillo Chemist III John Potter Chemist III Chemist III Chemist II Manager Laboratory Director Scott Hallenbeck Laboratory Manager H&S Officer and CHO Nancy McDuffie -Hongxuan Lu Chemist I David Melius Derek Harmon Organic Technical Chemist III Chemist I Nick Bliss Director Business/Project Manager Andy Freeman Vickie Brown Bookkeeper Rose Galbraith-Saunders Nicole Oglethorpe Thomas Francish Karen Stasiunas Shelley Vogler Inorganic Technical Tiffany Shaw Chemist III Chemist III Chemist II Chemist I Chemist I Chemist 1 lan Cameron Director

Diagram of Organizational Structure

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# OREGON

## **ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM**



**NELAP Recognized** 

## Hall Environmental Analysis Laboratory, Inc.

#### NM100001

4901 Hawkins Rd. NE, Suite D Albuquerque, NM 87109

IS GRANTED APPROVAL BY ORELAP UNDER THE 2003 NELAC STANDARDS, TO PERFORM ANALYSES ON ENVIRONMENTAL SAMPLES IN MATRICES AS LISTED BELOW:

Air	Drinking Water	Non Potable Water	Solids and Chem. Waste	Tissue
	Chemistry	Chemistry	Chemistry	

AND AS RECORDED IN THE LIST OF APPROVED ANALYTES, METHODS, ANALYTIC TECHNIQUES, AND FIELDS OF TESTING ISSUED CONCURRENTLY WITH THIS CERTIFICATE AND REVISED AS NECESSARY.

ACCREDITED STATUS DEPENDS ON SUCCESSFUL ONGOING PARTICIPATION IN THE PROGRAM AND CONTINUED COMPLIANCE WITH THE STANDARDS.

CUSTOMERS ARE URGED TO VERIFY THE LABORATORY'S CURRENT ACCREDITATION STATUS IN OREGON.

Irene E. Ronning, Ph.D. **ORELAP Administrator** 3150 NW 229th Ave, Suite 100 Hillsboro, OR 97124

ISSUE DATE:

3/1/2008

EXPIRATION DATE: 2/28/2009

Certificate No:



# Oregon

## **Environmental Laboratory Accreditation Program**

Public Health Laboratory 3150 NW 229th Ave, Suite 100 Hillsboro, OR, OR 97124 NELAP Recognized (503) 693-4122

FAX (503) 693-5602



Department of Agriculture, Laboratory Division Department of Environmental Quality, Laboratory Division Department of Human Services, Public Health Laboratory

# **ORELAP Fields of Accreditation**

ORELAPID: NM100001 EPACode: NM00035

Certificate:

NM100001-009

## Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D Albuquerque, NM, 87109

Issue Date: 3/1/2008

Expiration Date: 2/28/2009

As of 03/01/2008 this list supercedes all previous lists for this certificate number. Customers: Please verify the current accreditation standing with ORELAP.

ference		Code	Description
A 200.7 5		10014003	ICP - metals
Analyte Code	Analyte		
1000	Aluminum		
1015	Barium		
1020	Beryllium		
1025	Boron		· ·
1030	Cadmium		·
1035	Calcium		
1040	Chromium	•	
1055	Copper	•	
1070	Iron		
1075	Lead		
1085	. Magnesium		
1090	Manganese		
1100	Molybdenum		
1105	Nickel		•
1125	Potassium		
1150	Silver		
1155	Sodium		·
1175	Tin .		
1180	Titanium		
1185	Vanadium		
1190	Zinc	•	
A 245.1 3		10036609	Mercury by Cold Vapor Atomic Absorption
Analyte Code	<u>Analyte</u>		•
1095	Mercury		
A 300.0		10053006	Ion chromatography - anions.
Analyte Code	<u>Analyte</u>		
1575	Chloride		•
1730	Fluoride		
1810	Nitrate as N		·
1835	Nitrite		
2000	Sulfate		•
A 300.0 2.1		10053200	Inorganic Anions in water by Ion Chromatography
Analyte Code	<u>Analyte</u>		
1870	Orthophosphate a	s P	

ORELAPID: NM100001 EPACode: NM00035

Certificate:

NM100001-009

## Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D Albuquerque, NM, 87109

Issue Date: 3/1/2008

Expiration Date: 2/28/2009

As of 03/01/2008 this list supercedes all previous lists for this certificate number. Customers: Please verify the current accreditation standing with ORELAP.

EPA 5030B 2	10153409 Purge and trap for aqueous samples
Analyte Code	<u>Analyte</u>
125	Extraction/Preparation
PA 504.1	10083008 EDB/DBCP/TCP micro-extraction, GC/ECD
Analyte Code	<u>Analyte</u>
4570	1,2-Dibromo-3-chloropropane (DBCP)
4585	1,2-Dibromoethane (EDB, Ethylene dibromide)
PA 524.2 4.1	10088809 Volatile Organic Compounds GC/MS Capillary Column
Analyte Code	<u>Analyte</u>
5105	1,1,1,2-Tetrachloroethane
5160	1,1,1-Trichloroethane
5110	1,1,2,2-Tetrachloroethane
5165	1,1,2-Trichloroethane
4630	1,1-Dichloroethane
4640	1,1-Dichloroethylene
4670	1,1-Dichloropropene
5150	1,2,3-Trichlorobenzene
5180	1,2,3-Trichloropropane
5155	1,2,4-Trichlorobenzene
5210	1,2,4-Trimethylbenzene
4610	1,2-Dichlorobenzene
4635	1,2-Dichloroethane
4655	1,2-Dichloropropane
5215	1,3,5-Trimethylbenzene
4615	1,3-Dichlorobenzene
4660	1,3-Dichloropropane
4620	1,4-Dichlorobenzene
4535	2-Chlorotoluene
4540	4-Chlorotoluene
4375	Benzene
4385	Bromobenzene
4390	Bromochloromethane
4395	Bromodichloromethane
4400	Bromoform
4950	Bromomethane (Methyl bromide)
4455	Carbon tetrachloride
4475	Chlorobenzene
4485	Chloroethane
4505	Chloroform
105	Chloromethane
4645	cis-1,2-Dichloroethylene
4680	cis-1,3-Dichloropropene
4575	Dibromochloromethane
4595	Dibromomethane
4650	Dichloromethane (DCM, Methylene chloride)
4765	Ethylbenzene
4835	Hexachlorobutadiene
4900	Isopropylbenzene
5000	Methyl tert-butyl ether (MTBE)
4435	n-Butylbenzene
5090	n-Propylbenzene

ORELAPID: NM100001 EPACode: NM00035

Certificate:

NM100001-009

## Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D Albuquerque, NM, 87109

Issue Date: 3/1/2008

Expiration Date: 2/28/2009

As of 03/01/2008 this list supercedes all previous lists for this certificate number. Customers: Please verify the current accreditation standing with ORELAP.

4440	sec-Butylbenzene		
5100	Styrene		
4445	tert-Butylbenzene	•	
5115	- Tetrachloroethylene (F	erchloroethylen	ne)
5140	Toluene		
4700	trans-1,2-Dicloroethyle	ene	
4685	trans-1,3-Dichloroprop	ylene	
5170	Trichloroethene (Trich	loroethylene)	
51.75	Trichlorofluoromethan	€	
5235	Vinyl chloride	·	
5260	Xylene (total)	•	•
SM 2540 C 20th ED	20	050004	Total Dissolved Solids
Analyte Code	<u>Analyte</u>		•
1955	Residue-filterable (TD	S)	
SM 4500-H+ B 20th E	D 20	104807	pH by Probe
Analyte Code	<u>Analyte</u>		
1900	pН		· · · · · · · · · · · · · · · · · · ·
SM 6310 B 20th ED	20	137400	Total Organic Carbon by Combustion Infra-red Method
Analyte Code	<u>Analyte</u>		•
2040	Total Organic Carbon		

ORELAPID: NM100001 EPACode: NM00035

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MATRIX: Non-P			Description
Reference EPA 300.0		Code 10053006	Description Ion chromatography - anions.
	Analista	10053006	ion chiomatography - amons.
<u>Analyte Code</u> 1540	<u>Analyte</u>		
	Bromide		
1575	Chloride		
1730	Fluoride		
1810	Nitrate as N		
1840	Nitrite as N		
1870	Orthophosphate	as P	•
2000	Sulfate		
EPA 3005A 1		10133207	Acid Digestion of waters for Total Recoverable or Dissolved Metals
Analyte Code	<u>Analyte</u>		
125	Extraction/Prepa		
EPA 3510C 3		10138202	Separatory Funnel Liquid-liquid extraction
Analyte Code	<u>Analyte</u>		
125	Extraction/Prepa	ration	
EPA 5030B 2		10153409	Purge and trap for aqueous samples
Analyte Code	<u>Analyte</u>		
125	Extraction/Prepa	ration	
EPA 6010B 2		10155609	ICP - AES
Analyte Code	<u>Analyte</u>		
1000	Aluminum		
1005	Antimony		
1010	Arsenic	•	
1015	Barium		
1020	Beryllium		·
1025	Boron		
1030	Cadmium		
1035	Calcium		
1040	Chromium		
1050	Cobalt		
1070	Iron		
1075	Lead		
1085	Magnesium		
1090	Manganese		
1100	Molybdenum		
1105	Nickel		
1125	Potassium		
1140	Selenium		
1150	Silver		
1155	Sodium		
1165	Thallium		•
1175	Tin		
1180	Titanium		
3035	Uranium		
1185	Vanadium		•
1190	Zinc		
EPA 7470A 1		10165807	Mercury in Liquid Waste by by Cold Vapor Atomic Absorption
Analyte Code	<u>Analyte</u>		
1095	Mercury		

ORELAPID: NM100001 EPACode: NM00035

Certificate:

NM100001-009

## Hall Environmental Analysis Laboratory, Inc.

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Issue Date: 3/1/2008

Expiration Date: 2/28/2009

As of 03/01/2008 this list supercedes all previous lists for this certificate number. Customers: Please verify the current accreditation standing with ORELAP.

EPA 8015B 2	10173601 Non-ha	logenated organics using GC/FID
Analyte Code	<u>Analyte</u>	
9369	Diesel range organics (DRO)	
9408	Gasoline range organics (GRO)	
102	Motor Oil	,
PA 8021B 2	10174808 Aroma	tic and Halogenated Volatiles by GC with PID and/or ECD Purge
Analyte Code	<u>Analyte</u>	<b>.</b>
5210	1,2,4-Trimethylbenzene	
5215	1,3,5-Trimethylbenzene	•
4375	Benzene	
4765	Ethylbenzene	
5240	m+p-xylene	
5000	Methyl tert-butyl ether (MTBE)	
5250	o-Xylene	
5140	Toluene	
5260	Xylene (total)	
PA 8081A 1		ochlorine Pesticides by GC/ECD
Analyte Code	Analyte	•
7355	4,4'-DDD	
7360	4.4'-DDE	
7365	4,4'-DDT	
7025	Aldrin	
7110	alpha-BHC (alpha-Hexachlorocyclohexane)	
7115	beta-BHC (beta-Hexachlorocyclohexane)	
7105	delta-BHC	
7470	Dieldrin	
7510	Endosulfan i	
7515	Endosulfan II	· · · · · · · · · · · · · · · · · · ·
7520	Endosulfan sulfate	
7540	Endrin	
7530	Endrin aldehyde	
7120	gamma-BHC (Lindane, gamma-Hexachlorocy	clohexanF)
7685	Heptachlor	5,51,51,61,62,7
7690	Heptachlor epoxide	
7810	Methoxychlor	
PA 8082		lorinated Biphenyls (PCBs) by GC/ECD
Analyte Code	<u>Analyte</u>	
8880	Aroclor-1016 (PCB-1016)	
8885	Aroclor-1221 (PCB-1221)	
8890	Aroclor-1232 (PCB-1232)	
8895	Aroclor-1242 (PCB-1242)	
8900	Aroclor-1248 (PCB-1248)	
8905	Aroclor-1254 (PCB-1254)	
8910	Aroclor-1260 (PCB-1260)	
EPA 8260B 2		Organic Compounds by purge and trap GC/MS
Analyte Code	Analyte	On the second of Lands and and and and
5105	1,1,1,2-Tetrachloroethane	
5160	1,1,1-Trichloroethane	
	1,1,2,2-Tetrachloroethane	
5110	.,.,m,m 1966991191991111119	
5110 5165	1,1,2-Trichloroethane	

Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D Albuquerque, NM, 87109

Issue Date: 3/1/2008

5250

o-Xylene

Expiration Date: 2/28/2009

As of 03/01/2008 this list supercedes all previous lists for this certificate number. Customers: Please verify the current accreditation standing with ORELAP.

4640	1,1-Dichloroethylene
4670	1,1-Dichloropropene
5150 <sup>°</sup>	1,2,3-Trichlorobenzene
5180	1,2,3-Trichloropropane
5155	1,2,4-Trichlorobenzene
5210	1,2,4-Trimethylbenzene
4570	1,2-Dibromo-3-chloropropane (DBCP)
4585	1,2-Dibromoethane (EDB, Ethylene dibromide)
4610	1,2-Dichlorobenzene
4635	1,2-Dichloroethane
4655	1,2-Dichloropropane
5215	1,3,5-Trimethylbenzene
4615	1,3-Dichlorobenzene
4660	1,3-Dichloropropane
4620	1,4-Dichlorobenzene
6380	1-Methylnaphthalene
4665	2,2-Dichloropropane
4410	2-Butanone (Methyl ethyl ketone, MEK)
4535	2-Chlorotoluene
4860	2-Hexanone
6385	2-Methỳlnaphthalene
4540	4-Chlorotoluene
4995	4-Methyl-2-pentanone (MIBK)
4315	Acetone
4375	Benzene
4385	Bromobenzene
4390	Bromochloromethane
4395	Bromodichloromethane
4400	Bromoform
4950	Bromomethane (Methyl bromide)
4450	Carbon disulfide
4455	Carbon tetrachloride
4475	Chlorobenzene
4485	Chloroethane
4505	Chloroform
105	Chloromethane
4645	cis-1,2-Dichloroethylene
4680	cis-1,3-Dichloropropene
4575	Dibromochloromethane
4595	Dibromomethane
4625	Dichlorodifluoromethane
4650	Dichloromethane (DCM, Methylene chloride)
4765	Ethylbenzene
4835	Hexachiorobutadiene
4900	Isopropylbenzene
5240	m+p-xylene
5000	Methyl tert-butyl ether (MTBE)
5005	Naphthalene
4435	n-Butylbenzene
5090	n-Propylbenzene

ORELAPID: NM100001 EPACode: NM00035

Certificate:

NM100001-009

ORELAPID: NM100001

EPACode: NM00035

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## Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D Albuquerque, NM, 87109

Issue Date: 3/1/2008

Expiration Date: 2/28/2009

As of 03/01/2008 this list supercedes all previous lists for this certificate number.

Customers: Please verify the current accreditation standing with ORELAP.

						•	
4910	p-Isopropyitoluene						
4440	sec-Butylbenzene						
5100	Styrene			•			•
4445	tert-Butylbenzene						
5115	Tetrachloroethylene (Perchloroethy	lene)					
5140	Toluene	10116)					
4700	trans-1,2-Dicloroethylene						
4685	trans-1,3-Dichloropropylene						
5170	Trichloroethene (Trichloroethylene)						
5175	Trichlorofluoromethane						
5175 5235	Vinyl chloride						
5260	•				•		
EPA 8270C 3	Xylene (total) 10185805	Samil/aliti	ile Organic co	manumda by C	CIME		
Analyte Code		Serrivond	ne Organic co	inpounds by C	CHVIS		
5155	Analyte 1,2,4-Trichlorobenzene						
			•				
4610 4615	1,2-Dichlorobenzene						
4615 4620	1,3-Dichlorobenzene						
	1,4-Dichlorobenzene						
6835	2,4,5-Trichlorophenol						
6840	2,4,6-Trichlorophenol						
6000	2,4-Dichlorophenol						
6130	2,4-Dimethylphenol						
6175	2,4-Dinitrophenol						
6185	2,4-Dinitrotoluene (2,4-DNT)						
6190	2,6-Dinitrotoluene (2,6-DNT)						
5795	2-Chloronaphthalene						·
5800	2-Chlorophenol				•		
6385	2-Methylnaphthalene				,		
. 6400	2-Methylphenol (o-Cresol)						
6460	2-Nitroaniline						
6490	2-Nitrophenol						
6412	3 & 4 Methylphenol						
5945 6465	3,3'-Dichtorobenzidine 3-Nitroaniline						
6140 5660	4,6-Dinitro-2-methylphenol 4-Bromophenyl phenyl ether			•			
5700	4-Chloro-3-methylphenol						
5745	4-Chloroaniline						
5825	4-Chlorophenyl phenylether					•	
6470	4-Nitroaniline				•		
6500	4-Nitrophenol						
5500	Acenaphthene						
5505	Acenaphthylene			•			
5545	Aniline						
	Anthracene						
5555 123	Antinacene						
	Benzo[a]anthracene				•		
5575	Benzo[a]pyrene						
5580 5585	Benzo[b]fluoranthene						
5585 5590	Benzo[g,h,i]perylene						
	Benzo[k]fluoranthene						
5600	Denzo[N]nuoranthene			•			

ORELAPID: NM100001 EPACode: NM00035

Certificate:

NM100001-009

## Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D Albuquerque, NM, 87109

Issue Date: 3/1/2008

5005

6615

Naphthalene

Phenanthrene

Expiration Date: 2/28/2009

As of 03/01/2008 this list supercedes all previous lists for this certificate number. Customers: Please verify the current accreditation standing with ORELAP.

482	Benzofluoranthene	
5610	Benzoic acid	
5630	Benzyl alcohol	
5765	bis(2-Chloroethyl)ether	
5770	bis(2-Chloroethyloxymethane)	
5780	bis(2-Chloroisopropyl)ether	
6255	bis(2-Ethylhexyl)phthalate (DEHP)	
5670	Butyl benzyl phthalate	
5680	Carbazole	
5855	Chrysene	
5895	Dibenz[a,h]anthracene	
5905	Dibenzofuran	
6070	Diethyl phthalate	
6135	Dimethyl phthalate	
5925	Di-n-butyl phthalate	
6200	Di-n-octyl phthalate	
6265	Fluoranthene	
6270	Fluorene	
6275	Hexachlorobenzene	
4835	Hexachlorobutadiene	
6285	Hexachlorocyclopentadiene	
4840	Hexachloroethane	
6315	indeno[1,2,3-cd]pyrene	
6320	Isophorone	
5005	Naphthalene	
5015	Nitrobenzene	
6535	n-Nitrosodiphenylamine	
6540	n-Nitrosodipropylamine	
6605	Pentachlorophenol	
6615	Phenanthrene	
6625	Phenol	
6665	Pyrene	
5095	Pyridine	
EPA 8310	10187607 Polynuclear Aromatic Hydrocarbons by HPLC/UV-VIS	
Analyte Code	<u>Analyte</u>	
6380	1-Methylnaphthalene	
5500	Acenaphthene	
5505	Acenaphthylene	
5555	Anthracene	
5575	Benzo[a]anthracene	
5580	Benzo[a]pyrene	
5585	Benzo[b]fluoranthene	
5590	Benzo[g,h,i]perylene	
5600	Benzo[k]fluoranthene	
5855	Chrysene	
5895	Dibenz[a,h]anthracene	
6265	Fluoranthene	
6270	Fluorene	
6315	Indeno[1,2,3-cd]pyrene	

ORELAPID: NM100001 EPACode: NM00035

Certificate:

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## Hall Environmental Analysis Laboratory, Inc.

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Issue Date: 3/1/2008

Expiration Date: 2/28/2009

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6665 Pyrene SM 2540 C 20th ED 20050004 Total Dissolved Solids Analyte Code <u>Analyte</u> 1955 Residue-filterable (TDS) SM 4500-H+ B 20th ED 20104807 pH by Probe Analyte Code **Analyte** 1900 рΗ

ORELAPID: NM100001 EPACode: NM00035

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## Hall Environmental Analysis Laboratory, Inc.

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Issue Date: 3/1/2008

Expiration Date: 2/28/2009

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Reference	Code	Description
EPA 3050A	10135407	Acid Digestion of Sediments, Sludges, and soils
Analyte Code	Analyte	
125	Extraction/Preparation	
EPA 3540C 3	10140202	Soxhlet Extraction
Analyte Code	<u>Analyte</u>	
125	Extraction/Preparation	
EPA 3545	10140804	Pressurized Fluid Extraction (PFE)
Analyte Code	Analyte	• •
125	Extraction/Preparation	
EPA 5035	10154004	Closed-System Purge-and-Trap and Extraction for Volatile Organics in S
Analyte Code	Analyte	Closed Cyclem Cargo and Ca
125	Extraction/Preparation	
PA 6010B 2	10155609	ICP - AES
		ICF • AEG
Analyte Code	<u>Analyte</u>	
1000	Aluminum	
1005	Antimony	
1010	Arsenic	
1015	Barium	
1020	Beryllium	
1025	Boron	
1030	Cadmium	
1035	Calcium	
1040	Chromium	
1050	Cobalt	
1055	Copper	
1070	Iron	
1075	Lead	
1085	Magnesium	
1090	Manganese	
1100	Molybdenum	
1105	Nickel	
1125	Potassium	
1140	Selenium	
1150	Silver	•
1155	Sodium	
1165	Thallium —	
1175	Tin	
1180	Titanium	
3035	Uranium	
1185	Vanadium	
1190	Zinc	
PA 7471A 1	10168208	Mercury in Solid Waste by Cold Vapor Atomic Absorption
Analyte Code	<u>Analyte</u>	
1095	Mercury	
EPA 8015B 2	10173601	Non-halogenated organics using GC/FID
Analyte Code	Analyte	
9369	Diesel range organics (DRO)	
9408	Gasoline range organics (GRO)	
102	Motor Oil	

ORELAPID: NM100001 EPACode: NM00035

Certificate:

NM100001-009

## Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D Albuquerque, NM, 87109

Issue Date: 3/1/2008

Expiration Date: 2/28/2009

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Customers: Please verify the current accreditation standing with ORELAP.

EPA 8021B 2	10174808 Ar	omatic and Halogenated Volatiles by GC with PID and/or ECD Purge &
Analyte Code	<u>Analyte</u>	
4375	Benzene	
4765	Ethylbenzene	•
5240	m+p-xylene	
5000	Methyl tert-butyl ether (MTBE)	•
5250	o-Xylene	
5140	Toluene	•
5260	Xylene (total)	
PA 8081A 1		rganochlorine Pesticides by GC/ECD
Analyte Code	<u>Analyte</u>	•
7355	4,4'-DDD	
7360	4,4'-DDE	
7365	4,4'-DDT	•
7025	Aldrin	
7110	alpha-BHC (alpha-Hexachlorocyclohexar	ne)
7115	beta-BHC (beta-Hexachlorocyclohexane)	
7105	delta-BHC	
7470	Dieldrin	
7510	Endosulfan I	
7515 7515	Endosulfan II	
7515 7520	Endosulfan sulfate	
	Endrin	
7540 7530		•
7530	Endrin aldehyde	oranicala havan EV
7120	gamma-BHC (Lindane, gamma-Hexachle	orocyclonexane)
7685	Heptachlor	
7690	Heptachior epoxide	
7810	Methoxychlor	olychlorinated Biphenyls (PCBs) by GC/ECD
EPA 8082		DISCRIPTIFICATION OF THE PROPERTY OF THE PROPE
Analyte Code	Analyte	
8880	Aroclor-1016 (PCB-1016)	
8885	Aroclor-1221 (PCB-1221)	
8890	Arcelor-1232 (PCB-1232)	
8895	Aroclor-1242 (PCB-1242)	
8900	Arrolog 1254 (PCB 1254)	
8905	Arcelor 1260 (PCB 1260)	
8910	Aroclor-1260 (PCB-1260)	olatile Organic Compounds by purge and trap GC/MS
EPA 8260B 2		olatile Organic Compounds by pulge and trap Gonno
Analyte Code	Analyte	
5105	1,1,1,2-Tetrachloroethane	
5160	1,1,1-Trichloroethane	•
5110	1,1,2,2-Tetrachloroethane	
5165	1,1,2-Trichloroethane	
4630	1,1-Dichloroethane	
4640	1,1-Dichloroethylene	
4670	1,1-Dichloropropene	
5150	1,2,3-Trichlorobenzene	
5180	1,2,3-Trichloropropane	
5155	1,2,4-Trichlorobenzene	
5210	1,2,4-Trimethylbenzene	
4570	1,2-Dibromo-3-chloropropane (DBCP)	

## Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D Albuquerque, NM, 87109

Issue Date: 3/1/2008

Expiration Date: 2/28/2009

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4585	1,2-Dibromoethane (EDB, Ethylene dibromide)
4610	1,2-Dichlorobenzene
4635	1,2-Dichloroethane
4655	1,2-Dichloropropane
5215	1,3,5-Trimethylbenzene
4615	1,3-Dichlorobenzene
4660	1,3-Dichloropropane
4620	1,4-Dichlorobenzene
6380	1-Methylnaphthalene
4665	2,2-Dichloropropane
4410	2-Butanone (Methyl ethyl ketone, MEK)
4535	2-Chlorotoluene
4860	2-Hexanone
6385	2-Methylnaphthalene
4540	4-Chlorotoluene
4995	4-Methyl-2-pentanone (MIBK)
4315	Acetone
4375	Benzene
4385	Bromobenzene
4390	Bromochloromethane
4395	Bromodichloromethane
4400	Bromoform
4950	Bromomethane (Methyl bromide)
4450	Carbon disulfide
	Carbon distillide  Carbon tetrachloride
4455 4475	Chlorobenzene
4475	Chloroethane
4485	Chloroform
4505 405	•
105	Chloromethane
4645	cis-1,2-Dichloroethylene
4680	cis-1,3-Dichloropropene
4575 4505	Dibromochloromethane Dibromomethane
4595 4635	Dichlorodifluoromethane
4625 4650	
4650 4765	Dichloromethane (DCM, Methylene chloride)
4765	Ethylbenzene Hexachlorobutadiene
4835	
4900 5240	Isopropylbenzene
5000	m+p-xylene Methyl tert-butyl ether (MTBE)
	Naphthalene
5005 4435	n-Butylbenzene
	n-Propylbenzene
5090	o-Xylene
5250 4910	p-Isopropyltoluene
4910	
4440 5100	sec-Butylbenzene
5100	Styrene
4445	tert-Butylbenzene
5115	Tetrachloroethylene (Perchloroethylene)
5140	Toluene
4700	trans-1,2-Dicloroethylene

ORELAPID: NM100001 EPACode: NM00035

Certificate:

NM100001-009

ORELAPID: NM100001 EPACode: NM00035

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## Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D Albuquerque, NM, 87109

Issue Date: 3/1/2008

Expiration Date: 2/28/2009

As of 03/01/2008 this list supercedes all previous lists for this certificate number.

Customers: Please verify the current accreditation standing with ORELAP.

4685	trans-1,3-Dichloropropylene	
5170	Trichloroethene (Trichloroethylene)	
5175	Trichlorofluoromethane	
5235	Vinyl chloride	
5260	Xylene (total)	
EPA 8270C 3	10185805	SemiVolitile Organic compounds by GC/MS
Analyte Code	<u>Analyte</u>	
5155	1,2,4-Trichlorobenzene	
4610	1,2-Dichlorobenzene	•
4615	1,3-Dichlorobenzene	
4620	1,4-Dichlorobenzene	
6835	2,4,5-Trichlorophenol	
6840	2,4,6-Trichlorophenol	
6000	2,4-Dichlorophenol	
6130	2,4-Dimethylphenol	
6175	2,4-Dinitrophenol	
6185	2,4-Dinitrotoluene (2,4-DNT)	
6190	2,6-Dinitrotoluene (2,6-DNT)	
5795	2-Chloronaphthalene	
5800	2-Chlorophenol	
6385	2-Methylnaphthalene	
6400	2-Methylphenol (o-Cresol)	
6460	2-Nitroaniline	
6490	2-Nitrophenol	
6412	3 & 4 Methylphenol	
5945	3,3'-Dichlorobenzidine	
6465	3-Nitroaniline	
6140	4,6-Dinitro-2-methylphenol	
5660	4-Bromophenyl phenyl ether	
5700	4-Chloro-3-methylphenol	•
5745	4-Chloroaniline	
5825	4-Chlorophenyl phenylether	
6470	4-Nitroaniline	
6500	4-Nitrophenol	
5500	Acenaphthene	
5505	Acenaphthylene	
5545	Aniline	
5555	Anthracene	
123	Azobenzene	
5575	Benzo[a]anthracene	
5580	Benzo[a]pyrene	
5585	Benzo[b]fluoranthene	
5590	Benzo[g,h,i]perylene	•
5600	Benzo[k]fluoranthene	
5610	Benzoic acid	•
5630	Benzyl alcohol	
5760	bis(2-Chloroethoxy)methane	
5765	bis(2-Chloroethyl)ether	
5780	bis(2-Chloroisopropyl)ether	
6255	bis(2-Ethylhexyl)phthalate (DEHP)	
5670	Butyl benzyl phthalate	

ORELAPID: NM100001 EPACode: NM00035

Certificate:

NM100001-009

## Hall Environmental Analysis Laboratory, Inc.

4901 Hawkins Rd. NE, Suite D Albuquerque, NM, 87109

Issue Date: 3/1/2008

EPA 8310

Expiration Date: 2/28/2009

10187607

As of 03/01/2008 this list supercedes all previous lists for this certificate number. Customers: Please verify the current accreditation standing with ORELAP.

5680	Carbazole
5855	Chrysene
5895	Dibenz[a,h]anthracene
5905	Dibenzofuran
6070	Diethyl phthalate
6135	Dimethyl phthalate
5925	Di-n-butyl phthalate
6200	Di-n-octyl phthalate
6265	Fluoranthene
6270	Fluorene
6275	Hexachlorobenzene
4835	Hexachlorobutadiene
6285	Hexachlorocyclopentadiene
4840	Hexachloroethane
6315	Indeno[1,2,3-cd]pyrene
6320	Isophorone
5005	Naphthalene
5015	Nitrobenzene
6530	n-Nitrosodimethylamine
6535	n-Nitrosodiphenylamine
6540	n-Nitrosodipropylamine
6605	Pentachlorophenol
6615	Phenanthrene
6625	Phenol
6665	Pyrene
5095	Pyridine

Polynuclear A	romatic Hy	drocarbons t	y HPLC/UV-VIS
---------------	------------	--------------	---------------

Analyte Code	<u>Analyte</u>
6380	1-Methylnaphthalene
6385	2-Methylnaphthalene
5500	Acenaphthene
5505	Acenaphthylene
5555	Anthracene
5575	Benzo[a]anthracene
5580	Benzo[a]pyrene
5585	Benzo[b]fluoranthene
5590	Benzo[g,h,i]perylene
5600	Benzo[k]fluoranthene
5855	Chrysene
5895	Dibenz[a,h]anthracene
6265	Fluoranthene
6270	Fluorene
6315	Indeno[1,2,3-cd]pyrene
5005	Naphthalene
6615	Phenanthrene
6665	Pyrene



GOVERNOR

## State of New Mexico ENVIRONMENT DEPARTMENT

Field Operations Division Drinking Water Bureau 525 Camino de Los Marquez Santa Fe, New Mexico 87501 Telephone (505) 476-8620 Fax (505) 476-8658



SECRETARY

Cindy Padilla Deputy Secretary

March 11, 2008

Hall Environmental Analysis Laboratory Inc. 4901 Hawkins Rd. NE, Suite D Albuquerque, NM 87109

Dear Mr. Freeman

The Drinking Water Bureau of the New Mexico Environment Department (NMED-DWB) has received and reviewed your Nelap certification /accreditation information from the state of Oregon, The documentation is acceptable and your New Mexico certification is now valid through February 29, 2009.

This certification is to perform drinking water analysis in compliance with the Federal Safe Drinking Water Act, pursuant 40CFR Part 141, and the New Mexico Environment Department Drinking Water Regulations for the Primary Regulated contaminants, including Contaminants in as listed in your Oregon Scope Accreditation.

You must advise NMED-DWB of any change in your accreditation by the State of Oregon and continue to provide this office with performance evaluation results. You are also required to provide evidence of renewal of accreditation by the state of Oregon to continue certification past February 29, 2009.

Laboratories certified by the New Mexico can be purged from the list if there is no evidence that they are performing drinking water compliance samples analysis for public water supply systems in New Mexico.

IF you have any questions or require additional information, please contact me at 505-476-8635.

Sincerely,

Chavez



BILL RICHARDSON

## State of New Mexico

#### ENVIRONMENT DEPARTMENT

Field Operations Division
Drinking Water Bureau
525 Camino de Los Marquez
Santa Fe, New Mexico 87501
Telephone (505) 476-8620
Fax (505) 476-8658



RON CURRY SECRETARY

Cindy Padilla
Deputy Secretary

March 11, 2008

Hall Environmental Analysis Laboratory Inc. 4901 Hawkins Rd. NE, Suite D Albuquerque, NM 87109

Dear Mr. Freeman

The Drinking Water Bureau of the New Mexico Environment Department (NMED-DWB) has received and reviewed your Nelap certification /accreditation information from the state of Oregon, The documentation is acceptable and your New Mexico certification is now valid through February 29, 2009.

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IF you have any questions or require additional information, please contact me at 505-476-8635.

Sincerely,

Joe Chavez

# Section 17.0 Chemical Analytical Reports

Title	Tab Number
2008 Semi-Annual Monitoring Wells	1 -
2008 Annual Monitoring Wells	2
San Juan River Semi-Annual Analysis	3
Tank #33 Analysis	4
North Barrier Wall 2008 Semi - Annual	5
North Barrier Wall 2008 Annual	6
Seeps 2008 Semi-Annual	7
Seeps 2008 Annual	8



### **COVER LETTER**

Thursday, April 24, 2008

Cindy Hurtado San Juan Refining #50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: Semi-Annual 2008

Dear Cindy Hurtado:

Order No.: 0804105

Hall Environmental Analysis Laboratory, Inc. received 12 sample(s) on 4/9/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001



**Date:** 24-Apr-08

CLIENT:

San Juan Refining

Project:

Semi-Annual 2008

Lab Order:

0804105

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
.0804105-01A	MW #1	R28092	EPA Method 8015B: Gasoline Range	4/8/2008 10:10:00 AM
0804105-01A	MW #1	R28171	EPA Method 8260: Volatiles Short List	4/8/2008 10:10:00 AM
0804105-01A	MW #1	15612	EPA Method 8015B: Diesel Range	4/8/2008 10:10:00 AM
0804105-02A	MW #1FD	15612	EPA Method 8015B: Diesel Range	4/8/2008 10:20:00 AM
0804105-02A	MW #1FD	R28092	EPA Method 8015B: Gasoline Range	4/8/2008 10:20:00 AM
0804105-02A	MW #1FD	R28171	EPA Method 8260: Volatiles Short List	4/8/2008 10:20:00 AM
0804105-03A	MW #8	R28092	EPA Method 8015B: Gasoline Range	4/8/2008 10:40:00 AM
0804105-03A	MW #8	R28171	EPA Method 8260: Volatiles Short List	4/8/2008 10:40:00 AM
0804105-03A	MW #8	15612	EPA Method 8015B: Diesel Range	4/8/2008 10:40:00 AM
0804105-04A	MW #30	R28092	EPA Method 8015B: Gasoline Range	4/8/2008 11:05:00 AM
0804105-04A	MW #30	R28171	EPA Method 8260: Volatiles Short List	4/8/2008 11:05:00 AM
0804105-04A	MW #30	15612	EPA Method 8015B: Diesel Range	4/8/2008 11:05:00 AM
0804105-05A	MW #13	15612	EPA Method 8015B: Diesel Range	4/8/2008 12:30:00 PM
0804105-05A	MW #13	R28092	EPA Method 8015B: Gasoline Range	4/8/2008 12:30:00 PM
0804105-05A	MW #13	R28171	EPA Method 8260: Volatiles Short List	4/8/2008 12:30:00 PM
0804105-06A	MW #12	R28171	EPA Method 8260: Volatiles Short List	4/8/2008 1:20:00 PM
0804105-06A	MW #12	15612	EPA Method 8015B: Diesel Range	4/8/2008 1:20:00 PM
0804105-06A	MW #12	R28092	EPA Method 8015B: Gasoline Range	4/8/2008 1:20:00 PM
0804105-07A	MW #35	15612	EPA Method 8015B: Diesel Range	4/8/2008 1:40:00 PM
0804105-07A	MW #35	R28092	EPA Method 8015B: Gasoline Range	4/8/2008 1:40:00 PM
0804105-07A	MW #35	R28171	EPA Method 8260: Volatiles Short List	4/8/2008 1:40:00 PM
0804105-08A	MW #37	15612	EPA Method 8015B: Diesel Range	4/8/2008 1:50:00 PM
0804105-08A	MW #37	R28092	EPA Method 8015B: Gasoline Range	4/8/2008 1:50:00 PM
0804105-08A	MW #37	R28171	EPA Method 8260: Volatiles Short List	4/8/2008 1:50:00 PM
0804105-09A	MW #38	R28092	EPA Method 8015B: Gasoline Range	4/8/2008 2:05:00 PM
0804105-09A	MW #38	R28171	EPA Method 8260: Volatiles Short List	4/8/2008 2:05:00 PM
0804105-09A	MW #38	15612	EPA Method 8015B: Diesel Range	4/8/2008 2:05:00 PM
0804105-10A	MW #33	R28092	EPA Method 8015B: Gasoline Range	4/8/2008 2:20:00 PM
0804105-10A	MW #33	R28171	EPA Method 8260: Volatiles Short List	4/8/2008 2:20:00 PM
0804105-10A	MW #33	15612	EPA Method 8015B: Diesel Range	4/8/2008 2:20:00 PM
0804105-11A	Field Blank	15612	EPA Method 8015B: Diesel Range	4/8/2008 3:00:00 PM
0804105-11A	Field Blank	R28092	EPA Method 8015B: Gasoline Range	4/8/2008 3:00:00 PM
0804105-11A	Field Blank	R28171	EPA Method 8260: Volatiles Short List	4/8/2008 3:00:00 PM
0804105-12A	Trip Blank	R28171	EPA Method 8260: Volatiles Short List	
0804105-12A	Trip Blank	R28092	EPA Method 8015B: Gasoline Range	

Date: 24-Apr-08

CLIENT:

San Juan Refining

Project:

Semi-Annual 2008

Lab Order:

0804105

CASE NARRATIVE

Analytical Comments for METHOD 8015GRO\_W, SAMPLE 0804105-08A: Elevated surrogate due to matrix interference.

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-01

Client Sample ID: MW #1

Collection Date: 4/8/2008 10:10:00 AM

Date Received: 4/9/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual. Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	BE .		·		Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	· 1	4/11/2008 12:46:13 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/11/2008 12:46:13 PM
Surr: DNOP	109	58-140	%REC	. 1	4/11/2008 12:46:13 PM
EPA METHOD 8015B: GASOLINE RA	ANGE				Analyst: <b>NS</b> B
Gasoline Range Organics (GRO)	0.21	0.050	mg/L	1	4/14/2008 11:11:58 PM
Surr. BFB	97.1	79.2-121	%REC	1 ·	4/14/2008 11:11:58 PM
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: <b>BD</b> H
Benzene	ND	1.0	μg/L	1	4/18/2008 1:20:02 PM
Toluene	ND	1.0	μg/L	1	4/18/2008 1:20:02 PM
Ethylbenzene	2.3	1.0	μg/L	1	4/18/2008 1:20:02 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	µg/L	1	4/18/2008 1:20:02 PM
Xylenes, Total	16	3.0	µg/L	1	4/18/2008 1:20:02 PM
Surr: 4-Bromofluorobenzene	98.7	80.4-119	%REC	1	4/18/2008 1:20:02 PM
Surr: Toluene-d8	104	53.5-136	%REC	1	4/18/2008 1:20:02 PM

Ou	al	if	ie	rs

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-02

Client Sample ID: MW #1FD

Collection Date: 4/8/2008 10:20:00 AM

Date Received: 4/9/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE		****	an nagar ing na Ngjara nggara ng mang	Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	4/11/2008 1:20:19 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/11/2008 1:20:19 PM
Surr: DNOP	106	58-140	%REC	1	4/11/2008 1:20:19 PM
EPA METHOD 8015B: GASOLINE R	ANGE				Analyst: NSB
Gasoline Range Organics (GRO)	0.24	0.050	mg/L	1	4/14/2008 11:42:00 PM
Surr: BFB	107	79.2-121	%REC	1	4/14/2008 11:42:00 PM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: BDH
Benzene	ND	1.0	μg/L	1	4/18/2008 1:48:49 PM
Toluene	ND	1.0	μg/L	1	4/18/2008 1:48:49 PM
Ethylbenzene	2.3	1.0	μg/L	1	4/18/2008 1:48:49 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	μg/L	1	4/18/2008 1:48:49 PM
Xylenes, Total	17	3.0	μg/L	1	4/18/2008 1:48:49 PM
Surr: 4-Bromofluorobenzene	91.1	80.4-119	%REC	1	4/18/2008 1:48:49 PM
Surr: Toluene-d8	105	53.5-136	%REC	1	4/18/2008 1:48:49 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-03

Client Sample ID: MW #8

Collection Date: 4/8/2008 10:40:00 AM

Date Received: 4/9/2008

Analyses	Result	PQL	Qual U	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RAN	GE	oral (Alice Control of Section 1995)		1866 - 1866 - 1866 - 1866 - 1866 - 1866 - 1866 - 1866 - 1866 - 1866 - 1866 - 1866 - 1866 - 1866 - 1866 - 1866		Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	n	ng/L	1	4/11/2008 1:54:10 PM
Motor Oil Range Organics (MRO)	ND	5.0	· n	ng/L	1	4/11/2008 1:54:10 PM
Surr: DNOP	98.1	58-140	9	%REC	1	4/11/2008 1:54:10 PM
EPA METHOD 8015B: GASOLINE R	ANGE					Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	0.050	n	ng/L	1	4/15/2008 12:12:06 AM
Surr: BFB	98.5	79.2-121	9,	%REC	1	4/15/2008 12:12:06 AM
EPA METHOD 8260: VOLATILES SI	ORT LIST					Analyst: <b>BDH</b>
Benzene	ND	1.0	μ	ıg/L	1	4/18/2008 2:17:44 PM
Toluene	ND	1.0	μ	ıg/L	. 1	4/18/2008 2:17:44 PM
Ethylbenzene	ND	1.0	μ	ıg/L	1	4/18/2008 2:17:44 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	μ	ıg/L	1	4/18/2008 2:17:44 PM
Xylenes, Total	ND	3.0	μ	ıg/L	1	4/18/2008 2:17:44 PM
Surr: 4-Bromofluorobenzene	101	80.4-119	9,	%REC	1	4/18/2008 2:17:44 PM
Surr: Toluene-d8	96.4	53.5-136	9,	%REC	1	4/18/2008 2:17:44 PM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-04

Client Sample ID: MW #30

Collection Date: 4/8/2008 11:05:00 AM

Date Received: 4/9/2008

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	3E				Analyst: <b>SCC</b>
Diesel Range Organics (DRO)	7.3	1.0	mg/L	1	4/11/2008 2:28:04 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/11/2008 2:28:04 PM
Surr: DNOP	107	58-140	%REC	1	4/11/2008 2:28:04 PM
EPA METHOD 8015B: GASOLINE RA	ANGE				Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	68	1.0	mg/L	20	4/15/2008 12:44:44 AM
Surr: BFB	116	79.2-121	%REC	20	4/15/2008 12:44:44 AM
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: <b>BDH</b>
Benzene	6000	100	µg/L	100	4/18/2008 2:48:12 PM
Toluene	2400	100	μg/L	100	4/18/2008 2:48:12 PM
Ethylbenzene	3500	100	µg/L	100	4/18/2008 2:48:12 PM
Methyl tert-butyl ether (MTBE)	ND	150	μg/L	100	4/18/2008 2:48:12 PM
Xylenes, Total	13000	300	μg/L	100	4/18/2008 2:48:12 PM
Surr: 4-Bromofluorobenzene	97.2	80.4-119	%REC	100	4/18/2008 2:48:12 PM
Surr: Toluene-d8	101	53.5-136	%REC	100	4/18/2008 2:48:12 PM

<sup>\*</sup> Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-05

Client Sample ID: MW #13

Collection Date: 4/8/2008 12:30:00 PM

Date Received: 4/9/2008

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE		- ALSO 100 - 10 - 100 - 10 - 100 - 1		Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	4/11/2008 5:17:06 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/11/2008 5:17:06 PM
Surr: DNOP	114	58-140	%REC	1	4/11/2008 5:17:06 PM
EPA METHOD 8015B: GASOLINE R.	ANGE				Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	4/15/2008 1:45:01 AM
Surr: BFB	106	79.2-121	%REC	1	4/15/2008 1:45:01 AM
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: BDH
Benzene	ND	1.0	µg/L	1	4/18/2008 3:17:13 PM
Toluene	ND.	1.0	· µg/L	1	4/18/2008 3:17:13 PM
Ethylbenzene	ND	1.0	μg/L	1	4/18/2008 3:17:13 PM
Methyl tert-butyl ether (MTBE)	3.2	1.5	μg/L	1	4/18/2008 3:17:13 PM
Xylenes, Total	ND	3.0	µg/L	1	4/18/2008 3:17:13 PM
Surr: 4-Bromofluorobenzene	104	80.4-119	%REC	1	4/18/2008 3:17:13 PM
Surr: Toluene-d8	103	53.5-136	%REC	1	4/18/2008 3:17:13 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-06

Client Sample ID: MW #12

Collection Date: 4/8/2008 1:20:00 PM

Date Received: 4/9/2008

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: <b>SCC</b>
Diesel Range Organics (DRO)	ND	1.0	mg/L	. 1	4/11/2008 5:50:57 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	·1	4/11/2008 5:50:57 PM
Surr: DNOP	108	58-140	%REC	1	4/11/2008 5:50:57 PM
EPA METHOD 8015B: GASOLINE R.	ANGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	4/15/2008 2:15:08 AM
Surr: BFB	93.2	79.2-121	%REC	1	4/15/2008 2:15:08 AM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: <b>BDH</b>
Benzene	ND	1.0	µg/L	1	4/18/2008 3:46:14 PM
Toluene	ND	1.0	µg/L	1	4/18/2008 3:46:14 PM
Ethylbenzene	ND	1.0	μg/L	1	4/18/2008 3:46:14 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	μg/L	1	4/18/2008 3:46:14 PM
Xylenes, Total	ND	3.0	μg/L	1	4/18/2008 3:46:14 PM
Surr: 4-Bromofluorobenzene	98.7	80.4-119	%REC	1	4/18/2008 3:46:14 PM
Surr: Toluene-d8	100	53.5-136	%REC	1	4/18/2008 3:46:14 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 24-Apr-08

**CLIENT:** 

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-07

Client Sample ID: MW #35

Collection Date: 4/8/2008 1:40:00 PM

Date Received: 4/9/2008

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RAN	GE				Analyst: SCC
Diesel Range Organics (DRO)	2.1	1.0	mg/L	· 1	4/11/2008 6:25:01 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/11/2008 6:25:01 PM
Surr: DNOP	103	58-140	%REC	1	4/11/2008 6:25:01 PM
EPA METHOD 8015B: GASOLINE R	ANGE				Analyst: NSB
Gasoline Range Organics (GRO)	0.52	0.050	mg/L	1	4/15/2008 2:45:08 AM
Surr: BFB	121	79.2-121	%REC	1	4/15/2008 2:45:08 AM
EPA METHOD 8260: VOLATILES SH	HORT LIST				Analyst: <b>BDH</b>
Benzene	ND	1.0	μg/L	. 1	4/18/2008 4:18:34 PM
Toluene	ND	1.0	μg/L	1	4/18/2008 4:18:34 PM
Ethylbenzene	ND	1.0	μg/L	1	4/18/2008 4:18:34 PM
Methyl tert-butyl ether (MTBE)	1.8	1.5	μg/L	1	4/18/2008 4:18:34 PM
Xylenes, Total	ND	3.0	μg/L	1	4/18/2008 4:18:34 PM .
Surr: 4-Bromofluorobenzene	92.6	80.4-119	%REC	1	4/18/2008 4:18:34 PM
Surr: Toluene-d8	101	53.5-136	%REC	1	4/18/2008 4:18:34 PM

<sup>\*</sup> Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-08

Client Sample ID: MW #37

Collection Date: 4/8/2008 1:50:00 PM

Date Received: 4/9/2008

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	3E			3(1) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- 144 (M. 1944)	Analyst: SCC
Diesel Range Organics (DRO)	2.3	1.0		mg/L	1	4/11/2008 6:58:51 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/11/2008 6:58:51 PM
Surr: DNOP	105	58-140		%REC	1	4/11/2008 6:58:51 PM
EPA METHOD 8015B: GASOLINE R.	ANGE					Analyst: NSB
Gasoline Range Organics (GRO)	0.15	0.050		mg/L	1	4/15/2008 3:45:24 AM
Surr: BFB	124	79.2-121	S	%REC	1	4/15/2008 3:45:24 AM
EPA METHOD 8260: VOLATILES SH	IORT LIST					Analyst: <b>BDH</b>
Benzene	ND	1.0		µg/L	1	4/18/2008 4:47:48 PM
Toluene	ND	1.0		μg/L	1	4/18/2008 4:47:48 PM
Ethylbenzene	ND	1.0		µg/L	1	4/18/2008 4:47:48 PM
Methyl tert-butyl ether (MTBE)	ND	1.5		·µg/L	1	4/18/2008 4:47:48 PM
Xylenes, Total	ND	3.0		µg/L	1	4/18/2008 4:47:48 PM
Surr: 4-Bromofluorobenzene	103	80.4-119		%REC	1	4/18/2008 4:47:48 PM
Surr: Toluene-d8	99.2	53.5-136		%REC	1	4/18/2008 4:47:48 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-09

Client Sample ID: MW #38

Collection Date: 4/8/2008 2:05:00 PM

Date Received: 4/9/2008

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: SCC
Diesel Range Organics (DRO)	1.2	1.0	mg/L	1	4/11/2008 7:32:42 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/11/2008 7:32:42 PM
Surr: DNOP	113	58-140	%REC	. 1	4/11/2008 7:32:42 PM
EPA METHOD 8015B: GASOLINE R.	ANGE				Analyst: NSB
Gasoline Range Organics (GRO)	0.073	0.050	mg/L	1	4/15/2008 4:15:26 AM
Surr. BFB	110	79.2-121	%REC	1	4/15/2008 4:15:26 AM
EPA METHOD 8260: VOLATILES SF	IORT LIST				Analyst: <b>BDH</b>
Benzene '	ND	1.0	μg/L	1	4/18/2008 5:16:40 PM
Toluene	. ND	1.0	μg/L	1	4/18/2008 5:16:40 PM
Ethylbenzene	ND	1.0	μg/L	1	4/18/2008 5:16:40 PM
Methyl tert-butyl ether (MTBE)	2.4	1.5	µg/L	1	4/18/2008 5:16:40 PM
Xylenes, Total	ND	3.0	μg/L	1	4/18/2008 5:16:40 PM
Surr: 4-Bromofluorobenzene	103	80.4-119	%REC	1	4/18/2008 5:16:40 PM
Surr: Toluene-d8	101	53.5-136	%REC	1	4/18/2008 5:16:40 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-10

Client Sample ID: MW #33

Collection Date: 4/8/2008 2:20:00 PM

Date Received: 4/9/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	4/11/2008 8:06:36 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/11/2008 8:06:36 PM
Surr: DNOP	101	58-140	%REC	1	4/11/2008 8:06:36 PM
EPA METHOD 8015B: GASOLINE R	ANGE				Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	4/15/2008 4:45:33 AM
Surr: BFB	98.6	79.2-121	%REC	1	4/15/2008 4:45:33 AM
EPA METHOD 8260: VOLATILES SI	IORT LIST				Analyst: BDH
Benzene	ND	1.0	μg/L	1	4/18/2008 5:45:40 PM
Toluene	ND	1.0	μg/L	1	4/18/2008 5:45:40 PM
Ethylbenzene	ND	1.0	μg/L	1	4/18/2008 5:45:40 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	μg/L	1	4/18/2008 5:45:40 PM
Xylenes, Total	ND	3.0	μg/L	1	4/18/2008 5:45:40 PM
Surr: 4-Bromofluorobenzene	103	80.4-119	%REC	1	4/18/2008 5:45:40 PM
Surr: Toluene-d8	96.9	53.5-136	%REC	1	4/18/2008 5:45:40 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 10 of 12

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-11

Client Sample ID: Field Blank

Collection Date: 4/8/2008 3:00:00 PM

Date Received: 4/9/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	. <b>DF</b>	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	ЗE	State State of the			Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	4/11/2008 8:40:27 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/11/2008 8:40:27 PM
Surr: DNOP	115	58-140	%REC	1	4/11/2008 8:40:27 PM
EPA METHOD 8015B: GASOLINE R	ANGE				Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	4/15/2008 5:15:34 AM
Surr: BFB	97.6	79.2-121	%REC	1	4/15/2008 5:15:34 AM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: <b>BDH</b>
Benzene	ND	1.0	µg/L	1	4/18/2008 6:14:44 PM
Toluene	ND	1.0	μg/L	1	4/18/2008 6:14:44 PM
Ethylbenzene	ND	1.0	μg/L	1	4/18/2008 6:14:44 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	μg/L	1	4/18/2008 6:14:44 PM
Xylenes, Total	ND	3.0	μg/L	1 .	4/18/2008 6:14:44 PM
Surr: 4-Bromofluorobenzene	98.1	80.4-119	%REC	1	4/18/2008 6:14:44 PM
Surr: Toluene-d8	102	53.5-136	%REC	1	4/18/2008 6:14:44 PM

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 11 of 12

**Date:** 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804105

Project:

Semi-Annual 2008

Lab ID:

0804105-12

Client Sample ID: Trip Blank

Collection Date:

Date Received: 4/9/2008

Matrix: TRIP BLANK

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RA	ANGE	Yanda and Araba			Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	4/15/2008 5:45:43 AM
Surr: BFB	104	79.2-121	%REC	1	4/15/2008 5:45:43 AM
EPA METHOD 8260: VOLATILES SH	ORT LIST	•			Analyst: BDH
Benzene	ND	1.0	µg/L	1	4/18/2008 6:44:03 PM
Toluene	ND	1.0	µg/L	1	4/18/2008 6:44:03 PM
Ethylbenzene	ND	· 1.0	μg/L	1	4/18/2008 6:44:03 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	μg/L	1	4/18/2008 6:44:03 PM
Xylenes, Total	ND	3.0	μg/L	1	4/18/2008 6:44:03 PM
Surr: 4-Bromofluorobenzene	96.3	80.4-119	%REC	1	4/18/2008 6:44:03 PM
Surr: Toluene-d8	102	53.5-136	%REC	1	4/18/2008 6:44:03 PM

Qualifiers:

RL Reporting Limit

<sup>\*</sup> Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ID Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

**Date:** 24-Apr-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

Semi-Annual 2008

Work Order:

0804105

								0804103
Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qu	al
iesel Range				D-1-1-	ID: 45040	A - a busia Day	4/40/2000	0.05.40 DI
				Batch	10: 15612	Analysis Da	te: 4/10/2008	9:05:46 PI
	-							
	-		440	50	140		-	
1.180	-	U	119		-	Analysis Da	4/10/2009	oraprao mi
						Allalysis Da	le. 4/10/2000	3.33.23 FN
	•							
0.5455		0	109					
•	LCSD			Batch	ID: 15612	Analysis Da	te: 4/10/2008	10:13:21 PN
5.257	mg/L	1.0	105	74	157	9.04	23	
0.5708	mg/L	0	114	58	140	0	0	
asoline Rar	ıge							
	MBLK			Batch	ID: <b>R28092</b>	Analysis Da	te: 4/14/2008	9:08:40 AN
ND	mg/L	0.050						
18.80	mg/L	0	94.0	79.2	121			
	LCS			Batch	ID: <b>R28092</b>	Analysis Da	te: 4/14/2008	9:11:39 PN
0.5128	mg/L	0.050	103	80	115			
19.29	•	0	96.5	79.2	121			
	DUP			Batch	ID: <b>R28092</b>	Arialysis Da	te: 4/14/2008	1:09:50 PN
52.04	mg/L	5.0				1.98	20	
2091	mg/L	0	105	84.5	129	0	0	
latiles Short	List							
	MBLK			Batch	ID: <b>R28171</b>	Analysis Da	te: 4/18/2008	8:27:05 AM
ND	μg/L	1.0						
ND .	. •	1.0			-			
ND	μg/L	1.0						
ND	µg/L	1.0						
ND	µg/L	2.0						
10.74	µg/L	0	107	80.4	119			
10.01	μg/L	0	100	53.5	136			
	LCS			Batch	ID: <b>R28171</b>	Analysis Da	te: 4/18/2008	10:23:16 Al
		1.0	106	72.4	126			
21.25	μg/L	1.0	100	12.4	120			
21.25 17.22	µg/L µg/L	1.0	86.1	69.4	126			
	iesel Range ND ND 1.186 4.803 0.5455 5.257 0.5708 6asoline Ran ND 18.80 0.5128 19.29 52.04 2091 latiles Short ND	iesel Range    MBLK     ND   mg/L     ND   mg/L     1.186   mg/L     LCS     4.803   mg/L     0.5455   mg/L     LCSD     5.257   mg/L     0.5708   mg/L     3.80line Range     MBLK     ND   mg/L     18.80   mg/L     LCS     0.5128   mg/L     19.29   mg/L     19.29   mg/L     2091   mg/L     Sacoline Short List     MBLK     ND   µg/L     ND   µg/L	iesel Range    MBLK   ND   mg/L   1.0     ND   mg/L   5.0     1.186   mg/L   0     LCS	iesel Range    MBLK   ND   mg/L   1.0   1.186   mg/L   0   119	iesel Range    MBLK	iesel Range    MBLK	Result   Units   PQL   %Rec   LowLimit   HighLimit   %RPD	iesel Range    MBLK

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

#### Hall Environmental Analysis Laboratory, Inc. Sample Receipt Checklist 4/9/2008 Client Name SJR Date Received: Work Order Number 0804105 Received by: TLS Sample ID labels checked by Checklist completed by Signature Matrix Carrier name **UPS** No 🗀 Not Present Yes 🗸 Shipping container/cooler in good condition? Yes 🗸 No 🗌 Not Shipped Custody seals intact on shipping container/cooler? Not Present Custody seals intact on sample bottles? Yes 🗌 No 🗔 N/A No 🗌 Yes 🗹 Chain of custody present? Chain of custody signed when relinquished and received? Yes 🗸 No 🗔 Yes 🗸 No 🗌 Chain of custody agrees with sample labels? Yes 🗹 No 🗌 Samples in proper container/bottle? No 🗌 Yes 🗸 Sample containers intact? No 🗌 Yes 🗹 Sufficient sample volume for indicated test? No 🗌 Yes 🗹 All samples received within holding time? No VOA vials submitted Yes 🐶 No 🗌 Water - VOA vials have zero headspace? Yes 🗌 No 🗌 Water - Preservation labels on bottle and cap match? Yes N/A ✓ No 🗌 Water - pH acceptable upon receipt? Container/Temp Blank temperature? <6° C Acceptable 5° If given sufficient time to cool. COMMENTS: Date contacted: Client contacted Person contacted Regarding Contacted by: Comments:

Corrective Action

(N no Y) esedspace (Y or N) Albuquerque, New Mexico 87109 Tel. 505 345 3975 Fax 505 345 4107 HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com (AOV-ima2) 07S8 4901 Hawkins NE, Suite D REGOB (VOV) BTEX, MTBE ONLY × ہد 8081 Pesticides / PCB's (8082) Anions (F, CI,  $MO_3$ ,  $MO_4$ ,  $PO_4$ ,  $SO_4$ ) RCRA 8 Metals (HA9 10 AN9) O 1 E 8 EDC (Method 8021) EDB (Method 504.1) TPH (Method 418.1) 44,0 بر TPH Method 8015B (Gas Diesel (VID) = VID + VIRemarks: BLEX + MIBE + TMB's (8021) -EAL No 4  $\mathcal{C}$ 0 TTQ SEMI- ANNUA - 2008 9019 Bob Kakow Level 4 🖄 Received By: (Signature) QA / QC Package: HgCI<sub>2</sub> HNO<sub>3</sub> NA Preservative Received By: (Signature) クロミ Std 🗆 Number/Volume Project Manager るくどを Project Name 5.104 Project # Chain-of-Custody record N 87413 Relinquished By: (Signature) MW#37 MW#38 MW#33 Field Blank Trip Blan Sample I.D. No. MW#12 47/HM Client: SAN JUAN REFINING NW#13 MW#35 R #MW Relinguished By: (Signature) MW#8 505-632-416 Western Refining WW# 38/1 Address: #50 CR 4990 633 Bloomfield Matrix 420 505-13300 **FOIOH** 100 p 10404 130 1400 2050 2300 Time 18 J |Time: |分詞 B 3 40000B Phone #: Date Fax #:



#### **COVER LETTER**

Friday, May 02, 2008

Cindy Hurtado San Juan Refining #50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: San Juan River Bluff Semi-Annual-2008

Dear Cindy Hurtado:

Order No.: 0804103

Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 4/9/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425

AZ license # AZ0682

ORELAP Lab # NM100001



Date: 02-May-08

CLIENT:

San Juan Refining

Project:

San Juan River Bluff Semi-Annual-2008

Lab Order:

0804103

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0804103-01A	Outfall #3	R28104	EPA Method 8015B: Gasoline Range	4/8/2008 2:55:00 PM
0804103-01A	Outfall #3	R28141	EPA Method 8260: Volatiles Short List	4/8/2008 2:55:00 PM
0804103-01A	Outfall #3	15612	EPA Method 8015B: Diesel Range	4/8/2008 2:55:00 PM
0804103-01C	Outfall #3	15622	EPA 6010B: Total Recoverable Metals	4/8/2008 2:55:00 PM
0804103-01C	Outfall #3	15677	EPA Method 7470: Mercury	4/8/2008 2:55:00 PM
0804103-01D	Outfall #3	R28042	EPA Method 300.0: Anions	4/8/2008 2:55:00 PM
0804103-01D	Outfall #3	R28042	EPA Method 300.0: Anions	4/8/2008 2:55:00 PM
0804103-01D	Outfall #3	R28060	EPA 120.1: Specific Conductance	4/8/2008 2:55:00 PM
0804103-01D	Outfall #3	R28064	SM4500-H+B: pH	4/8/2008 2:55:00 PM
0804103-01D	Outfall #3	15621	SM 2540C: TDS	4/8/2008 2:55:00 PM
0804103-01D	Outfall #3	R28122	SM 2320B: Alkalinity	4/8/2008 2:55:00 PM
0804103-01D	Outfall #3	R28188	Carbon Dioxide	4/8/2008 2:55:00 PM
0804103-01E	Outfall #3	R28106	EPA Method 6010B: Dissolved Metals	4/8/2008 2:55:00 PM
0804103-01E	Outfall #3	R28080	EPA Method 6010B: Dissolved Metals	4/8/2008 2:55:00 PM
0804103-02A	Outfall #2	R28104	EPA Method 8015B: Gasoline Range	4/8/2008 3:05:00 PM
0804103-02A	Outfall #2	R28141	EPA Method 8260: Volatiles Short List	4/8/2008 3:05:00 PM
0804103-02A	Outfall #2	15612	EPA Method 8015B: Diesel Range	4/8/2008 3:05:00 PM
0804103-02C	Outfall #2	15622	EPA 6010B: Total Recoverable Metals	4/8/2008 3:05:00 PM
0804103-02C	Outfall #2	15677	EPA Method 7470: Mercury	4/8/2008 3:05:00 PM
0804103-02D	Outfall #2	R28042	EPA Method 300.0: Anions	4/8/2008 3:05:00 PM
0804103-02D	Outfall #2	R28042	EPA Method 300.0: Anions	4/8/2008 3:05:00 PM
0804103-02D	Outfall #2	R28060	EPA 120.1: Specific Conductance	4/8/2008 3:05:00 PM
0804103-02D	Outfall #2	R28064	SM4500-H+B: pH	4/8/2008 3:05:00 PM
0804103-02D	Outfall #2	15621	SM 2540C: TDS	4/8/2008 3:05:00 PM
0804103-02D	Outfall #2	R28122	SM 2320B: Alkalinity	4/8/2008 3:05:00 PM
0804103-02D	Outfall #2	R28188	Carbon Dioxide	4/8/2008 3:05:00 PM
0804103-02E	Outfall #2	R28106	EPA Method 6010B: Dissolved Metals	4/8/2008 3:05:00 PM
0804103-02E	Outfall #2	R28080	EPA Method 6010B: Dissolved Metals	4/8/2008 3:05:00 PM
0804103-02E	Outfall #2	R28080	EPA Method 6010B: Dissolved Metals	4/8/2008 3:05:00 PM
0804103-02E	Outfall #2	R28106	EPA Method 6010B: Dissolved Metals	4/8/2008 3:05:00 PM

**Date:** 02-May-08

CLIENT:

San Juan Refining

Lab Order:

0804103

Client Sample ID: Outfall #3
Collection Date: 4/8/2008 2:55:00 PM

Project:

San Juan River Bluff Semi-Annual-2008

Date Received: 4/9/2008

Lab ID:

0804103-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	Ē				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	4/11/2008 9:22:46 AM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/11/2008 9:22:46 AM
Surr: DNOP	106	58-140	%REC	1	4/11/2008 9:22:46 AM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	4/15/2008 9:09:49 PM
Surr: BFB	103	79.2-121	%REC	1	4/15/2008 9:09:49 PM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.48	0.10	mg/L	1	4/9/2008 1:06:56 PM
Chloride	23	0.10	mg/L	1	4/9/2008 1:06:56 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	4/9/2008 1:06:56 PM
Bromide	0.15	0.10	mg/L	1	4/9/2008 1:06:56 PM
Nitrogen, Nitrate (As N)	2.8	0.10	mg/L	1	4/9/2008 1:06:56 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	4/9/2008 1:06:56 PM
Sulfate	170	5.0	mg/L	10	4/9/2008 1:24:20 PM
EPA METHOD 7470: MERCURY					Analyst: <b>SNV</b>
Mercury	ND	0.00020	mg/L	1	4/17/2008 3:32:55 PM
EPA METHOD 6010B: DISSOLVED MI	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	4/15/2008 5:04:57 PM
Barium	0.034	0.020	mg/L	1	4/15/2008 5:04:57 PM
Cadmium	ND	0.0020	mg/L	1	4/15/2008 5:04:57 PM
Calcium	88	1.0	mg/L	1	4/15/2008 5:04:57 PM
Chromium	ND	0.0060	mg/L	1	4/15/2008 5:04:57 PM
Copper	ND	0.0060	mg/L	1	4/15/2008 5:04:57 PM
Iron	ND	0.020	mg/L	1	4/15/2008 5:04:57 PM
Lead	ND	0.0050	mg/L	1	4/15/2008 5:04:57 PM
Magnesium	20	1.0	mg/L	1	4/15/2008 5:04:57 PM
Manganese	ND	0.0020	mg/L	1	4/15/2008 5:04:57 PM
Potassium	1.8	1.0	mg/L	1	4/15/2008 5:04:57 PM
Selenium	ND	0.050	mg/L	1	4/15/2008 5:04:57 PM
Silver	ND -	0.0050	mg/L	1	4/15/2008 5:04:57 PM
Sodium	87	1.0	mg/L	1	4/15/2008 5:04:57 PM
Uranium	ND	0.10	mg/L	1	4/15/2008 5:04:57 PM
Zinc	0.068	0.050	mg/L	1	4/15/2008 5:04:57 PM
EPA 6010B: TOTAL RECOVERABLE I	METALS				Analyst: <b>TES</b>
	ND	0.020	mg/L	1	4/12/2008 1:44:51 PM
Arsenic	110			•	
Arsenic Barium	0.033	0.020	mg/L	1	4/12/2008 1:44:51 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 4

Date: 02-May-08

CLIENT:

San Juan Refining

Lab Order:

0804103

San Juan River Bluff Semi-Annual-2008

Project: Lab ID:

0804103-01

Client Sample ID: Outfall #3

Collection Date: 4/8/2008 2:55:00 PM

Date Received: 4/9/2008

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA 6010B: TOTAL RECOVERABLE	METALS			*********	Analyst: TES
Chromium	ND	0.0060	mg/L	1	4/12/2008 1:44:51 PM
Lead	ND	0.0050	mg/L	1	4/12/2008 1:44:51 PM
Selenium	. ND	0.050	mg/L	1	4/12/2008 1:44:51 PM
Silver	ND	0.0050	mg/L	.1	4/12/2008 1:44:51 PM
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: BDH
Benzene	ND	1.0	μg/L	1	4/17/2008 5:19:32 PM
Toluene	ND	1.0	µg/L	1	4/17/2008 5:19:32 PM
Ethylbenzene	ND	1.0	μg/L	1	4/17/2008 5:19:32 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	μg/L	1	4/17/2008 5:19:32 PM
Xylenes, Total	ND	3.0	μg/L	1	4/17/2008 5:19:32 PM
Surr: 4-Bromofluorobenzene	104	80.4-119	%REC	1	4/17/2008 5:19:32 PM
SM 2320B: ALKALINITY					Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	280	20	mg/L CaCO3	1	4/15/2008
Carbonate	ND	2.0	mg/L CaCO3	1	4/15/2008
Bicarbonate	280	20	mg/L CaCO3	. 1	4/15/2008
TOTAL CARBON DIOXIDE CALCULA	ATION				Analyst: <b>TAF</b>
Total Carbon Dioxide	260	1.0	mg CO2/L	1	4/22/2008
EPA 120.1: SPECIFIC CONDUCTANO	CE				Analyst: <b>TA</b> F
Specific Conductance	920	0.010	µmhos/cm	1	4/11/2008
SM4500-H+B: PH		•			Analyst: <b>SNV</b>
рН	7.40	0.1	pH units	1	4/11/2008
SM 2540C: TDS					Analyst: <b>TAF</b>
Total Dissolved Solids	610	20	mg/L	1	4/11/2008

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J. Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 02-May-08

CLIENT:

San Juan Refining

Lab Order:

0804103

San Juan River Bluff Semi-Annual-2008

Project: Lab ID:

0804103-02

Client Sample ID: Outfall #2

Collection Date: 4/8/2008 3:05:00 PM

Date Received: 4/9/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	4/11/2008 9:56:51 AM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/11/2008 9:56:51 AM
Surr: DNOP	116	58-140	%REC	1	4/11/2008 9:56:51 AM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	4/15/2008 9:39:51 PM
Surr: BFB	98.7	79.2-121	%REC	1	4/15/2008 9:39:51 PM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.70	0.10	mg/L	1	4/9/2008 1:41:44 PM
Chloride	14	0.10	mg/L	1	4/9/2008 1:41:44 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	4/9/2008 1:41:44 PM
Bromide	ND	0.10	mg/L	1	4/9/2008 1:41:44 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	4/9/2008 1:41:44 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	4/9/2008 1:41:44 PM
Sulfate	110	5.0	mg/L	10	4/9/2008 1:59:09 PM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	4/17/2008 3:02:04 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	4/15/2008 5:07:52 PM
Barium	0.042	0.020	mg/L	1	4/15/2008 5:07:52 PM
Cadmium	ND	0.0020	mg/L	1	4/15/2008 5:07:52 PM
Calcium	92	1.0	mg/L	1	4/15/2008 5:07:52 PM
Chromium	ND	0.0060	mg/L	1	4/15/2008 5:07:52 PM
Copper	ND	0.0060	mg/L	1	4/15/2008 5:07:52 PM
Iron	ND	0.020	mg/L	1	4/15/2008 5:07:52 PM
Lead	ND	0.0050	mg/L	1	4/15/2008 5:07:52 PM
Magnesium	21	1.0	mg/L	1	4/15/2008 5:07:52 PM
Manganese	0.0023	0.0020	mg/L	1	4/15/2008 5:07:52 PM
Potassium	1.9	1.0	mg/L	1	4/15/2008 5:07:52 PM
Selenium	ND	0.050	mg/L	1	4/15/2008 5:07:52 PM
Silver	ND	0.0050	mg/L	1	4/15/2008 5:07:52 PM
Sodium	70	1.0	mg/L	1	4/15/2008 5:07:52 PM
Uranium	ND	0.10	mg/L 	1	4/15/2008 5:07:52 PM
Zinc	ND	0.050	mg/L	1	4/15/2008 5:07:52 PM
EPA 6010B: TOTAL RECOVERABLE					Analyst: TES
Arsenic	ND	0.020	mg/L	1	4/12/2008 1:47:21 PM
Barium	0.039	0.020	mg/L	1	4/12/2008 1:47:21 PM
Cadmium	ND	0.0020	mg/L	1	4/12/2008 1:47:21 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 02-May-08

CLIENT:

San Juan Refining

Lab Order:

0804103

San Juan River Bluff Semi-Annual-2008

Project: Lab ID:

0804103-02

Client Sample ID: Outfall #2

Collection Date: 4/8/2008 3:05:00 PM

. Date Received: 4/9/2008

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA 6010B: TOTAL RECOVERABLE I	VIETALS	•			Analyst: <b>TES</b>
Chromium	ND	0.0060	mg/L	1	4/12/2008 1:47:21 PM
Lead	ND	0.0050	mg/L	1	4/12/2008 1:47:21 PM
Selenium	ND	0.050	mg/L	1	4/12/2008 1:47:21 PM
Silver	ND	0.0050	mg/L	1	4/12/2008 1:47:21 PM
EPA METHOD 8260: VOLATILES SHO	RT LIST				Analyst: BDH
Benzene	ND	1.0	μg/L	1	4/17/2008 5:48:50 PM
Toluene	ND	1.0	μg/L	1	4/17/2008 5:48:50 PM
Ethylbenzene	ND	1.0	μg/L .	1	4/17/2008 5:48:50 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	µg/L	1	4/17/2008 5:48:50 PM
Xylenes, Total	ND	3.0	µg/L	1	4/17/2008 5:48:50 PM
Surr: 4-Bromofluorobenzene	99.9	80.4-119	%REC	1	4/17/2008 5:48:50 PM
SM 2320B: ALKALINITY					Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	360	20	mg/L CaCO3	1	4/15/2008
Carbonate	ND	2.0	mg/L CaCO3	1	4/15/2008
Bicarbonate	360	. 20	mg/L CaCO3	1	4/15/2008
TOTAL CARBON DIOXIDE CALCULA	TION				Analyst: <b>TA</b> F
Total Carbon Dioxide	320	1.0	mg CO2/L	1	4/22/2008
EPA 120.1: SPECIFIC CONDUCTANC	E				Analyst: <b>TA</b> F
Specific Conductance	880	0.010	µmhos/cm	1	4/11/2008
SM4500-H+B: PH					Analyst: <b>SNV</b>
рH	7.87	0.1	pH units	1	4/11/2008
SM 2540C: TDS					Analyst: <b>TAF</b>
Total Dissolved Solids	550	20	mg/L	1	4/11/2008

Qua	li	ſī	e	r	S
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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

Not Detected at the Reporting Limit ND

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

roject:

San Juan River Bluff Semi-Annual-2008

Work Order:

0804103

Analyte	Result	Units	PQL	%Rec	LowLimit I	HighLimit	%RPD RF	PDLimit Qual
Method: EPA Method 300.0: Anic	ons							
Sample ID: MB		MBLK			Batch ID	): R28042	Analysis Date:	4/9/2008 9:38:02 AM
Fluoride	ND	mg/L	0.10					
Chloride	ND	mg/L	0.10					
Nitrogen, Nitrite (As N)	ND	mg/L	0.10					
Bromide	ND	mg/L	0.10					
Nitrogen, Nitrate (As N)	ND	mg/L	0.10					
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50					
Sulfate	ND	mg/L	0.50					
Sample ID: LCS		LCS			Batch ID	R28042	Analysis Date:	4/9/2008 9:55:27 AM
Fluoride	0.4856	mg/L	0.10	97.1	90	110		
Chloride	4.825	mg/L	0.10	96.5	90	110		
Nitrogen, Nitrite (As N)	0.9733	mg/L	0.10	97.3	90	110		
Bromide	2.489	mg/L	0.10	99.5	90	110		
Nitrogen, Nitrate (As N)	2.481	mg/L	0.10	99.2	90	110		
Phosphorus, Orthophosphate (As P)	4.895	mg/L	0.50	97.9	90	110		
Sulfate	9.692	mg/L	0.50	96.9	90	110		
Method: SM 2320B: Alkalinity								
Sample ID: MB		MBLK			Batch ID	: R28122	Analysis Date:	4/15/2008
Alkalinity, Total (As CaCO3)	ND	mg/L CaC	20					
arbonate	ND	mg/L CaC	2.0					
icarbonate	ND	mg/L CaC	20					
Sample ID: LCS		LCS			Batch ID	: R28122	Analysis Date:	4/15/2008
Alkalinity, Total (As CaCO3)	80.00	mg/L CaC	20	97.5	80	120	•	
Method: EPA Method 8015B: Die	sal Ranga							
Sample ID: MB-15612	ooi range	MBLK			Batch ID	15612	Analysis Date:	4/10/2008 9:05:46 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0					
Motor Oil Range Organics (MRO)	ND	mg/L	5.0					
Sample ID: LCS-15612		LCS	0.0		Batch ID	: 15612	Analysis Date:	4/10/2008 9:39:29 PM
	4.002		4.0	00.4			7 mary 513 Date.	47 1072000 3.33.23 T W
Diesel Range Organics (DRO)	4.803	mg/L	1.0	96.1	74 Datab ID	157	Ameliania Deter	4/40/0000 40 40 04 DM
Sample ID: LCSD-15612		LCSD			Batch ID		Analysis Date:	4/10/2008 10:13:21 PM
Diesel Range Organics (DRO)	5.257	mg/L	1.0	105	74	157	9.04	23
Method: EPA Method 8015B: Gas	soline Ran	•						
Sample ID: 5ML RB		MBLK			Batch ID	R28104	Analysis Date:	4/15/2008 9:04:21 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Sample ID: 2.5UG GRO LCS		LCS			Batch ID	: R28104	Analysis Date:	4/16/2008 12:10:23 AM
Jampie ID. 2.300 ONO LOG								

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

San Juan River Bluff Semi-Annual-2008

Work Order:

0804103

Analyte	Result	Units	PQL	%Rec	LowLimit Hig	ghLimit	%RPD R	PDLimit Qual
Method: EPA Method 8260: Vo	latiles Short	List						
Sample ID: 0804103-02a msd		MSD	•		Batch ID:	R28141	Analysis Date	: 4/17/2008 6:46:47 PM
Benzene	20.57	μg/L	1.0	103	72.4	126	3.74	20
Toluene	17.39	μg/L	1.0	86.9	79.2	115	0.482	20
Sample ID: 5mL		MBLK			Batch ID:	R28141	Analysis Date	: 4/17/2008 9:09:26 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Kylenes, Total	ND	μg/L	2.0		•			
Sample ID: 100ng lcs		LCS			Batch ID:	R28141	Analysis Date	: 4/17/2008 10:07:16 AM
Benzene	21.41	μg/L	1.0	107	72.4	126	•	
Toluene	17.68	μg/L	1.0	88.4	69.4	26		
Sample ID: 0804103-02a ms		MS			Batch ID:	R28141	Analysis Date	: 4/17/2008 6:17:59 PM
Benzene	19.82	μg/L	1.0	99.1	72.4	126		
Toluene	17.47	μg/L	1.0	87.4	79.2 1	15	<u> </u>	
Method: EPA Method 7470: Me	ercury							
Sample ID: +0804103-01C MSD	•	MSD			Batch ID:	15677	Analysis Date	: 4/17/2008 3:36:30 PM
Mercury	0.004937	mg/L	0.00020	98.7	75 1	125	0.0215	20
Sample ID: MB-15677		MBLK			Batch ID:	15677	Analysis Date	: 4/17/2008 2:49:38 PM
Mercury	ND	mg/L	0.00020					
Sample ID: LCS-15677		LCS			Batch ID:	15677	Analysis Date	: 4/17/2008 2:51:22 PM
Mercury	0.005034	mg/L	0.00020	101	80 1	120		
Sample ID: 0804103-01C MS		MS			Batch ID:	15677	Analysis Date	: 4/17/2008 3:34:42 PM
Viercury	0.004935	mg/L	0.00020	98.7	75 1	125	•	

Quali	fiers	;
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E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

roject: San Juan River Bluff Semi-Annual-2008

Work Order:

0804103

Method: EPA Method 6010B Sample ID: 0804103-02E MSD	: Dissolved Me								
•		etals							
	)	MSD			Batch II	D: <b>R28080</b>	Analysis Date	: 4/14/2	008 2:59:58 PI
Calcium	143.0	mg/L	5.0	88.6	75	125	3.78	20	
Sodium	125.0	mg/L	5.0	95.8	75	125	3.71	20	
Sample ID: 0804103-02EMSD		MSD			Batch II	D: <b>R28106</b>	Analysis Date	: 4/15/2	008 5:13:52 PI
rsenic	0.5126	mg/L	0.020	103	75	125	0.215	20	
Barium	0.5404	mg/L	0.020	99.7	75	125	1.40	20	
Cadmium	0.5203	mg/L	0.0020	104	75	125	0.635	20	
Chromium	0.5068	mg/L	0.0060	101	75	125	0.720	20	
Copper	0.5137	mg/L	0.0060	103	75	125	0.559	20	
ron	0.4891	mg/L	0.020	97.8	75	125	2.50	20	
.ead	0.4925	mg/L	0.0050	98.5	75	125	1.33	20	
<b>//agnesium</b>	67.87	mg/L	1.0	93.4	75	125	3.17	20	
Manganese	0.5042	mg/L	0.0020	100	75	125	1.28	20	
Potassium	55.12	mg/L	1.0	96.8	75	125	0.324	20	
Selenium	0.6052	mg/L	0.050	121	75	125	9.52	20	
Silver	0.4909	mg/L	0.0050	98.2	75	125	0.188	20	
Jranium	0.4883	mg/L	0.10	97.7	75	125	0.0478	20	
Zinc	0.5341	mg/L	0.050	101	75	125	1.51	20	
Sample ID: 0804103-02EMSD		MSD			Batch II	D: <b>R28106</b>	Analysis Date	: 4/15/2	008 5:25:49 PN
alcium	346.6	mg/L	5.0	99.3	75	125	3.08	20	
bdium	321.7	mg/L	5.0	98.7	75	125	3.84	20	
Sample ID: MB		MBLK			Batch II	D: <b>R28080</b>	Analysis Date	4/14/20	08 10:55:39 AN
Arsenic	ND	mg/L	0.020						
Barium	ND	mg/L	0.020						
Cadmium	ND	mg/L	0.0020						
Calcium	ND	mg/L	1.0						
Chromium	ND	mg/L	0.0060						
Copper	ND	mg/L	0.0060						*
ron	ND	mg/L	0.020						
.ead	ND	mg/L	0.0050						
//agnesium	ND	mg/L	1.0						
Manganese	ND	mg/L	0.0020						
Potassium	ND	mg/L	1.0						
Selenium	ND	mg/L	0.050						
Silver	ND	mg/L	0.0050						
Godium	ND	mg/L	1.0						
Jranium	ND	mg/L	0.10						
linc	ND	mg/L	0.050						
ample ID: MB		MBLK			Batch II	D: <b>R28106</b>	Analysis Date	4/15/2	008 4:59:02 PN
rsenic	ND	mg/L	0.020						
Barium	ND	mg/L	0.020						
Cadmium	ND	mg/L	0.0020						
Calcium	ND	mg/L	1.0						
Chromium	ND	mg/L	0.0060						
<b>\</b>									

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

San Juan River Bluff Semi-Annual-2008

Work Order:

0804103

Analyte		Result	Units	PQL	%Rec	LowLimit H	ighLimit	%RPD RP	DLimit Qual
Method:	EPA Method 6010B: D	Dissolved Me	etals						
Sample ID:	MB		MBLK		•	Batch ID:	R28106	Analysis Date:	4/15/2008 4:59:02 PN
Copper		ND	mg/L	0.0060					
ron		ND	mg/L	0.020					
_ead		ND	mg/L	0.0050					
Magnesium		ND	mg/L	1.0					
/langanese		ND	mg/L	0.0020					
Potassium		ND	mg/L	1.0					
Selenium		ND	mg/L	0.050					
Sodium		ND	mg/L	1.0	,				
Sample ID:	LCS	.,,,	LCS	1.0		Batch ID:	R28080	Analysis Date:	4/14/2008 10:58:40 AM
		0.5440		0.000	400			Tillaly 313 Date.	4/14/2000 10.50.40 AII
Arsenic		0.5112	mg/L	0.020	102		120		
Barium		0.5143	mg/L	0.020	103		120	a.	
Cadmium		0.5230	mg/L	0.0020	105		120		
Calcium		53.35	mg/L	1.0	106		120		
Chromium		0.5167	mg/L	0.0060	103		120		
Copper		0.5142	mg/L	0.0060	103		120		
ron		0.5068	mg/L	0.020	101		120		
ead		0.5075	mg/L	0.0050	101		120		
/lagnesium	•	53.70	mg/L	, 1.0	106		120		
Manganese		0.5124	mg/L '	0.0020	102		120		
otassium		57.05	mg/L	1.0	104		120		
Selenium		0.4993	mg/L	0.050	99.9		120		
Silver		0.5300	mg/L	0.0050	106		120		
Sodium		57.19	mg/L	1.0	113	80	120		
Jranium		0.5251	mg/L	0.10	105		120 .		
inc		0.5127	mg/L	0.050	103	80	120		
ample ID:	LCS		LCS			Batch ID:	R28106	Analysis Date:	4/15/2008 5:01:57 PI
rsenic		0.4935	mg/L	0.020	98.7	80	120		
arium		0.4994	mg/L	0.020	99.9	80	120		
admium		0.5144	mg/L	0.0020	103	80	120		
Calcium		50.65	mg/L	1.0	100	80	120		
Chromium		0.5072	mg/L	0.0060	101	80	120		•
Соррег		0.5049	mg/L	0.0060	101	80	120		
ron		0.4853	mg/L	0.020	97.1	80	120		
.ead		0.4981	mg/L	0.0050	99.6	80	120		
/lagnesium		51.31	mg/L	1.0	102	80	120		
/langanese		0.4969	mg/L	0.0020	99.4	80	120		
otassium		54.60	mg/L	1.0	99.3	80	120		
Selenium		0.5137	mg/L	0.050	103	80	120		
Sodium		54.90	mg/L	1.0	109	80	120		
	0804103-02E MS		MS			Batch ID:		Analysis Date:	4/14/2008 2:57:05 PI
Calcium		137.7	mg/L	5.0	78.1	75	125	-	
Sodium		120.5	mg/L	5.0	86.8	75 75	125		
	0004402 02E846	120.5	MS	3.0	00.0			Analysis Date:	4/45/2009 E-40-47 DM
ampie iu:	0804103-02EMS		IVIS			Batch ID:	R28106	Analysis Date:	4/15/2008 5:10:47 PM

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

San Juan River Bluff Semi-Annual-2008

Work Order:

0804103

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	PDLimit Qual
Method: EPA Method 6010	B: Dissolved Me	etals			<u> </u>			
Sample ID: 0804103-02EMS		MS			Batch	ID: <b>R28106</b>	Analysis Date:	4/15/2008 5:10:47 PN
Arsenic	0.5115	mg/L	0.020	102	75	125		
Barium	0.5329	mg/L	0.020	98.2	75	125		
Cadmium	0.5170	mg/L	0.0020	103	75	125		
Chromium	0.5032	mg/L	0.0060	101	75	125		
Copper	0.5109	mg/L	0.0060	102	75	125		
ron	0.5015	mg/L	0.020	100	75	125		
_ead	0.4860	mg/L	0.0050	97.2	75	125		
Magnesium	70.06	mg/L	1.0	97.8	75	125		
<b>V</b> langanese	0.4978	mg/L	0.0020	99.1	75	125		
Potassium	55.30	mg/L	1.0	97.1	75	125	•	
Selenium	0.5502	mg/L	0.050	110	75	125		
Silver	0.4900	mg/L	0.0050	98.0	75	125		
Jranium	0.4885	mg/L	0.10	97.7	75	125		
Zinc	0.5261	mg/L	0.050	99.6	75	125		
Sample ID: 0804103-02EMS		MS			Batch	ID: <b>R28106</b>	Analysis Date:	4/15/2008 5:22:55 PN
Calcium	336.0	mg/L	5.0	95.1	75	125		
Sodium	309.5	mg/L	5.0	93.9	75	125		



Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

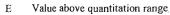
San Juan River Bluff Semi-Annual-2008

Work Order:

0804103

roject: San Juan Kiv	ver bluir se	mi-Aimuai-	-2000					Work C	)rder:	0804103
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPD	Limit G	
Nethod: EPA 6010B: Total Rec	overable Me				-					
ample ID: 0804103-01CMSD		MSD			Batch		Analysis [	Date:	4/12/20	08 1:52:27 PM
rsenic	0.4566	mg/L	0.020	91.3	75	125	2.70	20		
arium	0.5089	mg/L	0.010	95.1	75	125	3.63	20		
admium	0.4803	mg/L	0.0020	96.1	75	125	1.63	20		
hromium	0.4750	mg/L	0.0060	95.0	75	125	2.31	20		
ead	0.4684	mg/L	0.0050	93.7	75	125	1.06	- 20		•
elenium	0.4515	mg/L	0.050	90.3	75	125	4.85	20		
ilver	0.4913	mg/L	0.0050	98.3	75	125	3.64	20		
ample ID: MB-15622		MBLK			Batch	ID: <b>15622</b>	Analysis [	Date:	4/12/20	08 1:39:50 PM
rsenic	ND	mg/L	0.020							
arium	ND	mg/L	0.010							
admium	ND	mg/L	0.0020							
hromium	ND	mg/L	0:0060							
ead	ND	mg/L	0.0050							
elenium	ND	mg/L	0.050							
iver	ND	mg/L	0.0050							
ample ID: LCS-15622		LCS			Batch	ID: 15622	Analysis [	Date:	4/12/20	08 1:42:20 PM
senic	0.4676	mg/L	0.020	93.5	80	120				
arium	0.4587	mg/L	0.010	91.7	80	120				
admium	0.4554	mg/L	0.0020	91.1	80	120				
hromium	0.4526	mg/L	0.0060	90.5	80	120				
ead	0.4566	mg/L	0.0050	91.3	80	120				
elenium	0.4562	mg/L	0.050	91.2	80	120				
lver	0.4756	mg/L	0.0050	95.1	80	120				
mple ID: 0804103-01CMS	0.4700	MS	0.0000	55.1	Batch		Analysis [	Date:	4/12/20	08 1:49:54 PM
senic	0.4444	mg/L	0.020	88.9	75	125	7 Widiyolo 2	Julio.	77 12720	30 1. 10.041 11
arium	0.4907	mg/L	0.020	91.5	75 75	125				
admium	0.4907	mg/L	0.0020	94.5	75 75	125				
garmam	0.4642		0.0020	92.8	75 75					
ead	0.4635	mg/L · mg/L	0.0050	92.6	75 75	125				
elenium	0.4301	_	0.050	86.0	75 75	125				
ilver	0.4301	mg/L mg/L	0.050	94.7	75 75	125 125				
	0.4737	mg/L	0.0050	34.1		125				
ethod: SM 2540C: TDS							•			
mple ID: 0804103-01D MSD		MSD			Batch	ID: <b>15621</b>	Analysis [	Date:		4/11/2008
otal Dissolved Solids	1669	mg/L	20	106	80	120	2.73	20		
mple ID: MB-15621		MBLK			Batch		Analysis D	Date:		4/11/2008
otal Dissolved Solids	ND	mg/L	20				•			
ample ID: LCS-15621	110	LCS	20		Batch	ID: <b>15621</b>	Analysis [	)ate		4/11/2008
•	4000			464			rinalysis L	Jaic.		4/11/2000
otal Dissolved Solids	1020	mg/L	20	101		120		_		
ample ID: 0804103-01D MS		MS			Batch	ID: 15621	Analysis [	Date:		4/11/2008
otal Dissolved Solids	1624	mg/L	20	102	80	120				

	_	_		
O	ua	lii	Гiе	rs



J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

#### Sample Receipt Checklist

Client Name SJR	24		-,-,	Date Receive	ed:	4/9/2008	
Work Order Number 0804103				Received b	y: TLS	1.0	
( Aug.	1		,	5 1 8 2 3 4 7	labels checked by	ν <u>AS</u>	
Checklist completed by: \(\begin{align*} \lambda \lamb			D;	7 / 9/68 ate	-	Initials	
		1					
Matrix	Carrier name	UPS	<u> </u>				
Shipping container/cooler in good condition?		Yes	<b>√</b>	No 🗌	Not Present [		
Custody seals intact on shipping container/coole	er?	Yes	$\checkmark$	No 🗌	Not Present [	Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗌	N/A	<b>✓</b>	
Chain of custody present?		Yes	V	No 🗌			
Chain of custody signed when relinquished and	received?	Yes	1	No 🗌			
Chain of custody agrees with sample labels?		Yes	<b>√</b>	No 🗌			
Samples in proper container/bottle?		Yes	V	No 🗌			
Sample containers intact?		Yes	<b>S</b>	No 🗌			
Sufficient sample volume for indicated test?		Yes	V	No 🗌			
All samples received within holding time?		Yes	<b>✓</b> .	No 🗌			
Water - VOA vials have zero headspace?	No VOA vials subm	nitted		Yes 🗹	No 🗌		
Water - Preservation labels on bottle and cap m	atch?	Yes	<b>✓</b>	No 🗌	N/A		
Water - pH acceptable upon receipt?		Yes	<b>5</b> 0	No 🗌	N/A		
Container/Temp Blank temperature?			5°	<6° C Accepta			
COMMENTS:				If given sufficier	nt time to cool.		
		===					
Client contacted	Date contacted:			Per	rson contacted		
Contacted by:	Regarding						
Comments:							
		•					
				······································			···········
Corrective Action							
				· · · · · · · · · · · · · · · · · · ·			

		· ·					( <i>N</i> 10	Y) 908	edspeə	 H no s	əlddu8 niA													
(	HALL ENVIRONMENTAL ANALYSIS LABORATORY	۵	Albuquel'que, New Intextoo 67,103 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com			<u> </u>	العا	NIK MI	120	عنه ارا	DS'E					×		×			X			AMP OF
	ENVIRONMENTAL	;e   D	co e / ax 505 com				<u></u>				19S) 07S8												1 .	
		Suit	iviexi 5 F		-	MO	X 21				8560B (V		,				X						U	₹ ₹
	<u> </u>	4901 Hawkins NE, Suite D	Aibuquel que, New Mexico o Tel. 505.345.3975 Fax 50 www.ballenvironmental com	A SHEET	) = (-	क्षार्थ्य	/				8081 Pest											<u> </u>	EE	9
	FN	wkin	que, 345. envir			I'OD	/t <sup>os</sup>		ON .		(F, C)	+			$\geq$	•			$\searrow$	<b>&gt;</b>			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\$
	HALL	11 Ha	140e) 505. v hall	1 T					ПА		.010 (PN) 	<del></del>	!	<b>X</b>						•			<b>4</b>	3
	IA	49C	Tel.					·			EDC (Metl				-								2	Ą
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	š į		1					-			IJ9M) HqT	<del></del>											ا بح	#
	7-}	1					(ləsə	iO\zs	128 (C	.08 bo	TPH Meth												P. P. C.	<b>Z</b>
						J()	10 ənil	osegj	HqT -	+ 38T	BTEX + M												Not much sample Available for	Just
_							(120	)8) s,¦	aMT ⊣	- 38TI	BTEX + M												Rem	<del>-</del>
100,000	Std 🗖 Level 4 🗗	Other:	Project Name: River Buff	Semi-Andual - 2008	Project #:		Project Manager:	•	Softper 14/whad/Bob Katow	ure:	Number/Volume HEAL No.	<u> </u>	1-500 HAIO3	1-500 L HVO3	1-500-1		4-10A- Ha -2	1-350 1 HAD3	15000 HW3	1-500 mg +1504			Regeived By: (Signature) 4/5/08	Higgenved tby: Usignature)
		CHAIN-OF-CUSTODY RECORD	Client: SAN JUHN REFINING	(WESTERN REFINING)	4990	- RICOMFIELD NIM 87413			Phone #: 505 - 632 - 4/61			Ulashay 2560 110 0. 150 #3					4/08/08 2050 HED () WHAU #2						469/68 340m Reinquished By (Signature)	lime:



#### **COVER LETTER**

Thursday, September 18, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: Down-Gradient Wells Annual Aug 2008

Dear Cindy Hurtado:

Order No.: 0808241

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 8/14/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Froeman, Basiness Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 18-Sep-08

CLIENT: Western Refining Southwest, Inc.

Project: Down-Gradient Wells Annual Aug 2008

**Lab Order:** 0808241

## Work Order Sample Summary

		,	•	
Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808241-01A	MW-34	16802	EPA Method 8015B: Diesel Range	8/13/2008 1:20:00 PM
0808241-01A	MW-34	R29824	EPA Method 8260B: VOLATILES	8/13/2008 1:20:00 PM
0808241-01A	MW-34	R29824	EPA Method 8260B: VOLATILES	8/13/2008 1:20:00 PM
0808241-01A	MW-34	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 1:20:00 PM
0808241-01A	MW-34	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 1:20:00 PM
0808241-01A	MW-34	R29803	EPA Method 8260B: VOLATILES	8/13/2008 1:20:00 PM
0808241-01B	MW-34	16804	EPA Method 8270C: Semivolatiles	8/13/2008 1:20:00 PM
0808241-01C	MW-34	R29800	EPA Method 300.0: Anions	8/13/2008 1:20:00 PM
0808241-01C	MW-34	R29884	Carbon Dioxide	8/13/2008 1:20:00 PM
0808241-01C	MW-34	R29800	EPA Method 300.0: Anions	8/13/2008 1:20:00 PM
0808241-01C	MW-34	R29866	SM 2320B: Alkalinity	8/13/2008 1:20:00 PM
0808241-01D	MW-34	16906	EPA Method 7470: Mercury	8/13/2008 1:20:00 PM
0808241-01D	MW-34	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 1:20:00 PM
0808241-01E	MW-34	R30124	EPA Method 6010B: Dissolved Metals	8/13/2008 1:20:00 PM
0808241-01E	MW-34	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 1:20:00 PM
0808241-01E	MW-34	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 1:20:00 PM
0808241-02A	MW-35	R29803	EPA Method 8260B: VOLATILES	8/13/2008 1:45:00 PM
0808241-02A	MW-35	R29824	EPA Method 8260B: VOLATILES	8/13/2008 1:45:00 PM
0808241-02A	MW-35	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 1:45:00 PM
0808241-02A	MW-35	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 1:45:00 PM
0808241-02A	MW-35	16802	EPA Method 8015B: Diesel Range	8/13/2008 1:45:00 PM
0808241-02B	MW-35	16804	EPA Method 8270C: Semivolatiles	8/13/2008 1:45:00 PM
0808241-02C	MW-35	R29800	EPA Method 300.0: Anions	8/13/2008 1:45:00 PM
0808241-02C	MW-35	R29866	SM 2320B: Alkalinity	8/13/2008 1:45:00 PM
0808241-02C	MW-35	R29800	EPA Method 300.0: Anions	8/13/2008 1:45:00 PM
0808241-02C	MW-35	R29884	Carbon Dioxide	8/13/2008 1:45:00 PM
0808241-02D	MW-35	16906	EPA Method 7470: Mercury	8/13/2008 1:45:00 PM
0808241-02D	MW-35	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 1:45:00 PM
0808241-02E	MW-35	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 1:45:00 PM
0808241-02E	MW-35	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 1:45:00 PM
0808241-02E	MW-35	R30124	EPA Method 6010B: Dissolved Metals	8/13/2008 1:45:00 PM
0808241-03A	Trip Blank	R29921	EPA Method 8015B: Gasoline Range	
0808241-03A	Trip Blank	R29803	EPA Method 8260B: VOLATILES	

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: MW-34

Lab Order:

0808241

Collection Date: 8/13/2008 1:20:00 PM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808241-01

Matrix: AQUEOUS

Analyses	Result	PQL Qu	ial Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	*		· · · · · · · · · · · · · · · · · · ·		Analyst: SLB
Fluoride	0.83	0.10	mg/L	1	8/14/2008 10:30:34 PM
Chloride	110	1.0	mg/L	10	8/14/2008 10:47:59 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/14/2008 10:30:34 PM
Bromide	1.3	0.10	mg/L	1	8/14/2008 10:30:34 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/14/2008 10:30:34 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/14/2008 10:30:34 PM
Sulfate	9.9	0.50	mg/L	1	8/14/2008 10:30:34 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 1 of 2

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

0808241

Client Sample ID: MW-34

Lab Order:

Down-Gradient Wells Annual Aug 2008

Collection Date: 8/13/2008 1:20:00 PM Date Received: 8/14/2008

Project: Lab ID:

0808241-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	Ξ				<del></del>	Analyst: SCC
Diesel Range Organics (DRO)	3.9	1.0		mg/L	1	8/18/2008 4:03:59 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/18/2008 4:03:59 PM
Surr: DNOP	118	58-140		%REC	1	8/18/2008 4:03:59 PM
EPA METHOD 8015B: GASOLINE RA	NGE					Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	1.4	0.10		mg/L	2	8/26/2008 9:07:10 PM
Surr: BFB	207	79.2-121	S	%REC	2	8/26/2008 9:07:10 PM
EPA METHOD 300.0: ANIONS						Analyst: SLB
Fluoride	0.83	0.10		mg/L	1	8/14/2008 10:30:34 PM
Chloride	110	1.0	1	mg/L	10	8/14/2008 10:47:59 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/14/2008 10:30:34 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/14/2008 10:30:34 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	1	mg/L	1	8/14/2008 10:30:34 PM
Sulfate	9.9	0.50		mg/L	. 1	8/14/2008 10:30:34 PM
EPA METHOD 7470: MERCURY						Analyst: SNV
Mercury	ND	0.00020	ŧ	mg/L	1	8/27/2008 4:35:08 PM
EPA METHOD 6010B: DISSOLVED ME	TALS					Analyst: TES
Arsenic	ND	0.020	r	mg/L	1	8/29/2008 3:53:53 PM
Barium	0.57	0.020		ng/L	1	8/29/2008 3:53:53 PM
Cadmium	ND	0.0020		ng/L	1	8/29/2008 3:53:53 PM
Chromium	ND	0.0060	r	ng/L	. 1	8/29/2008 3:53:53 PM
Copper	ND	0.0060	r	ng/L	1	8/29/2008 3:53:53 PM
Iron	4.1	0.20	n	ng/L	10	8/29/2008 4:49:52 PM
Lead	ND	0.0050	r	ng/L	1	8/29/2008 3:53:53 PM
Manganese	3.1	0.020	n	ng/L	10	8/29/2008 4:49:52 PM
Selenium	ND	0.25	n	ng/L	5 .	9/8/2008 10:18:34 PM
Silver	ND	0.0050	n	ng/L	1	8/29/2008 3:53:53 PM
Zinc	ND	0.050	n	ng/L	1	8/29/2008 3:53:53 PM
EPA 6010B: TOTAL RECOVERABLE N	IETALS					Analyst: NMO
Arsenic	ND	0.020	n	ng/L	1	8/28/2008 12:37:19 PM
Barium	0.58	0.020	n	ng/L	1	8/28/2008 12:37:19 PM
Cadmium	ND	0.0020	n	ng/L	1	8/28/2008 12:37:19 PM
Chromium	ND	0.0060	m	ng/L	1	8/28/2008 12:37:19 PM
Lead	ND	0.0050	n	ng/L	1	8/28/2008 12:37:19 PM
Selenium	ND	0.050	n	ng/L	. 1	8/28/2008 12:37:19 PM
Silver	ND	0.0050	n	ng/L	1	8/28/2008 12:37:19 PM
PA METHOD 8270C: SEMIVOLATILES						Analyst: JDC

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808241

Client Sample ID: MW-34

Collection Date: 8/13/2008 1:20:00 PM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808241-01

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
PA METHOD 8270C: SEMIVOLAT	ILES				Analyst: JDC
Acenaphthene	ND	10	μg/L	1	8/21/2008
Acenaphthylene	ND	10	μg/L	1	8/21/2008
Aniline	ND	10	μg/L	1	8/21/2008
Anthracene	ND	10	μg/L	1	8/21/2008
Azobenzene	ND	10	μg/L	1	8/21/2008
Benz(a)anthracene	ND	10	μg/L	1	8/21/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/21/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/21/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/21/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/21/2008
Benzoic acid	ND	20	μg/L	1	8/21/2008
Benzyl alcohol	ND	10	μg/L	1	8/21/2008
Bis(2-chloroethoxy)methane	ND	10	µg/L	1	8/21/2008
Bis(2-chloroethyl)ether	NĐ	10	μg/L	1	8/21/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/21/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/21/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/21/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/21/2008
Carbazole	ND	10	μg/L	1	8/21/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/21/2008
4-Chloroaniline	ND	10	μg/L	1	8/21/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/21/2008
2-Chlorophenol	ND	10	μg/L	1	8/21/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/21/2008
Chrysene	ND	10	μg/L	1	8/21/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/21/2008
Di-n-octyl phthalate	ND	10	µg/L	1	8/21/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/21/2008
Dibenzofuran	ND	10	μg/L	1	8/21/2008
1,2-Dichlorobenzene	ND	- 10	μg/L	1	8/21/2008
,3-Dichlorobenzene	ND	10	μg/L	1	8/21/2008
,4-Dichlorobenzene	ND	10	μg/L	1	8/21/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/21/2008
Diethyl phthalate	ND	10	μg/L	1	8/21/2008
Dimethyl phthalate	ND	. 10	μg/L	1	8/21/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/21/2008
,4-Dimethylphenol	ND	10	μg/L	1	8/21/2008
,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/21/2008
,4-Dinitrophenol	ND	20	µg/L	1	8/21/2008
2,4-Dinitrotoluene	ND	10	µg/L	1	8/21/2008
2,6-Dinitrotoluene	ND	10	µg/L	1	8/21/2008
Fluoranthene	ND	10	μg/L	1	8/21/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 2 of 12

**Date:** 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808241

Client Sample ID: MW-34

Project:

Down-Gradient Wells Annual Aug 2008

Collection Date: 8/13/2008 1:20:00 PM

Lab ID:

0808241-01

Date Received: 8/14/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S	1, 1, 1, 1, 1			Analyst: JD0
Fluorene	ND	10	µg/L	1	8/21/2008
Hexachlorobenzene	ND	10	μg/L	1	8/21/2008
Hexachlorobutadiene	ND	10	μg/L	• 1	8/21/2008
Hexachlorocyclopentadiene	ND	10	µg/L	1	8/21/2008
Hexachloroethane	ND	10	μg/L	1 .	8/21/2008
Indeno(1,2,3-cd)pyrene	ND.	10	μg/L	1	8/21/2008
Isophorone	ND	10	μg/L	1	8/21/2008
2-Methylnaphthalene	· ND	10	μg/L	1 .	8/21/2008
2-Methylphenol	ND	10	μg/L	· 1	8/21/2008
3+4-Methylphenol	ND	10	μg/L	1	8/21/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	1	8/21/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/21/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/21/2008
Naphthalene	ND	10	μg/L	1	8/21/2008
2-Nitroaniline	ND	10	μg/L	1	8/21/2008
3-Nitroaniline	ND	10	μg/L	1	8/21/2008
4-Nitroaniline	ND	10	μg/L	1	8/21/2008
Nitrobenzene	ND	10	μg/L	1	8/21/2008
2-Nitrophenol	ND	10	μg/L	1	8/21/2008
4-Nitrophenol	ND	10	μg/L	1	8/21/2008
Pentachlorophenol	ND	40	μg/L	1	8/21/2008
Phenanthrene	ND	10	μg/L	1	8/21/2008
Phenol	ND	. 10	μg/L	· 1	8/21/2008
Pyrene	ND	10	μg/L	1	8/21/2008
Pyridine	ND	10	μg/L	1	8/21/2008
1,2,4-Trichlorobenzene	ND	10	μg/L	1	8/21/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/21/2008
2,4,6-Trichlorophenol	ND	10	μg/L	1	8/21/2008
Surr: 2,4,6-Tribromophenol	84.6	16.6-150	%REC	1	8/21/2008
Surr: 2-Fluorobiphenyl	79.7	19.6-134	%REC	1	8/21/2008
Surr: 2-Fluorophenol	49.7	9.54-113	%REC	1	8/21/2008
Surr: 4-Terphenyl-d14	72.8	22.7-145	%REC	1	8/21/2008
Surr: Nitrobenzene-d5	76.6	14.6-134	%REC	1 .	8/21/2008
Surr: Phenol-d5	44.3	10.7-80.3	%REC	1	8/21/2008
PA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	3.3	1.0	μg/L	1	8/18/2008 8:10:15 PM
Toluene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
Ethylbenzene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
Methyl tert-butyl ether (MTBE)	2.6	1.0	µg/L	1	8/18/2008 8:10:15 PM
1,2,4-Trimethylbenzene	210	5.0	μg/L	5	8/18/2008 7:41:28 PM
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E · Value above quantitation range
- J Analyte detected below quantitation limits
- ND. Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 3 of 12

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab ID:

0808241

Client Sample ID: MW-34

Lab Order:

Collection Date: 8/13/2008 1:20:00 PM

Down-Gradient Wells Annual Aug 2008 Project: 0808241-01

Date Received: 8/14/2008 Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES			<del></del>		Analyst: HL
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
Naphthalene	9.4	2.0	μg/L	1	8/18/2008 8:10:15 PM
1-Methylnaphthalene	4.7	4.0	μg/L	1	8/18/2008 8:10:15 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/18/2008 8:10:15 PM
Acetone	ND	10	μg/L	1	8/18/2008 8:10:15 PM
Bromobenzene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
Bromodichloromethane	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
Bromoform	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
Bromomethane	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
2-Butanone	ND	10	μg/L	1	8/18/2008 8:10:15 PM
Carbon disulfide	ND	10	μg/L	1	8/18/2008 8:10:15 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
Chlorobenzene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
Chloroethane	ND	2.0	μg/L	1	8/18/2008 8:10:15 PM
Chloroform	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
Chloromethane	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
2-Chlorotoluene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
4-Chlorotoluene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	8/18/2008 8:10:15 PM
Dibromochloromethane	ND	1.0	µg/L	1	8/18/2008 8:10:15 PM
Dibromomethane	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
1,1-Dichloroethane	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	8/18/2008 8:10:15 PM
1,1-Dichloropropene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
2-Hexanone	ND	10	µg/L	1	8/18/2008 8:10:15 PM
Isopropylbenzene	25	1.0	μg/L	1	8/18/2008 8:10:15 PM
4-Isopropyltoluene	5.2	1.0	μg/L	1	8/18/2008 8:10:15 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	8/18/2008 8:10:15 PM
Methylene Chloride	ND	3.0	μg/L	1	8/18/2008 8:10:15 PM
n-Butylbenzene	ND	1.0	μg/L	1	8/18/2008 8:10:15 PM
n-Propylbenzene	20	1.0	μg/L	1	8/18/2008 8:10:15 PM

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 4 of 12

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808241

Client Sample ID: MW-34

Collection Date: 8/13/2008 1:20:00 PM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008 Matrix: AQUEOUS

Lab ID:

0808241-01

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
sec-Butylbenzene	9.7	1.0		μg/L	1	8/18/2008 8:10:15 PM
Styrene	ND	1.0		μg/L	1	8/18/2008 8:10:15 PM
tert-Butylbenzene	2.4	1.0		μg/L	1	8/18/2008 8:10:15 PM
1,1,1,2-Tetrachloroethane	ND	1.0		μg/L	1	8/18/2008 8:10:15 PM
1,1,2,2-Tetrachloroethane	ND	2.0		μg/L	1	8/18/2008 8:10:15 PM
Tetrachloroethene (PCE)	ND	1.0		μg/L	1	8/18/2008 8:10:15 PM
trans-1,2-DCE	ND	1.0		μg/L	1	8/18/2008 8:10:15 PM
trans-1,3-Dichloropropene	, ND	1.0		µg/L	1	8/18/2008 8:10:15 PM
1,2,3-Trichlorobenzene	ND	1.0	,	μg/L	1	8/18/2008 8:10:15 PM
1,2,4-Trichlorobenzene	ND	1.0		μg/L	1	8/18/2008 8:10:15 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/18/2008 8:10:15 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/18/2008 8:10:15 PM
Trichloroethene (TCE)	ND	1.0		μg/L	1	8/18/2008 8:10:15 PM
Trichlorofluoromethane	ND	1.0		μg/L	1	8/18/2008 8:10:15 PM
1,2,3-Trichloropropane	ND	2.0		μg/L	1	8/18/2008 8:10:15 PM
Vinyl chloride	ND	1.0		μg/L	1	8/18/2008 8:10:15 PM
Xylenes, Total	1.7	1.5		µg/L	1	8/18/2008 8:10:15 PM
Surr: 1,2-Dichloroethane-d4	103	68.1-123		%REC	1	8/18/2008 8:10:15 PM
Surr: 4-Bromofluorobenzene	118	53.2-145		%REC	1	8/18/2008 8:10:15 PM
Surr: Dibromofluoromethane	98.3	68.5-119		%REC	1	8/18/2008 8:10:15 PM
Surr: Toluene-d8	130	64-131		%REC	1	8/18/2008 8:10:15 PM
SM 2320B: ALKALINITY						Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	750	40		mg/L CaCO3	2	8/21/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/21/2008
Bicarbonate	750	40		mg/L CaCO3	2	8/21/2008
TOTAL CARBON DIOXIDE CALCULATION	1					Analyst: <b>TAF</b>
Total Carbon Dioxide	740	1.0		mg CO2/L	1	8/22/2008

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- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits J
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

Page 5 of 12

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

0000044

Lab Order: Project: 0808241

Down-Gradient Wells Annual Aug 2008

Lab ID:

0808241-02

Client Sample ID: MW-35

Collection Date: 8/13/2008 1:45:00 PM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS				······································	Analyst: SLB
Fluoride	0.76	0.10	mg/L	1	8/14/2008 11:05:24 PM
Chloride	110	1.0	mg/L	10	8/14/2008 11:22:49 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/14/2008 11:05:24 PM
Bromide	1.3	0.10	mg/L	. 1	8/14/2008 11:05:24 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/14/2008 11:05:24 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/14/2008 11:05:24 PM
Sulfate	3.6	0.50	mg/L	1	8/14/2008 11:05:24 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order: 0808241

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808241-02

Client Sample ID: MW-35

Collection Date: 8/13/2008 1:45:00 PM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	• <b>DF</b>	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E ·		* .			Analyst: SCC
Diesel Range Organics (DRO)	1.6	1.0		mg/L	1	8/18/2008 4:38:05 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/18/2008 4:38:05 PM
Surr: DNOP	126	58-140		%REC	1	8/18/2008 4:38:05 PM
EPA METHOD 8015B: GASOLINE RA	NGE			*	•	Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	0.54	0.050		mg/L	1	8/26/2008 10:07:59 PM
Surr: BFB	156	79.2-121	S	%REC	1	8/26/2008 10:07:59 PM
EPA METHOD 300.0: ANIONS					,	Analyst: SLB
Fluoride	0.76	0.10		mg/L	1	8/14/2008 11:05:24 PM
Chloride	110	1.0		mg/L	10	8/14/2008 11:22:49 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	.1	8/14/2008 11:05:24 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/14/2008 11:05:24 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/14/2008 11:05:24 PM
Sulfate	3.6	0.50		mg/L	1	8/14/2008 11:05:24 PM
EPA METHOD 7470: MERCURY						Analyst: <b>SNV</b>
Mercury	ND	0.00020		mg/L	1	8/27/2008 4:36:59 PM
EPA METHOD 6010B: DISSOLVED M	ETALS					Analyst: <b>TES</b>
Arsenic	ND	0.020		mg/L	1	8/29/2008 3:56:35 PM
Barium	0.65	0.020		mg/L	1	8/29/2008 3:56:35 PM
Cadmium	ND	0.0020		mg/L	1	8/29/2008 3:56:35 PM
Chromium	ND	0.0060		mg/L	1	8/29/2008 3:56:35 PM
Copper	ND	0.0060		mg/L	1	8/29/2008 3:56:35 PM
Iron	2.6	0.10		mg/L	5	8/29/2008 4:52:37 PM
Lead	ND	0.0050		mg/L	1	8/29/2008 3:56:35 PM
Manganese	1.4	0.010		mg/L	5	8/29/2008 4:52:37 PM
Selenium	ND	0.25		mg/L	5	9/8/2008 10:21:00 PM
Silver	ND	0.0050		mg/L	1	8/29/2008 3:56:35 PM
Zinc	ND	0.050		mg/L	1	8/29/2008 3:56:35 PM
EPA 6010B: TOTAL RECOVERABLE	METALS					Analyst: NMC
Arsenic	ND	0.020		mg/L	1	8/28/2008 12:39:50 PM
Barium	0.70	0.020		mg/L	1	8/28/2008 12:39:50 PM
Cadmium	ND	0.0020		mg/L	1	8/28/2008 12:39:50 PM
Chromium	ND	0.0060		mg/L	. 1	8/28/2008 12:39:50 PM
Lead	0.0070	0.0050		mg/L	1	8/28/2008 12:39:50 PM
Selenium	ND	0.050		mg/L	1	8/28/2008 12:39:50 PM
Silver	ND	0.0050		mg/L	1	8/28/2008 12:39:50 PM
EPA METHOD 8270C: SEMIVOLATIL	FQ					Analyst: <b>JDC</b>

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

Page 6 of 12

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808241

Client Sample ID: MW-35

Down-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Project: Lab ID:

0808241-02

Matrix: AQUEOUS

Collection Date: 8/13/2008 1:45:00 PM

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
PA METHOD 8270C: SEMIVOLAT	TILES				Analyst: JD0
Acenaphthene	ND	10	μg/L	1	8/21/2008
Acenaphthylene	ND	10	μg/L	1	8/21/2008
Aniline	ND	10	μg/L	1	8/21/2008
Anthracene	ND	10	μg/L	1	8/21/2008
Azobenzene	ND	10	μg/L	1	8/21/2008
Benz(a)anthracene	ND	10	μg/L	1	8/21/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/21/2008
Benzo(b)fluoranthene	ND .	10	µg/L	1	8/21/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/21/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/21/2008
Benzoic acid	ND	20	μg/L	1	8/21/2008
Benzyl alcohol	ND	10	μg/L	1	8/21/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/21/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/21/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/21/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/21/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/21/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/21/2008
Carbazole	ND	10	μg/L	1	8/21/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/21/2008
4-Chloroaniline	ND	10	μg/L	1	8/21/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/21/2008
2-Chlorophenol	ND	10	μg/L	1	8/21/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/21/2008
Chrysene	ND	10	μg/L	1	8/21/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/21/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/21/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/21/2008
Dibenzofuran	ND	10	μg/L	1	8/21/2008
1,2-Dichlorobenzene	ND	10	µg/L	1	8/21/2008
1,3-Dichlorobenzene	ND	10	μg/L	1	8/21/2008
1,4-Dichlorobenzene	ND	10	μg/L	1	8/21/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/21/2008
Diethyl phthalate	ND	10	μg/L	1	8/21/2008
Dimethyl phthalate	ND	10	μg/L	1	8/21/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/21/2008
2,4-Dimethylphenol	ND	10	µg/L	1	8/21/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/21/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/21/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/21/2008
2,6-Dinitrotoluene	ND	10	μg/L	1	8/21/2008
Fluoranthene	ND	10	μg/L	1	8/21/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 7 of 12

Date: 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: MW-35

Lab Order:

0808241

Collection Date: 8/13/2008 1:45:00 PM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808241-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATIL	_ES				Analyst: JDC
Fluorene	ND	10	μg/L	1	8/21/2008
Hexachlorobenzene	ND	10	μg/L	1	8/21/2008
Hexachlorobutadiene	ND	10	μg/L	1 .	8/21/2008
Hexachlorocyclopentadiene	· ND	10	μg/L	1	8/21/2008
Hexachloroethane	ND	10	μg/L	1	8/21/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/21/2008
Isophorone	ND	10	μg/L	1	8/21/2008
2-Methylnaphthalene	ND	10	μg/L	1	8/21/2008
2-Methylphenol	ND	10	μg/L	1 ·	8/21/2008
3+4-Methylphenol	ND	10	μg/L	1	8/21/2008
N-Nitrosodi-n-propylamine	ND	10	μ <b>g</b> /L	1	8/21/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/21/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/21/2008
Naphthalene	ND	10	µg/L	1	8/21/2008
2-Nitroaniline	ND	10	μg/L	1	8/21/2008
3-Nitroaniline	ND	10	μg/L	1	8/21/2008
4-Nitroaniline	ND	10	μg/L	1	8/21/2008
Nitrobenzene	ND	10	μg/L	. 1	8/21/2008
2-Nitrophenol	ND	10	μg/L	1	8/21/2008
4-Nitrophenol	ND	10	μg/L	1	8/21/2008
Pentachlorophenol	ND	40	μg/L	1	8/21/2008
Phenanthrene	ND	10	μg/L	1	8/21/2008
Phenol	ND	10	µg/L	1	8/21/2008
Pyrene	ND	10	μg/L	1	8/21/2008
Pyridine	ND	10	μg/L	1	8/21/2008
1,2,4-Trichlorobenzene	ND	10	µg/L	1	8/21/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/21/2008
2,4,6-Trichlorophenol	ND	10	µg/L	1	8/21/2008
Surr: 2,4,6-Tribromophenol	84.0	16.6-150	%REC	1	8/21/2008
Surr: 2-Fluorobiphenyl	83.1	19.6-134	%REC	1	8/21/2008
Surr: 2-Fluorophenol	57.4	9.54-113	%REC	1 .	8/21/2008
Surr: 4-Terphenyl-d14	69.5	22.7-145	%REC	1	8/21/2008
Surr: Nitrobenzene-d5	78.7	14.6-134	%REC	1	8/21/2008
Surr: Phenol-d5	51.3	10.7-80.3	%REC	1	8/21/2008
PA METHOD 8260B: VOLATILES	•			•	Analyst: <b>HL</b>
Benzene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Toluene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Ethylbenzene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Methyl tert-butyl ether (MTBE)	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
1,2,4-Trimethylbenzene	100	2.0	μg/L	2	8/18/2008 9:09:05 PM
1,3,5-Trimethylbenzene	. ND	2.0	μg/L	2	8/18/2008 9:09:05 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808241

Client Sample ID: MW-35

Project:

Down-Gradient Wells Annual Aug 2008

Collection Date: 8/13/2008 1:45:00 PM Date Received: 8/14/2008

Lab ID:

0808241-02

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES	· · · · · · · · · · · · · · · · · · ·				Analyst: HL
1,2-Dichloroethane (EDC)	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
1,2-Dibromoethane (EDB)	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Naphthalene	ND	4.0	μg/L	2	8/18/2008 9:09:05 PM
1-Methylnaphthalene	ND	8.0	μg/L	2	8/18/2008 9:09:05 PM
2-Methylnaphthalene	ND	8.0	μg/L	2	8/18/2008 9:09:05 PM
Acetone	ND	20	μg/L	.2	8/18/2008 9:09:05 PM
Bromobenzene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Bromodichloromethane	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Bromoform	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Bromomethane	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
2-Butanone	ND	20	μg/L	2	8/18/2008 9:09:05 PM
Carbon disulfide	ND	20	μg/L	2	8/18/2008 9:09:05 PM
Carbon Tetrachloride	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Chlorobenzene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Chloroethane	ND	4.0	μg/L	2	8/18/2008 9:09:05 PM
Chloroform	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Chloromethane	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
2-Chlorotoluene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
4-Chlorotoluene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
cis-1,2-DCE	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
cis-1,3-Dichloropropene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
1,2-Dibromo-3-chloropropane	ND	4.0	μg/L	2	8/18/2008 9:09:05 PM
Dibromochloromethane	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Dibromomethane	ND	2.0	µg/L	2	8/18/2008 9:09:05 PM
1,2-Dichlorobenzene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
1,3-Dichlorobenzene	ND	2.0	µg/L	2	8/18/2008 9:09:05 PM
1,4-Dichlorobenzene	ND	2.0	µg/L	2	8/18/2008 9:09:05 PM
Dichlorodifluoromethane	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
1,1-Dichloroethane	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
1,1-Dichloroethene	ND	2.0	µg/L	2	8/18/2008 9:09:05 PM
1,2-Dichloropropane	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
1,3-Dichloropropane	ND	2.0	µg/L	2	8/18/2008 9:09:05 PM
2,2-Dichloropropane	ND	4.0	µg/L	2	8/18/2008 9:09:05 PM
1,1-Dichloropropene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
Hexachlorobutadiene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
2-Hexanone	ND	20	μg/L	2	8/18/2008 9:09:05 PM
Isopropylbenzene	7.0	2.0	μg/L	2	8/18/2008 9:09:05 PM
4-Isopropyltoluene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
4-Methyl-2-pentanone	ND	20	µg/L	2	8/18/2008 9:09:05 PM
Methylene Chloride	ND	6.0	μg/L	2	8/18/2008 9:09:05 PM
n-Butylbenzene	ND	2.0	μg/L	2	8/18/2008 9:09:05 PM
n-Propylbenzene	4.3	2.0	μg/L	2	8/18/2008 9:09:05 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- J Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 9 of 12

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order: 0808241

0808241-02

Client Sample ID: MW-35

Collection Date: 8/13/2008 1:45:00 PM

Project: Lab ID: Down-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Un	nits	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES	<u> </u>					Analyst: HL
sec-Butylbenzene	2.6	2.0	μg	/L	2	8/18/2008 9:09:05 PM
Styrene	ND	2.0	μg	/L	2	8/18/2008 9:09:05 PM
tert-Butylbenzene	ND	. 2.0	μg	/L	2	8/18/2008 9:09:05 PM
1,1,1,2-Tetrachloroethane	ND	2.0	μg	/L	2	8/18/2008 9:09:05 PM
1,1,2,2-Tetrachloroethane	ND	4.0	μg	/L	2	8/18/2008 9:09:05 PM
Tetrachloroethene (PCE)	. ND	2.0	μg	/L	2	8/18/2008 9:09:05 PM
trans-1,2-DCE	ND	2.0	μg	/L	2	8/18/2008 9:09:05 PM
trans-1,3-Dichloropropene	ND	2.0	μg	/L	2	8/18/2008 9:09:05 PM
1,2,3-Trichlorobenzene	ND	2.0	· μg.	/L	2	8/18/2008 9:09:05 PM
1,2,4-Trichlorobenzene	ND	2.0	μg	/L	2	8/18/2008 9:09:05 PM
1,1,1-Trichloroethane	ND	2.0	μg	/L	2	8/18/2008 9:09:05 PM
1,1,2-Trichloroethane	ND	2.0	μg	/L	2	8/18/2008 9:09:05 PM
Trichloroethene (TCE)	ND	2.0	μg	/L	2	8/18/2008 9:09:05 PM
Trichlorofluoromethane	ND	2.0	μg	/L	2	8/18/2008 9:09:05 PM
1,2,3-Trichloropropane	ND	4.0	μg	/L	2	8/18/2008 9:09:05 PM
Vinyl chloride	· ND	2.0	μg	/L	2	8/18/2008 9:09:05 PM
Xylenes, Total	ND	3.0	μg	/L	2	8/18/2008 9:09:05 PM
Surr: 1,2-Dichloroethane-d4	96.0	68.1-123	%F	REC	2	8/18/2008 9:09:05 PM
Surr: 4-Bromofluorobenzene	105	53.2-145	%F	REC	2	8/18/2008 9:09:05 PM
Surr: Dibromofluoromethane	93.5	68.5-119	%F	REC	2	8/18/2008 9:09:05 PM
Surr: Toluene-d8	100	64-131	%F	REC	2 ·	8/18/2008 9:09:05 PM
SM 2320B: ALKALINITY						Analyst: TAF
Alkalinity, Total (As CaCO3)	870	40	mg	J/L CaCO3	2	8/21/2008
Carbonate	ND	4.0	mg	J/L CaCO3	2	8/21/2008
Bicarbonate	870	40	mg	g/L CaCO3	2	8/21/2008
TOTAL CARBON DIOXIDE CALCULATI	ON			•		Analyst: <b>TAF</b>
Total Carbon Dioxide	830	1.0	mg	CO2/L	1	8/22/2008

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

Page 10 of 12

**Date:** 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Trip Blank

Lab Order:

0808241

**Collection Date:** 

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808241-03

Matrix: TRIP BLANK

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RAN	GE				Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/26/2008 1:47:14 AM
Surr: BFB	80.1	79.2-121	%REC	1	8/26/2008 1:47:14 AM
EPA METHOD 8260B: VOLATILES					Analyst: HL
Benzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Toluene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Ethylbenzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Naphthalene	ND	2.0	μg/L	1	8/16/2008 12:27:21 AM
1-Methylnaphthalene	ND	4.0	μg/L	1	8/16/2008 12:27:21 AM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/16/2008 12:27:21 AM
Acetone	ND	10	μg/L	1	8/16/2008 12:27:21 AM
Bromobenzene	ND	1.0	μg/L	• 1	8/16/2008 12:27:21 AM
Bromodichloromethane	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Bromoform	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Bromomethane	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
2-Butanone	ND	10	μg/L	1	8/16/2008 12:27:21 AM
Carbon disulfide	ND	10	µg/L	1	8/16/2008 12:27:21 AM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Chlorobenzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Chloroethane	ND	2.0	μg/L	1	8/16/2008 12:27:21 AM
Chloroform	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Chloromethane	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
2-Chiorotoluene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
4-Chlorotoluene	ND	1.0	μg/L.	1	8/16/2008 12:27:21 AM
cis-1,2-DCE	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	8/16/2008 12:27:21 AM
Dibromochloromethane	ND	1.0	µg/L	1	8/16/2008 12:27:21 AM
Dibromomethane	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,1-Dichloroethane	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,1-Dichloroethene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,2-Dichloropropane	ND	1.0	µg/L	1	8/16/2008 12:27:21 AM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Client Sample ID: Trip Blank

Lab Order:

0808241

**Collection Date:** 

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808241-03

Matrix: TRIP BLANK

EPA METHOD 8260B: VOLATILES           2,2-Dichloropropane         ND         2.0         μg/L         1         8/16/2008 12:27:21 AM           1,1-Dichloropropene         ND         1.0         μg/L         1         8/16/2008 12:27:21 AM           Hexachlorobutadiene         ND         1.0         μg/L         1         8/16/2008 12:27:21 AM           2-Hexanone         ND         10         μg/L         1         8/16/2008 12:27:21 AM           Isopropylbenzene         ND         1.0         μg/L         1         8/16/2008 12:27:21 AM           4-Isopropyltoluene         ND         1.0         μg/L         1         8/16/2008 12:27:21 AM	Analyses	Result	PQL Qua	al Units	DF	Date Analyzed
1,1-Dichloropropene       ND       1.0       μg/L       1       8/16/2008 12:27:21 AM         Hexachlorobutadiene       ND       1.0       μg/L       1       8/16/2008 12:27:21 AM         2-Hexanone       ND       10       μg/L       1       8/16/2008 12:27:21 AM         Isopropylbenzene       ND       1.0       μg/L       1       8/16/2008 12:27:21 AM         4-Isopropyltoluene       ND       1.0       μg/L       1       8/16/2008 12:27:21 AM	EPA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Hexachlorobutadiene         ND         1.0         μg/L         1         8/16/2008 12:27:21 AM           2-Hexanone         ND         10         μg/L         1         8/16/2008 12:27:21 AM           Isopropylbenzene         ND         1.0         μg/L         1         8/16/2008 12:27:21 AM           4-Isopropyltoluene         ND         1.0         μg/L         1         8/16/2008 12:27:21 AM	2,2-Dichloropropane	ND	2.0	μg/L	1 .	8/16/2008 12:27:21 AM
2-Hexanone       ND       10       μg/L       1       8/16/2008 12:27:21 AM         Isopropylbenzene       ND       1.0       μg/L       1       8/16/2008 12:27:21 AM         4-Isopropyltoluene       ND       1.0       μg/L       1       8/16/2008 12:27:21 AM	1,1-Dichloropropene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Isopropylbenzene         ND         1.0         μg/L         1         8/16/2008 12:27:21 AM           4-Isopropyltoluene         ND         1.0         μg/L         1         8/16/2008 12:27:21 AM	Hexachlorobutadiene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
4-Isopropyitoluene ND 1.0 μg/L 1 8/16/2008 12:27:21 AM	2-Hexanone	ND	10	μg/L	1	8/16/2008 12:27:21 AM
	Isopropylbenzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
	4-Isopropyitoluene	, ND	1.0	µg/L	1	8/16/2008 12:27:21 AM
4-Methyl-2-pentanone ND 10 μg/L 1 8/16/2008 12:27:21 AM	4-Methyl-2-pentanone	ND	10	μg/L	1	8/16/2008 12:27:21 AM
Methylene Chloride ND 3.0 μg/L 1 8/16/2008 12:27:21 AM	Methylene Chloride	ND	3.0	μg/L	1	8/16/2008 12:27:21 AM
n-Butylbenzene ND 1.0 μg/L 1 8/16/2008 12:27:21 AM	n-Butylbenzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
n-Propylbenzene ND 1.0 μg/L 1 8/16/2008 12:27:21 AM	n-Propylbenzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
sec-Butylbenzene ND 1.0 µg/L 1 8/16/2008 12:27:21 AM	sec-Butylbenzene	ND	1.0	µg/L	1	8/16/2008 12:27:21 AM
Styrene ND 1.0 µg/L 1 8/16/2008 12:27:21 AM	Styrene	ND .	1.0	µg/L	1	8/16/2008 12:27:21 AM
tert-Butylbenzene ND 1.0 µg/L 1 8/16/2008 12:27:21 AM	tert-Butylbenzene	ND	1.0	µg/L	1	8/16/2008 12:27:21 AM
1,1,1,2-Tetrachloroethane ND 1.0 µg/L 1 8/16/2008 12:27:21 AM	1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,1,2,2-Tetrachloroethane ND 2.0 µg/L 1 8/16/2008 12:27:21 AM	1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/16/2008 12:27:21 AM
Tetrachloroethene (PCE) ND 1.0 μg/L 1 8/16/2008 12:27:21 AM	Tetrachloroethene (PCE)	ND	1.0	µg/L	1	8/16/2008 12:27:21 AM
trans-1,2-DCE ND 1.0 µg/L 1 8/16/2008 12:27:21 AM	trans-1,2-DCE	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
trans-1,3-Dichloropropene ND 1.0 µg/L 1 8/16/2008 12:27:21 AM	trans-1,3-Dichloropropene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,2,3-Trichlorobenzene ND 1.0 µg/L 1 8/16/2008 12:27:21 AM	1,2,3-Trichlorobenzene	. <b>N</b> D	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,2,4-Trichlorobenzene ND 1.0 μg/L 1 8/16/2008 12:27:21 AM	1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,1,1-Trichloroethane ND 1.0 µg/L 1 8/16/2008 12:27:21 AM	1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,1,2-Trichloroethane ND 1.0 µg/L 1 8/16/2008 12:27:21 AM .	1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Trichloroethene (TCE) ND 1.0 µg/L 1 8/16/2008 12:27:21 AM	Trichloroethene (TCE)	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Trichlorofluoromethane ND 1.0 μg/L 1 8/16/2008 12:27:21 AM	Trichlorofluoromethane	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
1,2,3-Trichloropropane ND 2.0 μg/L 1 8/16/2008 12:27:21 AM	1,2,3-Trichloropropane	ND	2.0	μg/L	1	8/16/2008 12:27:21 AM
Vinyl chloride ND 1.0 μg/L 1 8/16/2008 12:27:21 AM	Vinyl chloride	ND	1.0	μg/L	1	8/16/2008 12:27:21 AM
Xylenes, Total ND 1.5 μg/L 1 8/16/2008 12:27:21 AM	Xylenes, Total	, ND	1.5	μg/L	1	8/16/2008 12:27:21 AM
Surr: 1,2-Dichloroethane-d4 92.4 68.1-123 %REC 1 8/16/2008 12:27:21 AM	Surr: 1,2-Dichloroethane-d4	92.4	68.1-123	%REC	1	8/16/2008 12:27:21 AM
Surr: 4-Bromofluorobenzene         100         53.2-145         %REC         1         8/16/2008 12:27:21 AM	Surr: 4-Bromofluorobenzene	100	53.2-145	%REC	1	8/16/2008 12:27:21 AM
Surr: Dibromofluoromethane 96.3 68.5-119 %REC 1 8/16/2008 12:27:21 AM	Surr: Dibromofluoromethane	96.3	68.5-119	%REC	1	8/16/2008 12:27:21 AM
Surr: Toluene-d8         98.0         64-131         %REC         1         8/16/2008 12:27:21 AM	Surr: Toluene-d8	98.0	64-131	%REC	1	8/16/2008 12:27:21 AM

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

### **CASE NARRATIVE**

### September 5, 2008

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com FL NELAP

E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM

Project Tracking No.: 0808241 Anatek Batch: 080815026

**Project Summary:** Two (2) water samples were received on 8/15/2008 for metals (EPA 6020A) analysis. All samples were received in good condition and with the appropriate chain of custody Samples were received at

4.1C.

Client Sample ID	Anatek Sample ID	Method/Prep Method
0808241-01F / MW-34	080815026-001	EPA 6020A/3005A
0808241-02F / MW-35	080815026-002	EPA 6020A/3005A

### QA/QC Checks

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Υ	NA
Surrogate Recoveries Valid?	Υ	NA
QC Sample(s) Recoveries Valid?	Υ	NA
Method Blank(s) Valid?	Υ	NA
Tune(s) Valid?	Y	NA
Internal Standard Responses Valid?	Υ	NA
Initial Calibration Curve(s) Valid?	Υ	NA
Continuing Calibration(s) Valid?	Υ	NA
Comments:	Υ	NA

### 1. Holding Time Requirements

No problems encountered.

### 2. GC/MS Tune Requirements

NA

### 3. Calibration Requirements

No problems encountered.

### 4. Surrogate Recovery Requirements

NA

### 5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

### 6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

### 7. Internal Standard(s) Response Requirements

No problems encountered.

### 8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by:

Printed on: 5 September 2008 11:26:21

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D · Spokane WA 99202 · (509) 838-3999 · Fax (509) 838-4433 · email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

080815026

Address:

4901 HAWKINS NE SUITE D

**Project Name:** 0808241

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

**Analytical Results Report** 

Sample Number Client Sample ID 080815026-001

0808241-01F / MW-34

Sampling Date Sampling Time 8/13/2008 1:20 PM

Batch #:

Date/Time Received

**Extraction Date** 

8/15/2008

8/27/2008

10:45 AM

Matrix:

Water

Parameter Result Units PQL Analysis Date Analyst Method Qualifier Dissolved Uranium ND mg/L 0.001 8/27/2008 **ETL EPA 6020A** 

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Friday, September 05, 2008

Page 1 of 2

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Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

**ANDY FREEMAN** 

Batch #:

080815026

**Project Name:** 

0808241

### **Analytical Results Report**

Sample Number Client Sample ID 080815026-002

0808241-02F / MW-35

Sampling Date Sampling Time 8/13/2008 1:45 PM

Date/Time Received

8/15/2008 8/27/2008

10:45 AM

Matrix:

Water

Units

PQL

0.001

Analysis Date Analyst

**Extraction Date** 

Method

Qualifier

**Parameter** Dissolved Uranium Result ND

mg/L

8/27/2008

ETL

**EPA 6020A** 

**Authorized Signature** 

MCL **EPA's Maximum Contaminant Level** 

ND Not Detected

**PQL** Practical Quantitation Limit

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Friday, September 05, 2008

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Printed on: 5 September 2008 11:26:21

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

080815026

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808241

Attn:

ANDY FREEMAN

**Analytical Results Report Quality Control Data** 

**Lab Control Sample** 

Parameter

LCS Result

Units LCS Spike %Rec

AR %Rec

**Prep Date** 

**Analysis Date** 

Dissolved Uranium

0.0503

mg/L 0.05

100.6

85-115

8/27/2008

8/27/2008

**Matrix Spike** 

Sample Number 080820024-002

Parameter Dissolved Uranium Sample Result

MS Result 0.0552

MS Units Spike 0.05

%Rec 107.1

**Prep Date** %Rec 75-125 8/27/2008

AR

**Analysis Date** 8/27/2008

**Matrix Spike Duplicate** 

Parameter Dissolved Uranium

MSD Result 0.0578

Units mg/L

0.00165

MSD Spike 0.05

%Rec 112.3

mg/L

AR %RPD %RPD

0-20

4.6

**Prep Date** 8/27/2008

**Analysis Date** 8/27/2008

Method Blank

Parameter Dissolved Uranium

Result

ND

Units

mg/L

PQL 0.001

**Prep Date** 8/27/2008

**Analysis Date** 8/27/2008

AR

Acceptable Range

ND

Not Detected

PQL RPD **Practical Quantitation Limit** Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Friday, September 05, 2008

Page 1 of 1

41-01A MW-34 8/13-2008 120 0 PM Aquocus EPA Method 8013B: Diesel Range 16802 41-01A MW-34 8/13-2008 120 0 PM Aquocus EPA Method 8013B: Clasoline Range 182921 EPA Method 8013B: Clasoline Range 182921 EPA Method 8013B: Clasoline Range 1829234 41-01B EPA Method 8208B: VOLATILES 1829803 41-01C EPA Method 8208B: VOLATILES 1829804 41-01C EPA Method 8208B: VOLATILES 1829804 41-01C EPA Method 8208B: VOLATILES 1829804 41-01C EPA Method 8010B: Dissolved Metals 1829804 41-01C EPA Method 8010B: Dissolved Metals 1829921 41-01C EPA Method 8010B: Dissolved Metals 1829921 41-02A MW-35 8/13-2008 1-45 00 PM EPA Method 8010B: Dissolved Metals 1829921 EPA Method 8010B: Oxidine Range 1829921 EPA Method 8010B: Dissolved Metals 1829921 EPA Method 8010B: Dissolved Metal	Lab Order: Client: Project:	0808241 Western Refining Southwest, Inc. Down-Gradient Wells Annual Aug	Southwest, Inc. ells Annual Aug			DATES REPORT	EPORT	_
MW-34   8/13/2008   1.20 00 PM   Aqueous   EPA Method 80 1518: Gueoline Range   1680.2   8/18/2008   EPA Method 80 1518: Gueoline Range   R.2992.1   EPA Method 80 1518: Gueoline Range   R.2992.1   EPA Method 82 606 B. VOLATILES   R.2982.4   EPA Method 300 G. Anions   R.2980.0   EPA Method 300 G. Anions   R.2980.0   EPA Method 300 G. Anions   EPA Method 300 G. Anions   R.2980.0   EPA Method 300 G. Anions   R.2980.0   EPA Method 60 H.08 D. Sostowa Metals   R.2992.1   EPA Method 60 H.08 D. Sostowa Metals   R.2999.8   EPA Method 60 H.08 D. Sostowa Metals   R.2999.8   EPA Method 60 H.08 D. Sostowa Metals   R.2999.8   EPA Method 80 H.8 D. Sostowa Metals   EPA Method 80 H.8 D. Sostowa Metals   EPA Method 80 H.8 D. Sostowa Metals   EPA Method 80 H.8	Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
EPA Method 8015B: Gasoline Range R29921 EPA Method 8015B: Gasoline Range R29921 EPA Method 8015B: Caeoline Range R29921 EPA Method 8260B: VOLATILES R29824 EPA Method 8260B: VOLATILES R29803 EPA Method 8200B: VOLATILES R29803 EPA Method 8200B: VOLATILES R29800 EPA Method 8200B: Alkaininy R29866 EPA Method 9010B: Total Recoverable Metals R29800 EPA Method 9010B: Dissolved Metals R29800 EPA Method 9010B: Dissolved Metals R29800 EPA Method 6010B: Dissolved Metals R29800 EPA Method 6010B: Dissolved Metals R29800 EPA Method 6010B: Dissolved Metals R29808 EPA Method 6010B: Dissolved Metals R29908 EPA Method 8015B: Gasoline Range R29908 EPA Method 8015B: Gasoline Range R29801 EPA Method 8010B: Caehon Dissoled R29800 EPA Method 8010B: Semi-volatiles R29800	0808241-01A	MW-34	8/13/2008 1:20:00 PM	Aqueous	EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
EPA Method 8015B: Casoline Range   R29821   R29824   R2					EPA Method 8015B: Gasoline Range	R29921		8/26/2008
EPA Method 8260B: VOLATILES R29824 EPA Method 8260B: VOLATILES R29803 EPA Method 8260B: VOLATILES R29803 EPA Method 8260B: VOLATILES R29803 EPA Method 8200C: Senivolatiles R29804 EPA Method 300.0 Anions R29805 EPA Method 300.0 Anions R29805 EPA Method 6010B: Dissolved Metals R29806 EPA Method 6010B: Dissolved Metals R29806 EPA Method 6010B: Dissolved Metals R29908 EPA Method 6010B: Dissolved Metals R29908 EPA Method 6010B: Dissolved Metals R29908 EPA Method 6010B: Dissolved Metals R29901 EPA Method 8015B: Diesel Range R29801 EPA Method 8010B: Diosel Range R29801 EPA Method 8010B: Diosel Range R29801 EPA Method 8000C: Amions R29801 EPA Method 300.0: Amions R29801					EPA Method 8015B: Gasoline Range	R29921		8/26/2008
EPA Method 8260B: VOLATILES R2981 (29824) (298					EPA Method 8260B: VOLATILES	R29824		8/18/2008
EPA Method 820GB: VOLATILES R29803  EPA Method 827OC: Semivolatites 16804 8/182008  Carbon Dioxide EPA Method 300 0: Anions R29800 R29800 EPA Method 7470: Mercury R29800 EPA Method 7470: Mercury R29800 R29908 EPA Method 6010B: Dissolved Metals R29908 EPA Method 6010B: Dissolved Metals R29908 R29908 EPA Method 6010B: Dissolved Metals R29908 R29908 EPA Method 6010B: Dissolved Metals R29908 R29908 EPA Method 6010B: Dissolved Metals R29908 EPA Method 6010B: Dissolved Metals R29908 EPA Method 8010B: Dissolved Metals R29908 EPA Method 8010B: Dissolved Metals R29909 EPA Method 8010B: Dissolved R29900 EPA Method 8010					EPA Method 8260B: VOLATILES	R29824		8/18/2008
EPA Method 827OC: Semivolatiles 16804 87182008 Carhon Dioxide EPA Method 300.0: Anions R23800 R23800 EPA Method 6010B. Total Recoverable Metals R23800 R2320B EPA Method 6010B. Dissolved Metals R30124 EPA Method 6010B. Dissolved Metals R23938 R30124 EPA Method 6010B. Dissolved Metals R23938 R30124 EPA Method 6010B. Dissolved Metals R23938 EPA Method 6010B. Dissolved Metals R23931 EPA Method 8010B. Dissolved Metals R23931 EPA Method 8010B. Dissolved Metals R23931 EPA Method 8010B. Dissolved Metals R23931 EPA Method 8015B. Chaoline Range EPA Method 8015B. Chaoline Range EPA Method 8015B. Chaoline Range EPA Method 8020B. VOLATILES R23931 EPA Method 8200B. VOLATILES R23930 R23931 R239301 R					EPA Method 8260B: VOLATILES	R29803		8/15/2008
Carbon Dioxide       EPA Method 300.0. Anions       R29804         EPA Method 300.0. Anions       R29800         SM 2320B: Alkalinity       R29806         EPA Method 300.0. Anions       R29806         SM 2320B: Alkalinity       R29806         EPA Method 710: Mercury       16806       8125/2008         EPA Method 6010B: Dissolved Metals       R29908       8727/2008         EPA Method 6010B: Dissolved Metals       R29908       872901         EPA Method 8015B: Gasoline Range       R29901       872901         EPA Method 8015B: Gasoline Range       R29901       R29901         EPA Method 806B: VOLATILES       R29801       R29801         EPA Method 8260B: VOLATILES       R29801       R29801         EPA Method 8200B: VOLATILES       R29801       R29801         EPA Method 8200B: VOLATILES       R29801       R29801         EPA Method 3000: Anions       R29801       R29801	0808241-01B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/21/2008
EPA Method 300 0: Anions R29800 EPA Method 300 0: Anions R29800 EPA Method 300 0: Anions R29806 EPA Method 300 0: Total Recoverable Metals 16876 EPA Method 6010B: Total Recoverable Metals 16876 EPA Method 6010B: Dissolved Metals R29908 EPA Method 6010B: Dissolved Metals R29908 EPA Method 6010B: Dissolved Metals R29908 EPA Method 8010B: Dissolved Metals R29908 EPA Method 8015B: Dissolved Metals R29908 EPA Method 8015B: Gasoline Range R29901 EPA Method 8015B: Gasoline Range R29901 EPA Method 8200B: VOLATILES R29801 EPA Method 8200C: Semivolatiles R29801 EPA Method 8200C: Semivolatiles R29801 EPA Method 8200C: Anions R29801	0808241-01C				Carbon Dioxide	R29884		8/22/2008
EPA Method 300 0: Anions       R29806         SM 2320B: Alkalinity       R29866         EPA 6010B: Total Recoverable Metals       16876       8.25/2008         EPA Method 74/0: Mercury       16906       8.27/2008         EPA Method 6010B: Dissolved Metals       R39124       8.27/2008         EPA Method 6010B: Dissolved Metals       R29998       R29908         EPA Method 6010B: Dissolved Metals       R29908       8/18/2008         EPA Method 8015B: Diesel Range       16802       8/18/2008         EPA Method 8015B: Gasoline Range       R29921       R29921         EPA Method 8015B: Gasoline Range       R29921       R29824         EPA Method 8200B: VOLATILLES       R29803       R29804         EPA Method 8200B: VOLATILLES       R29809       R29809					EPA Method 300.0: Anions	R29800	•	8/14/2008
MW-35       SM 2320B: Alkalinity       R29865         EPA 6010B: Total Recoverable Metals       16876       87272008         EPA Method 6010B: Dissolved Metals       R30124       87272008         EPA Method 6010B: Dissolved Metals       R29998       R29998         EPA Method 6010B: Dissolved Metals       R29998       871872008         EPA Method 6010B: Dissolved Metals       R29998       871872008         EPA Method 8012B: Diesel Range       R29998       871872008         EPA Method 8012B: Diesel Range       R29921       R29921         EPA Method 8012B: Oasoline Range       R29921       R29921         EPA Method 8260B: VOLATILES       R29803       R29803         EPA Method 8200B: VOLATILES       R29803       R29803         EPA Method 8200B: VOLATILES       R29803       R29804         EPA Method 300.0: Anions       R29800       R29800					EPA Method 300.0: Anions	R29800		8/14/2008
EPA 6010B: Total Recoverable Metals         16876         8252008           EPA Method 7470: Metcucy         16906         8/27/2008           EPA Method 6010B: Dissolved Metals         R29998         8/27/2008           EPA Method 6010B: Dissolved Metals         R29998         8/18/2008           EPA Method 6010B: Dissolved Metals         R29998         8/18/2008           MW-35         8/13/2008 1:45:00 PM         EPA Method 8015B: Diesel Range         16802         8/18/2008           EPA Method 8015B: Gasoline Range         EPA Method 8015B: Gasoline Range         R29921         8/18/2008           EPA Method 8260B: VOLATILES         R29824         R29824         8/18/2008           EPA Method 8260B: VOLATILES         R29803         RPA Method 8200C: Semivolatiles         R29803           EPA Method 300.0: Anions         R29809         R29800         R29800					SM 2320B: Alkalinity	R29866		8/21/2008
EPA Method 7470: Metroury       16906       8/27/2008         EPA Method 6010B: Dissolved Metals       R30124       8/27/2008         BPA Method 6010B: Dissolved Metals       R29998       R29998         BPA Method 6010B: Dissolved Metals       R29998       8/18/2008         BPA Method 6010B: Dissolved Metals       R29998       8/18/2008         BPA Method 8015B: Diesel Range       R29921       8/18/2008         BPA Method 8015B: Gasoline Range       R29921       R29921         BPA Method 8260B: VOLATILES       R29803       R29804         BPA Method 8260B: VOLATILES       R29803       R29803         BPA Method 8260B: VOLATILES       R29803       R29804         BPA Method 300.0: Anions       R29800       R29800	0808241-01D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
EPA Method 6010B: Dissolved Metals       R29998         BPA Method 6010B: Dissolved Metals       R29998         BPA Method 6010B: Dissolved Metals       R29998         MW-35       8/13/2008 1:45:00 PM       EPA Method 8015B: Dissel Range       16802       8/18/2008         EPA Method 8015B: Gasoline Range       R29921       R29921       R29921         EPA Method 8015B: Gasoline Range       EPA Method 8260B: VOLATILES       R29824       R29824         EPA Method 8260B: VOLATILES       R29803       R29803         EPA Method 8200C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       EPA Method 300.0: Anions       R29800					EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
EPA Method 6010B: Dissolved Metals         R29998           MW-35         8/13/2008 1:45:00 PM         EPA Method 8015B: Diesel Range         16802         8/18/2008           MW-35         8/13/2008 1:45:00 PM         EPA Method 8015B: Gasoline Range         16802         8/18/2008           EPA Method 8015B: Gasoline Range         EPA Method 8015B: Gasoline Range         R29921         R29921           EPA Method 8015B: Gasoline Range         EPA Method 8260B: VOLATILES         R29803         R29803           EPA Method 8200B: VOLATILES         EPA Method 300.0: Anions         R29809         8/18/2008	0808241-01E				EPA Method 6010B: Dissolved Metals	R30124		8/8/2008
MW-35       8/13/2008 I.45:00 PM       EPA Method 8015B: Dissel Range       16802       8/18/2008         EPA Method 8015B: Gasoline Range       R29921       R29921       R29921         EPA Method 8015B: Gasoline Range       R29921       R29921       R29921         EPA Method 8015B: Gasoline Range       R29921       R29824       R29824         EPA Method 820B: VOLATILES       R29803       R29803       R29803         Carbon Dioxide       Carbon Dioxide       R29804       R29804         EPA Method 300.0: Anions       R29800       R29800					EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
MW-35       8/13/2008 1.45:00 PM       EPA Method 8015B: Diesel Range       16802       8/18/2008         EPA Method 8015B: Gasoline Range       R29921       R29921         EPA Method 8015B: Gasoline Range       R29921       R29921         EPA Method 8260B: VOLATILES       R29824       R29803         EPA Method 8260B: VOLATILES       R29803       8/18/2008         Carbon Dioxide       Carbon Dioxide       R29884       R29880         EPA Method 300.0: Anions       R29800       R29800					EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
EPA Method 8015B: Gasoline Range       R29921         EPA Method 8015B: Gasoline Range       R29921         EPA Method 8260B: VOLATILES       R29824         EPA Method 8260B: VOLATILES       R29803         EPA Method 8270C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       R29800       R29800         EPA Method 300.0: Anions       R29800       R29800	0808241-02A	MW-35	8/13/2008 1:45:00 PM		EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
EPA Method 8015B: Gasoline Range       R29921         EPA Method 8260B: VOLATILES       R29824         EPA Method 8270C: Semivolatiles       R29803         EPA Method 8270C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       R29884       R29800         EPA Method 300.0: Anions       R29800       R29800					EPA Method 8015B: Gasoline Range	R29921		8/26/2008
EPA Method 8260B: VOLATILES       R29824         EPA Method 8260B: VOLATILES       R29803         EPA Method 8270C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       R29884         EPA Method 300.0: Anions       R29800         EPA Method 300.0: Anions       R29800					EPA Method 8015B: Gasoline Range	R29921		8/26/2008
EPA Method 8260B: VOLATILES       R29803         EPA Method 8270C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       R29884       EPA Method 300.0: Anions       R29800         EPA Method 300.0: Anions       R29800       R29800					EPA Method 8260B: VOLATILES	R29824		8/18/2008
EPA Method 8270C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       R29884         EPA Method 300.0: Anions       R29800         EPA Method 300.0: Anions       R29800					EPA Method 8260B: VOLATILES	R29803		8/15/2008
Carbon Dioxide         R29884           EPA Method 300.0: Anions         R29800           EPA Method 300.0: Anions         R29800	0808241-02B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/21/2008
R29800 R29800	0808241-02C				Carbon Dioxide	R29884		8/22/2008
R29800					EPA Method 300.0: Anions	R29800		8/14/2008
					EPA Method 300.0: Anions	R29800		8/14/2008

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18-Sep-08

Lab Order:	0808241			4			
Client:	Western Refining Southwest, Inc.	outhwest, Inc.			DATES REPORT	EPORT	
	Down-Gradient Wells Annual Aug						
Sample ID	Client Sample ID Collection D		ate Matrix	Test Name	QC Batch ID	C Batch ID Prep Date	Analysis Date
0808241-02C	MW-35	8/13/2008 1:45:00 PM	Aqueous	SM 2320B: Alkalinity	R29866		8/21/2008
0808241-02D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
0808241-02E				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R30124		8/00/8/6
0808241-03A	Trip Blank		Trip Blank	EPA Method 8015B: Gasoline Range	R29921		8/26/2008
				EPA Method 8260B: VOLATILES	R29803		8/16/2008

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

180824

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD F	RPDLimit Qual
Method: EPA Method 300.0: Anic	ons							
Sample ID: 0808241-02CMSD		MSD			Batch	ID: <b>R29800</b>	Analysis Date	e: 8/14/2008 11:57:39 PM
Fluoride	1.306	mg/L	0.10	109	65.1	121	0.190	20
Nitrogen, Nitrite (As N)	0.9337	mg/L	0.10	93.4	52.9	128	3.95	20
Nitrogen, Nitrate (As N)	2.528	mg/L	0.10	99.5	83.8	112	1.93	20
Phosphorus, Orthophosphate (As P)	4.736	mg/L	0.50	94.7	77.6	118	2.90	20
Sulfate	14.10	mg/L	0.50	105	59.4	126	2.09	20
Sample ID: MB		MBLK			Batch	ID: <b>R29800</b>	Analysis Date	e: 8/14/2008 12:03:48 PM
Fluoride	ND	mg/L	0.10					
Chloride	ND	mg/L	0.10			•		
Nitrogen, Nitrite (As N)	ND ·	mg/L	0.10					
Nitrogen, Nitrate (As N)	ND	mg/L	0.10					
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50					
Sulfate	ND	mg/L	0.50					
Sample ID: LCS		LCS.			Batch	ID: R29800	Analysis Date	e: 8/14/2008 12:21:13 PM
Fluoride	0.4662	mg/L	0.10	93.2	90	110		
Chloride	5.081	mg/L	0.10	102	90	110		
Nitrogen, Nitrite (As N)	1.038	mg/L	0.10	104	90	110		
Nitrogen, Nitrate (As N)	2.577	mg/L	0.10	103	90	110		
Phosphorus, Orthophosphate (As P)	4.920	mg/L	0.50	98.4	90	110		
Sulfate	10.61	mg/L	0.50	106	90	110	•	
Sample ID: 0808241-02CMS		MS			Batch	ID: <b>R29800</b>	Analysis Date	e: 8/14/2008 11:40:14 PN
Fluoride	1.303	mg/L	0.10	108	65.1	121		
Nitrogen, Nitrite (As N)	0.8975	mg/L	0.10	89.7	52.9	128		
Nitrogen, Nitrate (As N)	2.480	mg/L	0.10	97.6	83.8	112		
Phosphorus, Orthophosphate (As P)	4.601	mg/L	0.50	92.0	77.6	118		
Sulfate	13.81	mg/L	0.50	102	59.4	126		
Method: SM 2320B: Alkalinity								
Sample ID: MB		MBLK			Batch	ID: <b>R29866</b>	Analysis Date	e: 8/21/2008
Alkalinity, Total (As CaCO3)	ND	mg/L CaC	20					
Carbonate	ND	mg/L CaC	2.0					
Bicarbonate	ND	mg/L CaC	20					
Sample ID: LCS		LCS			Batch	ID: <b>R29866</b>	Analysis Date	e: 8/21/2008
Alkalinity, Total (As CaCO3)	82.00	mg/L CaC	20	101	80	120	-	
· · · · · · · · · · · · · · · · · · ·		3 4-						

Oua	lifiers

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808241

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Analyte	Result	Units	PQL	%Rec	LowLimit H	HighLimit	%RPD	RPDLimit Qual
Method: EPA Method 8015B: D	iesel Range	•		V-84			· · · · · ·	
Sample ID: MB-16802		MBLK			Batch ID	16802	Analysis Dat	e: 8/18/2008 9:18:03 A
Diesel Range Organics (DRO)	ND	mg/L	1.0					
Motor Oil Range Organics (MRO)	ND	mg/L	5.0					
Surr: DNOP	1.225	mg/L	0	123	58	140		
Sample ID: LCS-16802		LCS			Batch ID	16802	Analysis Dat	e: 8/18/2008 9:51:32 A
Diesel Range Organics (DRO)	4.911	mg/L	1.0	98.2	74	157		
Surr: DNOP	0.5625	mg/L	0	113	58	140		
Sample ID: LCSD-16802		LCSD			Batch ID	16802	Analysis Dat	e: 8/18/2008 10:25:06 A
Diesel Range Organics (DRO)	4.761	mg/L	1.0	95.2	74	157	3.10	23
Surr: DNOP	0.5491	.mg/L	0	110	58	140	0	Ö
Method: EPA Method 8015B: G Sample ID: 5ML RB		MBLK	0.050		Batch ID	R29921	Analysis Dat	e: 8/25/2008 9:06:48 Al
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Surr: BFB	20.37	mg/L	0	102	79.2	121		
Sample ID: 5ML RB		MBLK			Batch ID	R29921	Analysis Dat	e: 8/25/2008 9:06:48 A
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Surr: BFB	20.37	mg/L	0	102	79.2	121		
Sample ID: 5ML RB		MBLK			Batch ID	R29921	Analysis Dat	e: 8/26/2008 2:59:23 PI
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Surr: BFB	17.58	mg/L	0	87.9	79.2	121		
Sample ID: LCS-GRO		LCS			Batch ID	R29921	Analysis Dat	e: 8/25/2008 5:25:30 PI
Gasoline Range Organics (GRO)	0.5666	mg/L	0.050	113	. 80	115		
Surr: BFB	21.15	mg/L	0	106	79.2	121		
Sample ID: LCS-GRO		LCS			Batch ID:	R29921	Analysis Date	e: 8/25/2008 5:25:30 PI
Gasoline Range Organics (GRO)	0.5666	mg/L	0.050	113	80	115		•
Surr: BFB	21.15	mg/L	0	106	79.2	121		
		LCS			Batch ID:	R29921	Analysis Date	e: 8/26/2008 4:30:47 Pf
Sample ID: LCS-GRO								
Sample ID: LCS-GRO Gasoline Range Organics (GRO)	0.4266	mg/L	0.050	85.3	80	115		

X.	dualifiers:	

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

Date: 18-Sep-08

080824

Analyte	Result	Units	PQL	%Rec	LowLimit	Hig	hLimit	%RPD	RP	DLimit	Qual
Method: EPA Method 8260B:	VOLATILES		, , , , , , , , , , , , , , , , , , , ,								
Sample ID: 5ml rb		MBLK			Batch	ID:	R29803	Analysis	Date:	8/15/20	08 10:31:04 AN
Benzene	ND	μg/L	1.0								
Toluene	ND	μg/L	1.0								
Ethylbenzene	ND	μg/L	1.0								
Methyl tert-butyl ether (MTBE)	NĐ	μg/L	1.0								
1,2,4-Trimethylbenzene	ND	μg/L	1.0								
1,3,5-Trimethylbenzene	ND	μg/L	1.0								
1,2-Dichloroethane (EDC)	ND	μg/L	1.0								
1,2-Dibromoethane (EDB)	ND	μg/L	1.0								
Naphthalene	ND	μg/L	2.0								
1-Methylnaphthalene	ND	μg/L	4.0								
2-Methylnaphthalene	ND	μg/L	4.0								
Acetone	ND	μg/L	10								
Bromobenzene	ND	μg/L	1.0								
Bromodichloromethane	ND	μg/L	1.0								
Bromoform	ND	μg/L	1.0								
Bromomethane	ND	μg/L	1.0								
2-Butanone	. ND	μg/L	10								
Carbon disulfide	ND	μg/L	10								
Carbon Tetrachloride	ND	μg/L	1.0								
Chlorobenzene	ND	μg/L	1.0								
Chloroethane	ND	μg/L	2.0								(
Chloroform	ND	μg/L	1.0								
Chloromethane	ND	μg/L	1.0								•
2-Chlorotoluene	ND	μg/L	1.0								
4-Chlorotoluene	ND	μg/L	1.0								
cis-1,2-DCE	ND	μg/L	1.0								
cis-1,3-Dichloropropene	ND	μg/L	1.0								
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0								
Dibromochloromethane	ND	μg/L	1.0								
Dibromomethane	ND	μg/L	1.0					•			
1,2-Dichlorobenzene	ND	μg/L	1.0								
1,3-Dichlorobenzene	ND	μg/L	1.0								
1,4-Dichlorobenzene	ND	μg/L	1.0								
Dichlorodifluoromethane	ND	μg/L	1.0								
1,1-Dichloroethane	ND	μg/L	1.0								
1,1-Dichloroethene	ND	μg/L	1.0								
1,2-Dichloropropane	ND	μg/L	1.0							•	
1,3-Dichloropropane	ND	μg/L	1.0								
2,2-Dichloropropane	ND	μg/L	2.0								
1,1-Dichloropropene	ND	μg/L	1.0								
Hexachlorobutadiene	ND	μg/L	1.0								
2-Hexanone	ND	μg/L	10								
Isopropylbenzene	ND	μg/L	1.0	•							
4-Isopropyltoluene	ND .	μg/L	1.0								

### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

Down-Gradient Wells Annual Aug 2008 Project:

Work Order:

0808241

Project. Down-Grad	———————						<u>`</u>	work Order:	0808241
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B:	VOLATILES								
Sample ID: 5ml rb		MBLK			Batch II	D: <b>R29803</b>	Analysis D	ate: 8/15/20	08 10:31:04 AM
4-Methyl-2-pentanone	ND	μg/L	10			•			
Methylene Chloride	ND	μg/L	3.0						
n-Butylbenzene	ND	μg/L	1.0						
n-Propylbenzene	ND	μg/L	1.0						
sec-Butylbenzene	ND	μg/L	1.0						
Styrene	ND	μg/L	1.0						
tert-Butylbenzene	ND	μg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0						
Tetrachloroethene (PCE)	ND	μg/L	1.0						
trans-1,2-DCE	ND	μg/L	1.0						
trans-1,3-Dichloropropene	ND	μg/L	1.0						
1,2,3-Trichlorobenzene	ND	μg/L	1.0				•		
1,2,4-Trichlorobenzene	ND	μg/L	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	μg/L	1.0						
Trichloroethene (TCE)	ND	μg/L	1.0						
Trichlorofluoromethane	ND	μg/L	1.0						
1,2,3-Trichloropropane	ND	μg/L	2.0						
inyl chloride	ND	μg/L	1.0						
Aylenes, Total	ND	μg/L	1.5						
Surr: 1,2-Dichloroethane-d4	9.460	μg/L	0	94.6	68.1	123			
Surr: 4-Bromofluorobenzene	10.49	μg/L	0	105	53.2	145			
Surr: Dibromofluoromethane	9.672	μg/L	0	96.7	68.5	119			
Surr: Toluene-d8	10.21	μg/L	0	102	64	131			
Sample ID: 5ml rb		MBLK	•		Batch ID		Analysis D	ate: 8/18/20	08 10:15:36 AM
•	ND		1.0						
Benzene	ND	μg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	μg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND ND	μg/L	1.0						
1,2,4-Trimethylbenzene	ND	μg/L	1.0						
1,3,5-Trimethylbenzene	ND ND	μg/L	1.0						
1,2-Dichloroethane (EDC) 1,2-Dibromoethane (EDB)	ND ND	μg/L	1.0						
	ND ND	µg/L	1.0 2.0						
Naphthalene 1-Methylnaphthalene	ND	μg/L μg/L	4.0						
	ND		4.0						
2-Methylnaphthalene Acetone	ND	µg/L µg/L	10						
Bromobenzene	ND	μg/L μg/L	1.0						
Bromodichloromethane	ND		1.0						
Bromoform	ND ND	μg/L μα/l	1.0						
Bromororm	ND ND	μg/L	1.0						
2-Butanone	ND	μg/L	1.0						
Carbon disulfide	ND	µg/L µg/L	10						
Carbuit disdinae	NO	py.L	10						
Qualifiers:									

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808241

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimi	%R	RPD RF	PDLimit Q	ual
Method: EPA Method 8260B:	VOLATILES						7,			
Sample ID: 5ml rb		MBLK			Batch	ID: <b>R298</b>	<b>24</b> Ana	lysis Date:	8/18/2008	3 10:15:36 AN
Carbon Tetrachloride	ND	μg/L	1.0							
Chlorobenzene	ND	μg/L	1.0							
Chloroethane	ND	μg/L	2.0							
Chloroform	ND	μg/L	1.0							
Chloromethane	ND	μg/L	1.0							
2-Chlorotoluene	ND	μg/L	1.0							
4-Chlorotoluene	ND	μg/L	1.0							
cis-1,2-DCE	ND	μg/L	1.0							
cis-1,3-Dichloropropene	ND	μg/L	1.0							
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0							
Dibromochloromethane	ND	μg/L	1.0							
Dibromomethane	ND	μg/L	1.0							
1,2-Dichlorobenzene	ND	μg/L	1.0							
1,3-Dichlorobenzene	ND	μg/L	1.0							
1,4-Dichlorobenzene	ND	μg/L	1.0							
Dichlorodifluoromethane	ND	μg/L	1.0							
1,1-Dichloroethane	ND	μg/L	1.0							
1,1-Dichloroethene	ND	μg/L	1.0							
1,2-Dichloropropane	ND	μg/L	1.0							
1,3-Dichloropropane	ND	μg/L	1.0		•					1
2,2-Dichloropropane	ND	μg/L	2.0							•
1,1-Dichloropropene	ND	μg/L	1.0							
Hexachlorobutadiene	ND	μg/L	1.0							
2-Hexanone	ND	μg/L	10							
Isopropylbenzene	ND	μg/L	1.0							
4-Isopropyltoluene	ND	μg/L	1.0							
4-Methyl-2-pentanone	ND	μg/L	10							
Methylene Chloride	ND	μg/L	3.0							
n-Butylbenzene	ND	µg/L	1.0							
n-Propylbenzene	ND	μg/L	1.0							
sec-Butylbenzene	ND	μg/L	1.0							
Styrene	ND	μg/L	1.0							
tert-Butylbenzene	ND	μg/L	1.0							
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0							
1,1,2,2-Tetrachloroethane	ND	μg/L	2.0							
Tetrachloroethene (PCE)	ND	μg/L	1.0							
trans-1,2-DCE	ND	μg/L	1.0							
trans-1,3-Dichloropropene	ND	μg/L	1.0							
1,2,3-Trichlorobenzene	ND	μg/L	1.0							
1,2,4-Trichlorobenzene	ND	μg/L	1.0							
1,1,1-Trichloroethane	ND	μg/L	1.0							•
1,1,2-Trichloroethane	ND	μg/L	1.0							
Trichloroethene (TCE)	ND	μg/L	1.0							
Trichlorofluoromethane	ND	μg/L	1.0							
Homoromethane	IND	µg/L	1.0				•			

### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808241

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD R	PDLimit Qual
Method: EPA Method 8260B:	VOLATILES				·			
Sample ID: 5ml rb		MBLK			Batch I	D: <b>R29824</b>	Analysis Date:	8/18/2008 10:15:36 AM
1,2,3-Trichloropropane	ND	μg/L	2.0					
Vinyl chloride	ND	µg/L	1.0					
Xylenes, Total	ND	μg/L	1.5					
Surr: 1,2-Dichloroethane-d4	9.448	μg/L	0	94.5	68.1	123		
Surr: 4-Bromofluorobenzene	10.40	µg/L	0	104	53.2	145		
Surr: Dibromofluoromethane	9.891	μg/L	0	98.9	68.5	119		
Surr: Toluene-d8	9.648	μg/L	0	96.5	64	131		
Sample ID: b7		MBLK	•		Batch I		Analysis Date:	8/18/2008 9:37:52 PM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
•	ND		. 1.0					
Methyl tert-butyl ether (MTBE)		μg/L						
1,2,4-Trimethylbenzene	ND	μg/L	1.0					
1,3,5-Trimethylbenzene	ND	μg/L	1.0					
1,2-Dichloroethane (EDC)	ND ND	μg/L	1.0					
1,2-Dibromoethane (EDB)	ND	μg/L	1.0					
Naphthalene	ND	µg/L	2.0					
1-Methylnaphthalene	ND	μg/L "	4.0					
2-Methylnaphthalene	ND	µg/L	4.0					
cetone	ND	μg/L 	10					
Bromobenzene	ND	µg/L	1.0					
Bromodichloromethane	ND	μg/L	1.0					
Bromoform	ND	µg/L	1.0					
Bromomethane	ND	µg/L	1.0					
2-Butanone	ND	μg/L	10 .					
Carbon disulfide	ND	µg/L	10					
Carbon Tetrachloride	ND	µg/L	1.0					
Chlorobenzene	ND	µg/L	1.0					
Chloroethane	ND	µg/L	2.0					
Chloroform	ND	µg/L	1.0					
Chloromethane	ND	µg/L	1.0					
2-Chlorotoluene	ND	µg/L	1.0					
4-Chlorotoluene	ND	µg/L	1.0					
cis-1,2-DCE	ND	µg/L	1.0					
cis-1,3-Dichloropropene	ND	µg/L	1.0					
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0					
Dibromochloromethane	ND	µg/L	1.0					
Dibromomethane	ND	µg/L	1.0					
1,2-Dichlorobenzene	ND	μg/L	1.0					
1,3-Dichlorobenzene	ND	µg/L	1.0					
1,4-Dichlorobenzene	ND	µg/L	1.0					
Dichlorodifluoromethane	ND	µg/L	1.0					
1,1-Dichloroethane	ND	μg/L	1.0					
1,1-Dichloroethene	ND	μg/L	1.0					

### Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808241

Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260B:	VOLATILES						
Sample ID: b7		MBLK			Batch ID: R29824	Analysis Date:	8/18/2008 9:37:52 PM
1,2-Dichloropropane	ND	μg/L	1.0				
1,3-Dichloropropane	ND	µg/L	1.0				
2,2-Dichloropropane	ND	μg/L	2.0				
1,1-Dichloropropene	ND	μg/L	1.0		•		
Hexachlorobutadiene	ND	μg/L	1.0				
2-Hexanone	ND	μg/L	10				
Isopropylbenzene	ND	μg/L	1.0				
4-Isopropyltoluene	ND	μg/L	1.0				
4-Methyl-2-pentanone	ND	μg/L	10		•		
Methylene Chloride	ND	μg/L	3.0				
n-Butylbenzene	ND	μg/L	1.0				
n-Propylbenzene	ND -	μg/L	1.0				
sec-Butylbenzene	ND	μg/L	1.0		:		
Styrene	ND	μg/L	1.0		•		
tert-Butylbenzene	ND	μg/L	1.0				
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0				•
1,1,2,2-Tetrachloroethane	ND	μg/L μg/L	2.0				
	ND		1.0				
Tetrachloroethene (PCE) trans-1,2-DCE	ND	μg/L	1.0				
	ND	μg/L					
trans-1,3-Dichloropropene		μg/L	1.0				
1,2,3-Trichlorobenzene	ND	μg/L	1.0				
1,2,4-Trichlorobenzene	ND	μg/L	1.0				
1,1,1-Trichloroethane	ND	μg/L	1.0				
1,1,2-Trichloroethane	ND	μg/L	1.0				
Trichloroethene (TCE)	ND	μg/L	1.0				•
Trichlorofluoromethane	ND	μg/L	1.0				
1,2,3-Trichloropropane	ND	μg/L	2.0				
Vinyl chloride	ND	μg/L "	1.0		•		
Xylenes, Total	ND	μg/L "	1.5	04.0	00.4 400		
Surr: 1,2-Dichloroethane-d4	9.424	μg/L	0	94.2	68.1 123		
Surr: 4-Bromofluorobenzene	10.87	μg/L	0	109	53.2 145		
Surr: Dibromofluoromethane	9.412	μg/L "	0	94.1	68.5 119		
Surr: Toluene-d8	9.509	μg/L	0	95.1	64 131	A A I S Date	0/45/0000 0 44 00 584
Sample ID: 100ng Ics_b		LCS			Batch ID: R2980	3 Analysis Date:	8/15/2008 2:41:00 PM
Benzene	20.15	μg/L	1.0	101	86.8 120		
Toluene	20.41	μg/L·	1.0	102	64.1 127		
Chlorobenzene	22.97	μg/L	1.0	115	82.4 113		S
1,1-Dichloroethene	24.69	μg/L	1.0	123	86.5 132		
Trichloroethene (TCE)	19.38	μg/L	1.0	96.9	77.3 123		
Surr: 1,2-Dichloroethane-d4	9.330	μg/L	0	93.3	68.1 123		
Surr: 4-Bromofluorobenzene	9.792	μg/L	0	97.9	53.2 145		
Surr: Dibromofluoromethane	9.599	μg/L	0	96.0	68.5 119	•	
Surr: Toluene-d8	9.648	μg/L	0	96.5	64 131		
Sample ID: 100ng Ics		LCS			Batch ID: R2982	4 Analysis Date:	8/18/2008 11:19:55 AM

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808241

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qual
Method: EPA Method 8260B:	VOLATILES							
Sample ID: 100ng lcs		LCS			Batch I	D: <b>R29824</b>	Analysis Da	ate: 8/18/2008 11:19:55 AM
Benzene	20.71	μg/L	1.0	104	86.8	120		
Toluene	20.33	μg/L	1.0	102	64.1	127		•
Chlorobenzene	22.04	μg/L	1.0	110	82.4	113		
1,1-Dichloroethene	24.64	µg/L	1.0	123	86.5	132		
Trichloroethene (TCE)	19.74	μg/L	1.0	98.7	77.3	123		
Surr: 1,2-Dichloroethane-d4	9.319	μg/L	0	93.2	68.1	123		
Surr: 4-Bromofluorobenzene	10.14	μg/L	0	101	53.2	145		
Surr: Dibromofluoromethane	9.536	μg/L	0	95.4	68.5	119		
Surr: Toluene-d8	9.273	µg/L	0	92.7	64	131		
Sample ID: 100ng lcs		LCS			Batch I	D: <b>R29824</b>	Analysis Da	ate: 8/18/2008 10:35:23 PM
Benzene	21.32	μg/L	1.0	107	86.8	120		
Toluene	18.86	µg/L	1.0	94.3	64.1	127		
Chlorobenzene	21.47	μg/L	1.0	107	82.4	113		
1,1-Dichloroethene	24.68	μg/L	1.0	123	86.5	132		
Trichloroethene (TCE)	21.02	μg/L	1.0	105	77.3	123		
Surr: 1,2-Dichloroethane-d4	9.386	μg/L	0	93.9	68.1	123		
Surr: 4-Bromofluorobenzene	10.82	µg/L	0	108	53.2	145		
Surr: Dibromofluoromethane	9.762	μg/L	0	97.6	68.5	119		•
Surr: Toluene-d8	9.388	μg/L	0	93.9	64	131		

### ualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808241

Analyte	Result	Units	PQL	%Rec	LowLimit	High	Limit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C	: Semivolatiles									
Sample ID: mb-16804		MBLK			Batch	ID:	16804	Analysis	Date:	8/21/200
Acenaphthene	ND	μg/L	10					-		
Acenaphthylene	ND	μg/L	10							
Aniline	ND	μg/L	10							
Anthracene	ND	μg/L	10							
Azobenzene	ND	μg/L	10					*		
Benz(a)anthracene	ND	μg/L	10							
Benzo(a)pyrene	ND	μg/L	10							
Benzo(b)fluoranthene	ND	μg/L	10							
Benzo(g,h,i)perylene	ND	μg/L	10							
Benzo(k)fluoranthene	ND	μg/L	10							
Benzoic acid	ND	μg/L	20							
Benzyl alcohol	ND	μg/L	10							
Bis(2-chloroethoxy)methane	ND	µg/L	10							
Bis(2-chloroethyl)ether	ND	μg/L	10							
Bis(2-chloroisopropyl)ether	ND	μg/L	10							
Bis(2-ethylhexyl)phthalate	ND	μg/L	10							
4-Bromophenyl phenyl ether	ND	μg/L	10					•		
Butyl benzyl phthalate	ND	μg/L	10							
Carbazole	ND	μg/L	10		,					
4-Chloro-3-methylphenol	ND	μg/L	10							
4-Chloroaniline	ND	μg/L	10							
2-Chloronaphthalene	ND	μg/L	10							
2-Chlorophenol	ND	μg/L	10					•		
4-Chlorophenyl phenyl ether	ND	µg/L	10							
Chrysene Chrysene	ND	μg/L	10							
Di-n-butyl phthalate	ND	μg/L	10				*			
Di-n-octyl phthalate	ND	µg/L	10							
Dibenz(a,h)anthracene	ND	µg/L	10							
Dibenzofuran	ND	μg/L	10							
1,2-Dichlorobenzene	ND	µg/L	10							
1,3-Dichlorobenzene	ND	μg/L	10							
1,4-Dichlorobenzene	ND	μg/L	10							
3,3'-Dichlorobenzidine	ND	μg/L	10							
Diethyl phthalate	ND	μg/L	10							
Dimethyl phthalate	ND	μg/L	10							
2,4-Dichlorophenol	ND	μg/L μg/L	20							
2,4-Dimethylphenol	ND	μg/L	10							
4,6-Dinitro-2-methylphenol	ND	μg/L	20							
2,4-Dinitrophenol	ND	μg/L	20							
2,4-Dinitrotoluene	ND	μg/L	10							
2,6-Dinitrotoluene	ND ND	μg/L	10				•			
Fluoranthene	ND	µg/L	10							
Fluorene			10							
Hexachlorobenzene	ND ND	µg/L µg/L	10					•		

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

roject:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808241

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RI	PDLimit	Qual
Method: EPA Method 8270C: S	Semivolatiles								
Sample ID: mb-16804		MBLK			Batch	ID: <b>16804</b>	Analysis Date:		8/21/200
Hexachlorobutadiene	, ND	µg/L	10						
Hexachlorocyclopentadiene	ND	μg/L	10						
Hexachloroethane	ND	μg/L	10						
Indeno(1,2,3-cd)pyrene	ND	μg/L	10						
Isophorone	ND	µg/L	10						
2-Methylnaphthalene	ND	μg/L	10						
2-Methylphenol	ND	µg/L	10						
3+4-Methylphenol	ND	µg/L	10						
N-Nitrosodi-n-propylamine	ND	μg/L	10						
N-Nitrosodimethylamine	ND	µg/L	10						
N-Nitrosodiphenylamine	ND	μg/L	10						,
Naphthalene	ND	μg/L	10						
2-Nitroaniline	ND	µg/L	10						
3-Nitroaniline	ND	μg/L	10						
4-Nitroaniline	ND	µg/L	10						
Nitrobenzene	ND	µg/L	10						
2-Nitrophenol	ND	µg/L	10	•					
4-Nitrophenol	ND	µg/L	10						
Pentachlorophenol	ND	μg/L	40						
nenanthrene	ND	μg/L	10						
henol	ND	µg/L	10						
Pyrene	ND	µg/L	10						
Pyridine	ND	µg/L	10						
1,2,4-Trichlorobenzene	ND	µg/L	10						
2,4,5-Trichlorophenol	ND	μg/L	10						
2,4,6-Trichlorophenol	ND .	µg/L	10						
Surr: 2,4,6-Tribromophenol	130.0	µg/L	0	65.0	16.6	150			
Surr. 2-Fluorobiphenyl	71.08	μg/L	0	71.1	19.6	134			
Surr: 2-Fluorophenol	119.1	µg/L	0	59.6	9.54	113			
Surr: 4-Terphenyl-d14	66.70	µg/L	0	66.7	22.7	145			
Surr: Nitrobenzene-d5	70.06	μg/L	0	70.1	14.6	134			
Surr: Phenol-d5	88.94	μg/L	0	44.5	10.7	80.3			
Sample ID: lcs-16804		LCS			Batch I	ID: 16804	Analysis Date:		8/21/200
Acenaphthene	43.66	μg/L	10	43.7	11	123			
4-Chloro-3-methylphenol	102.0	μg/L	10	50.1	15.4	119			
2-Chlorophenol	95.42	μg/L	10	46.7	12.2	122			
1,4-Dichlorobenzene	37.00	µg/L	10	37.0	1.6.9	100			
2,4-Dinitrotoluene	43.10	μg/L	10	43.1	13	138			
N-Nitrosodi-n-propylamine	50.50	µg/L	10	50.5	9.93	122			
4-Nitrophenol	67.84	μg/L	10	33.9	12.5	87.4	-		
Pentachlorophenol	91.04	μg/L	40	45.5	3.55	114			
Phenol	70.52	µg/L	10	35.3	7.53	73.1			
Pyrene	52.60	μg/L	10	52.6	12.6	140			
1,2,4-Trichlorobenzene	38.40	μg/L	10	38.4	17.4	98.7			

S Spike recovery outside accepted recovery limits

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808241

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C:	Semivolatiles								
Sample ID: lcs-16804		LCS			Batch II	D: 16804	Analysis D	Date:	8/21/20
Surr: 2,4,6-Tribromophenol	85.24	μg/L	0	42.6	16.6	150			
Surr: 2-Fluorobiphenyl	47.88	μg/L	0	47.9	19.6	134			-
Surr: 2-Fluorophenol	84.44	μg/L	0	42.2	9.54	113			
Surr: 4-Terphenyl-d14	45.86	μg/L	0	45.9	22.7	145			
Surr: Nitrobenzene-d5	49.30	μg/L	0	49.3	14.6	134			
Surr: Phenol-d5	71.26	μg/L	0	35.6	10.7	80.3			
Sample ID: lcsd-16804		LCSD			Batch II	D: <b>16804</b>	Analysis D	Date:	8/21/20
Acenaphthene	51.78	μg/L	10	51.8	11	123	17.0	30.5	
4-Chloro-3-methylphenol	120.8	μg/L	10	59.5	15.4	119	16.9	28.6	
2-Chlorophenol	112.9	μg/L	10	55.5	12.2	122	16.8	107	
1,4-Dichlorobenzene	42.48	μg/L	10	42.5	16.9	100	13.8	62.1	
2,4-Dinitrotoluene	50.30	μg/L	10	50.3	13	138	15.4	14.7	R
N-Nitrosodi-n-propylamine	58.30	μg/L	10	58.3	9.93	122	. 14.3	30.3	
4-Nitrophenol	92.10	μg/L	10	46.0	12.5	87.4	30.3	36.3	
Pentachlorophenol	103.7	μg/L	40	51.9	3.55	114 .	13.0	49	
Phenol	90.88	µg/L	10	45.4	7.53	73.1	25.2	52.4	
Pyrene	60.08	µg/L	10	60.1	12.6	140	13.3	16.3	
1,2,4-Trichlorobenzene	45.64	μg/L	10	45.6	17.4	98.7	17.2	36.4	
Surr: 2,4,6-Tribromophenol	97.70	μg/L	0	48.9	16.6	150	0	0	
Surr: 2-Fluorobiphenyl	55.80	µg/L	0	55.8	19.6	134	0	0	
Surr: 2-Fluorophenol	102.9	μg/L	0	51.5	9.54	113	0	0	
Surr: 4-Terphenyl-d14	50.72	μg/L	0	50.7	22.7	145	0	0	
Surr: Nitrobenzene-d5	56.00	µg/L	0	56.0	14.6	134	0	0	
Surr: Phenol-d5	90.52	μg/L	0	45.3	10.7	80.3	0	0	

Oua	difiers

E Value above quantitation range

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

J Analyte detected below quantitation limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

roject:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808241

Analyte		Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method:	EPA Method 6010B: D	issolved Me	tals						
Sample ID:	MB		MBLK			Batch II	): <b>R29998</b>	Analysis Date:	8/29/2008 1:18:16 Pi
Arsenic		ND	mg/L	0.020					
Barium		ND	mg/L	0.020					
Cadmium		ND	mg/L	0.0020					
Chromium		ND	mg/L	0.0060					
Copper		ND	mg/L	0.0060					
Iron		ND	mg/L	0.020					
Lead		ND	mg/L	0.0050					
Manganese		ND	mg/L	0.0020					
Selenium		ND	mg/L	0.050					
Silver		ND	mg/L	0.0050					
Zinc		ND	mg/L	0.050					
Sample ID:	MB		MBLK			Batch ID	): <b>R29998</b>	Analysis Date:	8/29/2008 3:30:02 PI
Arsenic		ND	mg/L	0.020					
Barium		ND	mg/L	0.020		•			
Cadmium		ND	mg/L	0.0020					
Chromium		ND	mg/L	0.0060					
Copper	1	ND	mg/L	0.0060					
ron		ND	mg/L	0.020					
ead		ND	mg/L	0.0050					
anganese		ND	mg/L	0.0020					
selenium		ND	mg/L	0.050					
Silver		ND	mg/L	0.0050					
Sample ID:	MB		MBLK			Batch ID	: R30124	Analysis Date:	9/8/2008 9:44:53 PM
Selenium		ND	mg/L	0.050					
Sample ID:	LCS		LCS			Batch ID	R29998	Analysis Date:	8/29/2008 1:21:07 PM
Arsenic		0.5042	mg/L	0.020	101	80	120		
3arium		0.5032	mg/L	0.020	101	80	120		
Cadmium		0.5164	mg/L	0.0020	103	80	120		
Chromium		0.5062	mg/L	0.0060	101	80	120		
Copper		0.4904	mg/L	0.0060	98.1	80	120		
ron		0.5268	mg/L	0.020	105	80	120		
.ead		0.5188	mg/L	0.0050	104	80	120		
Manganese		0.5008	mg/L	0.0020	100	80	120		
Selenium		0.5137	mg/L	0.050	103	80	120		
Silver		0.5081	mg/L	0.0050	102	80	120		
Zinc		0.5096	mg/L	0.050	102	80	120		
Sample ID:	LCS		LCS			Batch ID		Analysis Date:	8/29/2008 3:32:53 PM
Arsenic		0.5219	mg/L	0.020	104	80	120		
Barium		0.5196	mg/L	0.020	104	80	120		
Cadmium		0.5339	mg/L	0.0020	107	80	120		
Chromium		0.5264	mg/L	0.0060	105	80	120		
Copper		0.5107	mg/L	0.0060	102	80	120		
iron		0.5102	mg/L	0.020	102	80	120		

Spike recovery outside accepted recovery limits

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

Н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808241

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 60°	10B: Dissolved Me	tals						
Sample ID: LCS		LCS			Batch I	D: <b>R29998</b>	Analysis Date:	8/29/2008 3:32:53 PM
_ead	0.5421	mg/L	0.0050	108	80	120		
Manganese	0.5171	mg/L	0.0020	103	. 80	120		
Selenium	0.5360	. mg/L	0.050	107	80	120		
Silver	0.5257	mg/L	0.0050	105	80	120		
Sample ID: LCS		LCS			Batch I	D: <b>R30124</b>	Analysis Date:	9/8/2008 9:47:18 PM
Selenium	0.5051	mg/L	0.050	101	80	120		
lethod: EPA 6010B: Tot	al Recoverable Me	tals						
Sample ID: MB-16876		MBLK			Batch I	D: <b>16876</b>	Analysis Date:	8/28/2008 11:55:26 AM
Arsenic	ND	mg/L	0.020					
Barium	, <b>N</b> D	mg/L	0.010					
Cadmium	ND	mg/L	0.0020					
Chromium	ND	mg/L	0.0060					
.ead	ND	mg/L	0.0050					
Selenium	ND	mg/L	0.050					•
ilver	ND	mg/L	0.0050					
ample ID: MB-16876		MBLK			Batch I	D: <b>16876</b>	Analysis Date:	9/2/2008 10:17:34 Af
arium	ND	mg/L	0.010					
admium	ND	mg/L	0.0020		•			
hromium	ND	mg/L	0.0060					
ead	ND	mg/L	0.0050					
ilver	ND	mg/L	0.0050					
ample ID: MB-16876		MBLK			Batch I	ID: 16876	Analysis Date:	9/2/2008 12:52:59 PM
rsenic	ND	mg/L	0.020					
elenium	ND	mg/L	0.050					•
ampie ID: LCS-16876		LCS		•	Batch I	ID: <b>16876</b>	Analysis Date:	8/28/2008 11:57:19 A
rsenic	0.4914	mg/L	0.020	98.3	80	120		
arium	0.4796	mg/L	0.010	95.9	80	120		
admium	0.4924	mg/L	0.0020	98.5	80	120		
hromium	0.4942	mg/L	0.0060	98.8	80	120		•
ead	0.4785	mg/L	0.0050	95.0	80	120		
Selenium 、	0.4934	mg/L	0.050	98.7	80	120		
Silver	0.4969	mg/L	0.0050	99.4	80	120		
Sample ID: LCS-16876		LCS			Batch	ID: <b>16876</b>	Analysis Date:	9/2/2008 10:19:54 Al
Barium	0.4752	mg/L	0.010	95.0	80	120		
Cadmium	0.4758	mg/L	0.0020	95.2	80	120		
Chromium	0.4812	mg/L	0.0060	96.2	80	120		
ead	0.4736	mg/L	0.0050	94.7	80	120		
ilver	0.4784	mg/L	0.0050	95.7	80	120		
Sample ID: LCS-16876		LCS			Batch	ID: <b>16876</b>	Analysis Date:	9/2/2008 12:55:29 Pi
Arsenic	0.4782	mg/L	0.020	95.6	80	120		
Selenium	0.4710	mg/L	0.050	94.2	80	120		



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

17/2008 8/15/2008

8/13/2008 1st RCVD

Ist SAMP 

Hall Environmental Analysis Laboratory, Inc.

Albuquerque, New Mexico 87109-4372 4901 Hawkins NE, Suite D

TEL: 5053453975

FAX: 5053454107

Subcontractor:

Anatek Labs, Inc. 1282 Alturas Dr

TEL:

14-Aug-08

Requested Tests

SEE BELOW

125HDPHN03 **Bottle Type** 

8/13/2008 1:20:00 PM

Aqueous Matrix

Collection Date

Client Sample ID MW-34

0808241-01F

Lab ID

Moscow, ID 83843

(208) 883-2839 (208) 882-9246 Acct #: FAX:

Project Name: 0808241

SEE BELOW 125HDPHN03 8/13/2008 1:45:00 PM Aqueous MW-35 0808241-02F

LEVEL 4 QA/QC FOR DISSOLVED U BY 6020, PLEASE REPORT @ 0.001 mg/L ANALYTICAL COMMENTS: Thank you. Standard TAT. Please fax (505) 345-4107 results when completed, or email to lab@hallenvironmental.com.

ANATEK LABS RECEIVING LIST	TEMP. C. TEMP. C. C. C. LABELS & CHAINS AGREE	PRESERVATIVE: 4103	DATE & TIME 7-15-16 (A. V.C. INSPECTED BY)
	Date/Time	Relinquished by: (19763. Receive	Relinquished by:

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

### **Login Report**

Customer Name: HALL ENVIRONMENTAL ANALYSIS LAB

Order ID:

080815026

Purchase Order:

Order Date:

8/15/2008

Project ID:

Project Name: 0808241

Comment:

Sample #:

080815026-001

Customer Sample #:

0808241-01F / MW-34

Site:

Recv'd:

**V** 

Collector:

Date Collected:

8/13/2008

Quantity:

Matrix:

Water

Date Received:

8/15/2008 10:45:00 A

Comment:

Test

**Test Group** 

Method

**Due Date** 

Priority

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 

8/27/2008

Normal (6-10 Days)

Sample #:

080815026-002

Customer Sample #:

0808241-02F / MW-35

Oite.

.

Recv'd:

**V** 

Collector:

Date Collected:

8/13/2008

Quantity:

Matrix: Water

Date Received:

8/15/2008 10:45:00 A

Comment:

Test

Test Group

Method

**Due Date** 

Priority

DISSOLVED URANIUM BY 6

EPA 6020A

8/27/2008

<u>Normal (6-10 Days)</u>

### SAMPLE CONDITION RECORD

Samples received in a cooler? Yes Samples received intact? Yes What is the temperature inside the cooler? 4.1 Samples received with a COC? Yes Samples received within holding time? Yes Are all sample bottles properly preserved? Yes Are VOC samples free of headspace? N/A Is there a trip blank to accompany VOC samples? N/A Labels and chain agree? Yes

### Sample Receipt Checklist

Checklist completed by:   Sample ID labels checked by:   Sampl	Client Name WESTERN REFINING SOUT				Date Received	f:		8/14/2008	
Carrier name   UPS	Work Order Number 0808241	$\sim$			Received by:	TLS			
Matrix: Carrier name UPS  Shipping container/cooler in good condition? Yes  No Not Present  Not Shipped  Not		' <i>}</i> /		0	Sample ID la	bels checked	by:	1-3/1-1	
Shipping container/cooler in good condition?  Ves		Mu		Date	14/68			Initials	
Shipping container/cooler in good condition?  Ves	Matrix:	Carrier name	UPS		•				
Custody seals intact on shipping container/cooler?  Yes		Sumo, mamo	<u> </u>						
Custody seals intact on sample bottles?  Yes	Shipping container/cooler in good condition?		Yes	<b>✓</b>	No 🗌	Not Present			
Chain of custody present?  Chain of custody signed when relinquished and received?  Chain of custody agrees with sample labels?  Chain of custody agrees with sample labels?  Yes	Custody seals intact on shipping container/cooler	r?	Yes	<b>✓</b>	No 🗆	Not Present		Not Shipped	
Chain of custody signed when relinquished and received?  Chain of custody agrees with sample labels?  Chain of custody agrees with sample labels?  Yes  No  No  Samples in proper container/bottle?  Samples in proper containers intact?  Yes  No  No  Sample containers intact?  Sufficient sample volume for indicated test?  Yes  No  No  No  No  No  No  No  No  No  N	Custody seals intact on sample bottles?	•	Yes		No 🗀	N/A	V		
Chain of custody agrees with sample labels?  Samples in proper container/bottle?  Sample containers intact?  Yes  No  No  Sample containers intact?  Sufficient sample volume for indicated test?  All samples received within holding time?  Water - VOA vials have zero headspace?  No VOA vials submitted  Yes  No  No  N/A  N/A	Chain of custody present?		Yes	<b>V</b>	No 🗌				
Samples in proper container/bottle?  Sample containers intact?  Yes  No  No  Sufficient sample volume for indicated test?  All samples received within holding time?  Water - VOA vials have zero headspace? No VOA vials submitted Yes  No  No  N/A  No  N/A  No  N/A  N/A  No  N/A  N/A	Chain of custody signed when relinquished and r	eceived?	Yes	$\checkmark$	No 🗆				
Sample containers intact?  Sufficient sample volume for indicated test?  Yes  No  No  No  No  No  No  No  No  No  N	Chain of custody agrees with sample labels?	,	Yes	<b>✓</b>	No 🗆				
Sufficient sample volume for indicated test?  All samples received within holding time?  Water - VOA vials have zero headspace?  No VOA vials submitted  Yes  No	Samples in proper container/bottle?		Yes	$\checkmark$	No 🗆				
All samples received within holding time?  Water - VOA vials have zero headspace?  No VOA vials submitted	Sample containers intact?	,	Yes	✓	No 🗆			•	
Water - VOA vials have zero headspace? No VOA vials submitted  Yes  No  No  N/A  N/A	Sufficient sample volume for indicated test?	,	Yes	<b>✓</b>	No 🗔				
Water - Preservation labels on bottle and cap match?  Water - pH acceptable upon receipt?  Yes  No No N/A  No N/A  Container/Temp Blank temperature?  4º <6° C Acceptable If given sufficient time to cool.  Comment contacted  Date contacted:  Person contacted  Contacted by:  Regarding:	All samples received within holding time?	•	Yes	$\checkmark$	No 🗆				
Water - pH acceptable upon receipt?  Yes  No NA Container/Temp Blank temperature?  4° <6° C Acceptable If given sufficient time to cool.  Comments:  Date contacted Person contacted  Contacted by:  Regarding:	Water - VOA vials have zero headspace?	No VOA vials submit	tted		Yes 🗹	No 🗌			
Container/Temp Blank temperature?  4° <6° C Acceptable If given sufficient time to cool.  Client contacted  Date contacted:  Person contacted  Contacted by:  Regarding:	Water - Preservation labels on bottle and cap ma	itch?	Yes	<b>✓</b>	No 🗌	N/A			
COMMENTS:    If given sufficient time to cool.	Water - pH acceptable upon receipt?	,	Yes	✓	No 🗌	N/A			
Client contacted Date contacted: Person contacted Contacted by: Regarding:	Container/Temp Blank temperature?			4°	·			•	
Contacted by: Regarding:	COMMENTS:				If given sufficient	time to cool.		•	
Contacted by: Regarding:									
Contacted by: Regarding:									
Contacted by: Regarding:				==			==		===:
Contacted by: Regarding:									
Contacted by: Regarding:	Client contacted	Date contacted:			Perso	on contacted			
Comments:	Contacted by.	Regarding.				J1,0	-		
	Comments:								
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Corrective Action	Corrective Action								

TAL FNVIRONMENTAL	ANA	environmen	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	W	Ouly)	Oss PCB:	### ### ### ### ### ### ### ### ### ##	BTEX + MT BTEX + MT BTEX + MT TPH Method TPH Method EDB (Method EDC (Method BA10 (PNA Anions (F,C 8310 (Semi R270 (Semi Disolve	× ×	×	×	X	*	×	×	×		 ×	× -	Remarks: Trip Bank-3		If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories as notice of this possibility. Any sub-contracted data will be clearly notated on the analy seport.
Turn-Around Time:	☑ Standard □ Rush	Project Name: Down Grant Wells	ANNUAL AND. 2008			Project Manager:		Sample: Cmdy / しつり On lice: ロXek ロ No. Sample Temperature:	Container Preservative HEAL No. Type and # Type	1-10A HCI	Amber	250 MI HNO3			500 MI	6-10A HCI2	RMBer - 2	350 MI HOG3 -2	 -7		Received by: 8/14/09	Received by:	ntracted to other accredited laboratories is serves as notice of
Chain-of-Custody Record	Client: Western Refiging (Blufld)		CR 4990	NM 87413	505-632-4161	x#: 505-632-3911	rage: d ﷺ ﷺ (Full Validation)		Time Sample Request ID	(30 M.C-34						145p MW-35					236 Relinfquished by:	Time: Relinquished ty:	i may, samples submitted to Hall Environmental may be suboc
Cha	Client: We		Address: #50	-Bloom Pield	Phone #:	email or Fax#:	QA/QC Package: ☐ Standard	☐ Other ☐ EDD (Type)	Date	X-1200	_					4.1308 14	Ī		<del> </del>		Date: Tir		lf neces



### **COVER LETTER**

Tuesday, September 23, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX: (505) 632-3911

RE: Down-Gradient Wells Annual Aug 2008

Dear Cindy Hurtado:

Order No.: 0808258

Hall Environmental Analysis Laboratory, Inc. received 7 sample(s) on 8/15/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 23-Sep-08

CLIENT: Western Refining Southwest, Inc.

Project: Down-Gradient Wells Annual Aug 2008

**Lab Order:** 0808258

# Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808258-01A	MW-11	R29845	EPA Method 8260B: VOLATILES	8/14/2008 10:00:00 AM
0808258-01A	MW-11	R29845	EPA Method 8260B: VOLATILES	8/14/2008 10:00:00 AM
0808258-01A	MW-11	R29921	EPA Method 8015B: Gasoline Range	8/14/2008 10:00:00 AM
0808258-01A	MW-11	R29921	EPA Method 8015B: Gasoline Range	8/14/2008 10:00:00 AM
0808258-01A	MW-11	16802	EPA Method 8015B: Diesel Range	8/14/2008 10:00:00 AM
0808258-01B	MW-11	16804	EPA Method 8270C: Semivolatiles	8/14/2008 10:00:00 AM
0808258-01C	MW-11	R29883	SM 2320B: Alkalinity	8/14/2008 10:00:00 AM
0808258-01C	MW-11	R29886	Carbon Dioxide	8/14/2008 10:00:00 AM
0808258-01C	MW-11	R29808	EPA Method 300.0: Anions	8/14/2008 10:00:00 AM
0808258-01C	MW-11	R29808	EPA Method 300.0: Anions	8/14/2008 10:00:00 AM
0808258-01C	MW-11	R30109	EPA Method 300.0: Anions	8/14/2008 10:00:00 AM
0808258-01D	MW-11	16906	EPA Method 7470: Mercury	8/14/2008 10:00:00 AM
0808258-01D	MW-11	16876	EPA 6010B: Total Recoverable Metals	8/14/2008 10:00:00 AM
0808258-01E	MW-11	R29998	EPA Method 6010B: Dissolved Metals	8/14/2008 10:00:00 AM
0808258-01E	MW-11	R29998	EPA Method 6010B: Dissolved Metals	8/14/2008 10:00:00 AM
0808258-01E	MW-11	R29998	EPA Method 6010B: Dissolved Metals	8/14/2008 10:00:00 AM
0808258-01E	MW-11	R30124	EPA Method 6010B: Dissolved Metals	8/14/2008 10:00:00 AM
0808258-02A	MW-12	R29845	EPA Method 8260B: VOLATILES	8/14/2008 11:00:00 AM
0808258-02A	MW-12	R29921	EPA Method 8015B: Gasoline Range	8/14/2008 11:00:00 AM
0808258-02A	MW-12	16802	EPA Method 8015B: Diesel Range	8/14/2008 11:00:00 AM
0808258-02B	MW-12	16804	EPA Method 8270C: Semivolatiles	8/14/2008 11:00:00 AM
0808258-02C	MW-12	R29808	EPA Method 300.0: Anions	8/14/2008 11:00:00 AM
0808258-02C	MW-12	R29808	EPA Method 300.0: Anions	8/14/2008 11:00:00 AM
0808258-02C	MW-12	R29883	SM 2320B: Alkalinity	8/14/2008 11:00:00 AM
0808258-02C	MW-12	R29886	Carbon Dioxide	8/14/2008 11:00:00 AM
0808258-02D	MW-12	16906	EPA Method 7470: Mercury	8/14/2008 11:00:00 AM
0808258-02D	MW-12	16876	EPA 6010B: Total Recoverable Metals	8/14/2008 11:00:00 AM
0808258-02E	MW-12	R29998	EPA Method 6010B: Dissolved Metals	8/14/2008 11:00:00 AM
0808258-02E	MW-12	R30124	EPA Method 6010B: Dissolved Metals	8/14/2008 11:00:00 AM
0808258-03A	MW-37	R29845	EPA Method 8260B: VOLATILES	8/14/2008 11:20:00 AM
0808258-03A	MW-37	R29845	EPA Method 8260B: VOLATILES	8/14/2008 11:20:00 AM
0808258-03A	MW-37	R29921	EPA Method 8015B: Gasoline Range	8/14/2008 11:20:00 AM
0808258-03A	MW-37	16802	EPA Method 8015B: Diesel Range	8/14/2008 11:20:00 AM
0808258-03B	MW-37	16804	EPA Method 8270C: Semivolatiles	8/14/2008 11:20:00 AM
0808258-03C	MW-37	R29886	Carbon Dioxide	8/14/2008 11:20:00 AM
0808258-03C	MW-37	R29808	EPA Method 300.0: Anions	8/14/2008 11:20:00 AM
0808258-03C	MW-37	R29808	EPA Method 300.0: Anions	8/14/2008 11:20:00 AM
0808258-03C	MW-37	R29883	SM 2320B: Alkalinity	8/14/2008 11:20:00 AM
				•

CLIENT:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Lab Order:

0808258

# **Work Order Sample Summary**

		<del></del>		
Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808258-03D	MW-37	16876	EPA 6010B: Total Recoverable Metals	8/14/2008 11:20:00 AM
0808258-03D	MW-37	16906	EPA Method 7470: Mercury	8/14/2008 11:20:00 AM
0808258-03E	MW-37	R29998	EPA Method 6010B: Dissolved Metals	8/14/2008 11:20:00 AM
0808258-03E	MW-37	R29998	EPA Method 6010B: Dissolved Metals	8/14/2008 11:20:00 AM
0808258-03E	MW-37	R30124	EPA Method 6010B: Dissolved Metals	8/14/2008 11:20:00 AM
0808258-04A	MW-38	16802	EPA Method 8015B: Diesel Range	8/14/2008 11:50:00 AM
0808258-04A	MW-38	R29845	EPA Method 8260B: VOLATILES	8/14/2008 11:50:00 AM
0808258-04A	MW-38	R29845	EPA Method 8260B: VOLATILES	8/14/2008 11:50:00 AM
0808258-04A	MW-38	R29921	EPA Method 8015B: Gasoline Range	8/14/2008 11:50:00 AM
0808258-04B	MW-38	16804	EPA Method 8270C: Semivolatiles	8/14/2008 11:50:00 AM
0808258-04C	MW-38	R29886	Carbon Dioxide	8/14/2008 11:50:00 AM
0808258-04C	MW-38	R29883	SM 2320B: Alkalinity	8/14/2008 11:50:00 AM
0808258-04C	MW-38	R29808	EPA Method 300.0: Anions	8/14/2008 11:50:00 AM
0808258-04C	MW-38	R29808	EPA Method 300.0: Anions	8/14/2008 11:50:00 AM
0808258-04D	MW-38	16906	EPA Method 7470: Mercury	8/14/2008 11:50:00 AM
0808258-04D	MW-38	16876	EPA 6010B: Total Recoverable Metals	8/14/2008 11:50:00 AM
0808258-04E	MW-38	R30124	EPA Method 6010B: Dissolved Metals	8/14/2008 11:50:00 AM
0808258-04E	MW-38	R29998	EPA Method 6010B: Dissolved Metals	8/14/2008 11:50:00 AM
0808258-04E	MW-38	R29998	EPA Method 6010B: Dissolved Metals	8/14/2008 11:50:00 AM
0808258-05A	MW-11 FD	R29921	EPA Method 8015B: Gasoline Range	8/14/2008 10:15:00 AM
0808258-05A	MW-11 FD	R29921	EPA Method 8015B: Gasoline Range	8/14/2008 10:15:00 AM
0808258-05A	MW-11 FD	16802	EPA Method 8015B: Diesel Range	8/14/2008 10:15:00 AM
0808258-05A	MW-11 FD	R29845	EPA Method 8260B: VOLATILES	8/14/2008 10:15:00 AM
0808258-05A	MW-11 FD	R29845	EPA Method 8260B: VOLATILES	8/14/2008 10:15:00 AM
0808258-05B	MW-11 FD	16804	EPA Method 8270C: Semivolatiles	8/14/2008 10:15:00 AM
0808258-05C	MW-11 FD	R29886	Carbon Dioxide	8/14/2008 10:15:00 AM
0808258-05C	MW-11 FD	R29808	EPA Method 300.0: Anions	8/14/2008 10:15:00 AM
0808258-05C	MW-11 FD	R29808	EPA Method 300.0: Anions	8/14/2008 10:15:00 AM
0808258-05C	MW-11 FD	R29883	SM 2320B: Alkalinity	8/14/2008 10:15:00 AM
0808258-05D	MW-11 FD	16906	EPA Method 7470: Mercury	8/14/2008 10:15:00 AM
0808258-05D	MW-11 FD	16876	EPA 6010B: Total Recoverable Metals	8/14/2008 10:15:00 AM
0808258-05E	MW-11 FD	R29998	EPA Method 6010B: Dissolved Metals	8/14/2008 10:15:00 AM
0808258-05E	MW-11 FD	R29998	EPA Method 6010B: Dissolved Metals	8/14/2008 10:15:00 AM
0808258-05E	MW-11 FD	R29998	EPA Method 6010B: Dissolved Metals	8/14/2008 10:15:00 AM
0808258-05E	MW-11 FD	R30124	EPA Method 6010B: Dissolved Metals	8/14/2008 10:15:00 AM
0808258-06A	Field Blank	R29845	EPA Method 8260B: VOLATILES	8/14/2008 11:45:00 AM
0808258-07A	Trip Blank	R29921	EPA Method 8015B: Gasoline Range	
0808258-07A	Trip Blank	R29845	EPA Method 8260B: VOLATILES	

Date: 11-Dec-08

CLIENT: Lab Order: Western Refining Southwest, Inc.

0808258

Client Sample ID: MW-11

Collection Date: 8/14/2008 10:00:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-01

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.57	0.10	mg/L	1	8/15/2008 6:31:53 PM
Chloride	110	1.0	mg/L	10	9/5/2008 1:50:16 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/15/2008 6:31:53 PM
Bromide	1.4	0.10	mg/L	1	8/15/2008 6:31:53 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/15/2008 6:31:53 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 6:31:53 PM
Sulfate	1.1	0.50	mg/L	1	8/15/2008 6:31:53 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order: 0808258

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808258-01

Client Sample ID: MW-11

Collection Date: 8/14/2008 10:00:00 AM

Date Received: 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE	<del></del>					Analyst: SCC
Diesel Range Organics (DRO)	9.6	1.0		mg/L	1	8/18/2008 5:12:11 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/18/2008 5:12:11 PM
Surr: DNOP	126	58-140		%REC	1	8/18/2008 5:12:11 PM
EPA METHOD 8015B: GASOLINE RAN	GE					Analyst: DAN
Gasoline Range Organics (GRO)	3.4	0.10		mg/L	2	8/26/2008 10:40:58 PM
Surr: BFB	422	79.2-121	S	%REC	2	8/26/2008 10:40:58 PM
EPA METHOD 300.0: ANIONS						Analyst: SLB
Fluoride	0.57	0.10		mg/L	1	8/15/2008 6:31:53 PM
Chloride	110	1.0		mg/L	10	9/5/2008 1:50:16 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/15/2008 6:31:53 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/15/2008 6:31:53 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/15/2008 6:31:53 PM
Sulfate	1.1	0.50		mg/L	1	8/15/2008 6:31:53 PM
EPA METHOD 7470: MERCURY						Analyst: SNV
Mercury	ND	0.00020	1	mg/L	1	8/27/2008 4:38:43 PM
EPA METHOD 6010B: DISSOLVED MET	ALS					Analyst: TES
Arsenic	ND	0.020	,	mg/L	1	8/29/2008 4:00:55 PM
Barium	0.70	0.020		mg/L	1	8/29/2008 4:00:55 PM
Cadmium	ND	0.0020	r	ng/L	1	8/29/2008 4:00:55 PM
Chromium	0.0090	0.0060	r	ng/L	1	8/29/2008 4:00:55 PM
Copper	ND	0.0060	r	ng/L	1	8/29/2008 4:00:55 PM
Iron	12	1.0	r	ng/L	50	8/29/2008 4:57:56 PM
Lead	0.0074	0.0050	r	ng/L	1	8/29/2008 4:00:55 PM
Manganese	1.9	0.010	n	ng/L	5	8/29/2008 4:55:24 PM
Selenium	ND	0.25	n	ng/L	5	9/8/2008 10:23:27 PM
Silver	ND	0.0050	n	ng/L	1	8/29/2008 4:00:55 PM
Zinc	ND	0.050	n	ng/L	1	8/29/2008 4:00:55 PM
PA 6010B: TOTAL RECOVERABLE ME	TALS					Analyst: <b>NMO</b>
Arsenic	ND	0.020	n	ng/L	1	8/28/2008 12:42:20 PM
Barium	0.71	0.020	m	ng/L	1	8/28/2008 12:42:20 PM
Cadmium	ND	0.0020	n	ng/L	1	8/28/2008 12:42:20 PM
Chromium	ND	0.0060	m	ng/L	1	8/28/2008 12:42:20 PM
Lead	0.022	0.0050	· m	ıg/L	1	8/28/2008 12:42:20 PM
Selenium	ND	0.050	m	ıg/L ·	1	8/28/2008 12:42:20 PM
Silver	ND	0.0050	m	ıg/L	1	8/28/2008 12:42:20 PM
PA METHOD 8270C: SEMIVOLATILES						Analyst: JDC

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 29

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808258

Client Sample ID: MW-11
Collection Date: 8/14/2008 10:00:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-01

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLA	TILES				Analyst: JDC
Acenaphthene	ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND	10	μg/L	1	8/23/2008
Aniline	ND	10	μg/L	1	8/23/2008
Anthracene .	ND	10	µg/L	1	8/23/2008
Azobenzene	ND	10	μg/L	1	8/23/2008
Benz(a)anthracene	ND	10	μg/L	1	8/23/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/23/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzo(g,h,i)perylene	ND	10	μg/L .	1	8/23/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzoic acid	· ND	20	µg/L	1	8/23/2008
Benzyl alcohol	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/23/2008
Carbazole	ND	10	μg/L	1	8/23/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/23/2008
4-Chloroaniline	<b>N</b> D	10	μg/L	1	8/23/2008
2-Chloronaphthalene	ND	10	µg/L	1	8/23/2008
2-Chlorophenol	ND	10	μg/L	1	8/23/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Chrysene	ND	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	µg/L	1	8/23/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/23/2008
Dibenzofuran	ND	10	μg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,3-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,4-Dichlorobenzene	ND	10	µg/L	1	8/23/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/23/2008
Diethyl phthalate	ND	10	μg/L	1	8/23/2008
Dimethyl phthalate	ND	10	µg/L	1	8/23/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/23/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/23/2008
1,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrophenol	ND	. 20	µg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
2,6-Dinitrotoluene	ND	10	μg/L	1 .	8/23/2008
Fluoranthene	ND	10	µg/L	1	8/23/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Page 2 of 29

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808258

Client Sample ID: MW-11

Collection Date: 8/14/2008 10:00:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S				Analyst: JD
Fluorene	ND	10	μg/L	1	8/23/2008
Hexachlorobenzene	ND	10	μg/L	1	8/23/2008
Hexachlorobutadiene	ND	10	μg/L	1	8/23/2008
Hexachlorocyclopentadiene	ND	10	μg/L	1	8/23/2008
Hexachloroethane	ND	10	μg/L	1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/23/2008
Isophorone	ND	10	μg/L	1	8/23/2008
2-Methylnaphthalene	10	10	μg/L	1	8/23/2008
2-Methylphenol	ND	10	µg/L	1	8/23/2008
3+4-Methylphenol	ND	10	μg/L	1	8/23/2008
N-Nitrosodi-n-propylamine	ND	. 10	µg/L	1	8/23/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/23/2008
Naphthalene	32	10	μg/L	1	8/23/2008
2-Nitroaniline	ND	10	μg/L	1	8/23/2008
3-Nitroaniline	ND	10	μg/L	1	8/23/2008
4-Nitroaniline	ND	10	μg/L	1	8/23/2008
Nitrobenzene	ND	10	μg/L	1	8/23/2008
2-Nitrophenol	ND	10	μg/L	1	8/23/2008
4-Nitrophenol	ND	10	μg/L	1	8/23/2008
Pentachiorophenoi	ND	40	μg/L	1	8/23/2008
Phenanthrene	ND	10	μg/L	1	8/23/2008
Phenol	ND	10	μg/L	1	8/23/2008
Pyrene	ND	10	µg/L	1	8/23/2008
Pyridine	ND	10	μg/L	1	8/23/2008
1,2,4-Trichlorobenzene	ND	10	μg/L	1	8/23/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/23/2008
2,4,6-Trichlorophenol	ND	10	μg/L	1	8/23/2008
Surr: 2,4,6-Tribromophenol	89.6	16.6-150	%REC	1	8/23/2008
Surr: 2-Fluorobiphenyl	71.8	19.6-134	%REC	1	8/23/2008
Surr: 2-Fluorophenol	48.4	9.54-113	%REC	1	8/23/2008
Surr: 4-Terphenyl-d14	66.4	22.7-145	%REC	1	8/23/2008
Surr: Nitrobenzene-d5	73.2	14.6-134	%REC	1	8/23/2008
Surr: Phenol-d5	41.8	10.7-80.3	%REC	1	8/23/2008
PA METHOD 8260B: VOLATILES					Analyst: HL
Benzene	3.8	1.0	μg/L	1	8/19/2008 6:43:34 PM
Toluene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Ethylbenzene	2.2	1.0	μg/L	1	8/19/2008 6:43:34 PM
Methyl tert-butyl ether (MTBE)	19	1.0	µg/L	1	8/19/2008 6:43:34 PM
1,2,4-Trimethylbenzene	860	10	μg/L	10	8/19/2008 10:57:58 AM
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	8/19/2008 6:43:34 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Page 3 of 29

Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

0808258

Client Sample ID: MW-11

Lab Order:

Collection Date: 8/14/2008 10:00:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-01

Matrix: AQUEOUS

Analyses	Result	PQL Q	ial Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1.	8/19/2008 6:43:34 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Naphthalene	97	2.0	μg/L	1	8/19/2008 6:43:34 PM
1-Methylnaphthalene	18	4.0	μg/L	1	8/19/2008 6:43:34 PM
2-Methylnaphthalene	28	4.0	μg/L	1	8/19/2008 6:43:34 PM
Acetone	ND	10	μg/L	1	8/19/2008 6:43:34 PM
Bromobenzene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Bromodichloromethane	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Bromoform	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Bromomethane	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
2-Butanone	ND	10	μg/L	1	8/19/2008 6:43:34 PM
Carbon disulfide	ND	10 .	μg/L	1	8/19/2008 6:43:34 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Chlorobenzene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Chloroethane	ND	2.0	μg/L	1	8/19/2008 6:43:34 PM
Chloroform	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Chloromethane	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
2-Chlorotoluene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
4-Chlorotoluene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	8/19/2008 6:43:34 PM
Dibromochloromethane	ND	1.0	µg/L	1	8/19/2008 6:43:34 PM
Dibromomethane	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	.: 1	8/19/2008 6:43:34 PM
1,3-Dichlorobenzene	ND	1.0	µg/L	1	8/19/2008 6:43:34 PM
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Dichlorodifluoromethane	ND	1.0	µg/L	1	8/19/2008 6:43:34 PM
1,1-Dichloroethane	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
1,1-Dichloroethene	ND	1.0	µg/L	1	8/19/2008 6:43:34 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
2,2-Dichloropropane	ND	2.0	μ <b>g/L</b>	1	8/19/2008 6:43:34 PM
1,1-Dichloropropene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
2-Hexanone	ND	10	μg/L	1	8/19/2008 6:43:34 PM
Isopropylbenzene	61	1.0	μg/L	1	8/19/2008 6:43:34 PM
4-Isopropyltoluene	5.2	1.0	μg/L	1	8/19/2008 6:43:34 PM
4-Methyl-2-pentanone	ND	10	µg/L	1	8/19/2008 6:43:34 PM
Methylene Chloride	ND	3.0	μg/L	1	8/19/2008 6:43:34 PM
n-Butylbenzene	3.1	1.0	μg/ <b>L</b>	1 .	8/19/2008 6:43:34 PM
n-Propylbenzene	60	1.0	μg/L	1	8/19/2008 6:43:34 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits J
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 4 of 29

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808258

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808258-01

Client Sample ID: MW-11

Collection Date: 8/14/2008 10:00:00 AM

**Date Received:** 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
sec-Butylbenzene	12	1.0	μg/L	1	8/19/2008 6:43:34 PM
Styrene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
tert-Butylbenzene	2.7	1.0	μg/L	1	8/19/2008 6:43:34 PM
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/19/2008 6:43:34 PM
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	8/19/2008 6:43:34 PM
trans-1,2-DCE	ND	1.0	µg/L	1	8/19/2008 6:43:34 PM
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
1,1,1-Trichloroethane	ND	1.0	µg/L	1	8/19/2008 6:43:34 PM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Trichlorofluoromethane	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
1,2,3-Trichloropropane	ND	2.0	µg/L	1	8/19/2008 6:43:34 PM
Vinyl chloride	ND	1.0	μg/L	1	8/19/2008 6:43:34 PM
Xylenes, Total	ND	1.5	µg/L	1	8/19/2008 6:43:34 PM
Surr: 1,2-Dichloroethane-d4	107	68.1-123	%REC	1	8/19/2008 6:43:34 PM
Surr: 4-Bromofluorobenzene	127	53.2-145	%REC	1	8/19/2008 6:43:34 PM
Surr: Dibromofluoromethane	99.2	68.5-119	%REC	1	8/19/2008 6:43:34 PM
Surr: Toluene-d8	104	64-131	%REC	1	8/19/2008 6:43:34 PM
SM 2320B: ALKALINITY					Analyst: TAF
Alkalinity, Total (As CaCO3)	1100	40	mg/L CaCO3	2	8/22/2008
Carbonate	ND	4.0	mg/L CaCO3	2	8/22/2008
Bicarbonate	1100	40	mg/L CaCO3	2	8/22/2008
TOTAL CARBON DIOXIDE CALCULATION					Analyst: <b>TAF</b>
Total Carbon Dioxide	1100	1.0	mg CO2/L	1	8/22/2008

Q	u	a	1	i	f	ĭ	e	r	·s

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 5 of 29

Date: 11-Dec-08

CLIENT: Lab Order:

Project:

Lab ID:

Western Refining Southwest, Inc.

0808258

Down-Gradient Wells Annual Aug 2008

0808258-02

Client Sample ID: MW-12

Collection Date: 8/14/2008 11:00:00 AM

Date Received: 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	<del></del>		<del></del>		Analyst: SLB
Fluoride	0.50	0.10	mg/L	1	8/15/2008 7:41:31 PM
Chloride	8.3	0.10	mg/L	1	8/15/2008 7:41:31 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/15/2008 7:41:31 PM
Bromide	ND	0.10	mg/L	1	8/15/2008 7:41:31 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/15/2008 7:41:31 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 7:41:31 PM
Sulfate	130	5.0	mg/L	10	8/15/2008 7:58:56 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

Ε Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: MW-12

Lab Order:

0808258

Collection Date: 8/14/2008 11:00:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/18/2008 5:46:19 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	. 1	8/18/2008 5:46:19 PM
Surr: DNOP	128	58-140	%REC	1	8/18/2008 5:46:19 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/26/2008 2:50:32 AM
Surr: BFB	89.8	79.2-121	%REC	1	8/26/2008 2:50:32 AM
EPA METHOD 300.0: ANIONS					Analyst: <b>SLB</b>
Fluoride	0.50	0.10	mg/L	1	8/15/2008 7:41:31 PM
Chloride	8.3	0.10	mg/L	1	8/15/2008 7:41:31 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/15/2008 7:41:31 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/15/2008 7:41:31 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 7:41:31 PM
Sulfate	130	5.0	mg/L	10	8/15/2008 7:58:56 PM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	8/27/2008 4:40:27 PM
EPA METHOD 6010B: DISSOLVED ME	FTALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	8/29/2008 4:03:37 PM
Barium	0.060	0.020	mg/L	1	8/29/2008 4:03:37 PM
Cadmium	ND	0.0020	mg/L	1	8/29/2008 4:03:37 PM
Chromium	0.011	0.0060	mg/L	1 .	8/29/2008 4:03:37 PM
Copper	ND	0.0060	mg/L	1	8/29/2008 4:03:37 PM
Iron	0.021	0.020	mg/L	1	8/29/2008 4:03:37 PM
Lead	ND	0.0050	mg/L	1	8/29/2008 4:03:37 PM
Manganese	0.065	0.0020	mg/L	1	8/29/2008 4:03:37 PM
Selenium	ND	0.25	mg/L	5	9/8/2008 10:25:54 PM
Silver	ND	0.0050	mg/L	1	8/29/2008 4:03:37 PM
Zinc	0.095	0.050	mg/L	1	8/29/2008 4:03:37 PM
PA 6010B: TOTAL RECOVERABLE N	TETALS				Analyst: <b>NMO</b>
Arsenic	ND	0.020	mg/L	1	8/28/2008 12:44:50 PM
Barium	0.17	0.020	mg/L	1	8/28/2008 12:44:50 PM
Cadmium	ND	0.0020	mg/L	1	8/28/2008 12:44:50 PM
Chromium	0.057	0.0060	mg/L	1	8/28/2008 12:44:50 PM
Lead	ND	0.0050	mg/L	1	8/28/2008 12:44:50 PM
Selenium	ND	0.050	mg/L	1	8/28/2008 12:44:50 PM
Silver	ND	0.0050	mg/L	1	8/28/2008 12:44:50 PM
PA METHOD 8270C: SEMIVOLATILES	S				Analyst: <b>JDC</b>

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Value above quantitation range Ε
- J Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 6 of 29

**Date:** 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Client Sample ID: MW-12

Lab Order:

0808258

Collection Date: 8/14/2008 11:00:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-02

Matrix: AQUEOUS

Analyses	Result	PQL Q	ial Units	DF	Date Analyzed
PA METHOD 8270C: SEMIVOLATIL	ES	. <del></del>			Analyst: JDC
Acenaphthene	ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND	. 10	μg/L	1	8/23/2008
Aniline	ND	10	μg/L	1	8/23/2008
Anthracene	ND	10	μg/L	1	8/23/2008
Azobenzene	ND	10	μg/L	1	8/23/2008
Benz(a)anthracene	ND	10	μg/L	1	8/23/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/23/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/23/2008
Benzo(k)fluoranthene	ND	10	μg/L .	1	8/23/2008
Benzoic acid	ND	20	µg/L	1	8/23/2008
Benzyl alcohol	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/23/2008
Carbazole	ND	10	μg/L	1	8/23/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/23/2008
4-Chloroaniline	ND	10	μg/L	· 1	8/23/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/23/2008
2-Chlorophenol	ND	10	μg/L	1	8/23/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	.8/23/2008
Chrysene	ND	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	· ND	10	μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/23/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/23/2008
Dibenzofuran	ND	10	μg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	μg/L	1.	8/23/2008
1,3-Dichlorobenzene	ND	10	µg/L	1	8/23/2008
1,4-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
3,3´-Dichlorobenzidine	ND	10	μg/L	· 1	8/23/2008
Diethyl phthalate	ND	10	μg/L	· 1	8/23/2008
Dimethyl phthalate	ND	10	μg/L	1	8/23/2008
2,4-Dichlorophenol	. ND	20	μg/L	1	8/23/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
2,6-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
Fluoranthene	ND	10	μg/L	1	8/23/2008

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 7 of 29

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808258

Client Sample ID: MW-12

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Project: Lab ID:

0808258-02

Matrix: AQUEOUS

Collection Date: 8/14/2008 11:00:00 AM

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S	<del> </del>			Analyst: JD0
Fluorene	ND	10	μg/L	1	8/23/2008
Hexachlorobenzene	ND	10	µg/L	1	8/23/2008
Hexachlorobutadiene	ND	10	µg/L	1	8/23/2008
Hexachlorocyclopentadiene	ND	10	μg/L	1	8/23/2008
Hexachloroethane	ND	10	μg/L	1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/23/2008
Isophorone	ND	10	μg/L	1	8/23/2008
2-Methylnaphthalene	ND	10	μg/L	1	8/23/2008
2-Methylphenol	ND	10	μg/L	1	8/23/2008
3+4-Methylphenol	ND	10	μg/L	1	8/23/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/23/2008
Naphthalene	ND	10	μg/L	1	8/23/2008
2-Nitroaniline	ND	10	μg/L	1	8/23/2008
3-Nitroaniline	ND	10	μg/L	1	8/23/2008
4-Nitroaniline	ND	10	μg/L	1	8/23/2008
Nitrobenzene	ND	10	μg/L	1	8/23/2008
2-Nitrophenol	ND	10	μg/L	1	8/23/2008
4-Nitrophenol	ND	10	μg/L	1	8/23/2008
Pentachlorophenol	ND	40	μg/L	1	8/23/2008
Phenanthrene	ND	10	μġ/L	1	8/23/2008
Phenol	ND	10	μg/L	1	8/23/2008
Pyrene	ND	10	μg/L	1	8/23/2008
Pyridine	ND	10	μg/L	1	8/23/2008
1,2,4-Trichlorobenzene	ND	10	µg/L	1	8/23/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/23/2008
2,4,6-Trichlorophenol	ND	10	μg/L	1	8/23/2008
Surr: 2,4,6-Tribromophenol	83.1	16.6-150	%REC	1	8/23/2008
Surr: 2-Fluorobiphenyl	88.2	19.6-134	%REC	1	8/23/2008
Surr: 2-Fluorophenol	68.9	9.54-113	%REC	1	8/23/2008
Surr: 4-Terphenyl-d14	76.0	22.7-145	%REC	1	8/23/2008
Surr: Nitrobenzene-d5	85.8	14.6-134	%REC	1	8/23/2008
Surr: Phenol-d5	57.1	10.7-80.3	%REC	1	8/23/2008
PA METHOD 8260B: VOLATILES					Analyst: HL
Benzene	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
Toluene	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
Ethylbenzene	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 8 of 29

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

0808258

Client Sample ID: MW-12

Lab Order:

Collection Date: 8/14/2008 11:00:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual U	Jnits	DF	Date Analyzed
PA METHOD 8260B: VOLATILES						Analyst: <b>H</b> L
1,2-Dichloroethane (EDC)	ND	1.0	μ	g/L	1	8/19/2008 11:26:42 AM
1,2-Dibromoethane (EDB)	ND	. 1.0	μ	g/L	1	8/19/2008 11:26:42 AM
Naphthalene	ND	2.0		g/L	1	8/19/2008 11:26:42 AM
1-Methylnaphthalene	ND	4.0		g/L	1	. 8/19/2008 11:26:42 AM
2-Methylnaphthalene	ND	4.0	μ	g/L	1	8/19/2008 11:26:42 AM
Acetone	ND	10		g/L	1	8/19/2008 11:26:42 AM
Bromobenzene	ND	1.0	μ	g/L	1	8/19/2008 11:26:42 AM
Bromodichloromethane	ND	1.0	μ	g/L	1	8/19/2008 11:26:42 AM
Bromoform	ND	1.0		g/L	1	8/19/2008 11:26:42 AM
Bromomethane	ND	1.0		g/L	1	8/19/2008 11:26:42 AM
2-Butanone	ND	10		g/L	1	8/19/2008 11:26:42 AM
Carbon disulfide	ND	10		g/L	1	8/19/2008 11:26:42 AM
Carbon Tetrachloride	ND	1.0		g/L	1	8/19/2008 11:26:42 Al
Chlorobenzene	ND	. 1.0	μ <sub>i</sub>	g/L	1	8/19/2008 11:26:42 AF
Chloroethane	ND	2.0	μ.	g/L	1	8/19/2008 11:26:42 Al
Chloroform	ND	1.0		g/L	1	8/19/2008 11:26:42 Al
Chloromethane	ND	1.0	μ	g/L	1	8/19/2008 11:26:42 AI
2-Chlorotoluene	ND	1.0	μ,	g/L	1	8/19/2008 11:26:42 Al
4-Chlorotoluene	ND	1.0		g/L	1	8/19/2008 11:26:42 Al
cis-1,2-DCE	ND	1.0		g/L	1	8/19/2008 11:26:42 AI
cis-1,3-Dichloropropene	ND	1.0		g/L	1	8/19/2008 11:26:42 Af
1,2-Dibromo-3-chloropropane	ND	2.0		g/L	1	8/19/2008 11:26:42 AI
Dibromochloromethane	ND	1.0		g/L	1	8/19/2008 11:26:42 Al
Dibromomethane	ND	1.0		g/L	1	8/19/2008 11:26:42 Af
1,2-Dichlorobenzene	ND	1.0		g/L	1	8/19/2008 11:26:42 Af
1,3-Dichlorobenzene	ND	1.0	`	g/L	1	8/19/2008 11:26:42 Af
1,4-Dichlorobenzene	ND	1.0		g/L	1	8/19/2008 11:26:42 At
Dichlorodifluoromethane	ND	1.0		g/L	1	8/19/2008 11:26:42 AI
1,1-Dichloroethane	ND	1.0	μ	g/L	1	8/19/2008 11:26:42 Al
1,1-Dichloroethene	ND	1.0	μ	g/L	1	- 8/19/2008 11:26:42 Af
1,2-Dichloropropane	ND	1.0	μ	g/L	. 1	8/19/2008 11:26:42 Af
1,3-Dichloropropane	ND	1.0	μ	g/L	1	8/19/2008 11:26:42 Al
2,2-Dichloropropane	ND	2.0	μ	g/L	1 .	8/19/2008 11:26:42 Al
1,1-Dichloropropene	ND	1.0	μ	g/L	1 .	8/19/2008 11:26:42 Al
Hexachlorobutadiene	ND	1.0		g/L	1	8/19/2008 11:26:42 Af
2-Hexanone	ND	10		g/L	1	8/19/2008 11:26:42 Al
Isopropylbenzene	ND	1.0	μ	g/L	. 1	8/19/2008 11:26:42 Af
4-Isopropyltoluene	ND	1.0	μ	g/L	1	8/19/2008 11:26:42 Al
4-Methyl-2-pentanone	ND	· 10	μ	g/L	1	8/19/2008 11:26:42 Af
Methylene Chloride	ND	3.0	μ	g/L	1	8/19/2008 11:26:42 AM
n-Butylbenzene	ND	1.0	μ	g/L	1	8/19/2008 11:26:42 AM
n-Propylbenzene	ND	1.0	μ	g/L	1	8/19/2008 11:26:42 AM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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**Date:** 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808258

Client Sample ID: MW-12

Collection Date: 8/14/2008 11:00:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

**Date Received: 8/15/2008** 

Lab ID:

0808258-02

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES				<del></del>	Analyst: HL
sec-Butylbenzene	ND	1.0	µg/L	1	8/19/2008 11:26:42 AM
Styrene	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
tert-Butylbenzene	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/19/2008 11:26:42 AM
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
trans-1,2-DCE	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
Trichlorofluoromethane	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
1,2,3-Trichloropropane	ND	2.0	μg/L	1	8/19/2008 11:26:42 AM
Vinyl, chloride	ND	1.0	μg/L	1	8/19/2008 11:26:42 AM
Xylenes, Total	ND	1.5	μg/L	1	8/19/2008 11:26:42 AM
Surr: 1,2-Dichloroethane-d4	93.9	68.1-123	%REC	1	8/19/2008 11:26:42 AM
Surr: 4-Bromofluorobenzene	99.6	53.2-145	%REC	1	8/19/2008 11:26:42 AM
Surr: Dibromofluoromethane	95.5	68.5-119	%REC	1	8/19/2008 11:26:42 AM
Surr: Toluene-d8	105	64-131	%REC	1	8/19/2008 11:26:42 AM
SM 2320B: ALKALINITY					Analyst: <b>TA</b> F
Alkalinity, Total (As CaCO3)	280	40	mg/L CaCO3	2	8/22/2008
Carbonate	ND	4.0	mg/L CaCO3	2	8/22/2008
Bicarbonate	280	40	mg/L CaCO3	2	8/22/2008
TOTAL CARBON DIOXIDE CALCULATION	ON				Analyst: <b>TAF</b>
Total Carbon Dioxide	270	1.0	mg CO2/L	1	8/22/2008

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 11-Dec-08

**CLIENT:** 

Western Refining Southwest, Inc.

0808258

Client Sample ID: MW-37

Lab Order:

Collection Date: 8/14/2008 11:20:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-03

Matrix: AQUEOUS

Analyses	Resulţ	PQL Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS				•	Anaiyst: SLB
Fluoride	0.79	0.10	mg/L	1	8/15/2008 8:51:09 PM
Chloride	230	1.0	mg/L	10	8/15/2008 9:08:33 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/15/2008 8:51:09 PM
Bromide	2.9	0.10	mg/L	1	8/15/2008 8:51:09 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/15/2008 8:51:09 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 8:51:09 PM
Sulfate	34	0.50	mg/L	1	8/15/2008 8:51:09 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

Ε Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 3 of 5

Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

0808258

Client Sample ID: MW-37

Lab Order:

Collection Date: 8/14/2008 11:20:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E		<del></del>		Analyst: SCC
Diesel Range Organics (DRO)	1.5	1.0	mg/L	1	8/18/2008 6:20:25 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/18/2008 6:20:25 PM
Surr: DNOP	126	58-140	%REC	1	8/18/2008 6:20:25 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	0.11	0.050	mg/L	1	8/26/2008 3:20:55 AM
Surr: BFB	82.9	79.2-121	%REC	1	8/26/2008 3:20:55 AM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.79	0.10	mg/L	1	8/15/2008 8:51:09 PM
Chloride	230	1.0	mg/L	10	8/15/2008 9:08:33 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/15/2008 8:51:09 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/15/2008 8:51:09 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 8:51:09 PM
Sulfate	34	0.50	mg/L	1	8/15/2008 8:51:09 PM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	8/27/2008 4:42:11 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	8/29/2008 4:06:44 PM
Barium	0.43	0.020	mg/L	1	8/29/2008 4:06:44 PM
Cadmium	ND	0.0020	mg/L	1	8/29/2008 4:06:44 PM
Chromium	ND	0.0060	mg/L	1	8/29/2008 4:06:44 PM
Copper	ND	0.0060	mg/L	1	8/29/2008 4:06:44 PM
Iron	0.95	0.020	mg/L	1	8/29/2008 4:06:44 PM
Lead	ND	0.0050	mg/L	1	8/29/2008 4:06:44 PM
Manganese	1.2	0.010	mg/L	5	8/29/2008 5:00:58 PM
Selenium	ND	0.25	mg/L	5	9/8/2008 10:30:01 PM
Silver	ND	0.0050	mg/L	1	8/29/2008 4:06:44 PM
Zinc	0.15	0.050	mg/L	1	8/29/2008 4:06:44 PM
PA 6010B: TOTAL RECOVERABLE	METALS		•		Analyst: <b>NMO</b>
Arsenic	ND	0.020	mg/L	1	8/28/2008 12:47:22 PM
Barium	0.92	0.020	mg/L	1	8/28/2008 12:47:22 PM
Cadmium	ND	0.0020	mg/L	1	8/28/2008 12:47:22 PM
Chromium	ND	0.0060	mg/L	1	8/28/2008 12:47:22 PM
Lead	0.0061	0.0050	mg/L	1	8/28/2008 12:47:22 PM
Selenium	ND	0.050	mg/L	1	8/28/2008 12:47:22 PM
Silver	ND	0.0050	mg/L	1	8/28/2008 12:47:22 PM
PA METHOD 8270C: SEMIVOLATILE	S				Analyst: <b>JDC</b>

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 11 of 29

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

**Lab Order:** 0808258

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808258-03

Client Sample ID: MW-37

Collection Date: 8/14/2008 11:20:00 AM

Date Received: 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLAT	ILES				Analyst: JD0
Acenaphthene	ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND	10	μg/L	1	8/23/2008
Aniline	ND	10	μg/L	1	8/23/2008
Anthracene	ND	10	μg/L	1	8/23/2008
Azobenzene	ND	10	µg/L	1	8/23/2008
Benz(a)anthracene	ND .	10	μg/L	1	8/23/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/23/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/23/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzoic acid	ND	20	μg/L	1	8/23/2008
Benzyl alcohol	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethyl)ether	· ND	. 10	µg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/23/2008
Carbazole	ND	10	μg/L	1	8/23/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/23/2008
4-Chloroaniline	ND	10	μg/L	1	8/23/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/23/2008
2-Chlorophenol	ND	10	µg/L	1	8/23/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Chrysene	ND	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	µg/L	1	8/23/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/23/2008
Dibenzofuran	ND	10	μg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,3-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,4-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/23/2008
Diethyl phthalate	ND	10	μg/L	1	8/23/2008
Dimethyl phthalate	ND .	10	μg/L	1	8/23/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/23/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
2,6-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
Fluoranthene	ND	10	μg/L	1	8/23/2008

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

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**Date:** 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: MW-37

Lab Order:

0808258

**Collection Date:** 8/14/2008 11:20:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES	S				Analyst: <b>JD</b> (
Fluorene	ND	10	µg/L	1	8/23/2008
Hexachlorobenzene	ND	. 10	µg/L	1	8/23/2008
Hexachlorobutadiene	ND	10	μg/L	1	8/23/2008
Hexachlorocyclopentadiene	ND	10	μg/L	1	8/23/2008
Hexachloroethane	ND	10	μg/L	1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/23/2008
Isophorone	ND	10	μg/L	1	8/23/2008
2-Methylnaphthalene	ND	10	μg/L	1	8/23/2008
2-Methylphenol	ND	10	μg/L	1	8/23/2008
3+4-Methylphenol	ND	10	μg/L	1	8/23/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/23/2008
Naphthalene	ND	10	μg/L	1	8/23/2008
2-Nitroaniline	ND	10	μg/L	1	8/23/2008
3-Nitroaniline	ND	10	μg/L	1	8/23/2008
4-Nitroaniline	ND	10	μg/L	1	8/23/2008
Nitrobenzene	ND	10	μg/L	1	8/23/2008
2-Nitrophenol	ND	10	μg/L	1	8/23/2008
4-Nitrophenol	ND	10	μg/L	1	8/23/2008
Pentachlorophenol	ND	40	μg/L	1	8/23/2008
Phenanthrene	ND	10	μg/L	1	8/23/2008
Phenol	ND	10	μg/L	1	8/23/2008
Pyrene	ND	10	μg/L	1	8/23/2008
Pyridine	ND	10	μg/L	1	8/23/2008
1,2,4-Trichlorobenzene	ND	10	μg/L	1	8/23/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/23/2008
2,4,6-Trichlorophenol	ND	10	μg/L	1	8/23/2008
Surr: 2,4,6-Tribromophenol	87.4	16.6-150	%REC	1	8/23/2008
Surr: 2-Fluorobiphenyl	87.6	19.6-134	%REC	1	8/23/2008
Surr: 2-Fluorophenol	60.3	9.54-113	%REC	1	8/23/2008
Surr: 4-Terphenyl-d14	68.8	22.7-145	%REC	1	8/23/2008
Surr: Nitrobenzene-d5	85.3	14.6-134	%REC	1	8/23/2008
Surr: Phenol-d5	54.0	10.7-80.3	%REC	1	8/23/2008
PA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
Toluene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
Ethylbenzene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	8/19/2008 7:40:48 PM
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	8/19/2008 7:40:48 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 13 of 29

**Date:** 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808258

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808258-03

Client Sample ID: MW-37

Collection Date: 8/14/2008 11:20:00 AM

Date Received: 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	.1	8/19/2008 7:40:48 PM
Naphthalene	ND	2.0	μg/L	1	8/19/2008 7:40:48 PM
1-Methylnaphthalene	ND	4.0	μg/L	1	8/19/2008 7:40:48 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/19/2008 7:40:48 PM
Acetone	ND	10	μg/L	1	8/19/2008 7:40:48 PM
Bromobenzene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
Bromodichloromethane	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
Bromoform	ND	1.0	µg/L	1	8/19/2008 7:40:48 PM
Bromomethane	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
2-Butanone	ND	10	μg/L	1	8/19/2008.7:40:48 PM
Carbon disulfide	ND	10	μg/L	1	8/19/2008 7:40:48 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
Chlorobenzene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
Chloroethane	ND	2.0	μg/L	1 .	8/19/2008 7:40:48 PM
Chloroform	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
Chloromethane	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
2-Chlorotoluene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
4-Chlorotoluene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	8/19/2008 7:40:48 PM
Dibromochloromethane	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
Dibromomethane	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
1,1-Dichloroethane	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
1,1-Dichloroethene	ND	1.0	µg/L	1	8/19/2008 7:40:48 PM
1,2-Dichloropropane	ND .	1.0	μ <b>g</b> /L	1	8/19/2008 7:40:48 PM
1,3-Dichloropropane	ND	1.0	µg/L	1	8/19/2008 7:40:48 PM
2,2-Dichloropropane	ND	2.0	µg/L	1	8/19/2008 7:40:48 PM
1,1-Dichloropropene	ND	1.0	µg/L	1	8/19/2008 7:40:48 PM
Hexachlorobutadiene	ND	1.0	µg/L	1	8/19/2008 7:40:48 PM
2-Hexanone	ND	10	μg/L	1	8/19/2008 7:40:48 PM
Isopropylbenzene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
4-isopropyltoluene	ND	1.0	μg/L	1	8/19/2008 7:40:48 PM
4-Methyl-2-pentanone	ND	10	µg/L	1	8/19/2008 7:40:48 PM
Methylene Chloride	ND	3.0	μg/L	1	8/19/2008 7:40:48 PM
n-Butylbenzene	ND	1.0	μg/L	1 .	8/19/2008 7:40:48 PM
ń-Propylbenzene	ND	1.0	μg/L	1 1	8/19/2008 7:40:48 PM

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

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Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Down-Gradient Wells Annual Aug 2008

Lab Order:

Client Sample ID: MW-37

0808258

Collection Date: 8/14/2008 11:20:00 AM

Project: Lab ID:

0808258-03

Date Received: 8/15/2008 Matrix: AQUEOUS

Sec-Butylbenzene   ND   1.0   µg/L   1	Analyst: <b>HL</b> 8/19/2008 7:40:48 PN 8/19/2008 7:40:48 PN 8/19/2008 7:40:48 PN
Styrene         ND         1.0         µg/L         1           tert-Butylbenzene         ND         1.0         µg/L         1           1,1,1,2-Tetrachloroethane         ND         1.0         µg/L         1           1,1,2,2-Tetrachloroethane         ND         2.0         µg/L         1           Tetrachloroethane (PCE)         ND         1.0         µg/L         1           trans-1,2-DCE         ND         1.0         µg/L         1           trans-1,3-Dichloropropene         ND         1.0         µg/L         1           1,2,3-Trichlorobenzene         ND         1.0         µg/L         1           1,2,4-Trichloroethane         ND         1.0         µg/L         1           1,1,1-Trichloroethane         ND         1.0         µg/L         1           1,1,2-Trichloroethane         ND         1.0         µg/L         1           Trichloroethane (TCE)         ND         1.0         µg/L         1           Trichloropropane         ND         1.0         µg/L         1           Vinyl chloride         ND         1.0         µg/L         1           Xylenes, Total         ND         1.5         µg/L	8/19/2008 7:40:48 PM 8/19/2008 7:40:48 PM
tert-Butylbenzene ND 1.0 µg/L 1 1,1,1,2-Tetrachloroethane ND 1.0 µg/L 1 1,1,2,2-Tetrachloroethane ND 2.0 µg/L 1 Tetrachloroethene (PCE) ND 1.0 µg/L 1 trans-1,2-DCE ND 1.0 µg/L 1 trans-1,3-Dichloropropene ND 1.0 µg/L 1 1,2,3-Trichlorobenzene ND 1.0 µg/L 1 1,2,3-Trichlorobenzene ND 1.0 µg/L 1 1,1,1-Trichloroethane ND 1.0 µg/L 1 1,1,1-Trichloroethane ND 1.0 µg/L 1 1,1,2-Trichloroethane ND 1.0 µg/L 1 1,1,2-Trichloroethane ND 1.0 µg/L 1 1,1,2-Trichloroethane ND 1.0 µg/L 1 1,2,3-Trichloropenzene ND 1.0 µg/L 1 Surr: 1,2-Dichloroethane-d4 99.9 68.1-123 %REC 1 Surr: 4-Bromofluorobenzene 103 53.2-145 %REC 1 Surr: Dibromofluoromethane 99.3 68.5-119 %REC 1	8/19/2008 7:40:48 PN
1,1,1,2-Tetrachloroethane       ND       1.0       µg/L       1         1,1,2,2-Tetrachloroethane       ND       2.0       µg/L       1         Tetrachloroethane (PCE)       ND       1.0       µg/L       1         trans-1,2-DCE       ND       1.0       µg/L       1         trans-1,3-Dichloropropene       ND       1.0       µg/L       1         1,2,3-Trichlorobenzene       ND       1.0       µg/L       1         1,2,4-Trichloroethane       ND       1.0       µg/L       1         1,1,1-Trichloroethane       ND       1.0       µg/L       1         1,1,2-Trichloroethane       ND       1.0       µg/L       1         Trichlorofluoromethane       ND       1.0       µg/L       1         Trichlorofluoromethane       ND       1.0       µg/L       1         Vinyl chloride       ND       1.0       µg/L       1         Xylenes, Total       ND       1.5       µg/L       1         Surr: 1,2-Dichloroethane-d4       99.9       68.1-123       %REC       1         Surr: 2-Bromofluorobenzene       103       53.2-145       %REC       1         Surr: Dibromofluoromethane       99.3	
1,1,2,2-Tetrachloroethane       ND       2.0       μg/L       1         Tetrachloroethene (PCE)       ND       1.0       μg/L       1         trans-1,2-DCE       ND       1.0       μg/L       1         trans-1,3-Dichloropropene       ND       1.0       μg/L       1         1,2,3-Trichlorobenzene       ND       1.0       μg/L       1         1,2,4-Trichlorobenzene       ND       1.0       μg/L       1         1,1,1-Trichloroethane       ND       1.0       μg/L       1         1,1,2-Trichloroethane       ND       1.0       μg/L       1         Trichlorofluoromethane       ND       1.0       μg/L       1         Trichlorofluoromethane       ND       1.0       μg/L       1         Vinyl chloride       ND       1.0       μg/L       1         Xylenes, Total       ND       1.0       μg/L       1         Surr: 1,2-Dichloroethane-d4       99.9       68.1-123       %REC       1         Surr: 2-Bromofluorobenzene       103       53.2-145       %REC       1         Surr: Dibromofluoromethane       99.3       68.5-119       %REC       1	
Tetrachloroethene (PCE)         ND         1.0         µg/L         1           trans-1,2-DCE         ND         1.0         µg/L         1           trans-1,3-Dichloropropene         ND         1.0         µg/L         1           1,2,3-Trichlorobenzene         ND         1.0         µg/L         1           1,2,4-Trichlorobenzene         ND         1.0         µg/L         1           1,1,1-Trichloroethane         ND         1.0         µg/L         1           1,1,2-Trichloroethane         ND         1.0         µg/L         1           Trichloroethene (TCE)         ND         1.0         µg/L         1           Trichlorofluoromethane         ND         1.0         µg/L         1           1,2,3-Trichloropropane         ND         1.0         µg/L         1           Viŋyl chloride         ND         1.0         µg/L         1           Viŋyl chloride         ND         1.5         µg/L         1           Xylenes, Total         ND         1.5         µg/L         1           Surr: 1,2-Dichloroethane-d4         99.9         68.1-123         %REC         1           Surr: 2-Bromofluorobenzene         103         53.2	8/19/2008 7:40:48 PM
trans-1,2-DCE	8/19/2008 7:40:48 PM
trans-1,3-Dichloropropene ND 1.0 µg/L 1 1,2,3-Trichlorobenzene ND 1.0 µg/L 1 1,2,4-Trichlorobenzene ND 1.0 µg/L 1 1,1,1-Trichloroethane ND 1.0 µg/L 1 1,1,2-Trichloroethane ND 1.0 µg/L 1 1,1,2-Trichloroethane ND 1.0 µg/L 1 Trichloroethene (TCE) ND 1.0 µg/L 1 Trichlorofluoromethane ND 1.0 µg/L 1 1,2,3-Trichloropropane ND 2.0 µg/L 1 1,2,3-Trichloropropane ND 2.0 µg/L 1 Viŋyl chloride ND 1.0 µg/L 1 Xylenes, Total ND 1.5 µg/L 1 Surr: 1,2-Dichloroethane-d4 99.9 68.1-123 %REC 1 Surr: 4-Bromofluorobenzene 103 53.2-145 %REC 1 Surr: Dibromofluoromethane 99.3 68.5-119 %REC 1	8/19/2008 7:40:48 PM
1,2,3-Trichlorobenzene       ND       1.0       µg/L       1         1,2,4-Trichlorobenzene       ND       1.0       µg/L       1         1,1,1-Trichloroethane       ND       1.0       µg/L       1         1,1,2-Trichloroethane       ND       1.0       µg/L       1         Trichloroethene (TCE)       ND       1.0       µg/L       1         Trichlorofluoromethane       ND       1.0       µg/L       1         1,2,3-Trichloropropane       ND       2.0       µg/L       1         Vinyl chloride       ND       1.0       µg/L       1         Xylenes, Total       ND       1.5       µg/L       1         Surr: 1,2-Dichloroethane-d4       99.9       68.1-123       %REC       1         Surr: 4-Bromofluorobenzene       103       53.2-145       %REC       1         Surr: Dibromofluoromethane       99.3       68.5-119       %REC       1	8/19/2008 7:40:48 PM
1,2,4-Trichlorobenzene         ND         1.0         µg/L         1           1,1,1-Trichloroethane         ND         1.0         µg/L         1           1,1,2-Trichloroethane         ND         1.0         µg/L         1           1,1,2-Trichloroethane         ND         1.0         µg/L         1           1,2,3-Trichloropropane         ND         1.0         µg/L         1           1,2,3-Trichloropropane         ND         2.0         µg/L         1           Vinyl chloride         ND         1.0         µg/L         1           Xylenes, Total         ND         1.5         µg/L         1           Surr: 1,2-Dichloroethane-d4         99.9         68.1-123         %REC         1           Surr: 4-Bromofluorobenzene         103         53.2-145         %REC         1           Surr: Dibromofluoromethane         99.3         68.5-119         %REC         1	8/19/2008 7:40:48 PM
1,1,1-Trichloroethane       ND       1.0       µg/L       1         1,1,2-Trichloroethane       ND       1.0       µg/L       1         Trichloroethene (TCE)       ND       1.0       µg/L       1         Trichlorofluoromethane       ND       1.0       µg/L       1         1,2,3-Trichloropropane       ND       2.0       µg/L       1         Vinyl chloride       ND       1.0       µg/L       1         Xylenes, Total       ND       1.5       µg/L       1         Surr: 1,2-Dichloroethane-d4       99.9       68.1-123       %REC       1         Surr: 4-Bromofluorobenzene       103       53.2-145       %REC       1         Surr: Dibromofluoromethane       99.3       68.5-119       %REC       1	8/19/2008 7:40:48 PM
1,1,2-Trichloroethane       ND       1.0       μg/L       1         Trichloroethene (TCE)       ND       1.0       μg/L       1         Trichlorofluoromethane       ND       1.0       μg/L       1         1,2,3-Trichloropropane       ND       2.0       μg/L       1         Vinyl chloride       ND       1.0       μg/L       1         Xylenes, Total       ND       1.5       μg/L       1         Surr: 1,2-Dichloroethane-d4       99.9       68.1-123       %REC       1         Surr: 4-Bromofluorobenzene       103       53.2-145       %REC       1         Surr: Dibromofluoromethane       99.3       68.5-119       %REC       1	8/19/2008 7:40:48 PM
Trichloroethene (TCE)         ND         1.0         μg/L         1           Trichlorofluoromethane         ND         1.0         μg/L         1           1,2,3-Trichloropropane         ND         2.0         μg/L         1           Vinyl chloride         ND         1.0         μg/L         1           Xylenes, Total         ND         1.5         μg/L         1           Surr: 1,2-Dichloroethane-d4         99.9         68.1-123         %REC         1           Surr: 4-Bromofluorobenzene         103         53.2-145         %REC         1           Surr: Dibromofluoromethane         99.3         68.5-119         %REC         1	8/19/2008 7:40:48 PM
Trichlorofluoromethane         ND         1.0         μg/L         1           1,2,3-Trichloropropane         ND         2.0         μg/L         1           Viŋyl chloride         ND         1.0         μg/L         1           Xylenes, Total         ND         1.5         μg/L         1           Surr: 1,2-Dichloroethane-d4         99.9         68.1-123         %REC         1           Surr: 4-Bromofluorobenzene         103         53.2-145         %REC         1           Surr: Dibromofluoromethane         99.3         68.5-119         %REC         1	8/19/2008 7:40:48 PM
1,2,3-Trichloropropane       ND       2.0       μg/L       1         Viŋyl chloride       ND       1.0       μg/L       1         Xylenes, Total       ND       1.5       μg/L       1         Surr: 1,2-Dichloroethane-d4       99.9       68.1-123       %REC       1         Surr: 4-Bromofluorobenzene       103       53.2-145       %REC       1         Surr: Dibromofluoromethane       99.3       68.5-119       %REC       1	8/19/2008 7:40:48 PM
Vinyl chloride         ND         1.0         μg/L         1           Xylenes, Total         ND         1.5         μg/L         1           Surr: 1,2-Dichloroethane-d4         99.9         68.1-123         %REC         1           Surr: 4-Bromofluorobenzene         103         53.2-145         %REC         1           Surr: Dibromofluoromethane         99.3         68.5-119         %REC         1	8/19/2008 7:40:48 PM
Xylenes, Total         ND         1.5         μg/L         1           Surr: 1,2-Dichloroethane-d4         99.9         68.1-123         %REC         1           Surr: 4-Bromofluorobenzene         103         53.2-145         %REC         1           Surr: Dibromofluoromethane         99.3         68.5-119         %REC         1	8/19/2008 7:40:48 PM
Surr: 1,2-Dichloroethane-d4         99.9         68.1-123         %REC         1           Surr: 4-Bromofluorobenzene         103         53.2-145         %REC         1           Surr: Dibromofluoromethane         99.3         68.5-119         %REC         1	8/19/2008 7:40:48 PM
Surr: 4-Bromofluorobenzene         103         53.2-145         %REC         1           Surr: Dibromofluoromethane         99.3         68.5-119         %REC         1	8/19/2008 7:40:48 PM
Surr: Dibromofluoromethane 99.3 68.5-119 %REC 1	8/19/2008 7:40:48 PM
73.20	8/19/2008 7:40:48 PM
Surr: Toluene-d8 100 64-131 94PEC 1	8/19/2008 7:40:48 PM
ount roldene-do 100 04-101 WINEO 1	8/19/2008 7:40:48 PM
SM 2320B: ALKALINITY	Analyst: <b>TA</b>
Alkalinity, Total (As CaCO3) 820 40 mg/L CaCO3 2	8/22/2008
Carbonate ND 4.0 mg/L CaCO3 2	8/22/2008
Bicarbonate 820 40 mg/L CaCO3 2	8/22/2008
TOTAL CARBON DIOXIDE CALCULATION	Analyst: <b>TA</b>
Total Carbon Dioxide 760 1.0 mg CO2/L 1	8/22/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits S
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: MW-38

Lab Order:

0808258

Collection Date: 8/14/2008 11:50:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-04

Matrix: AQUEOUS

		····		
				Analyst: SLB
0.78	0.10	mg/L	1	8/15/2008 9:25:58 PM
60	1.0	mg/L	10	8/15/2008 9:43:22 PM
ND	0.10	mg/L	1	8/15/2008 9:25:58 PM
0.67	0.10	mg/L	1	8/15/2008 9:25:58 PM
ND	0.10	mg/L	1	8/15/2008 9:25:58 PM
ND	0.50	mg/L	1	8/15/2008 9:25:58 PM
150	5.0	mg/L	10	8/15/2008 9:43:22 PM
	60 ND 0.67 ND ND	60 1.0 ND 0.10 0.67 0.10 ND 0.10 ND 0.50	60 1.0 mg/L ND 0.10 mg/L 0.67 0.10 mg/L ND 0.10 mg/L ND 0.50 mg/L	60 1.0 mg/L 10 ND 0.10 mg/L 1 0.67 0.10 mg/L 1 ND 0.10 mg/L 1 ND 0.50 mg/L 1

Qualifiers:

Value exceeds Maximum Contaminant Level

Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

Page 4 of 5

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808258

Con

Client Sample ID: MW-38
Collection Date: 8/14/2008 11:50:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-04

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCO
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/18/2008 6:54:30 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/18/2008 6:54:30 PM
Surr: DNOP	132	58-140	%REC	1	8/18/2008 6:54:30 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>DAN</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/26/2008 3:51:20 AM
Surr: BFB	85.4	79.2-121	%REC	1	8/26/2008 3:51:20 AM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.78	0.10	mg/L	1	8/15/2008 9:25:58 PM
Chloride	60	1.0	mg/L	10	8/15/2008 9:43:22 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/15/2008 9:25:58 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/15/2008 9:25:58 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 9:25:58 PM
Sulfate	150	5.0	mg/L	10	8/15/2008 9:43:22 PM
PA METHOD 7470: MERCURY					Analyst: <b>SNV</b>
Mercury	ND	0.00020	mg/L	1	8/27/2008 4:47:38 PM
PA METHOD 6010B: DISSOLVED ME	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	8/29/2008 4:09:23 PM
Barium	0.17	0.020	mg/L	1	8/29/2008 4:09:23 PM
Cadmium	ND	0.0020	mg/L	1	8/29/2008 4:09:23 PM
Chromium	ND	0.0060	mg/L	1	8/29/2008 4:09:23 PM
Copper	NĐ	0.0060	mg/L	1	8/29/2008 4:09:23 PM
Iron	2.2	0.10	mg/L	5	8/29/2008 5:03:46 PM
Lead	ND	0.0050	mg/L	1	8/29/2008 4:09:23 PM
Manganese	2.6	0.010	mg/L	5	8/29/2008 5:03:46 PM
Selenium	ND	0.25	mg/L	5	9/8/2008 10:32:32 PM
Silver	ND	0.0050	mg/L	1	8/29/2008 4:09:23 PM
Zinc	ND	0.050	mg/L	1	8/29/2008 4:09:23 PM
PA 6010B: TOTAL RECOVERABLE N	TETALS				Analyst: <b>NMO</b>
Arsenic	ND	0.020	mg/L	1	8/28/2008 12:49:52 PM
Barium	0.18	0.020	mg/L	1	8/28/2008 12:49:52 PM
Cadmium	ND	0.0020	mg/L	1	8/28/2008 12:49:52 PM
Chromium	ND	0.0060	mg/L	1	8/28/2008 12:49:52 PM
Lead	0.011	0.0050	mg/L	1	8/28/2008 12:49:52 PM
Selenium	ND	0.050	mg/L	1	8/28/2008 12:49:52 PM
Silver	ND	0.0050	mg/L	1	8/28/2008 12:49:52 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range

**EPA METHOD 8270C: SEMIVOLATILES** 

- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Analyst: JDC

**Date:** 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Down-Gradient Wells Annual Aug 2008

Lab Order:

0808258

Client Sample ID: MW-38

Collection Date: 8/14/2008 11:50:00 AM

Project: Lab ID:

0808258-04

Date Received: 8/15/2008 Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLAT	ILES	<del></del>			Analyst: <b>JDC</b>
Acenaphthene	ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND	10	μg/L	1	8/23/2008
Aniline	ND	10	μg/L	1	8/23/2008
Anthracene	ND	10	μg/L	1	8/23/2008
Azobenzene	ND	10	μg/L	1	8/23/2008
Benz(a)anthracene	ND	10	μg/L	1	8/23/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/23/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzo(g,h,i)perylene	nD ND	10	μg/L	· 1	8/23/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzoic acid	ND	20	μg/L	1	8/23/2008
Benzyl alcohol	ND	. 10	μg/L	1	8/23/2008
Bis(2-chloroethoxy)methane	ND .	10	μg/L	1	8/23/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	• 1	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	· 1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/23/2008
Carbazole	ND	10	μg/L	1	8/23/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/23/2008
4-Chloroaniline	ND	10	μg/L	1	8/23/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/23/2008
2-Chlorophenol	ND	10	μg/L	1	8/23/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Chrysene	ND	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/23/2008
Dibenz(a,h)anthracene	· ND	10	μg/L	1	8/23/2008
Dibenzofuran	ND	10	μg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,3-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,4-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/23/2008
Diethyl phthalate	ND	10	μg/L	1	8/23/2008
Dimethyl phthalate	ND	10	μg/L	1	8/23/2008
2,4-Dichlorophenol	, ND	. 20	μg/L	1	8/23/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrophenol	ND	20	μg/L	. 1	8/23/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
2,6-Dinitrotoluene	· ND	10	μg/L	1	8/23/2008
Fluoranthene	ND	10	μg/L	1	8/23/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Value above quantitation range Ε
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Page 17 of 29

Date: 23-Sep-08

CLIENT: Lab Order: Western Refining Southwest, Inc.

0808258

0808258-04

Client Sample ID: MW-38

Collection Date: 8/14/2008 11:50:00 AM

Project: Lab ID: Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
PA METHOD 8270C: SEMIVOLATILE	S				Analyst: JD0
Fluorene	ND	10	μg/L	1	8/23/2008
Hexachlorobenzene	ND	10	μg/L	1	8/23/2008
Hexachlorobutadiene	ND	10	μg/L	1	8/23/2008
Hexachlorocyclopentadiene	ND	10	μg/L	1	8/23/2008
Hexachloroethane	ND	10	μg/L	1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/23/2008
Isophorone	ND	10	μg/L	1	8/23/2008
2-Methylnaphthalene	ND	10	µg/L	1	8/23/2008
2-Methylphenol	ND	10	µg/L	1	8/23/2008
3+4-Methylphenol	ND	10	μg/L	1	8/23/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/23/2008
Naphthalene	ND	10	μg/L	1	8/23/2008
2-Nitroaniline	ND	10	µg/L	1	8/23/2008
3-Niţroaniline	ND	10	μg/L	1	8/23/2008
4-Nitroaniline	ND	10	μg/L	1	8/23/2008
Nitrobenzene	ND	10	μg/L	1	8/23/2008
2-Nitrophenol	ND	10	μg/L	1	8/23/2008
4-Nitrophenol	ND	10	μg/L	1	8/23/2008
Pentachlorophenol	ND	40	μg/L	1	8/23/2008
Phenanthrene	ND	10	μg/L	1	8/23/2008
Phenol	ND	10	μg/L	1	8/23/2008
Pyrene	ND	10	μg/L	1	8/23/2008
Pyridíne	ND	10	μg/L	1	8/23/2008
1,2,4-Trichlorobenzene	ND	10	μg/L	1	8/23/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/23/2008
2,4,6-Trichtorophenol	ND	10	μg/L	1	8/23/2008
Surr: 2,4,6-Tribromophenol	80.6	16.6-150	%REC	1	8/23/2008
Surr: 2-Fluorobiphenyl	81.9	19.6-134	%REC	1	8/23/2008
Surr: 2-Fluorophenol	40.6	9.54-113	%REC	1	8/23/2008
Surr: 4-Terphenyl-d14	71.6	22.7-145	%REC	1	8/23/2008
Surr: Nitrobenzene-d5	76.8	14.6-134	%REC	1	8/23/2008
Surr: Phenol-d5	29.7	10.7-80.3	%REC	1	8/23/2008
PA METHOD 8260B: VOLATILES					Analyst: HL
Benzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Toluene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Ethylbenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Methyl tert-butyl ether (MTBE)	2.2	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	8/19/2008 8:09:25 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RLReporting Limit

Page 18 of 29

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Client Sample ID: MW-38

Lab Order:

0808258

Collection Date: 8/14/2008 11:50:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Lab ID:

0808258-04

Matrix: AQUEOUS

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: <b>H</b> L
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Naphthalene	ND	2.0	μg/L	1 1	8/19/2008 8:09:25 PM
1-Methylnaphthalene	ND	4.0	μg/L	1	8/19/2008 8:09:25 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/19/2008 8:09:25 PM
Acetone	ND	10	μg/L	1	8/19/2008 8:09:25 PM
Bromobenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Bromodichloromethane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Bromoform	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Bromomethane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
2-Butanone	ND	10	μg/L	1	8/19/2008 8:09:25 PM
Carbon disulfide	ND	10	μg/L	1	8/19/2008 8:09:25 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Chlorobenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Chloroethane	ND	2.0	μg/L	1	8/19/2008 8:09:25 PM
Chloroform	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Chloromethane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
2-Chlorotoluene	ΝĐ	1.0	μg/L	1	8/19/2008 8:09:25 PM
4-Chlorotoluene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1 .	8/19/2008 8:09:25 PM
Dibromochloromethane	ND	1.0	μg/L	1	·8/19/2008 8:09:25 PM
Dibromomethane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,1-Dichloroethane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	8/19/2008 8:09:25 PM
1,1-Dichloropropene	ND .	1.0	μg/L	1	8/19/2008 8:09:25 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
2-Hexanone	ND	10	μg/L	1	8/19/2008 8:09:25 PM
Isopropylbenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
4-Isopropyltoluene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	8/19/2008 8:09:25 PM
Methylene Chloride	ND	3.0	μg/L	1	8/19/2008 8:09:25 PM
n-Butylbenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
n-Propylbenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B. Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 19 of 29

**Date:** 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808258

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808258-04

Client Sample ID: MW-38

Collection Date: 8/14/2008 11:50:00 AM

Date Received: 8/15/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES				-	Analyst: HL
sec-Butylbenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Styrene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
tert-Butylbenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μˈg/L	1	8/19/2008 8:09:25 PM
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
trans-1,2-DCE	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
trans-1,3-Dichloropropene	ND ·	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Trichlorofluoromethane	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
1,2,3-Trichloropropane	ND	2.0	µg/L	1	8/19/2008 8:09:25 PM
Vinyl chloride	ND	1.0	μg/L	1	8/19/2008 8:09:25 PM
Xylenes, Total	ND	1.5	μg/L	1	8/19/2008 8:09:25 PM
Surr: 1,2-Dichloroethane-d4	95.4	68.1-123	%REC	1	8/19/2008 8:09:25 PM
Surr: 4-Bromofluorobenzene	97.4	53.2-145	%REC	1	8/19/2008 8:09:25 PM
Surr: Dibromofluoromethane	98.9	68.5-119	%REC	1	8/19/2008 8:09:25 PM
Surr: Toluene-d8	98.7	64-131	%REC	1	8/19/2008 8:09:25 PM
SM 2320B: ALKALINITY					Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	600	40	mg/L CaCO3	2	8/22/2008
Carbonate	ND	4.0	mg/L CaCO3	2	8/22/2008
Bicarbonate	600	40	mg/L CaCO3	2	8/22/2008
TOTAL CARBON DIOXIDE CALCULATION	ON				Analyst: TAF
Total Carbon Dioxide	570	1.0	mg CO2/L	1	8/22/2008

_			
Ou	ali	fie	rs

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808258

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808258-05

Client Sample ID: MW-11 FD

Collection Date: 8/14/2008 10:15:00 AM

Date Received: 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.48	0.10	mg/L	1	8/15/2008 10:00:46 PM
Chloride	110	1.0	mg/L	10	8/15/2008 10:18:11 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/15/2008 10:00:46 PM
Bromide	1.4	0.10	mg/L	1	8/15/2008 10:00:46 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/15/2008 10:00:46 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 10:00:46 PM
Sulfate	1.6	0.50	mg/L	1	8/15/2008 10:00:46 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

**Date:** 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808258

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808258-05

Client Sample ID: MW-11 FD

Collection Date: 8/14/2008 10:15:00 AM

Date Received: 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	 E			. •		Analyst: SCC
Diesel Range Organics (DRO)	9.4	1.0		mg/L	1	8/18/2008 7:28:34 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/18/2008 7:28:34 PM
Surr: DNOP	127	58-140		%REC	1	8/18/2008 7:28:34 PM
EPA METHOD 8015B: GASOLINE RA	NGE					Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	3.5	0.10		mg/L	2	8/26/2008 11:44:07 PM
Surr: BFB	418	79.2-121	S	%REC	2	8/26/2008 11:44:07 PM
EPA METHOD 300.0: ANIONS						Analyst: SLB
Fluoride	0.48	0.10		mg/L	1	8/15/2008 10:00:46 PM
Chloride	110	1.0		mg/L	10	8/15/2008 10:18:11 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/15/2008 10:00:46 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/15/2008 10:00:46 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/15/2008 10:00:46 PM
Sulfate	1.6	0.50		mg/L	1	8/15/2008 10:00:46 PM
EPA METHOD 7470: MERCURY						· Analyst: <b>SNV</b>
Mercury	ND	0.00020		mg/L	1	8/27/2008 4:49:24 PM
EPA METHOD 6010B: DISSOLVED M	ETALS					Analyst: TES
Arsenic	ND	0.020		mg/L	1	8/29/2008 4:12:01 PM
Barium	0.65	0.020		mg/L	1	8/29/2008 4:12:01 PM
Cadmium	ND	0.0020		mg/L	1	8/29/2008 4:12:01 PM
Chromium	ND	0.0060		mg/L	1	8/29/2008 4:12:01 PM
Copper	ND	0.0060		mg/L	1	8/29/2008 4:12:01 PM
Iron	10	1.0		mg/L	50	8/29/2008 5:17:42 PM
Lead	0.0051	0.0050		mg/L	1	8/29/2008 4:12:01 PM
Manganese	1.9	0.010		mg/L	5	8/29/2008 5:15:17 PM
Selenium	ND	0.25		mg/L	5	9/8/2008 10:35:03 PM
Silver	ND	0.0050		mg/L	1	8/29/2008 4:12:01 PM
Zinc	ND	0.050		mg/L	1	8/29/2008 4:12:01 PM
EPA 6010B: TOTAL RECOVERABLE I	WETALS					Analyst: <b>NMO</b>
Arsenic	ND	0.020		mg/L	1	8/28/2008 12:52:19 PM
Barium	0.66	0.020		mg/L	1 .	8/28/2008 12:52:19 PM
Cadmium	ND	0.0020		mg/L	1	8/28/2008 12:52:19 PM
Chromium	ND	0.0060		mg/L	1	8/28/2008 12:52:19 PM
Lead	0.016	0.0050		mg/L	1	8/28/2008 12:52:19 PM
Selenium	ND	0.050		mg/L	1	8/28/2008 12:52:19 PM
Silver	ND	0.0050		mg/L	1	8/28/2008 12:52:19 PM
EPA METHOD 8270C: SEMIVOLATILE	:S					Analyst: JDC

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 21 of 29

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

0808258

Client Sample ID: MW-11 FD Collection Date: 8/14/2008 10:15:00 AM

Lab Order:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008

Project: Lab ID:

0808258-05

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S	<del></del>			Analyst: JDC
Acenaphthene	ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND	10	μg/L	1	8/23/2008
Aniline	ND	10	μg/L	1	8/23/2008
Anthracene	ND	10	µg/L	1	8/23/2008
Azobenzene	ND	10	μg/L	1	8/23/2008
Benz(a)anthracene	ND	10	μg/L	1 '	8/23/2008
Benzo(a)pyrene	ND	10	µg/L	1	8/23/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzo(g,h,i)perylene	· ND	10	μg/L	. 1	8/23/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzoic acid	ND	20	μg/L	1	8/23/2008
Benzyl alcohol	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethoxy)methane	ND	10	µg/L	1	8/23/2008
Bis(2-chloroethyl)ether	ND	10	µg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/23/2008
Carbazole	ND	10	μg/L	1	8/23/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/23/2008
4-Chloroaniline	ND	10	μg/L	1	8/23/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/23/2008
2-Chlorophenol	ND	10	μg/L	1	8/23/2008
4-Chlorophenyl phenyl ether	. ND	10	μg/L	1	8/23/2008
Chrysene	ND	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/23/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/23/2008
Dibenzofuran	ND	10	μg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	μg/L	· 1	8/23/2008
1,3-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,4-Dichlorobenzene	ND	10	µg/L	1	8/23/2008
3,3'-Dichlorobenzidine	ND	10	µg/L	1	8/23/2008
Diethyl phthalate	ND	10	μg/L	1	8/23/2008
Dimethyl phthalate	ND	10	μg/L	1	8/23/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/23/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L·	1	8/23/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10	µg/L	1	8/23/2008
2,6-Dinitrotoluene	ND	10	µg/L	1	8/23/2008
Fluoranthene	ND	10	μg/L	1	8/23/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Holding times for preparation or analysis exceeded H
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 22 of 29

Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808258

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808258-05

Client Sample ID: MW-11 FD

Collection Date: 8/14/2008 10:15:00 AM

**Date Received:** 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATIL	.ES				Analyst: JD0
Fluorene	ND	10	μg/L	1	8/23/2008
Hexachlorobenzene	ND	10	µg/L	1	8/23/2008
Hexachlorobutadiene	ND	10	μg/L	1	8/23/2008
Hexachlorocyclopentadiene	ND	10	µg/L	1	8/23/2008
Hexachloroethane `	ND	10	μg/L	1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/23/2008
Isophorone	ND	10	µg/L	1	8/23/2008
2-Methylnaphthalene	. ND	10	μg/L	1	8/23/2008
2-Methylphenol	ND	10	µg/L	1	8/23/2008
3+4-Methylphenol	ND	10	µg/L	1	8/23/2008
N-Nitrosodi-n-propylamine	ND	10	µg/L	1	8/23/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/23/2008
Naphthalene	31	10	μg/L	1	8/23/2008
2-Nitroaniline	ND	10	µg/L	1	8/23/2008
3-Nitroaniline	ND	10	μg/L	1	8/23/2008
4-Nitroaniline	ND	10	μg/L	1	8/23/2008
Nitrobenzene	ND	10	μg/L	1	8/23/2008
2-Nitrophenol	ND	10	µg/L	1	8/23/2008
4-Nitrophenol	ND	10	µg/L	1	8/23/2008
Pentachlorophenol	ND	40	μg/L	1	8/23/2008
Phenanthrene	ND	10	μg/L	1	8/23/2008
Phenol	ND	10	μg/L	1	8/23/2008
Pyrene	ND	10	μg/L	1	8/23/2008
Pyridine	ND	10	μg/L	1	8/23/2008
1,2,4-Trichlorobenzene	ND	10	μg/L	1	8/23/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/23/2008
2,4,6-Trichlorophenol	ND	10	μg/L	1	8/23/2008
Surr: 2,4,6-Tribromophenol	86.1	16.6-150	%REC	1	8/23/2008
Surr: 2-Fluorobiphenyl	78.4	19.6-134	%REC	1	8/23/2008
Surr: 2-Fluorophenol	50.3	9.54-113	%REC	1	8/23/2008
Surr: 4-Terphenyl-d14	64.7	22.7-145	%REC	1	8/23/2008
Surr: Nitrobenzene-d5	75.4	14.6-134	%REC	1	8/23/2008
Surr: Phenol-d5	45.0	10.7-80.3	%REC	1	8/23/2008
PA METHOD 8260B: VOLATILES					Analyst: HL
Benzene	4.7	1.0	μg/L	1	8/19/2008 1:24:04 PM
Toluene	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM
Ethylbenzene	2.2	1.0	μg/L	1	8/19/2008 1:24:04 PM
Methyl tert-butyl ether (MTBE)	18	1.0	μg/L	1	8/19/2008 1:24:04 PM
1,2,4-Trimethylbenzene	780	10	μg/L	10	8/19/2008 8:39:23 PM
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Page 23 of 29

Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808258

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808258-05

Client Sample ID: MW-11 FD

Collection Date: 8/14/2008 10:15:00 AM

Date Received: 8/15/2008

Matrix: AQUEOUS

**Analyses** Result **POL Qual Units** DF Date Analyzed **EPA METHOD 8260B: VOLATILES** Analyst: HL 1,2-Dichloroethane (EDC) ND 1.0 1 8/19/2008 1:24:04 PM µg/L 8/19/2008 1:24:04 PM 1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 1 8/19/2008 1:24:04 PM Naphthalene 98 2.0 μg/L 8/19/2008 1:24:04 PM 1-Methylnaphthalene 17 4.0 μg/L 1 8/19/2008 1:24:04 PM 2-Methylnaphthalene 27 4.0 μg/L 1 1 8/19/2008 1:24:04 PM Acetone ND 10 µg/L ND 1.0 1 8/19/2008 1:24:04 PM Bromobenzene µg/L Bromodichloromethane ND 1.0 μg/L 1 8/19/2008 1:24:04 PM ND 1.0 1 8/19/2008 1:24:04 PM Bromoform μg/L Bromomethane ND 1.0 µg/L 1 8/19/2008 1:24:04 PM 1 8/19/2008 1:24:04 PM 2-Butanone ND 10 μg/L 8/19/2008 1:24:04 PM Carbon disulfide ND 10 µg/L 1 Carbon Tetrachloride ND 1.0 µg/L 1 8/19/2008 1:24:04 PM Chiorobenzene ND 1.0 1 8/19/2008 1:24:04 PM μg/L Chloroethane ND 2.0 µg/L 1 8/19/2008 1:24:04 PM Chloroform 1 8/19/2008 1:24:04 PM ND 1.0 μg/L 1 8/19/2008 1:24:04 PM Chloromethane ND 1.0 μg/L 8/19/2008 1:24:04 PM 2-Chlorotoluene ND 1.0 μg/L 1 1 8/19/2008 1:24:04 PM 4-Chlorotoluene ND 1.0 μg/L 1 8/19/2008 1:24:04 PM cis-1,2-DCE ND 1.0 μg/L ND 1.0 1 8/19/2008 1:24:04 PM cis-1,3-Dichloropropene µg/L 8/19/2008 1:24:04 PM 1,2-Dibromo-3-chloropropane ND 2.0 µg/L 1 ND 1 8/19/2008 1:24:04 PM Dibromochloromethane 1.0 µg/L ND 1.0 µg/L 1 8/19/2008 1:24:04 PM Dibromomethane 1 8/19/2008 1:24:04 PM ND 1.0 1,2-Dichlorobenzene μg/L 1,3-Dichlorobenzene ND 1.0 µg/L 1 8/19/2008 1:24:04 PM ND 1.0 1 8/19/2008 1:24:04 PM μg/L 1,4-Dichlorobenzene 1 8/19/2008 1:24:04 PM Dichlorodifluoromethane ND 1.0 μg/L 8/19/2008 1:24:04 PM 1,1-Dichloroethane ND 1.0 μg/L 1 1,1-Dichloroethene ND 1.0 μg/L 1 8/19/2008 1:24:04 PM ND 1.0 μg/L 1 8/19/2008 1:24:04 PM 1,2-Dichloropropane ND 1.0 µg/L 1 8/19/2008 1:24:04 PM 1,3-Dichloropropane 1 8/19/2008 1:24:04 PM 2,2-Dichloropropane ND 20 μg/L ND 1 8/19/2008 1:24:04 PM 1,1-Dichloropropene 1.0 µg/L ND 1 Hexachlorobutadiene 1.0 μg/L 8/19/2008 1:24:04 PM 2-Hexanone ND 10 μg/L 1 8/19/2008 1:24:04 PM 1 8/19/2008 1:24:04 PM Isopropylbenzene 57 1.0 μg/L 5.0 1.0 1 8/19/2008 1:24:04 PM µg/L 4-Isopropyltoluene 4-Methyl-2-pentanone ND 10 µg/L 1 8/19/2008 1:24:04 PM 8/19/2008 1:24:04 PM ND 3.0 µg/L 1 Methylene Chloride n-Butylbenzene 2.8 1.0 µg/L 1 8/19/2008 1:24:04 PM 1 8/19/2008 1:24:04 PM n-Propylbenzene 59 1.0 μg/L

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Page 24 of 29

**Date:** 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808258

Project:

Down-Gradient Wells Annual Aug 2008

Lab ID:

0808258-05

Client Sample ID: MW-11 FD

Collection Date: 8/14/2008 10:15:00 AM

Date Received: 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
sec-Butylbenzene	12	1.0	μg/L	1	8/19/2008 1:24:04 PM
Styrene	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM
tert-Butylbenzene	2.5	1.0	μg/L	1	8/19/2008 1:24:04 PM
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/19/2008 1:24:04 PM
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM
trans-1,2-DCE	ND	· 1.0	μg/L	1	8/19/2008 1:24:04 PM
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	8/19/2008 1:24:04 PM
1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM
Trichlorofluoromethane	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	1	8/19/2008 1:24:04 PM
Vinyl chloride	ND	1.0	μg/L	1	8/19/2008 1:24:04 PM
Xylenes, Total	ND	1.5	μg/L	1	8/19/2008 1:24:04 PM
Surr: 1,2-Dichloroethane-d4	108	68.1-123	%REC	1	8/19/2008 1:24:04 PM
Surr: 4-Bromofluorobenzene	125	53.2-145	%REC	1	8/19/2008 1:24:04 PM
Surr: Dibromofluoromethane	95.7	68.5-119	%REC	1	8/19/2008 1:24:04 PM
Surr: Toluene-d8	101	64-131	%REC	1	8/19/2008 1:24:04 PM
SM 2320B: ALKALINITY					Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	1100	40	mg/L CaC	O3 2	8/22/2008
Carbonate	ND	4.0	mg/L CaC	O3 2	8/22/2008
Bicarbonate	1100	40	mg/L CaC	O3 2	8/22/2008
TOTAL CARBON DIOXIDE CALCULATION					Analyst: <b>TAF</b>
Total Carbon Dioxide	1200	1.0	mg CO2/L	. 1	8/22/2008

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Value exceeds Maximum Contaminant Level

Page 25 of 29

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 23-Sep-08

**CLIENT:** Lab Order: Western Refining Southwest, Inc.

0808258

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808258-06

Client Sample ID: Field Blank

Collection Date: 8/14/2008 11:45:00 AM

Date Received: 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qua	al Units	DF·	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
Toluene	ND .	1.0	μg/L	1	8/19/2008 1:52:45 PM
Ethylbenzene	ND	1.0	μg/L ·	. 1	8/19/2008 1:52:45 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
Naphthalene	ND	2.0	μg/L	1	8/19/2008 1:52:45 PM
1-Methylnaphthalene	ND	4.0	μg/L	1	8/19/2008 1:52:45 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/19/2008 1:52:45 PM
Acetone	ND	10	μg/L	1	8/19/2008 1:52:45 PM
Bromobenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
Bromodichloromethane	1.3	1.0	μg/L	1	8/19/2008 1:52:45 PM
Bromoform	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
Bromomethane	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
2-Butanone	ND	10	μg/L	1	8/19/2008 1:52:45 PM
Carbon disulfide	ND	10	μg/L	1	8/19/2008 1:52:45 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
Chlorobenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PN
Chloroethane	ND.	2.0	μg/L	· 1	8/19/2008 1:52:45 PN
Chloroform	13	1.0	μg/L	1	8/19/2008 1:52:45 PN
Chloromethane	ND	1.0	μg/L	1,	8/19/2008 1:52:45 PM
2-Chlorotoluene	ND	. 1.0	μg/L	1	8/19/2008 1:52:45 PM
4-Chlorotoluene	ND	1.0	µg/L	1	8/19/2008 1:52:45 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	8/19/2008 1:52:45 PN
Dibromochloromethane	ND	1.0	µg/L	1	8/19/2008 1:52:45 PM
Dibromomethane	ND	1.0	µg/L	1	8/19/2008 1:52:45 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PN
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PN
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/19/2008 1:52:45 PN
1,1-Dichloroethane	ND	1.0	μg/L	1	8/19/2008 1:52:45 PN
1,1-Dichloroethene	ND	1.0	μg/L	. 1	8/19/2008 1:52:45 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/19/2008 1:52:45 PN
1,3-Dichloropropane	ND	1.0	µg/L	1	8/19/2008 1:52:45 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	8/19/2008 1:52:45 PN
1,1-Dichloropropene	ND	1.0	μg/L	1 ·	8/19/2008 1:52:45 PN
Hexachlorobutadiene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PN
2-Hexanone	ND	10	μg/L	1	8/19/2008 1:52:45 PN

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808258

Client Sample ID: Field Blank

Collection Date: 8/14/2008 11:45:00 AM

Project:

Down-Gradient Wells Annual Aug 2008

Date Received: 8/15/2008 Matrix: AQUEOUS

Lab ID:

0808258-06

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
Isopropylbenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
4-Isopropyltoluene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	8/19/2008 1:52:45 PM
Methylene Chloride	ND	3.0	μg/L	1	8/19/2008 1:52:45 PM
n-Butylbenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
n-Propylbenzene	. ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
sec-Butylbenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
Styrene	ND	1.0	µg/L	1	8/19/2008 1:52:45 PM
tert-Butylbenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	8/19/2008 1:52:45 PM
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	8/19/2008 1:52:45 PM
trans-1,2-DCE	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,1,1-Trichloroethane	ND	1.0	µg/L	1	8/19/2008 1:52:45 PM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
Trichlorofluoromethane	ND	1.0	μg/L	1	8/19/2008 1:52:45 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	1	8/19/2008 1:52:45 PM
Vinyl chloride	ND	1.0	µg/L	1	8/19/2008 1:52:45 PM
Xylenes, Total	ND	1.5	μg/L	1	8/19/2008 1:52:45 PM
Surr: 1,2-Dichloroethane-d4	94.3	68.1-123	%REC	1	8/19/2008 1:52:45 PM
Surr: 4-Bromofluorobenzene	97.0	53.2-145	%REC	1	8/19/2008 1:52:45 PM
Surr: Dibromofluoromethane	92.8	68.5-119	%REC	1	8/19/2008 1:52:45 PM
Surr: Toluene-d8	96.7	64-131	%REC	1	8/19/2008 1:52:45 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808258

Down-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808258-07

Client Sample ID: Trip Blank

**Collection Date:** 

Date Received: 8/15/2008

Matrix: TRIP BLANK

Analyses	Result	PQL Qua	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RAN	GE				Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050	mg/L	. 1	8/26/2008 4:54:50 AM
Surr: BFB	87.0	79.2-121	%REC	1	8/26/2008 4:54:50 AM
EPA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Toluene ·	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Ethylbenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	8/19/2008 2:21:33 PM
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1	8/19/2008 2:21:33 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Naphthalene	ND	2.0	μg/L	1	8/19/2008 2:21:33 PM
1-Methylnaphthalene	ND	4.0	μg/L	· 1	8/19/2008 2:21:33 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/19/2008 2:21:33 PM
Acetone	ND	10	μg/L	1	8/19/2008 2:21:33 PM
Bromobenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Bromodichloromethane	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Bromoform	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Bromomethane	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
2-Butanone	ND	10	μg/L	1	8/19/2008 2:21:33 PM
Carbon disulfide	ND	10	µg/L	1	8/19/2008 2:21:33 PM
Carbon Tetrachloride	ND	1.0	μg/L	· 1	8/19/2008 2:21:33 PM
Chlorobenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Chloroethane	ND	2.0	μg/L	1	8/19/2008 2:21:33 PM
Chloroform	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Chloromethane	ND	1.0	µg/L	1	8/19/2008 2:21:33 PM
2-Chlorotoluene	ND	1.0	µg/L	1 ·	8/19/2008 2:21:33 PM
4-Chlorotoluene	ND	1.0	µg/L	1	8/19/2008 2:21:33 PM
cis-1,2-DCE	ND	1.0	µg/L	1	8/19/2008 2:21:33 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,2-Dibromo-3-chloropropane	. ND	2.0	μg/L	1	8/19/2008 2:21:33 PM
Dibromochloromethane	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Dibromomethane	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,1-Dichloroethane	ND .	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,1-Dichloroethene	· ND	1.0	µg/L	1	8/19/2008 2:21:33 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

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Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order: Project:

0808258

Down-Gradient Wells Annual Aug 2008

Lab ID:

0808258-07

Client Sample ID: Trip Blank

**Collection Date:** 

Date Received: 8/15/2008

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
2,2-Dichloropropane	ND	2.0	μg/L	1	8/19/2008 2:21:33 PM
1,1-Dichloropropene	ND	1.0	µg/L	1	8/19/2008 2:21:33 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
2-Hexanone	ND	10	μg/L	1	8/19/2008 2:21:33 PM
Isopropylbenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
4-Isopropyltoluene	ND	1.0	µg/L	1	8/19/2008 2:21:33 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	8/19/2008 2:21:33 PM
Methylene Chloride	ND	3.0	μg/L	1	8/19/2008 2:21:33 PM
n-Butylbenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
n-Propylbenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
sec-Butylbenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Styrene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
tert-Butylbenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/19/2008 2:21:33 PM
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
trans-1,2-DCE	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Trichlorofluoromethane	ND .	1.0	μg/L	1	8/19/2008 2:21:33 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	1	8/19/2008 2:21:33 PM
Vinyl chloride	ND	1.0	μg/L	1	8/19/2008 2:21:33 PM
Xylenes, Total	ND	1.5	μg/L	1	8/19/2008 2:21:33 PM
Surr: 1,2-Dichloroethane-d4	96.1	68.1-123	%REC	1	8/19/2008 2:21:33 PM
Surr: 4-Bromofluorobenzene	98.6	53.2-145	%REC	1	8/19/2008 2:21:33 PM
Surr: Dibromofluoromethane	92.1	68.5-119	%REC	1	8/19/2008 2:21:33 PM
Surr: Toluene-d8	93.3	64-131	%REC	1	8/19/2008 2:21:33 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
  - Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

#### **CASE NARRATIVE**

September 5, 2008

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843, www.anateklabs.com FL NELAP

E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM

Project Tracking No.: 0808258 Anatek Batch: 080819021

**Project Summary:** Five (5) water samples were received on 8/19/2008 for metals (EPA 6020A) analysis. All samples were received in good condition and with the appropriate chain of custody Samples were received at 3.5C.

Client Sample ID	Anatek Sample ID	Method/Prep Method
0808258-01F / MW-11	080819021-001	EPA 6020A/3005A
0808258-02F / MW-12	080819021-002	EPA 6020A/3005A
0808258-03F / MW-37	080819021-003	EPA 6020A/3005A
0808258-04F / MW-38	080819021-004	EPA 6020A/3005A
0808258-05F / MW-11 FD	080819021-005	EPA 6020A/3005A

#### QA/QC Checks

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Υ	NA
Surrogate Recoveries Valid?	Υ	NA
QC Sample(s) Recoveries Valid?	Υ	NA
Method Blank(s) Valid?	Υ	NA
Tune(s) Valid?	Υ	NA
Internal Standard Responses Valid?	Υ	NA
Initial Calibration Curve(s) Valid?	Υ	NA
Continuing Calibration(s) Valid?	Υ	NA
Comments:	Υ	NA

#### 1. Holding Time Requirements

No problems encountered.

#### 2. GC/MS Tune Requirements

NA

#### 3. Calibration Requirements

No problems encountered.

#### 4. Surrogate Recovery Requirements

NA

#### 5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

#### 6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

#### 7. Internal Standard(s) Response Requirements

No problems encountered.

#### 8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by:

Printed on: 5 September 2008 13:44:30

# Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080819021

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109 **Project Name:** 

0808258

Attn:

ANDY FREEMAN

#### **Analytical Results Report**

Sample Number Client Sample ID 080819021-001

0808258-01F / MW-11

Sampling Date Sampling Time 8/14/2008 10:00 AM Date/Time Received Extraction Date 8/19/2008 11:15 AM

8/27/2008

Matrix:

Water

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dissolved Uranium	ND	mg/L	0.001	8/27/2008	ETL	EPA 6020A	

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080819021

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808258

Attn:

ANDY FREEMAN

#### **Analytical Results Report**

Sample Number

080819021-002

**Sampling Date** 

8/14/2008 Date/Time Received 8/19/2008 11:15 AM

Client Sample ID

0808258-02F / MW-12

11:00 AM Sampling Time

**Extraction Date** 

8/27/2008

Matrix:

Water

Parameter	Result	Units	PQL	Analysis Date	Anaiyst	Method	Qualifier
Dissolved Uranium	0.00334	mg/L	0.001	8/27/2008	ETL	EPA 6020A	

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

080819021

**Project Name:** 

0808258

### **Analytical Results Report**

Sample Number

080819021-003

**Sampling Date** 

8/14/2008

Date/Time Received

8/19/2008 11

11:15 AM

Client Sample ID

0808258-03F / MW-37

Sampling Time

11:20 AM

Extraction Date

8/27/2008

Matrix:

Water

ParameterResultUnitsPQLAnalysis DateAnalystMethodQualifierDissolved Uranium0.00108mg/L0.0018/27/2008ETLEPA 6020A

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Friday, September 05, 2008

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

080819021

Project Name:

0808258

**Analytical Results Report** 

Sample Number

080819021-004

Sampling Date

8/14/2008

**Date/Time Received** 

8/19/2008

11:15 AM

**Client Sample ID** Matrix:

0808258-04F / MW-38

Sampling Time

11:50 AM

**Extraction Date** 

8/27/2008

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dissolved Uranium	0.00242	mg/L	0.001	8/27/2008	ETL	EPA 6020A	

Comments:

Certifications held by Anatek Labs iD: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Friday, September 05, 2008

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Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

**ANDY FREEMAN** 

Batch #:

080819021

**Project Name:** 

0808258

### **Analytical Results Report**

Sample Number

080819021-005

**Sampling Date** Sampling Time 8/14/2008

Date/Time Received

8/19/2008 11:15 AM

Client Sample ID Matrix:

10:15 AM

**Extraction Date** 

8/27/2008

**Parameter** 

0808258-05F / MW-11 FD

Units

0.001

8/27/2008

Analysis Date Analyst ETL

Method

Qualifier

Dissolved Uranium

Result ND

mg/L

EPA 6020A

**Authorized Signature** 

MCL.

EPA's Maximum Contaminant Level

NΩ

Not Detected

PQL

Practical Quantitation Limit

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Friday, September 05, 2008

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

080819021

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109 Project Name:

Batch #:

0808258

Attn:

ANDY FREEMAN

**Analytical Results Report** 

**Quality Control Data** 

Lab Control Sample

Parameter

LCS Result

Units LCS Spike

AR %Rec 85-115 Prep Date

Analysis Date

Dissolved Uranium

0.0503

mg/L 0.05

**%Rec** 100.6

----

8/27/2008

8/27/2008

**Matrix Spike** 

Sample Number Parameter

080820024-002 D

Dissolved Uranium

Sample Result 0.00165

MS Result 0.0552 Units Spike mg/L 0.05 AR %Rec %Rec 107.1 75-125

0-20

PQL

0.001

Prep Date 8/27/2008 Analysis Date 8/27/2008

Matrix Spike Duplicate

Parameter
Dissolved Uranium

MSD Result 0.0578

Units mg/L MSD Spike 0.05

Result

ND

**%Rec** 112.3

Units

mg/L

AR %RPD %RPD

4.6

Prep Date 8/27/2008

**Prep Date** 

8/27/2008

Analysis Date 8/27/2008

**Analysis Date** 

8/27/2008

Method Blank

Parameter
Dissolved Uranium

AR

Acceptable Range

ND

Not Detected

PQL RPD Practical Quantitation Limit Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Friday, September 05, 2008

Page 1 of 1

Client: Project:	Western Refining Southwest, Inc. Down-Gradient Wells Annual Aug	outhwest, Inc. Is Annual Aug	,		DALES KEPOKI	EFCKI	
Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808258-01A	MW-11	8/14/2008 10:00:00 AM	Aqueous	EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
-				EPA Method 8015B: Gasoline Range	R29921		8/26/2008
				EPA Method 8015B: Gasoline Range	R29921		8/26/2008
				EPA Method 8260B: VOLATILES	R29845		8/19/2008
	,			EPA Method 8260B; VOLATILES	R29845		8/19/2008
0808258-01B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
0808258-01C				Carbon Dioxide	R29886		8/22/2008
				EPA Method 300.0: Anions	R30109		9/5/2008
				EPA Method 300.0: Anions	R29808		8/15/2008
				EPA Method 300.0: Anions	R29808		8/15/2008
				SM 2320B: Alkalinity	R29883		8/22/2008
0808258-01D				EPA 6010B: Total Recoverable Metals	92891	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
0808258-01E				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	. R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R30124		9/8/2008
0808258-02A	MW-12	8/14/2008 11:00:00 AM		EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
				EPA Method 8015B: Gasoline Range	R29921		8/26/2008
				EPA Method 8260B: VOLATILES	R29845		8/19/2008
0808258-02B				EPA Method 8270C; Semivolatiles	16804	8/18/2008	8/23/2008
0808258-02C				Carbon Dioxide	R29886		8/22/2008
				EPA Method 300.0: Anions	R29808		8/15/2008
				EPA Method 300.0: Anions	R29808		8/15/2008

Standard D.         Citylent Sample ID         Collection Pate         Marrix         Trian Name         ETA-6010B1 Trian Recognition Healing         L68716         87522008         87522008           50802538-021D         MWH-12         81462008 11 00:00 AM         Approximate Application Patents         169716         87522008         87522008           50802538-021B         ARA-Aberbod 60:10B1 Dissovied Mentals         R73994         R73908         87522008         8752008           6802538-021B         AWH-22         BI-PA Method 60:10B1 Dissovied Mentals         R73994         87312408         8752008           6802538-021B         AWH-22         BI-PA Method 60:10B1 Dissovied Mentals         R73984         87182008         8752008           6802538-021B         AWH-22         BI-PA Method 80:13B1 Dissovied Mentals         R73984         87182008         8752008           6802538-021B         AWH-24	Lab Order: Client: Project:	0808258 Western Refining Southwest, Inc. Down-Gradient Wells Annual Aug	Southwest, Inc.			DATES REPORT	EPORT	_
MW-12         8/14/2008 11/50:00 AM         Aqueous         EPA 6010B: Total Recoverable Metals         168/16         8/25/2008           MW-37         8/14/2008 11/20:00 AM         EPA Method 6010B: Dissolved Metals         R30/24         8/18/2008           MW-37         8/14/2008 11/20:00 AM         EPA Method 6010B: Dissolved Metals         R30/24         8/18/2008           EPA Method 6010B: Dissolved Metals         R30/24         R30/24         8/18/2008         8/18/2008           EPA Method 8015B: Dissolved Metals         R29845         EPA Method 8260B: VOLATILES         R29845         8/18/2008           EPA Method 820B: VOLATILES         R29846         R29846         R29848         R29848           EPA Method 820B: VOLATILES         R29848         R29848         R29848           EPA Method 820B: VOLATILES         R29848         R29848           EPA Method 3000: Anions         R29848         R29848           EPA Method 6010B: Dissolved Metals         R29948         R29948           EPA Method 6010B: Dissolved Metals         R29948         R29948           EPA Method 820B: VOLATILES         R29948         R29948           EPA Method 820B: VOLATILES         R29948         R29498           EPA Method 820B: VOLATILES         R29948           EPA Method 820B: VOLA	Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
EPA Method 610 B. Dissolved Metals R2098 8272008  MW-37 81472008 11.20.00 AM EPA Method 6010 B. Dissolved Metals R30124 8281872008  MW-37 81472008 11.20.00 AM EPA Method 8013B. Diesel Range 16802 16	0808258-02D	MW-12	8/14/2008 11:00:00 AIM	Aqueous	EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
PPA Method 6010B: Dissolved Metals   R30124					EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
MW-37 8/142008 11.20.00 AM EPA Method 6010B: Dissolved Metals 16802 8/182008  EPA Method 8015B: Gasoline Range 829921 8/182008  EPA Method 8020B: VOLATILES 8/29845 8/182008  EPA Method 82060B: VOLATILES 8/29845 8/182008  EPA Method 8200B: VOLATILES 8/29845 8/182008  EPA Method 8200B: VOLATILES 8/29845 8/182008  EPA Method 8200B: Anions 8/29846 8/182008  EPA Method 6010B: Dissolved Metals 8/29846 8/182008  MW-38 8/142008 11.50:00 AM EPA Method 6010B: Dissolved Metals 8/29845 8/182008  EPA Method 8010B: Dissolved Metals 8/29845 8/182008  EPA Method 8020B: VOLATILES 8/29845 8/182008  EPA Method 8020B: VOLATILES 8/29845 8/182008  EPA Method 8020B: VOLATILES 8/29845 8/182008	0808258-02E				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
MW-37         8/142008 11:20:00 AM         EPA Method 8015B. Discel Range         16802         8/182008           FPA Method 8015B. Casoline Range         R29943         R29943         8/182008           FPA Method 8260B. VOLATILES         R29845         R29845         8/182008           FPA Method 8260B. VOLATILES         R29845         8/182008         8/182008           Carbon Dioxide         R29845         8/182008         8/182008           Carbon Dioxide         R29848         8/182008         8/182008           FPA Method 3000. Anions         R29886         8/182008         8/182008           SM 3220B. Alkalinty         R29886         8/252008         8/252008           FPA Method 3000. Anions         R29886         8/252008         8/252008           FPA Method 6010B. Dissolved Metals         R29898         8/182008           FPA Method 6010B. Dissolved Metals         R29921         8/182008           FPA Method 6010B. Dissolved Metals         R29945         8/182008           FPA Method 8015B. Diesel Range         R29945         8/182008           FPA Method 8015B. Diesel Range         R29845         8/182008           FPA Method 8020C. Semivolaitles         R29845         8/182008           FPA Method 900D Anions         R29846					EPA Method 6010B: Dissolved Metals	R30124		9/8/2008
EPA Method 8015B: Gasoline Range R29921  EPA Method 8260B: VOLATILES R29845  EPA Method 8260B: VOLATILES R29845  EPA Method 820B: VOLATILES R29845  EPA Method 820C: Semivolatiles 16804 8/18/2008  Carbon Dioxide EPA Method 300 0: Anions R29808  EPA Method 300 0: Total Recoverable Metals R29808  EPA Method 3010B: Total Recoverable Metals R29808  EPA Method 6010B: Dissolved Metals R2998  EPA Method 8015B: Gasoline Range R29918  EPA Method 8015B: Gasoline R29918  EPA	0808258-03A	MW-37	8/14/2008 11:20:00 AM		EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
EPA Method 8260B. VOLATILES R29845 EPA Method 8260B. VOLATILES R29845 EPA Method 8200C. Semivolatiles 16804 81/18/2008 Carbon Dioxide EPA Method 300.0. Anions R29808 R29808 EPA Method 300.0. Anions R29808 R29908 R29909					EPA Method 8015B: Gasoline Range	R29921		8/26/2008
EPA Method 8260B: VOLATILES 16804 8182008  Carbon Dioxide Carbon Dioxide 16804 8182008  Carbon Dioxide EPA Method 300 0: Anions R29886  EPA Method 300 0: Anions R29883  SM 2320B - Alkalimiy R29883  SM 2320B - Alkalimiy R29883  EPA Method 470: Metuals R29883  EPA Method 6010B: Total Recoverable Metals 16876 8125/2008  EPA Method 6010B: Dissolved Metals R29983  EPA Method 6010B: Dissolved Metals R29983  EPA Method 6010B: Dissolved Metals R29988  EPA Method 8015B: Gasoline Range R29981  EPA Method 8015B: Gasoline Range R29884  EPA Method 8200B: VOLATILES R29885  EPA Method 8200C: Semivolatiles R29886  EPA Method 900: Anions R29888  EPA Method 900: Anions R29888					EPA Method 8260B: VOLATILES	R29845		8/19/2008
EPA Method 8270C: Semivolatiles 16804 8182008 Carbon Dioxide EPA Method 300.0: Anions R29808 EPA Method 300.0: Anions R29808 EPA Method 300.0: Anions R29808 SM 2320B ALRalinity R29808 SM 2320B ALRalinity R29808 EPA Method 6010B: Total Recoverable Metals 16906 8127,2008 EPA Method 6010B: Dissolved Metals R29908 EPA Method 6010B: Dissolved Metals R29908 EPA Method 6010B: Dissolved Metals R29908 EPA Method 8010B: Dissolved Metals R29908 EPA Method 8200B: VOLATILES R29921 EPA Method 8200B: VOLATILES R29981 EPA Method 8200B: VOLATILES R29988 EPA Method 8200B: VOLATILES R29888 EPA Method 8200B: VOLATILES R29888 EPA Method 8200B: VOLATILES R29888					EPA Method 8260B: VOLATILES	R29845		8/19/2008
Carbon Dioxide       R29866         EPA Method 300.0: Anions       R29808         EPA Method 300.0: Anions       R29808         SM 2320B: Alkalinity       R29808         EPA Method 300.0: Anions       R29808         SM 2320B: Alkalinity       16876       8/25/2008         EPA Method 6010B: Total Recoverable Metals       16806       8/27/2008         EPA Method 6010B: Dissolved Metals       R29998       8/29/2008         EPA Method 6010B: Dissolved Metals       R29908       8/14/2008         EPA Method 6010B: Dissolved Metals       R29908       8/18/2008         EPA Method 6010B: Dissolved Metals       R29908       8/18/2008         EPA Method 8015B: Diesel Range       16802       8/18/2008         EPA Method 8260B: VOLATILES       R29845       R29845         EPA Method 820CB: VOLATILES       R29846       R29886         EPA Method 3700C: Semivolatiles       R29886       R29808	0808258-03B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
EPA Method 300.0. Anions       R29808         EPA Method 300.0. Anions       R29808         SM 2320B. Alkalinity       R29883         EPA 6010B. Total Recoverable Metals       16876       8725/2008         EPA Method 4010B. Dissolved Metals       16906       8727/2008         EPA Method 6010B. Dissolved Metals       R29908       R29908         EPA Method 6010B. Dissolved Metals       R30124       R30124         EPA Method 8018B. Dissolved Metals       R30124       R30124         EPA Method 8018B. Dissolved Metals       R29908       R79921         EPA Method 8018B. Dissolved Metals       R29945       R29945         EPA Method 8260B. VOLATILES       R29845       R29845         EPA Method 8200B. VOLATILES       R29845       R29886         EPA Method 8300B. VOLATILES       R29886       R29886	0808258-03C				Carbon Dioxide	R29886		8/22/2008
EPA Method 300.0: Anions       R29808         SM 2320B: Alkalinity       R29883         EPA 6010B: Total Recoverable Metals       16876       8725/2008         EPA Method 6010B: Dissolved Metals       R29998       8727/2008         EPA Method 6010B: Dissolved Metals       R29998       8730/24         EPA Method 6010B: Dissolved Metals       R29998       8718/2008         EPA Method 6010B: Dissolved Metals       R2998       8718/2008         EPA Method 8015B: Diesel Range       R29921       8718/2008         EPA Method 8015B: Gasoline Range       R29945       8718/2008         EPA Method 8260B: VOLATILES       R29845       8718/2008         EPA Method 8200B: VOLATILES       R29845       8718/2008         EPA Method 8200B: VOLATILES       R29845       8718/2008         EPA Method 300.0: Anions       R29886       8718/2008					EPA Method 300.0: Anions	R29808		8/15/2008
SM 2320B: Alkalinity       R29883         EPA 6010B: Total Recoverable Metals       16876       8/25/2008         EPA Method 7470: Mercury       16906       8/25/2008         EPA Method 6010B: Dissolved Metals       R29998       8/27/2008         EPA Method 6010B: Dissolved Metals       R29998       8/18/2008         EPA Method 6010B: Dissolved Metals       R30124       8/18/2008         EPA Method 8015B: Diesel Range       16802       8/18/2008         EPA Method 8015B: Gasoline Range       R29945       8/18/2008         EPA Method 8260B: VOLATILES       R29845       R29845         EPA Method 8200C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       EPA Method 300.0: Anions       R29886					EPA Method 300.0: Anions	R29808		8/15/2008
EPA 6010B: Total Recoverable Metals       16876       8/25/2008         EPA Method 7470: Mercust       16906       8/27/2008         EPA Method 6010B: Dissolved Metals       R29998       R29998         EPA Method 6010B: Dissolved Metals       R29998       R39124         EPA Method 6010B: Dissolved Metals       R39124       8/18/2008         EPA Method 8015B: Diesel Range       16802       8/18/2008         EPA Method 8015B: Casoline Range       R29945       R29845         EPA Method 8260B: VOLATILES       R29845       R29845         EPA Method 820CI: Semivolatiles       16804       8/18/2008         EPA Method 82000: AM       EPA Method 8200C: Semivolatiles       R29886					SM 2320B: Alkalinity	R29883		8/22/2008
EPA Method 7470: Metroury       16906       8/27/2008         EPA Method 6010B: Dissolved Metals       R29998       8/27/2008         EPA Method 6010B: Dissolved Metals       R29998       8/18/2008         MW-38       8/14/2008 11:50:00 AM       EPA Method 6010B: Dissolved Metals       R30124       8/18/2008         EPA Method 8015B: Diesel Range       EPA Method 8015B: Diesel Range       R29921       8/18/2008         EPA Method 8015B: Gasoline Range       EPA Method 8260B: VOLATILES       R29845       8/18/2008         EPA Method 8260B: VOLATILES       R29845       8/18/2008       8/18/2008         EPA Method 8200D: O: Anions       R29886       8/18/2008       8/18/2008	0808258-03D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
EPA Method 6010B: Dissolved Metals       R29998         EPA Method 6010B: Dissolved Metals       R29998         EPA Method 6010B: Dissolved Metals       R30124         EPA Method 6010B: Dissolved Metals       R30124         MW-38       8/14/2008 11:50:00 AM       EPA Method 8015B: Diesel Range       16802       8/18/2008         EPA Method 8015B: Gasoline Range       R29921       R29845       R29845         EPA Method 8260B: VOLATILES       R29845       R29845         EPA Method 8260B: VOLATILES       R29845       R29845         EPA Method 8200B: VOLATILES       R29845       R29845         EPA Method 8200B: VOLATILES       R29845       R29845					EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
MW-38       8/14/2008 11:50:00 AM       EPA Method 6010B: Dissolved Metals       R30124         MW-38       8/14/2008 11:50:00 AM       EPA Method 8015B: Diesel Range       16802       8/18/2008         EPA Method 8015B: OvOLATILES       R29945       R29845       R29845         EPA Method 8260B: VOLATILES       R29845       R29845         EPA Method 8260B: VOLATILES       R29845       R29845         Carbon Dioxide       R29886       8/18/2008	0808258-03E				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
MW-38       8/14/2008 11:50:00 AM       EPA Method 8015B: Diesel Range       16802       8/18/2008         EPA Method 8015B: Gasoline Range       R29921       R29921         EPA Method 8260B: VOLATILES       R29845       R29845         EPA Method 8260B: VOLATILES       R29845       R29845         EPA Method 8270C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       R29886       R29886					EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
MW-38       8/14/2008 11:50:00 AM       EPA Method 8015B: Diesel Range       16802       8/18/2008         EPA Method 8015B: Gasoline Range       R29921       R29921       R29845       R29845         EPA Method 8260B: VOLATILES       R29845       R29845       R29845         EPA Method 8270C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       R29886       R29886					EPA Method 6010B: Dissolved Metals	R30124		9/8/2008
EPA Method 8015B: Gasoline Range       R29921         EPA Method 8260B: VOLATILES       R29845         EPA Method 8270C: Semivolatiles       R29845         Carbon Dioxide       16804       8/18/2008         EPA Method 300.0: Anions       R29886	0808258-04A	MW-38	8/14/2008 11:50:00 AM		EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
EPA Method 8260B: VOLATILES       R29845         EPA Method 8260B: VOLATILES       R29845         EPA Method 8270C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       R29886         EPA Method 300.0: Anions       R29808					EPA Method 8015B: Gasoline Range	R29921		8/26/2008
EPA Method 8260B: VOLATILES       R29845         EPA Method 8270C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       R29886         EPA Method 300.0: Anions       R29808					EPA Method 8260B: VOLATILES	R29845		8/19/2008
EPA Method 8270C: Semivolatiles       16804       8/18/2008         Carbon Dioxide       R29886         EPA Method 300.0: Anions       R29808					EPA Method 8260B: VOLATILES	R29845		8/19/2008
Carbon Dioxide R29886 EPA Method 300.0: Anions R29808	0808258-04B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
R29808	0808258-04C				Carbon Dioxide	R29886		8/22/2008
					EPA Method 300.0: Anions	R29808		8/15/2008

Client: Project:	Western Refining Southwest, Inc. Down-Gradient Wells Annual Aug	Southwest, Inc. ells Annual Aug			DATES REPORT	EFORI	
Sample ID	Client Sample ID	Collection Date	Matrix	патарительный поставлений предустивности поставления поставления Теst Name	QC Batch ID	Prep Date	Analysis Date
0808258-04C	MW-38	8/14/2008 11:50:00 AM	Aqueous	EPA Method 300.0: Anions	R29808		8/15/2008
				SM 2320B: Alkalinity	R29883		8/22/2008
0808258-04D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
0808258-04E				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R30124		8/8/2008
0808258-05A	MW-11 FD	8/14/2008 10:15:00 AM		EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
				EPA Method 8015B: Gasoline Range	R29921		8/26/2008
	,			EPA Method 8015B: Gasoline Range	R29921		8/26/2008
				EPA Method 8260B: VOLATILES	R29845	÷	8/19/2008
				EPA Method 8260B: VOLATILES	R29845		8/19/2008
0808258-05B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
0808258-05C				Carbon Dioxide	R29886		8/22/2008
				EPA Method 300.0; Anions	R29808		8/15/2008
				EPA Method 300.0: Anions	R29808		8/15/2008
				SM 2320B: Alkalinity	R29883		8/22/2008
0808258-05D	,			EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
0808258-05E				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B; Dissolved Metals	R30124		8/2008
				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
0808258-06A	Field Blank	8/14/2008 11:45:00 AM		EPA Method 8260B: VOLATILES	R29845		8/19/2008
A 70 03 0000							

23-Sep-08

Lab Order:	0808258						
Client:	Western Refining Southwest, Inc.	outhwest, Inc.		1	DATES REPORT	EPORT	
Project:	Down-Gradient Wells Annual Aug	Ils Annual Aug					
Sample ID	Sample ID Client Sample ID Collection Date	Collection Date	Matrix	Matrix Test Name Analysis Date	QC Batch ID	Prep Date	QC Batch ID Prep Date Analysis Date
0808258-07A	Trip Blank		Trip Blank	Trip Blank EPA Method 8260B: VOLATILES	R29845		8/19/2008

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808258

Analyte	Result	Units	PQL	%Rec	LowLimit	Hig	JhLimit	%RPD	RPI	DLimit	Qual.
Method: EPA Method 300.0: Anic	ns				· · · · · · · · · · · · · · · · · · ·			-			
Sample ID: 0808258-01CMSD		MSD		•	Batch	ID:	R29808	Analysis D	ate:	8/15/	2008 7:24:07 PM
Fluoride	0.9780	mg/L	0.10	81.8	65.1	1	21	0.0500	2	0	
Nitrogen, Nitrite (As N)	0.8941	mg/L	0.10	89.4	52.9	1	28	2.49	2	0	
Nitrogen, Nitrate (As N)	2.454	mg/L	0.10	96.3	83.8	1	12	0.820	2	0	
Phosphorus, Orthophosphate (As P)	4.257	mg/L	0.50	85.1	77.6	1	18	1.44	2	0 -	
Sulfate	11.34	mg/L	0.50	103	59.4	1	26	1.42	2	0	
Sample ID: MB		MBLK			Batch	ID:	R29808	Analysis D	ate:	8/15/2	008 10:24:20 AM
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.10								
Nitrogen, Nitrite (As N)	ND	mg/L	0.10								
Nitrogen, Nitrate (As N)	ND	mg/L	0.10								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50		•						
Sulfate	ND	mg/L	0.50								
Sample ID: MB		MBLK			Batch	ID:	R30109	Analysis D	ate:	9/5/	2008 9:46:34 AM
Fluoride	ND	mg/L	0.10							,	
Chloride	ND	mg/L	0.10								
Nitrogen, Nitrite (As N)	ND	mg/L	0.10								•
Nitrogen, Nitrate (As N)	ND	mg/L	0.10								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS		LCS	•		Batch	ID:	R29808	Analysis D	ate:	8/15/2	008 10:41:45 AM
Fluoride	0.5309	mg/L	0.10	106	90	1	10				
Chloride	4.942	mg/L	0.10	98.8	90	1	10				
Nitrogen, Nitrite (As N)	1.004	mg/L	0.10	100	90	1	10 .				
Nitrogen, Nitrate (As N)	2.515	mg/L	0.10	101	90	1	10 ·				
Phosphorus, Orthophosphate (As P)	5.112	mg/L	0.50	102	- 90	1	10				•
Sulfate	10.23	mg/L	0.50	102	90	1	10				
Sample ID: LCS		LCS			Batch	ID:	R30109	Analysis D	Date:	9/5/2	008 10:03:58 AM
Fluoride	0.5064	mg/L	0.10	101	90	1	10				
Chloride	4.904	mg/L	0.10	98.1	90	1	10				
Nitrogen, Nitrite (As N)	0.9284	mg/L	0.10	92.8	90	1	10				
Nitrogen, Nitrate (As N)	2.522	mg/L	0.10	101	90	1	10				
Phosphorus, Orthophosphate (As P)	4.983	mg/L	0.50	99.7	90	1	10				
Sulfate	10.05	mg/L	0.50	101	90	1	10				
Sample ID: 0808258-01CMS		MS			Batch	ID:	R29808	Analysis [	Date:	8/15/	2008 7:06:43 PM
Fluoride	0.9775	mg/L	0.10	81.7	65.1	1	21				
Nitrogen, Nitrite (As N)	0.8721	mg/L	0.10	87.2	52.9		28				
Nitrogen, Nitrate (As N)	2.434	mg/L	. 0.10	95.5	83.8		12				
Phosphorus, Orthophosphate (As P)	4.196	mg/L	0.50	83.9	77.6		18				
Sulfate	11.18	mg/L	0.50	101	59.4		26				

Qua	l	f	ie	rs
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Value above quantitation range E

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Holding times for preparation or analysis exceeded Η

Not Detected at the Reporting Limit ND

Spike recovery outside accepted recovery limits S

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808258

Analyte	Result	Units	PQL	%Rec	LowLimit H	ighLimit	%RPD R	PDLimit Qual
Method: SM 2320B: Alkalinity	rr:							
Sample ID: MB		MBLK			Batch ID:	R29883	Analysis Date:	8/22/2008
Alkalinity, Total (As CaCO3)	ND	mg/L CaC	2.0					
Carbonate	ND	mg/L CaC	2.0					
Bicarbonate	ND	mg/L CaC	2.0		D			0/00/000
Sample ID: LCS		LCS			Batch ID:		Analysis Date:	8/22/2008
Alkalinity, Total (As CaCO3)	81.00	mg/L CaC	20	100	80	120		
flethod: EPA Method 8015B: D	iesel Range							
Sample ID: MB-16802		MBLK			Batch ID:	16802	Analysis Date:	8/18/2008 9:18:03 AM
Diesel Range Organics (DRO)	ND	mg/L	1.0					
Notor Oil Range Organics (MRO)	ND	mg/L	5.0					
sample ID: LCS-16802		LCS			Batch ID:	16802	Analysis Date:	8/18/2008 9:51:32 AM
Diesel Range Organics (DRO)	4.911	mg/L	1.0	98.2	74	157		
sample ID: LCSD-16802		LCSD			Batch ID:	16802	Analysis Date:	8/18/2008 10:25:06 AM
Diesel Range Organics (DRO)	4.761	mg/L	1.0	95.2	74	157	3.10	23
Method: EPA Method 8015B: G	acolina Pan	ao						
Sample ID: 5ML RB	asomic itan	MBLK			Batch ID:	R29921	Analysis Date:	8/25/2008 9:06:48 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050		20101112	1120021	, manyolo Bato.	0/20/2000 5:00: 10 / 1111
Sample ID: 5ML RB	ND	MBLK	0.030		Batch ID:	R29921	Analysis Date:	8/25/2008 9:06:48 AM
•	ND	mg/L	0.050		Balon ID.	1123321	Allalysis Date.	0/23/2000:3:00:40 AW
asoline Range Organics (GRO)  mple ID: 5ML RB	ND	MBLK	0.000		Batch ID:	R29921	Analysis Date:	8/26/2008 2:59:23 PM
,	NO		0.050		Daten ID.	1123321	Allalysis Date.	0/20/2000 2.55.25 FW
Gasoline Range Organics (GRO)  Gample ID: LCS-GRO	ND	mg/L <i>LCS</i>	0.050		Batch ID:	R29921	Analysis Date:	8/25/2008 5:25:30 PM
•	0.5000		0.050	440			Analysis Date.	0/25/2006 5.25.30 PIVI
Sasoline Range Organics (GRO)	0.5666	mg/L <i>LCS</i>	0.050	113	80 Batch ID:	115	A = = t - : =   D = t = :	0/05/0000 5:05 60 554
ample ID: LCS-GRO						R29921	Analysis Date:	8/25/2008 5:25:30 PM
Gasoline Range Organics (GRO)	0.5666	mg/L	0.050	113		115		0.000.0000
ample ID: LCS-GRO		LCS			Batch ID:	R29921	Analysis Date:	8/26/2008 4:30:47 PM
Sasoline Range Organics (GRO)	0.4266	mg/L	0.050	85.3	80	115		

### Qualifiers:

Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808258

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Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RPC	Limit Qual
Wethod: EPA Method 8260B:	VOLATILES						
Sample ID: 5ml rb		MBLK			Batch ID: R29845	Analysis Date:	8/19/2008 9:01:51 AM
Benzene	ND	μg/L	1.0				
Foluene	- ND	μg/L	1.0		•		
Ethylbenzene	ND	μg/L	1.0				
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0				
1,2,4-Trimethylbenzene	ND	μg/L	1.0				
1,3,5-Trimethylbenzene	ND	μg/L	1.0		0		
1,2-Dichloroethane (EDC)	ND	µg/L	1.0				
1,2-Dibromoethane (EDB)	ND	μg/L	1.0		•		
Naphthalene	ND	μg/L	2.0				
1-Methylnaphthalene	ND	μg/L	4.0				
2-Methylnaphthalene	ND	μg/L	4.0				
Acetone	ND	μg/L	10				
Bromobenzene	ND	µg/L	1.0				
Bromodichloromethane	ND	μg/L	1.0				
Bromoform	ND	μg/L	1.0				
Bromomethane	ND	μg/L	1.0				
2-Butanone	ND	μg/L	10		,		
Carbon disulfide	ND	μg/L	10				
Carbon Tetrachloride	ND	μg/L	1.0				
Chlorobenzene	ND	μg/L	1.0				
Chloroethane	ND	μg/L	2.0				
Chloroform	ND	μg/L	1.0				
Chloromethane	ND	μg/L	1.0				
2-Chlorotoluene	ND	μg/L	1.0				
4-Chlorotoluene	ND	μg/L	1.0				
cis-1,2-DCE	ND	μg/L	1.0				
cis-1,3-Dichloropropene	ND	μg/L	1.0		· ·		
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0				
Dibromochloromethane	ND	μg/L	1.0				
Dibromomethane	ND	μg/L	1.0		•		
1,2-Dichlorobenzene	ND	μg/L	1.0			•	
1,3-Dichlorobenzene	ND	μg/L	1.0				
1,4-Dichlorobenzene	ND	μg/L	1.0				
Dichlorodifluoromethane	ND	µg/L	1.0				
1,1-Dichloroethane	ND	µg/L	1.0				
1,1-Dichloroethene	ND	μg/L	1.0				
1,2-Dichloropropane	ND	μg/L	1.0				
1,3-Dichloropropane	ND	μg/L	1.0				
2,2-Dichloropropane	ND	μg/L	2.0			•	•
1,1-Dichloropropene	ND	μg/L	1.0				
Hexachlorobutadiene	ND	μg/L	1.0				
2-Hexanone	ND	μg/L	10				
Isopropylbenzene	ND	μg/L	1.0			•	
4-Isopropyltoluene	ND	µg/L	1.0				

Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

ND

Analyte detected below quantitation limits

RPD outside accepted recovery limits

R

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808258

nalyte	Result	Units	PQL	%Rec	LowLimit Hi	ghLimit	%RPD	RPDL	imit	Qual
Method: EPA Method 8260B:	VOLATILES									
Sample ID: 5ml rb		MBLK			Batch ID:	R29845	Analysis D	ate:	8/19/2	008 9:01:51 AI
4-Methyl-2-pentanone	ND	µg/L	10							
Methylene Chloride	ND	μg/L	3.0							
n-Butylbenzene	ND	μg/L	1.0							
n-Propylbenzene	ND	μg/L	1.0							
sec-Butylbenzene	ND	µg/L	1.0							
Styrene	. ND	μg/L	1.0							
tert-Butylbenzene	ND	μg/L	1.0							
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0							
1,1,2,2-Tetrachloroethane	ND	μg/L	2.0							
Tetrachloroethene (PCE)	ND	μg/L	1.0							
trans-1,2-DCE	ND	μg/L	1.0							
trans-1,3-Dichloropropene	ND	μg/L	1.0							
1,2,3-Trichlorobenzene	ND	μg/L	1.0							
1,2,4-Trichlorobenzene	ND	μg/L	1.0							
1,1,1-Trichloroethane	ND	μg/L	1.0							
1,1,2-Trichloroethane	ND	μg/L	1.0							
Trichloroethene (TCE)	ND	μg/L	1.0	•						
Trichlorofluoromethane	ND	μg/L	1.0							
1,2,3-Trichloropropane	ND	μg/L	2.0							
Vinyl chloride	ND	μg/L	1.0							
enes, Total	ND	μg/L	1.5							
mple ID: b7		MBLK			Batch ID:	R29845	Analysis D	ate:	8/19/20	008 9:08:01 Pt
Benzene	ND	μg/L	1.0				·			
Toluene	ND	μg/L μg/L	1.0							
Ethylbenzene	ND	μg/L μg/L	1.0							
•	ND	μg/L	1.0							
Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene	ND	μg/L	1.0							
1,3,5-Trimethylbenzene	ND	μg/L μg/L	1.0							
1,2-Dichloroethane (EDC)	ND		1.0							
1,2-Dibromoethane (EDB)	ND	μg/L υσ/I	1.0							
Naphthalene	ND	μg/L μg/L	2.0							
1-Methylnaphthalene	ND		4.0							
2-Methylnaphthalene	ND	μg/L μg/L	4.0							
Acetone	ND	μg/L μg/L	10							
Bromobenzene	ND	μg/L μg/L	1.0							
Bromodichloromethane	ND	μg/L	1.0							
Bromoform	ND	μg/L	1.0							
Bromomethane	ND	µg/L	1.0							
2-Butanone	ND	μg/L	10							
Carbon disulfide	ND	μg/L	10							
Carbon Tetrachloride	ND	μg/L μg/L	1.0							
Chlorobenzene	ND	μg/L μg/L	1.0							
Chloroethane	ND	μg/L μg/L	2.0							
Chloroform	ND ND	μg/L μg/L	1.0							

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808258

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD R	PDLimit Qual
Method: EPA Method 8260B:	VOLATILES							
Sample ID: b7	•	MBLK			Batch II	D: <b>R29845</b>	Analysis Date:	8/19/2008 9:08:01 PM
Chloromethane	ND	µg/L	1.0				•	
2-Chlorotoluene	ND	µg/L	1.0					
4-Chlorotoluene	ND	μg/L	1.0					
cis-1,2-DCE	ND	μg/L	1.0					
cis-1,3-Dichloropropene	ND	ha\r	1.0					
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0					
Dibromochloromethane	ND	μg/L	1.0					
Dibromomethane	ND	μg/L	1.0					
1,2-Dichlorobenzene	ND	µg/L	1.0	•				
1,3-Dichlorobenzene	ND	µg/L	1.0					
1,4-Dichlorobenzene	ND	μg/L μg/L	1.0					
Dichlorodifluoromethane	ND	μg/L	1.0					
1.1-Dichloroethane	ND	μg/L	1.0					
1,1-Dichloroethene	ND		1.0					
1,2-Dichloropropane	ND	μg/L	1.0					
, ,	ND ND	μg/L						
1,3-Dichloropropane		μg/L	1.0					
2,2-Dichloropropane	ND	μg/L	2.0					
1,1-Dichlordpropene	ND	µg/L	1.0					
Hexachlorobutadiene	ND	μg/L	1.0					
2-Hexanone	ND	µg/L	10					
Isopropylbenzene	ND	µg/L	1.0					
4-Isopropyitoluene	ND	μg/L	1.0					
4-Methyl-2-pentanone	ND	µg/L	10					
Methylene Chloride	ND	µg/L	3.0					
n-Butylbenzene	ND	µg/L "	1.0					
n-Propylbenzene	ND	μg/L "	1.0					•
sec-Butylbenzene	ND	μg/L 	1.0					
Styrene	ND	µg/L 	1.0					
tert-Butylbenzene	ND	µg/L "	1.0					
1,1,1,2-Tetrachloroethane	ND	μg/L 	1.0					
1,1,2,2-Tetrachloroethane	ND	μg/L 	2.0					
Tetrachloroethene (PCE)	ND	µg/L	1.0					
trans-1,2-DCE	ND	μg/L "	1.0					
trans-1,3-Dichloropropene	ND	µg/L	1.0					
1,2,3-Trichlorobenzene	ND	µg/L	1.0	•	•		•	
1,2,4-Trichlorobenzene	ND	μg/L	1.0					
1,1,1-Trichloroethane	ND .	μg/L	1.0					
1,1,2-Trichloroethane	ND	μg/L	1.0					
Trichloroethene (TCE)	ND	μg/L "	1.0					
Trichlorofluoromethane	ND	μg/L 	1.0					
1,2,3-Trichloropropane	ND	μg/L	2.0					
Vinyl chloride	ND	μg/L	1.0					
Xylenes, Total	ND	µg/L	1.5					
Sample ID: 100ng lcs		LCS			Batch I	D: <b>R29845</b>	Analysis Date:	8/19/2008 9:59:13 AN

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808258

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 82608	B: VOLATILES							
Sample ID: 100ng Ics		LCS			Batch I	D: <b>R29845</b>	Analysis Date:	8/19/2008 9:59:13 AM
Benzene	20.63	μg/L	1.0	103	86.8	120		
Toluene	19.97	µg/L	1.0	99.8	64.1	127		
Chlorobenzene	22.25	μg/L	1.0	111	82.4	113		
I,1-Dichloroethene	23.25	μg/L	1.0	116	86.5	132		
richloroethene (TCE)	19.43	µg/L	1.0	97.2	77.3	123		
Sample ID: 100ng lcs_b		LCS			Batch I	D: <b>R29845</b>	Analysis Date:	8/19/2008 10:05:19 PM
Benzene	21.26	μg/L	1.0	106	86.8	120		
l'oluene	20.33	μg/L	1.0	102	64.1	127		
Chlorobenzene	22.77	μg/L	1.0	114	82.4	113	•	S
,1-Dichloroethene	23.89	μg/L	1.0	119	86.5	132		
richloroethene (TCE)	19.98	μg/L	1.0	99.9	77.3	123		

Value above quantitation range

Analyte detected below quantitation limits

R RPD outside accepted recovery limits Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808258

Result	Units	PQL	%Rec	LowLimit	High —	ıLimit	%RPD	RPDLimit	Qual
emivolatiles				,					
	MBLK			Batch	ID:	16804	Analysis [	Date:	8/21/200
ND ND	µa/L	10							
		10				-			
		10							
		10							
		•							
							•		
							•		
									• .
ND							•		
ND									•
ND	μg/L								
ND								•	
ND	µg/L	20							
ND	µg/L	20							
ND ·	μg/L	10						*	
ND	µg/L	10				•			
ND .	μg/L	10							
ND	μg/L	10							
ND	μg/L	10							
	### ##################################	### ### ### ### ### #### #### ########	### ### ##############################	### ### ##############################	### MBLK Batch    ND	### Batch ID:  ### Ba	### MBLK    MBLK   Batch ID:   16804     ND	emivolatiles  ### MBLK  MBLK  Batch ID: 16804 Analysis E  ND	MBLK  ND  µg/L  ND  ND  µg/L  ND  ND  µg/L  ND  ND  µg/L  ND  ND  µg/L  ND

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Down-Gradient Wells Annual Aug 2008

Work Order:

0808258.

Method: EPA Method 8270C: S Sample ID: mb-16804 Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Indeno(1,2,3-cd)pyrene Isophorone	ND	MBLK									
Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Indeno(1,2,3-cd)pyrene		MBLK									
Hexachlorocyclopentadiene Hexachloroethane Indeno(1,2,3-cd)pyrene					Batch	ID:	16804	Analysis [	Date:		8/21/200
Hexachloroethane Indeno(1,2,3-cd)pyrene		µg/L	10								
Indeno(1,2,3-cd)pyrene	ND	µg/L	10						4		
	ND	µg/L	10								
Isophorone	ND	µg/L	10								
	ND	μg/L	10								
2-Methylnaphthalene	ND	μg/L	10								
2-Methylphenol	ND	μg/L	10								
3+4-Methylphenol	ND	μg/L	10								
N-Nitrosodi-n-propylamine	ND	µg/L	10								
N-Nitrosodimethylamine	ND	µg/L	10								
N-Nitrosodiphenylamine	ND	µg/L	10								
Naphthalene	ND	µg/L	10								
2-Nitroaniline	ND	µg/L	10		•						
3-Nitroaniline	ND	μg/L	10								
4-Nitroaniline	ND	μg/L	10								
Nitrobenzene	ND	μg/L	10								
2-Nitrophenol	ND	μg/L	10								
4-Nitrophenol	ND	μg/L	10								
Pentachlorophenol	ND	μg/L	40								
Phenanthrene	ND	μg/L	10								
henol	ND	μg/L	10								
yrene	ND	μg/L	10								
Pyridine	ND	μg/L	10								
1,2,4-Trichlorobenzene	ND	μg/L	10								
2,4,5-Trichlorophenol	ND	μg/L	10						•		
2,4,6-Trichlorophenol	ND	μg/L	10								
Sample ID: Ics-16804		LCS			Batch I	ID:	16804	Analysis [	Date:	•	8/21/200
Acenaphthene	43.66	μg/L	10	43.7	11	123					
4-Chioro-3-methylphenol	102.0	μg/L	10	50.1	15.4	119					
2-Chlorophenol	95.42	μg/L	10	46.7	12.2	122					
1,4-Dichlorobenzene	37.00	μg/L	10	37.0	16.9	100					
2,4-Dinitrotoluene	43.10	μg/L	10	43.1	13	138					
N-Nitrosodi-n-propylamine	50.50	μg/L	10	50.5	9.93	122					
4-Nitrophenol	67.84	μg/L	10	33.9	12.5	87.4					
Pentachlorophenol	91.04	μg/L	40	45.5	3.55	114					
Phenol	70.52	μg/L μg/L	10	35.3	7.53	73.1					
Pyrene	52.60	μg/L	10	52.6	12.6	140					
1,2,4-Trichlorobenzene	38.40	μg/L	10	38.4	17.4	98.7					
Sample ID: lcsd-16804		LCSD			Batch I		16804	Analysis [	Date:		8/21/200
Acenaphthene	51.78	μg/L	10	51.8	11	123		17.0	30.5		
4-Chloro-3-methylphenol	120.8		10	59.5	15.4	119		16.9			
2-Chlorophenol	112.9	μg/L	10	59.5 55.5	12.2	122		16.8	28.6 107		
1,4-Dichlorobenzene	42.48	μg/L μα/Ι	10	42.5	16.9	100		13.8			
•		μg/L μg/l							62.1	n	
2,4-Dinitrotoluene	50.30	μg/L	10	50.3	13	138		15.4	14.7	R	

R RPD outside accepted recovery limits

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808258

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 82700	: Semivolatiles	·						•	
Sample ID: lcsd-16804		LCSD			Batch	ID: <b>16804</b>	Analysis D	Date:	8/21/2008
N-Nitrosodi-n-propylamine	58.30	μg/L	10	58.3	9.93	122	14.3	30.3	
4-Nitrophenol	92.10	µg/L	10	46.0	12.5	87.4	30.3	36.3	
Pentachlorophenol	103.7	μg/L	40	51.9	3.55	114	13.0	49	
Phenol	90.88	μg/L	10	45.4	7.53	73.1	25.2	52.4	•
Pyrene	60.08	µg/L	10	60.1	12.6	140	13.3	16.3	
1,2,4-Trichlorobenzene	45.64	µg/L	10	45.6	17.4	98.7	17.2	36.4	

### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808258

Analyte		Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	PDLimit Qual
Method: E	PA Method 6010B: [	Dissolved Me	etals						
Sample ID: (	0808258-05EMSD		MSD			Batch II	D: <b>R29998</b>	Analysis Date:	8/29/2008 4:25:48 F
Arsenic		0.5257	mg/L	0.020	105	75	125	1.35	20
Cadmium		0.5195	mg/L	0.0020	104	75	125	2.54	20
Chromium		0.5003	mg/L	0.0060	100	75	125	2.08	20
Copper		0.5440	mg/L	0.0060	109	75	125	2.12	20
Lead		0.5052	mg/L	0.0050	100	75	125	3.47	20
Silver		0.4839	mg/L	0.0050	96.8	75	125	1.12	20
Zinc .		0.5460	mg/L	0.050	101	75	125	2.76	20 .
Sample ID: 0	0808258-05EMSD		MSD			Batch II	D: <b>R29998</b>	Analysis Date:	8/29/2008 5:23:01 F
Barium		3.092	. mg/L	0.10	96.6	75	125	0.884 2	20
Manganese		4.249	mg/L	0.010	92.4	75	125		20
-	0808258-05EMSD		MSD			Batch II		Analysis Date:	9/8/2008 10:57:12 F
Selenium		2.776	mg/L	0.25	111	75	125	-	20
Sample ID: N	/IR	2.770	MBLK	0.25	117	Batch ID		Analysis Date:	8/29/2008 1:18:16 P
				0.000		. Buton in	J. 1(20000	rinarysis bate.	0/20/2000 1:10:101
Arsenic		ND	mg/L	0.020					
Barium		ND	mg/L	0.020					
Cadmium		ND	mg/L	0.0020					
Chromium (		ND	mg/L	0.0060					
Copper		ND	mg/L	0.0060					
ron		ND	mg/L	0.020					
ead		ND	mg/L	0.0050					
anganese		ND	mg/L	0.0020					
Selenium		ND	mg/L	0.050					
Silver		ND	mg/L	0.0050					
Zinc Sample ID:    M	1R	ND	mg/L <i>MBLK</i>	0.050		Batch ID	R29998	Analysis Date:	8/29/2008 3:30:02 PI
Arsenic	.5	ND		0.020		Butonib	1120000	Allarysis Bate.	0/20/2000 0.00.02 1
Barium	•	ND	mg/L	0.020					
Cadmium		ND	mg/L	0.020					
hromium		ND	mg/L	0.0020					
Copper		ND	mg/L	0.0060					
on		ND	mg/L mg/L	0.0000					
ead		ND	mg/L	0.0050					
langanese		ND	mg/L	0.0030					
elenium	•	ND .	mg/L	0.050					·
ilver		ND	mg/L	0.0050					
ample ID: M	В	,,,,	MBLK	0.0000		Batch ID	R30124	Analysis Date:	9/8/2008 9:44:53 PI
elenium		ND		0.050	•			, maryone Date.	0,0,2000 0.11.0011.
eieriium ample ID: L0	~e	ND	mg/L	0.050		Patch ID	- 120000	Analysis Date:	9/20/2009 4 24 07 128
			LCS			Batch ID:		Analysis Date:	8/29/2008 1:21:07 PM
rsenic		0.5042	mg/L	0.020	101	80	120		
arium		0.5032	mg/L	0.020	101	80	120		
admium		0.5164	mg/L	0.0020	103	80	120		
hromium		0.5062	mg/L	0.0060	101	80	120		
opper		0.4904	mg/L	0.0060	98.1	80	120		

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808258

Analyte	Result	Units	PQL	%Rec	LowLimit Hi	ghLimit	%RPD RPI	DLimit Qual
Method: EPA Method 6010B: I	Dissolved Me	etals						
Sample ID: LCS		LCS			Batch ID:	R29998	Analysis Date:	8/29/2008 1:21:07 PM
ron	0.5268	mg/L	0.020	105	80	120		
_ead	0.5188	mg/L	0.0050	104	80	120		
Manganese	0.5008	mg/L	0.0020	100	80	120		
Selenium	0.5137	mg/L	0.050	103	80	120		
Silver	0.5081	mg/L	0.0050	102	80	120		
Zinc ·	0.5096	mg/L	0.050	. 102	80	120		
Sample ID: LCS		LCS			Batch ID:	R29998	Analysis Date:	8/29/2008 3:32:53 PM
Arsenic	0.5219	mg/L	0.020	104	80	120		
Barium	0.5196	mg/L	0.020	104	80	120		
admium	0.5339	mg/L	0.0020	107	80	120		
hromium	0.5264	mg/L	0.0060	105	80	120		
Copper	0.5107	mg/L	0.0060	102	80	120		
on	0.5102	mg/L	0.020	102	80	120		
ead	0.5421	mg/L	0.0050	108	80	120		
1anganese	0.5171	mg/L	0.0020	103	80	120		
elenium	0.5360	mg/L	0.050	107	80	120		
Silver	0.5257	mg/L	0.0050	105	80	120		
sample ID: LCS		LCS			Batch ID:	R30124	Analysis Date:	9/8/2008 9:47:18 PM
elenium	0.5051	mg/L	0.050	101	80	120		
ample ID: 0808258-05EMS		MS			Batch ID:	R29998	Analysis Date:	8/29/2008 4:14:41 PM
rsenic	0.5329	mg/L	0.020	107	75 ·	125		
admium :	0.5328	mg/L	0.0020	107		125		`
hromium	0.5108	mg/L	0.0060	102		125		
opper	0.5556	mg/L	0.0060	111		125		
ead	0.5231	mg/L	0.0050	104		125		
ilver	0.4894	mg/L	0.0050	97.9	75	125		
inc	0.5613	mg/L	0.050	104		125		
ample ID: 0808258-05EMS		MS			Batch ID:	R29998	Analysis Date:	8/29/2008 5:20:39 PM
arium	3.065	mg/L	0.10	95.5	75	125		•
langanese	4.220	mg/L	0.010	91.2		125		
Sample ID: 0808258-05EMS		MS			Batch ID:	R30124	Analysis Date:	9/8/2008 10:54:45 PM
Selenium	2.794	mg/L	0.25	112	75	125	·	
/Gromatit	2.104	1119/L	0.20	112	7.5			

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Qι	a		. 13

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Down-Gradient Wells Annual Aug 2008

Work Order:

0808258

Analyte		Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: Sample ID:	EPA 6010B: Total F	Recoverable Me	tals MBLK			Batch	ID: 46076	Analysis Date:	0/00/0000 11.EE.OC AN
	IVID-10076	ND		0.000		Daton	ID: 16876	Analysis Date:	8/28/2008 11:55:26 AM
Arsenic		ND	mg/L	0.020					
Barium		ND	mg/L	0.010 0.0020					
Cadmium Chromium		ND ND	mg/L mg/L	0.0020					
Lead		ND	mg/L	0.0050					
Selenium		ND	mg/L	0.050					
Silver		ND	mg/L	0.0050					
Sample ID:	MR-16876	NO	MBLK	0.0000		Batch	ID: 16876	Analysis Date:	9/2/2008 10:17:34 AM
•	W.D. 10070	ND		0.010		Daton	10. 10070	Allalysis Date.	91212000 TO. 17 . 34 AIVI
Barium		ND	mg/L	0.010					
Cadmium		ND	mg/L	0.0020					
Chromium		ND ND	mg/L	0.0060 0.0050					
Lead	•	ND	mg/L	0.0050					
Silver	MD 46076	NU	mg/L <i>MBLK</i>	0.0000		D-1-h	ID: 40070	Analysis Detail	0/0/0000 40-50-50 PM
Sample ID:	IAID-10910					Batch	ID: <b>16876</b>	Analysis Date:	9/2/2008 12:52:59 PM
Arsenic		ND	mg/L	0.020					
Selenium		ND	mg/L	0.050					
Sample ID:	LCS-16876		LCS			Batch	ID: 16876	Analysis Date:	8/28/2008 11:57:19 AM
Arsenic		0.4914	mg/L	0.020	98.3	80	120		
Barium		0.4796	mg/L	0.010	95.9	80	120		
Sadmium		0.4924	mg/L	0.0020	98.5	80	120		
ıromium		0.4942	mg/L	0.0060	98.8	80	120		
Lead		0.4785	mg/L	0.0050	95.0	80	120		
Selenium		0.4934	mg/L	0.050	98.7	80	120		
Silver		0.4969	mg/L	0.0050	99.4	80	120		
Sample ID:	LCS-16876		LCS			Batch	ID: 16876	Analysis Date:	9/2/2008 10:19:54 AM
Barium		0.4752	mg/L	0.010	95.0	80	120		•
Cadmium		0.4758	mg/L	0.0020	95.2	80	120		
Chromium		0.4812	mg/L	0.0060	96.2	80	120		
Lead		0.4736	mg/L	0.0050	94.7	80	120		
Silver		0.4784	mg/L	0.0050	95.7	80	120		
Sample ID:	LCS-16876		LCS			Batch	ID: 16876	Analysis Date:	9/2/2008 12:55:29 PM
Arsenic		0.4782	mg/L	0.020	95.6	80	120		
Selenium		0.4710	mg/L	0.050	94.2	80	120		

Oug	lifiers.

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

### Login Report

Customer Name: HALL ENVIRONMENTAL ANALYSIS LAB

Order ID:

080819021

**Purchase Order:** 

**Order Date:** 

8/19/2008

Project ID:

Project Name: 0808258

Comment:

Sample #: 080819021-001

Customer Sample #:

0808258-01F / MW-11

Site: 8/14/2008

Recv'd:

**V** 1

Collector: Matrix:

Water

**Date Collected:** Date Received:

8/19/2008 11:15:00 A

Quantity: Comment:

Test **DISSOLVED URANIUM BY 6**  **Test Group** 

Method

**Due Date** 8/29/2008 **Priority** 

Sample #:

080819021-002

**EPA 6020A** 0808258-02F / MW-12

Normal (6-10 Days)

Customer Sample #:

**Date Collected:** 

8/14/2008

Recv'd: Quantity:

Water

Date Received:

8/19/2008 11:15:00 A

Comment:

Test

**Test Group** 

Method

**Due Date** 

**Priority** 

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 

8/29/2008

Normal (6-10 Days)

Sample #:

080819021-003

Customer Sample #:

Water

0808258-03F / MW-37

Site:

Recv'd:

Collector:

**Date Collected:** 

8/14/2008

Quantity:

**Date Received:** 

Matrix:

Matrix:

8/19/2008 11:15:00 A

Comment:

Test

Method

**Due Date** 

**Priority** 

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 

8/29/2008

Sample #:

080819021-004

Customer Sample #:

**Test Group** 

Normal (6-10 Days)

Matrix:

0808258-04F / MW-38

Recv'd: Quantity:

Collector:

Water

**Date Collected:** 

8/14/2008

**Date Received:** 

8/19/2008 11:15:00 A

Comment:

Test **DISSOLVED URANIUM BY 6**  **Test Group** 

Method **EPA 6020A**  **Due Date** 8/29/2008 **Priority** 

Normal (6-10 Days)

Customer Name: HALL ENVIRONMENTAL ANALYSIS LAB

Order ID:

080819021

**Purchase Order:** 

**Order Date:** 

8/19/2008

Project ID:

Project Name: 0808258

Comment:

080819021-005 Sample #:

Customer Sample #:

**Test Group** 

Water

0808258-05F / MW-11 FD Site:

Date Collected:

8/14/2008

Quantity:

Collector:

Matrix:

Date Received:

8/19/2008 11:15:00 A

Comment:

Recv'd:

Test

V

Method

**Due Date** 

Priority

**DISSOLVED URANIUM BY 6** 

EPA 6020A

8/29/2008

Normal (6-10 Days)

### SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	3.5
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

THE DESCRIPTION OF THE PROPERTY OF THE PROPERT

080819 021 ANN Due 8/29/2008 8/14/2008 1st RCVD

8/19/2008

Albuquerque, New Mexico 87109-4372 4901 Hawkins NE, Suite D

TEL: 5053453975

FAX: 5053454107

Moscow, ID 83843	1282 Alturas Dr	Anatek Labs, Inc.	Subcontractor	
Acct #:	FAX:	TEL:		
	(208) 882-9246	(208) 883-2839		

Project Name: 0808258

15-Aug-08

	125HDPHN03	8/14/2008 10:15:00 AM	Aqueous	W	MW-11 FD	0808258-05F
SEE BELOW	125HDPHN03	8/14/2008 11:50:00 AM	Aqueous	7	MW-38	0808258-04F
SEE BELOW	125HDPHN03	8/14/2008 11:20:00 AM	Aqueous	V	MW-37	0808258-03F
SEE BELOW	125HDPHNO3	8/14/2008 11:00:00 AM	Aqueous	N	MW-12	0808258-02F
SEE BELOW	125HDPHNO3	8/14/2008 10:00:00 AM	Aqueous	)-	MW-11	0808258-01F
Requested Tests	Bottle Type	Collection Date	Matrix		Client Sample ID	Lab ID

TWW BS

ANALYTICAL COMMENTS:

LEVEL 4 QA/QC FOR DISSOLVED U BY 6020, PLEASE REPORT @ 0.001 mg/L

Standard TAT. Please fax (505) 345-4107 results when completed, or email to lab@hallenvironmental.com. Thank you.

Relinquished by:	Relinquished by:		
	China H		
Receive	\$/15/03 Receive	Date/Time	
NUMBER OF CONTAINERS SHIPPED VIA:		RECEIVED INTACT  LABELS & CHAINS AGREE  TEMP: 2 . 6	ANATEK LABS RECEIVING LIST

## Sample Receipt Checklist

Client Name WESTERN REFINING SOUT				Date Received	d:		8/15/2008	
Work Order Number 0808258				Received by		ı.	10	
Checklist completed by:	Aru	7	8 / 1 Date	Sample ID la	bels checked		Initials	-
Matrix:	Carrier name <u>l</u>	JPS						
Shipping container/cooler in good condition?		Yes 🔽		No 🗌	Not Present			
Custody seals intact on shipping container/cooler	?	Yes ☑		No 🗌	Not Present		Not Shipped	
Custody seals intact on sample bottles?	`	∕es □	]	No 🗀	N/A	✓		
Chain of custody present?	,	Yes ▼		No 🗌				
Chain of custody signed when relinquished and re	eceived?	Yes 🛂		No 🗌				
Chain of custody agrees with sample labels?	`	Yes 🛂		No 🗌				
Samples in proper container/bottle?	`	∕es 🔽		No 🗌				
Sample containers intact?	`	Yes 🔽		No 🗆				
Sufficient sample volume for indicated test?	•	Yes 🔽		No 🗌				
All samples received within holding time?	,	Yes 🔽		No 🗌				
Water - VOA vials have zero headspace?	No VOA vials submit	ted [		Yes 🗹	No 🗌			
Water - Preservation labels on bottle and cap ma	tch?	Yes 🔽	•	No 🗌	N/A			
Water - pH acceptable upon receipt?	`	Yes <b>⊻</b>		No 🗌	N/A			
Container/Temp Blank temperature?		4°		<6° C Acceptab				
COMMENTS:				If given sufficient	time to cool.			
						:		
Client contacted [	Date contacted:			Pers	on contacted			
Contacted by:	Regarding:							
Daniel	11000 ()	20	725	50 Air	7 025	7	12E A	ci £
Comments: 10000 000	Duri U	<u>0 U</u>	06	<u> </u>	-, 025	(	03E,0	40,
area ose area i	- 125 ml		NO.	3 laev	1	M	auss	_U_
unerysis. as spis	<u> </u>							
				· 				
Corrective Action								

HALL FRATEONMENTAL	· ·		4901 Hawkins NE - Albuquerque, NM 87109	505-345-3975 Fax 505-345-4107	Analysis Requestr	? (*O	9S <sup>'†</sup> C	Dd'č	(†. (0) (†.	.405 .405 .4A .4A .8 \ 8	bo bo bo N,IC Oblio	TPH Methor (Methor) H9T1 (Methor) CMethor) CMeth	<b>X</b>	×	×	X	X	\triangle \trian	*	×	×	×	×				This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
· *	\$ T		4901	Tel.		(ʎJu	se oi	(G	Hd.	T +	18E	rm + Xəts							X						Remarks:		ility. Any s
Turn-Around Time:	□ Rush	Project Name: Downgradiant Wells	ANNUAL Ang. 2008			Project Manager:		)) S <sub>1</sub> (	Sampler: Condy (30)	क्रिक्ट 🗀 🗀 No	emperature: ्री	Container Preservative HEAL No. X Type and # Type	1-	AMBEL	250ml HNO3	500 M/ HNO2	1/1/	500ml -1	6-VOA HC! -2	Amber	380 ml HNO3 -2	500 ml NN03 -2	350 ml H2504 -2	7 - 7	Received by: 8 115 128	Rebeived by:	ner accredited laboratories.
Chain-of-Custody Record	Client: Western Refining (Blafld)		50 CR 4890	Bloomfield, NN 87413	7	#. 505-632-3911	1	ভিCevel 4 (Full Validation)		)e)		Time Sample Request ID	10AN MO-11	├—			)		1/m MW-12	Transmission of the second					30 pm Relindulehedry: HWAdo	, ·	If necessary, samples submitted to Hall Environmental may be subcontracted to oth
Chai	Client: Wes		Address: #50	Bloo	Phone #: 5		QA/QC Package:	□ Standard	□ Other	☐ EDD (Type)		Date	Barre	<del> </del>				)	8-14-08						Pate: Time: 8/14-08 30		lf necess

Air Bubbles (Y or N)



analysis laboratory HALL ENVIRONMENTAL 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 MISM 4901 Hawkins NE - Albuquerque, NM 87109 www.hallenvironmental.com (AOV) 808S8 8081 Pesticides / 8082 PCB's Anions (F,CI,NO<sub>3</sub>,NO<sub>2</sub>,PO<sub>4</sub>,SO<sub>4</sub>) (HA9 to AN9) 01:88 Tel. 505-345-3975 EDC (Method 8260) EDB (Method 504.1) (1.814 bodteM) H97 Method 8015B (Gas/Diesel) Remarks: BTEX + MTBE + TPH (Gas only) (FS08) 8'8MT + 38TM + X3T8 8/15/18 WW 3 HEAL No. 3 Project Name: Wells Preservative □ Rush 42804 开NO3 HNO3 14003 7504 Type Received by: Received by HNDS <u>ب</u> Sample Temperature: HC. AMBER Amber-Turn-Around Time: Project Manager: Standard 250 ml 250 M 500 M 250 MI Type and # 500 MI 6-VOA 250 W ANNIA 500 M Container On Ice: 16-10A 500 M Project #: Sampler: Client: Western Refining (Blafld Sample Request ID Chain-of-Custody Record FLevel 4 (Full Validation) MW-38 アン・ジャ email or Fax#: 505-632-39// 1887 Relinquished by Relinquished by 2 Boon field 11204 1504 Time Address: #50 2PM QA/QC Package: □ EDD (Type) □ Standard 8-14-08 Date: Phone #: □ Other 8-14-08 80-11-8 Date

Air Bubbles (Y or N)

HALL ENVIRONMENTAL	٠.		4901 Hawkins NE - Albuquerque, NM 87109	505-345-3975 Fax 505-345-4107	Analysis Request	( <sub>p</sub> O	Stog,	(1) (0) (H) (0) (H) (M) (NOSS	d 418 d 504 d 504 d 508 d 50 d 50 d 50 d 50 d 50 d 50 d 50 d 50	ortholotholotholotholotholotholotholotho	PH ( <i>N</i> EDB ( <i>N</i> 3310 (F	)	×	×	×	X XX		X	*								and the second s
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S Section 2			т			()	S08) s	BM.	L + 38	TM.	+ X∃T8	3										,		Remarks:	-1		111111111111
	h	S	2008	. "		Ī		7	ON ⊈⊡		HEAL No.	0.0000	) N	Y	5	5	5	- (0	7 -	•				3115/08			100
Time:	I ⊟ Rush	Shall train	449	כ		ager:		#/ KM	⊡ <sup>f</sup> Yes berature:	Total and the second se	Freservanve Type	ACC	)	HND3	HW03	4550y		NCL					<	Regeived by:	Received by:		
Turn-Around Time:	4-Standard	Project Name:	ANNIA	Project #:		Project Manager:		Sampler:	Ontice: E/Yes Sample Temperature:	- I the second s	Type and #	6-104	Am han	250 ml	mals	ason	Grand	3-104									
Chain-of-Custody Record	Client: Western Refining (BINFU)		CR 4990	J. NM B74/3	632-4161	1/32-529-	ZA-Cevel 4 (Full Validation)				Sample Request ID	MW I FIY						Field Blank	TroBlack					Relinguished by:	Relinquished by	<b>-</b>	
ain-of-	estern		#50	Bloomfield	Phone #: 505 - 6	email or Fax#: らったらる	ickage: ard		Туре)		Time	10154	_	_				Shill			:			Time:	Time:		
ဂ ပ	Client:		Address: #50	RICE	Phone #:	email or F	QA/QC Package: ☐ Standard	□ Other	□ EDD (Type)		Date	4-14-PA		-				8-14-08						Date:	Date:		

ary, samples submitted to Hall Environmental may be subcontracted to other





### **COVER LETTER**

Thursday, September 18, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: Cross-Gradient Wells Annual Aug 2008

Dear Cindy Hurtado:

Order No.: 0808240

Hall Environmental Analysis Laboratory, Inc. received 9 sample(s) on 8/14/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Buşiness Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 18-Sep-08

CLIENT: Western Refining Southwest, Inc.

Project: Cross-Gradient Wells Annual Aug 2008

**Lab Order:** 0808240

Lab Sample ID	Client Sample ID	Batch ID	Test Name	<b>Collection Date</b>
0808240-01A	MW-1	16802	EPA Method 8015B: Diesel Range	8/13/2008 8:00:00 AM
0808240-01A	MW-1	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 8:00:00 AM
0808240-01A	MW-1	R29803	EPA Method 8260B: VOLATILES	8/13/2008 8:00:00 AM
0808240-01B	MW-1	16804	EPA Method 8270C: Semivolatiles	8/13/2008 8:00:00 AM
0808240-01C	MW-1	R29800	EPA Method 300.0: Anions	8/13/2008 8:00:00 AM
0808240-01C	MW-1	R29800	EPA Method 300.0: Anions	8/13/2008 8:00:00 AM
0808240-01C	MW-1	R29866	SM 2320B: Alkalinity	8/13/2008 8:00:00 AM
0808240-01C	MW-1	R29884	Carbon Dioxide	8/13/2008 8:00:00 AM
0808240-01D	MW-1	16906	EPA Method 7470: Mercury	8/13/2008 8:00:00 AM
0808240-01D	MW-1	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 8:00:00 AM
0808240-01E	MW-1	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 8:00:00 AM
0808240-02A	MW-13	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 8:50:00 AM
0808240-02A	MW-13	R29803	EPA Method 8260B: VOLATILES	8/13/2008 8:50:00 AM
0808240-02A	MW-13	16802	EPA Method 8015B: Diesel Range	8/13/2008 8:50:00 AM
0808240-02A	MW-13	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 8:50:00 AM
0808240-02B	MW-13	16804	EPA Method 8270C: Semivolatiles	8/13/2008 8:50:00 AM
0808240-02C	MW-13	R29800	EPA Method 300.0: Anions	8/13/2008 8:50:00 AM
0808240-02C	MW-13	R29800	EPA Method 300.0: Anions	8/13/2008 8:50:00 AM
0808240-02C	MW-13	R29866	SM 2320B: Alkalinity	8/13/2008 8:50:00 AM
0808240-02C	MW-13	R29884	Carbon Dioxide	8/13/2008 8:50:00 AM
0808240-02C	MW-13	R30068	EPA Method 300.0: Anions	8/13/2008 8:50:00 AM
0808240-02D	MW-13	16906	EPA Method 7470: Mercury	8/13/2008 8:50:00 AM
0808240-02D	MW-13	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 8:50:00 AM
0808240-02D	MW-13	16906	EPA Method 7470: Mercury	8/13/2008 8:50:00 AM
0808240-02E	MW-13	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 8:50:00 AM
0808240-02E	MW-13	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 8:50:00 AM
0808240-02E	MW-13	R30124	EPA Method 6010B: Dissolved Metals	8/13/2008 8:50:00 AM
0808240-02E	MW-13	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 8:50:00 AM
0808240-03A	MW-26	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 9:15:00 AM
0808240-03A	MW-26	16802	EPA Method 8015B: Diesel Range	8/13/2008 9:15:00 AM
0808240-03A	MW-26	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 9:15:00 AM
0808240-03A	MW-26	R29824	EPA Method 8260B: VOLATILES	8/13/2008 9:15:00 AM
0808240-03A	MW-26	R29803	EPA Method 8260B: VOLATILES	8/13/2008 9:15:00 AM
0808240-03A	MW-26	R29824	EPA Method 8260B: VOLATILES	8/13/2008 9:15:00 AM
0808240-03B	MW-26	16804	EPA Method 8270C: Semivolatiles	8/13/2008 9:15:00 AM
0808240-03C	MW-26	R29800	EPA Method 300.0: Anions	8/13/2008 9:15:00 AM
0808240-03C	MW-26	R29800	EPA Method 300.0: Anions	8/13/2008 9:15:00 AM
0808240-03C	MW-26	R29866	SM 2320B: Alkalinity	8/13/2008 9:15:00 AM

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

Cross-Gradient Wells Annual Aug 2008

Lab Order:

0808240

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808240-03C	MW-26	R29884	Carbon Dioxide	8/13/2008 9:15:00 AM
0808240-03D	MW-26	16906	EPA Method 7470: Mercury	8/13/2008 9:15:00 AM
0808240-03D	MW-26	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 9:15:00 AM
0808240-03D	MW-26	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 9:15:00 AM
0808240-03E	MW-26	R30124	EPA Method 6010B: Dissolved Metals	8/13/2008 9:15:00 AM
0808240-03E	MW-26	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 9:15:00 AM
0808240-03E	MW-26	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 9:15:00 AM
0808240-04A	MW-27	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 10:30:00 AM
0808240-04A	MW-27	R29803	EPA Method 8260B: VOLATILES	8/13/2008 10:30:00 AM
0808240-04A	MW-27	16802	EPA Method 8015B: Diesel Range	8/13/2008 10:30:00 AM
0808240-04B	MW-27	16804	EPA Method 8270C: Semivolatiles	8/13/2008 10:30:00 AM
0808240-04C	MW-27	R29800	EPA Method 300.0: Anions	8/13/2008 10:30:00 AM
0808240-04C	MW-27	R29800	EPA Method 300.0: Anions	8/13/2008 10:30:00 AM
0808240-04C	MW-27	R29866	SM 2320B: Alkalinity	8/13/2008 10:30:00 AM
0808240-04C	MW-27	R29884	Carbon Dioxide	8/13/2008 10:30:00 AM
0808240-04C	MW-27	R30012	EPA Method 300.0: Anions	8/13/2008 10:30:00 AM
0808240-04D	MW-27	16906	EPA Method 7470: Mercury	8/13/2008 10:30:00 AM
0808240-04D	MW-27	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 10:30:00 AM
0808240-04E	MW-27	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 10:30:00 AM
0808240-04E	MW-27	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 10:30:00 AM
0808240-04E	MW-27	R30124	EPA Method 6010B: Dissolved Metals	8/13/2008 10:30:00 AM
0808240-05A	MW-31	16802	EPA Method 8015B: Diesel Range	8/13/2008 10:00:00 AM
0808240-05A	MW-31	R29824	EPA Method 8260B: VOLATILES	8/13/2008 10:00:00 AM
0808240-05A	MW-31	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 10:00:00 AM
0808240-05A	MW-31	R29803	EPA Method 8260B: VOLATILES	8/13/2008 10:00:00 AM
0808240-05B	MW-31	16804	EPA Method 8270C: Semivolatiles	8/13/2008 10:00:00 AM
0808240-05C	MW-31	R29884	Carbon Dioxide	8/13/2008 10:00:00 AM
0808240-05C	MW-31	R30012	EPA Method 300.0: Anions	8/13/2008 10:00:00 AM
0808240-05C	MW-31	R29866	SM 2320B: Alkalinity	8/13/2008 10:00:00 AM
0808240-05C	MW-31	R29800	EPA Method 300.0: Anions	8/13/2008 10:00:00 AM
0808240-05C	MW-31	R29800	EPA Method 300.0: Anions	8/13/2008 10:00:00 AM
0808240-05D	MW-31	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 10:00:00 AM
0808240-05D	MW-31	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 10:00:00 AM
0808240-05D	MW-31	16906	EPA Method 7470: Mercury	8/13/2008 10:00:00 AM
0808240-05E	MW-31	R30124	EPA Method 6010B: Dissolved Metals	8/13/2008 10:00:00 AM
0808240-05E	MW-31	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 10:00:00 AM
0808240-05E	MW-31	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 10:00:00 AM
0808240-06A	MW-32	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 11:30:00 AM
0808240-06A	MW-32	R29803	EPA Method 8260B: VOLATILES	8/13/2008 11:30:00 AM
0808240-06A	MW-32	16802	EPA Method 8015B: Diesel Range	8/13/2008 11:30:00 AM

CLIENT:

Western Refining Southwest, Inc.

Project:

Cross-Gradient Wells Annual Aug 2008

Lab Order:

0808240

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808240-06B	MW-32	16804	EPA Method 8270C: Semivolatiles	8/13/2008 11:30:00 AM
0808240-06C	MW-32	R29800	EPA Method 300.0: Anions	8/13/2008 11:30:00 AM
0808240-06C	MW-32	R29800	EPA Method 300.0: Anions	8/13/2008 11:30:00 AM
0808240-06C	MW-32	R29866	SM 2320B: Alkalinity	8/13/2008 11:30:00 AM
0808240-06C	MW-32	R29884	Carbon Dioxide	8/13/2008.11:30:00 AM
0808240-06C	MW-32	R30012	EPA Method 300.0: Anions	8/13/2008 11:30:00 AM
0808240-06D	MW-32	16906	EPA Method 7470: Mercury	8/13/2008 11:30:00 AM
0808240-06D	MW-32	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 11:30:00 AM
0808240-06E	MW-32	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 11:30:00 AM
0808240-06E	MW-32	R30124	EPA Method 6010B: Dissolved Metals	8/13/2008 11:30:00 AM
0808240-07A	MW-33	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 10:55:00 AM
0808240-07A	MW-33	16802	EPA Method 8015B: Diesel Range	8/13/2008 10:55:00 AM
0808240-07A	MW-33	R29803	EPA Method 8260B: VOLATILES	8/13/2008 10:55:00 AM
0808240-07B	MW-33	16804	EPA Method 8270C: Semivolatiles	8/13/2008 10:55:00 AM
0808240-07C	MW-33	R29800	EPA Method 300.0: Anions	8/13/2008 10:55:00 AM
0808240-07C	MW-33	R29800	EPA Method 300.0: Anions	8/13/2008 10:55:00 AM
0808240-07C	MW-33	R29866	SM 2320B: Alkalinity	8/13/2008 10:55:00 AM
0808240-07C	MW-33	R29884	Carbon Dioxide	8/13/2008 10:55:00 AM
0808240-07C	MW-33	R30012	EPA Method 300.0: Anions	8/13/2008 10:55:00 AM
0808240-07D	MW-33	16906	EPA Method 7470: Mercury	8/13/2008 10:55:00 AM
0808240-07D	MW-33	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 10:55:00 AM
0808240-07E	MW-33	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 10:55:00 AM
0808240-07E	MW-33	R30124	EPA Method 6010B: Dissolved Metals	8/13/2008 10:55:00 AM
0808240-08A	MW-26 FD	R29824	EPA Method 8260B: VOLATILES	8/13/2008 9:20:00 AM
0808240-08A	MW-26 FD	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 9:20:00 AM
0808240-08A	MW-26 FD	R29921	EPA Method 8015B: Gasoline Range	8/13/2008 9:20:00 AM
0808240-08A	MW-26 FD	16802	EPA Method 8015B: Diesel Range	8/13/2008 9:20:00 AM
0808240-08A	MW-26 FD	R29803	EPA Method 8260B: VOLATILES	8/13/2008 9:20:00 AM
0808240-08A	MW-26 FD	R29824	EPA Method 8260B: VOLATILES	8/13/2008 9:20:00 AM
0808240-08B	MW-26 FD	16804	EPA Method 8270C: Semivolatiles	8/13/2008 9:20:00 AM
0808240-08C	MW-26 FD	R29866	SM 2320B: Alkalinity	8/13/2008 9:20:00 AM
0808240-08C	MW-26 FD	R29884	Carbon Dioxide	8/13/2008 9:20:00 AM
0808240-08C	MW-26 FD	R29800	EPA Method 300.0: Anions	8/13/2008 9:20:00 AM
0808240-08C	MW-26 FD	R29800	EPA Method 300.0: Anions	8/13/2008 9:20:00 AM
0808240-08D	MW-26 FD	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 9:20:00 AM
0808240-08D	MW-26 FD	16876	EPA 6010B: Total Recoverable Metals	8/13/2008 9:20:00 AM
0808240-08D	MW-26 FD	16906	EPA Method 7470: Mercury	8/13/2008 9:20:00 AM
0808240-08E	MW-26 FD	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 9:20:00 AM
0808240-08E	MW-26 FD	R29998	EPA Method 6010B: Dissolved Metals	8/13/2008 9:20:00 AM
0808240-08E	MW-26 FD	R30124	EPA Method 6010B: Dissolved Metals	8/13/2008 9:20:00 AM

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

Cross-Gradient Wells Annual Aug 2008

Lab Order:

0808240

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808240-09A	Trip Blank	R29921	EPA Method 8015B: Gasoline Range	
0808240-09A	Trip Blank	R29803	EPA Method 8260B: VOLATILES	

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: MW-1

Lab Order:

0808240

Collection Date: 8/13/2008 8:00:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.67	0.10	mg/L	1	8/15/2008 12:15:04 AM
Chloride	19	0.10	mg/L	1	8/15/2008 12:15:04 AM
Nitrogen, Nitrite (As N)	. ND	0.10	mg/L	1	8/15/2008 12:15:04 AM
Bromide	0.14	0.10	mg/L	1	8/15/2008 12:15:04 AM
Nitrogen, Nitrate (As N)	1.2	0.10	mg/L	1	8/15/2008 12:15:04 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 12:15:04 AM
Sulfate	130	5.0	mg/L	10	8/15/2008 12:32:28 AM

- Value exceeds Maximum Contaminant Level
- Е Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н

MCL Maximum Contaminant Level

Reporting Limit

**Date:** 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Client Sample ID: MW-1

Project:

Cross-Gradient Wells Annual Aug 2008

**Collection Date:** 8/13/2008 8:00:00 AM **Date Received:** 8/14/2008

Lab ID:

0808240-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	<b>E</b>				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/18/2008 10:58:52 AM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/18/2008 10:58:52 AM
Surr: DNOP	111	58-140	%REC	1	8/18/2008 10:58:52 AM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/25/2008 6:26:15 PM
Surr: BFB	91.7	79.2-121	%REC	1	8/25/2008 6:26:15 PM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.67	0.10	mg/L	1	8/15/2008 12:15:04 AM
Chloride	19	0.10	mg/L	1	8/15/2008 12:15:04 AM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/15/2008 12:15:04 AM
Nitrogen, Nitrate (As N)	1.2	0.10	mg/L	1	8/15/2008 12:15:04 AM
Phosphorus, Orthophosphate (As P)	. ND	0.50	mg/L	1	8/15/2008 12:15:04 AM
Sulfate	130	5.0	mg/L	10	8/15/2008 12:32:28 AM
EPA·METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	8/27/2008 4:06:15 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	8/29/2008 1:32:35 PM
Barium	ND	0.020	mg/L	1	8/29/2008 1:32:35 PM
Cadmium	ND	0.0020	mg/L	1	8/29/2008 1:32:35 PM
Chromium	ND	0.0060	mg/L	1	8/29/2008 1:32:35 PM
Copper	ND	0.0060	mg/L	1	8/29/2008 1:32:35 PM
Iron	ND	0.020	mg/L	1	8/29/2008 1:32:35 PM
Lead	.ND	0.0050	mg/L	1	8/29/2008 1:32:35 PM
Manganese	0.022	0.0020	mg/L	1	8/29/2008 1:32:35 PM
Selenium	ND	0.050	mg/L	1	8/29/2008 1:32:35 PM
Silver	ND	0.0050	mg/L	1	8/29/2008 1:32:35 PM
Zinc	ND	0.050	mg/L	1	8/29/2008 1:32:35 PM
EPA 6010B: TOTAL RECOVERABLE	METALS				Analyst: <b>NM</b> O
Arsenic	ND	0.020	mg/L	1	8/28/2008 11;59:49 AM
Barium	0.15	0.020	mg/L	1	8/28/2008 11:59:49 AM
Cadmium	ND	0.0020	mg/L	1	8/28/2008 11:59:49 AM
Chromium	ND	0.0060	mg/L	1	8/28/2008 11:59:49 AM
Lead	ND	0.0050	mg/L	1	8/28/2008 11:59:49 AM
Selenium	ND	0.050	mg/L	1	8/28/2008 11:59:49 AM
Silver	ND	0.0050	mg/L	1	8/28/2008 11:59:49 AM
EPA METHOD 8270C: SEMIVOLATILE	S				Analyst: JDC

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 42

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

0808240-01

Client Sample ID: MW-1

Collection Date: 8/13/2008 8:00:00 AM

Project: Lab ID: Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES		<del></del>			Analyst: JD
Acenaphthene	ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND	10	μg/L	. 1	8/23/2008
Aniline	ND	10	μg/L	1	8/23/2008
Anthracene	ND	10	μg/L	. 1	8/23/2008
Azobenzene	ND	10	μg/L	1	8/23/2008
Benz(a)anthracene	ND	10	μg/L	1	8/23/2008
Benzo(a)pyrene	ND	10	μg/L	ì	8/23/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/23/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzoic acid	ND	20	μg/L	1	8/23/2008
Benzyl alcohol	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethyl)ether	ND	10	µg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	μg/Ľ	1	8/23/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/23/2008
Carbazole	ND	10	μg/L	1	8/23/2008
4-Chioro-3-methylphenol	ND	10	µg/L	1	8/23/2008
4-Chloroaniline	ND	10	μg/L	1	8/23/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/23/2008
2-Chlorophenol	ND	10	μg/L	· 1	8/23/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Chrysene	ND.	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	µg/L	1	8/23/2008
Dibenz(a,h)anthracene	ND	10	µg/L	1	8/23/2008
Dibenzofuran	ND	10	µg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,3-Dichlorobenzene	ND	10	μg/L	. 1	8/23/2008
1,4-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/23/2008
Diethyl phthalate	ND	10	μg/L	1	8/23/2008
Dimethyl phthalate	ND	10	μg/L	1	8/23/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/23/2008
2,4-Dimethylphenol	ND	10	µg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10	μg/L	· 1	8/23/2008
2,6-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
Fluoranthene	ND	10	μg/L	1	8/23/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 2 of 42

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Client Sample ID: MW-1

Collection Date: 8/13/2008 8:00:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Un	its DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	<u> </u>			<del></del>	Analyst: JD
Fluorene	ND	10	μg/l	L 1	8/23/2008
Hexachlorobenzene	ND	10	μg/l		8/23/2008
Hexachlorobutadiene	ND	10	μg/l		8/23/2008
Hexachlorocyclopentadiene	ND	. 10	μg/l		8/23/2008
Hexachloroethane	ND	10	μg/l		8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/l		8/23/2008
Isophorone	ND	10	μg/l	L 1	8/23/2008
2-Methylnaphthalene	ND	10	µg/l	L 1	8/23/2008
2-Methylphenol	ND	. 10	μg/l		8/23/2008
3+4-Methylphenol	ND	10	μg/l	L 1	8/23/2008
N-Nitrosodi-n-propylamine	ND	10	μg/l	L 1	8/23/2008
N-Nitrosodimethylamine	ND	10	μg/l	L 1	8/23/2008
N-Nitrosodiphenylamine	ND	10	μg/l	L 1	8/23/2008
Naphthalene	ND	10	μg/l		8/23/2008
2-Nitroaniline	ND	10	μg/l	L 1	8/23/2008
3-Nitroaniline	ND	10	μg/l	L 1	8/23/2008
4-Nitroaniline	ND	10	μg/l		8/23/2008
Nitrobenzene	ND	10	μg/l	L 1	8/23/2008
2-Nitrophenol	ND	10	μg/l	L 1	8/23/2008
4-Nitrophenol	ND	10	μg/l	L 1	8/23/2008
Pentachlorophenol	ND	40	μg/l	∟ 1	8/23/2008
Phenanthrene	ND	10	μg/l	L 1	8/23/2008
Phenol	ND	10	μg/l	_ 1	8/23/2008
Pyrene	ND	10	μg/l	_ 1	8/23/2008
Pyridine -	ND	10	μg/l	_ 1	8/23/2008
1,2,4-Trichlorobenzene	ND	10	μg/l	_ 1	8/23/2008
2,4,5-Trichlorophenol	ND	10	μg/l	_ 1	8/23/2008
2,4,6-Trichlorophenol	ND	10	μg/l	_ 1	8/23/2008
Surr: 2,4,6-Tribromophenol	85.9	16.6-150	%R	EC 1	8/23/2008
Surr: 2-Fluorobiphenyl	. 111	19.6-134	%R	EC 1	8/23/2008
Surr: 2-Fluorophenol	82.2	9.54-113	%R	EC 1	8/23/2008
Surr: 4-Terphenyl-d14	101	22.7-145	%R	EC 1	8/23/2008
Surr: Nitrobenzene-d5	96.8	14.6-134	%R	EC 1	8/23/2008
Surr: Phenol-d5	70.6	10.7-80.3	%R	EC 1	8/23/2008
EPA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	ND	1.0	μg/l	_ 1 .	·
Toluene	ND ·	1.0	μg/L		8/15/2008 4:12:46 PM
Ethylbenzene	ND	1.0	μg/l		8/15/2008 4:12:46 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/l		8/15/2008 4:12:46 PM
1,2,4-Trimethylbenzene	ND	1.0	μg/L		8/15/2008 4:12:46 PM
1,3,5-Trimethylbenzene	ND	1.0	μg/l		8/15/2008 4:12:46 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 3 of 42

Date: 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

Client Sample ID: MW-1

Cross-Gradient Wells Annual Aug 2008

Collection Date: 8/13/2008 8:00:00 AM **Date Received: 8/14/2008** 

Project: Lab ID:

0808240-01

Matrix: AQUEOUS

Analyses	Result	PQL Qu	ial Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES			···	·	Analyst: HL
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1	8/15/2008 4:12:46 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Naphthalene	ND	2.0	μg/L	1	8/15/2008 4:12:46 PM
1-Methylnaphthalene	ND.	4.0	μg/L	1	8/15/2008 4:12:46 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/15/2008 4:12:46 PM
Acetone	ND	10	μg/L	1	8/15/2008 4:12:46 PM
Bromobenzene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Bromodichloromethane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Bromoform	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Bromomethane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
2-Butanone	ND	10	μg/L	1	8/15/2008 4:12:46 PM
Carbon disulfide	ND	10	μg/L	1	8/15/2008 4:12:46 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Chlorobenzene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Chloroethane	ND	2.0	μg/L	1	8/15/2008 4:12:46 PM
Chloroform	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Chloromethane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
2-Chlorotoluene	ND	1.0	µg/L	1	8/15/2008 4:12:46 PM
4-Chlorotoluene	. ND	1.0	µg/L	1	8/15/2008 4:12:46 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
cis-1,3-Dichloropropene	ND ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	8/15/2008 4:12:46 PM
Dibromochloromethane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Dibromomethane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,4-Dichlorobenzene	ND	1.0	μg/L	. 1	8/15/2008 4:12:46 PM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,1-Dichloroethane	ND	1.0	µg/L	1	8/15/2008 4:12:46 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	8/15/2008 4:12:46 PM
1,1-Dichloropropene	ND	1.0	μg/L.	1	8/15/2008 4:12:46 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
2-Hexanone	ND	10	μg/L	1	8/15/2008 4:12:46 PM
Isopropylbenzene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
4-Isopropyltoluene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	8/15/2008 4:12:46 PM
Methylene Chloride	ND	3.0	μg/L	1	8/15/2008 4:12:46 PM
n-Butylbenzene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
n-Propylbenzene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Η
- MCL Maximum Contaminant Level
- RL Reporting Limit

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**Date:** 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

Client Sample ID: MW-1

0808240

Collection Date: 8/13/2008 8:00:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
sec-Butylbenzene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Styrene	ND	. 1.0	µg/L	1	8/15/2008 4:12:46 PM
tert-Butylbenzene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/15/2008 4:12:46 PM
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
trans-1,2-DCE	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
trans-1,3-Dichloropropene	ND	. 1.0	μg/L	1	8/15/2008 4:12:46 PM
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,2,4-Trichlorobenzene	·ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Trichlorofluoromethane	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	1	8/15/2008 4:12:46 PM
Vinyl chloride	ND	1.0	μg/L	1	8/15/2008 4:12:46 PM
Xylenes, Total	ND	1.5	μg/L	1	8/15/2008 4:12:46 PM
Surr: 1,2-Dichloroethane-d4	91.9	68.1-123	%REC	1	8/15/2008 4:12:46 PM
Surr: 4-Bromofluorobenzene	107	53.2-145	%REC	1	8/15/2008 4:12:46 PM
Surr: Dibromofluoromethane	98.8	68.5-119	%REC	1	8/15/2008 4:12:46 PM
Surr: Toluene-d8	97.1	64-131	%REC	1	8/15/2008 4:12:46 PM
SM 2320B: ALKALINITY					Analyst: <b>TA</b> F
Alkalinity, Total (As CaCO3)	280	20	mg/L CaCO3	1	8/21/2008
Carbonate	ND	2.0	mg/L CaCO3	1	8/21/2008
Bicarbonate	280	20	mg/L CaCO3	1	8/21/2008
TOTAL CARBON DIOXIDE CALCULATION	ON				Analyst: <b>TAF</b>
Total Carbon Dioxide	250	1.0	mg CO2/L	1	8/22/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Η
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 5 of 42

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-02

Client Sample ID: MW-13

Collection Date: 8/13/2008 8:50:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	· · · · · · · · · · · · · · · · · · ·	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	· · · · · · · · · · · · · · · · · · ·		Analyst: SLB
Fluoride	0.16	0.10	mg/L	1	8/15/2008 12:49:53 AM
Chloride	240	1.0	mg/L	10	8/15/2008 1:07:17 AM
Nitrogen, Nitrite (As N)	0.58	0.10	mg/L	1	8/15/2008 12:49:53 AM
Bromide	3.6	0.10	mg/L	1 ·	8/15/2008 12:49:53 AM
Nitrogen, Nitrate (As N)	6.0	0.10	mg/L	1	8/15/2008 12:49:53 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 12:49:53 AM
Sulfate	1100	25	mg/L	50	9/3/2008 11:31:15 AM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND. Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Client Sample ID: MW-13

Project:

Cross-Gradient Wells Annual Aug 2008

Collection Date: 8/13/2008 8:50:00 AM Date Received: 8/14/2008

Lab ID:

0808240-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E		· · · · · · · · · · · · · · · · · · ·		Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/18/2008 11:32:40 AM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/18/2008 11:32:40 AM
Surr: DNOP	111	58-140	%REC	1	8/18/2008 11:32:40 AM
EPA METHOD 8015B: GASOLINE RA	NGE	•			Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/26/2008 5:31:42 PM
Surr: BFB	82.9	79.2-121	%REC	1	8/26/2008 5:31:42 PM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.16	0.10	mg/L	1	8/15/2008 12:49:53 AM
Chloride	240	1.0	mg/L	10	8/15/2008 1:07:17 AM
Nitrogen, Nitrite (As N)	0.58	0.10	mg/L	1	8/15/2008 12:49:53 AM
Nitrogen, Nitrate (As N)	6.0	0.10	mg/L	1	8/15/2008 12:49:53 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 12:49:53 AM
Sulfate	1100	25	mg/L	50	9/3/2008 11:31:15 AM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	<b>N</b> D	0.0010	mg/L	5	8/27/2008 4:18:46 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	8/29/2008 3:35:54 PM
Barium	0.026	0.020	mg/L	1	8/29/2008 3:35:54 PM
Cadmium	ND	0.0020	. mg/L	1	8/29/2008 3:35:54 PM
Chromium	ND	0.0060	mg/L	1	8/29/2008 3:35/54 PM
Copper	ND	0.0060	mg/L	1	8/29/2008 3:35:54 PM
Iron	ND	0.020	mg/L	1	8/29/2008 3:35:54 PM
Lead	ND	0.0050	mg/L	1	8/29/2008 3:35:54 PM
Manganese	1.4	0.010	mg/L	5	8/29/2008 4:44:35 PM
Selenium	ND	0.25	mg/L	5	9/8/2008 9:52:17 PM
Silver	ND	0.0050	mg/L	1	8/29/2008 3:35:54 PM
Zinc	ND	0.050	mg/L	1	8/29/2008 3:35:54 PM
EPA 6010B: TOTAL RECOVERABLE	METALS				Analyst: NMO
Arsenic	ND	0.020	mg/L	1	8/28/2008 12:04:01 PM
Barium	0.025	0.020	mg/L	1	8/28/2008 12:04:01 PM
Cadmium	ND	0.0020	mg/L	1	8/28/2008 12:04:01 PM
Chromium	0.0096	0.0060	mg/L	1	8/28/2008 12:04:01 PM
Lead	ND	0.0050	mg/L	1	8/28/2008 12:04:01 PM
Selenium	· ND	0.050	mg/L	1	8/28/2008 12:04:01 PM
Silver	ND	0.0050	mg/L	1	8/28/2008 12:04:01 PM
EPA METHOD 8270C: SEMIVOLATILE	ES				Analyst: <b>JDC</b>

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 6 of 42

Date: 18-Sep-08

**CLIENT:** 

Lab Order:

Western Refining Southwest, Inc.

0808240

Client Sample ID: MW-13 Collection Date: 8/13/2008 8:50:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

**Date Received: 8/14/2008** 

Lab ID:

0808240-02

Matrix: AQUEOUS

Analyses	Result	PQL Q	ıal Units	DF	Date Analyzed
PA METHOD 8270C: SEMIVOLATILES	3		***************************************		Analyst: JD0
Acenaphthene	ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND	10	μg/L	1	8/23/2008
Aniline	ND	10	μg/L	1	8/23/2008
Anthracene	ND	. 10	μg/L	1	8/23/2008
Azobenzene	ND .	10	μg/L	1	8/23/2008
Benz(a)anthracene	ND	10	μg/L	1	8/23/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/23/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzo(g,h,i)perylene	ND	10	μ́g/L	1	8/23/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzoic acid	ND	20	μg/L	1	8/23/2008
Benzyl alcohol	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethyl)ether	ND	10	µg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/23/2008
Carbazole	ND	10	μg/L	1	8/23/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/23/2008
4-Chloroaniline	ND ·	10 .	μg/L	. 1	8/23/2008
2-Chloronaphthalene	ND	10	µg/L	1	8/23/2008
2-Chlorophenol	ND	10	μg/L	1	8/23/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Chrysene	ND	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/23/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/23/2008
Dibenzofuran	ND	10	μg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,3-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,4-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/23/2008
Diethyl phthalate	ND .	10	μg/L	1	8/23/2008
Dimethyl phthalate	ND	10	μg/L	1	8/23/2008
2,4-Dichlorophenol	, ND	20	µg/L	1	8/23/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
2,6-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
Fluoranthene	·ND	10	μg/L	1	8/23/2008

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

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Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Project:

Cross-Gradient Wells Annual Aug 2008

Lab ID:

0808240-02

Client Sample ID: MW-13

Collection Date: 8/13/2008 8:50:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S					Analyst: JD0
Fluorene	ND	10	· ·	ug/L	1 .	8/23/2008
Hexachlorobenzene	ND	10	1	ug/L	1	8/23/2008
Hexachlorobutadiene	ND	· 10	1	ug/L	1	8/23/2008
Hexachlorocyclopentadiene	ND	10	ļ	ug/L	1	8/23/2008
Hexachloroethane	ND	10	ŀ	ug/L	1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	. 10	i	ug/L	1	8/23/2008
Isophorone	ND	10	ŀ	ug/L	1	8/23/2008
2-Methylnaphthalene	ND	10	ŀ	ug/L	1	8/23/2008
2-Methylphenol	ND	10		ug/L	1	8/23/2008
3+4-Methylphenol	ND	10	ļ	ug/L	1	8/23/2008
N-Nitrosodi-n-propytamine	ND	10	j.	ug/L	1	8/23/2008
N-Nitrosodimethylamine	ND	10	)	ıg/L	1	8/23/2008
N-Nitrosodiphenylamine	ND	10	j	ıg/L	. 1	8/23/2008
Naphthalene	ND	. 10	1	ıg/L	· 1	8/23/2008
2-Nitroaniline	ND	10	4	ug/L	1 .	8/23/2008
3-Nitroaniline	ND	10	1	ug/L	• • • 1	8/23/2008
4-Nitroaniline	ND	10		ıg/L	1	8/23/2008
Nitrobenzene	ND	10		ıg/L	1	8/23/2008
2-Nitrophenol	ND	10		ıg/L	1	8/23/2008
4-Nitrophenol	ND	10		ıg/L	1	8/23/2008
Pentachlorophenol	ND	40		ıg/L	1	8/23/2008
Phenanthrene	ND	10		ıg/L	1	8/23/2008
Phenol	ND	10		ıg/L	1	8/23/2008
Pyrene	ND	10		ıg/L	1	8/23/2008
Pyridine	ND	10		ıg/L	1	8/23/2008
1,2,4-Trichlorobenzene	ND	10		ıg/L	1	8/23/2008
2,4,5-Trichlorophenol	ND	10		ıg/L	1	8/23/2008
2,4,6-Trichlorophenol	ND	10		ıg/L	1	8/23/2008
Surr: 2,4,6-Tribromophenol	77.0	16.6-150		%REC	1	8/23/2008
Surr: 2-Fluorobiphenyl	89.4	19.6-134	9	%REC	1	8/23/2008
Surr: 2-Fluorophenol	66.8	9.54-113	o,	%REC	1	8/23/2008
Surr: 4-Terphenyl-d14	77.7	22.7-145	g	%REC	1	8/23/2008
Surr: Nitrobenzene-d5	85.6	14.6-134	9	%REC	1	8/23/2008
Surr: Phenol-d5	55.9	10.7-80.3	9	%REC	1	8/23/2008
PA METHOD 8260B: VOLATILES						Analyst: HL
Benzene	ND	1.0	L	ıg/L	1	8/15/2008 5:39:08 PM
Toluene	ND	1.0		ıg/L	1	8/15/2008 5:39:08 PM
Ethylbenzene	ND	1.0		ıg/L	1	8/15/2008 5:39:08 PM
Methyl tert-butyl ether (MTBE)	2.2	1.0		ıg/L	1 .	8/15/2008 5:39:08 PM
1,2,4-Trimethylbenzene	ND	1.0		ıg/L	1	8/15/2008 5:39:08 PM
1,3,5-Trimethylbenzene	ND	1.0		ig/L	1	8/15/2008 5:39:08 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

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**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-02

Date: 18-Sep-08

Client Sample ID: MW-13

Collection Date: 8/13/2008 8:50:00 AM

**Date Received: 8/14/2008** 

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					· Analyst: HL
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
Naphthalene	· ND	2.0	μg/L	1 .	8/15/2008 5:39:08 PM
1-Methylnaphthalene	8.1	4.0	μg/L	1	8/15/2008 5:39:08 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/15/2008 5:39:08 PM
Acetone	ND	10	μg/L	1	8/15/2008 5:39:08 PM
Bromobenzene	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
Bromodichloromethane	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
Bromoform	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
Bromomethane	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
2-Butanone	ND	10	μg/L	1	8/15/2008 5:39:08 PM
Carbon disulfide	ND	10	μg/L	1	8/15/2008 5:39:08 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
Chlorobenzene	. ND	. 1.0	μg/L	. 1	8/15/2008 5:39:08 PM
Chloroethane	ND	2.0	μg/L	1	8/15/2008 5:39:08 PM
Chloroform	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
Chloromethane	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
2-Chlorotoluene	. ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
4-Chlorotoluene	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	8/15/2008 5:39:08 PM
Dibromochloromethane	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
Dibromomethane	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
1,3-Dichlorobenzene	ND	1.0	µg/L	1	8/15/2008 5:39:08 PM
1,4-Dichlorobenzene	. ND	1.0	μg/L	· 1	8/15/2008 5:39:08 PM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
1,1-Dichloroethane	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	8/15/2008 5:39:08 PM
1,1-Dichloropropene	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
2-Hexanone	ND	10	μg/L	1 ·	8/15/2008 5:39:08 PM
Isopropylbenzene	ND	1.0	µg/L	1	8/15/2008 5:39:08 PM
4-Isopropyltoluene	ND	1.0	μg/L	1	8/15/2008 5:39:08 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	8/15/2008 5:39:08 PM
Methylene Chloride	ND	3.0	μg/L	1	8/15/2008 5:39:08 PM
n-Butylbenzene	ND	. 1.0	μg/L	1	8/15/2008 5:39:08 PM
n-Propylbenzene	ND	1.0	μg/L	. 1	8/15/2008 5:39:08 PM

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

Page 9 of 42

**Date:** 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

Project:

Cross-Gradient Wells Annual Aug 2008

Lab ID:

0808240-02

Client Sample ID: MW-13

Collection Date: 8/13/2008 8:50:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
sec-Butylbenzene	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
Styrene	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
tert-Butylbenzene	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
1,1,1,2-Tetrachloroethane	ND	1.0		μg/L	.1	8/15/2008 5:39:08 PM
1,1,2,2-Tetrachioroethane	ND	2.0		μg/L	1 .	8/15/2008 5:39:08 PM
Tetrachloroethene (PCE)	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
trans-1,2-DCE	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
trans-1,3-Dichloropropene	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
1,2,3-Trichlorobenzene	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
1,2,4-Trichlorobenzene	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
1,1,1-Trichloroethane	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
1,1,2-Trichloroethane	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
Trichloroethene (TCE)	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
Trichlorofluoromethane	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
1,2,3-Trichloropropane	ND	2.0		μg/L	1	8/15/2008 5:39:08 PM
Vinyl chloride	ND	1.0		μg/L	1	8/15/2008 5:39:08 PM
Xylenes, Total	ND	1.5		μg/L	1	8/15/2008 5:39:08 PM
Surr: 1,2-Dichloroethane-d4	95.1	68.1-123		%REC	1	8/15/2008 5:39:08 PM
Surr: 4-Bromofluorobenzene	105	53.2-145		%REC	1	8/15/2008 5:39:08 PM
Surr: Dibromofluoromethane	96.9	68.5-119		%REC	1	8/15/2008 5:39:08 PM
Surr: Toluene-d8	96.0	64-131		%REC	1	8/15/2008 5:39:08 PM
SM 2320B: ALKALINITY						Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	970	20		mg/L CaCO3	1	8/21/2008
Carbonate	ND	2.0		mg/L CaCO3	1	8/21/2008
Bicarbonate	970	20		mg/L CaCO3	1	8/21/2008
TOTAL CARBON DIOXIDE CALCULATION						Analyst: <b>TAF</b>
Total Carbon Dioxide	1000	1.0		mg CO2/L	1	8/22/2008

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

Cross-Gradient Wells Annual Aug 2008

Project: C
Lab ID: 0

0808240-03

Client Sample ID: MW-26

Collection Date: 8/13/2008 9:15:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.34	0.10	mg/L	1	8/15/2008 1:59:30 AM
Chloride	390	1.0	mg/L	10	8/15/2008 2:16:54 AM
Nitrogen, Nitrite (As N)	, ŅD	1.0	mg/L	10	8/15/2008 2:16:54 AM
Bromide	5.5	1.0	mg/L	10	8/15/2008 2:16:54 AM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/15/2008 1:59:30 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 1:59:30 AM
Sulfate	ND	0.50	mg/L	. 1	8/15/2008 1:59:30 AM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-03

Client Sample ID: MW-26

Collection Date: 8/13/2008 9:15:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE				·.		Analyst: SCC
Diesel Range Organics (DRO)	2.0	1.0		mg/L	1	8/18/2008 12:06:27 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/18/2008 12:06:27 PM
Surr: DNOP	108	58-140		%REC	1	8/18/2008 12:06:27 PM
EPA METHOD 8015B: GASOLINE RAI	NGE					Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	7.9	0.50		mg/L	10	8/26/2008 6:02:02 PM
Surr: BFB	159	79.2-121	S	%REC	10	8/26/2008 6:02:02 PM
EPA METHOD 300.0: ANIONS						Analyst: SLB
Fluoride	0.34	0.10		mg/L	1	8/15/2008 1:59:30 AM
Chloride	390	1.0		mg/L	10	8/15/2008 2:16:54 AM
Nitrogen, Nitrite (As N)	ND	1.0		mg/L	10	8/15/2008 2:16:54 AM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/15/2008 1:59:30 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/15/2008 1:59:30 AM
Sulfate	ND	0.50		mg/L	. 1	8/15/2008 1:59:30 AM
EPA METHOD 7470: MERCURY		• •				Analyst: <b>SNV</b>
Mercury	ND	0.00020		mg/L	. 1	8/27/2008 4:13:21 PM
EPA METHOD 6010B: DISSOLVED ME	ETALS		:			Analyst: TES
Arsenic	ND	0.020		mg/L	1	8/29/2008 1:39:59 PM
Barium	2.3	0.20		mg/L	10	8/29/2008 5:41:19 PM
Cadmium	. ND	0.0020		mg/L	1	8/29/2008 1:39:59 PM
Chromium	ND	0:0060		mg/L	. 1	8/29/2008 1:39:59 PM
Copper	ND	0.0060		mg/L	1	8/29/2008 1:39:59 PM
Iron	6.9	0.20		mg/L	. 10	8/29/2008 5:41:19 PM
Lead	ND	0.0050		mg/L	1	8/29/2008 1:39:59 PM
Manganese	3.0	0.020		mg/L	10	8/29/2008 5:41:19 PM
Selenium	ND	0.25		mg/L	5	9/8/2008 9:56:24 PM
Silver	ND	0.0050		mg/L	1	8/29/2008 1:39:59 PM
Zinc	ND	0.050		mg/L	1	8/29/2008 1:39:59 PM
EPA 6010B: TOTAL RECOVERABLE I	METALS					Analyst: <b>NMO</b>
Arsenic	ND	0.020		mg/L	1	8/28/2008 12:06:33 PM
Barium	2.4	0.20		mg/L	10	8/28/2008 1:12:58 PM
Cadmium	ND	0.0020		mg/L	1	8/28/2008 12:06:33 PM
Chromium	ND	0.0060		mg/L	1	8/28/2008 12:06:33 PM
Lead	ND	0.0050		mg/L	1	8/28/2008 12:06:33 PM
Selenium	ND	0.050		mg/L	1	8/28/2008 12:06:33 PM
Silver	ND	0.0050		mg/L	1	8/28/2008 12:06:33 PM
EPA METHOD 8270C: SEMIVOLATILE	S					Analyst: <b>JDC</b>

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits.
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Page 11 of 42

Date: 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: MW-26

Lab Order:

0808240

Collection Date: 8/13/2008 9:15:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLAT	TILES				Analyst: JD0
Acenaphthene	ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND <sup>*</sup>	10	μg/L	1	8/23/2008
Aniline	ND	10	μg/L	1	8/23/2008
Anthracene	ND	10	μg/L	1	8/23/2008
Azobenzene	· ND	10	μg/L	1	8/23/2008
Benz(a)anthracene	ND	10	μg/L	1	8/23/2008
Benzo(a)pyrene	ND	10	μg/L	1 ·	8/23/2008
Benzo(b)fluoranthene	ND	10	µg/L	1	8/23/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/23/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzoic acid	ND .	20	µg/L	1	8/23/2008
Benzyl alcohol	ND	10	μg/L	· 1	8/23/2008
Bis(2-chloroethoxy)methane	ND	10	µg/L	1	8/23/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1 .	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	µg/L,	1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	µg/L	1	8/23/2008
Butyl benzyl phthalate	ND	10	µg/L	1	8/23/2008
Carbazole	ND	10	µg/L	1 .	8/23/2008
4-Chloro-3-methylphenol	ND	10	µg/L	1	8/23/2008
4-Chloroaniline	ND	10	μg/L	1	8/23/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/23/2008
2-Chlorophenol	ND	10	μg/L	1	8/23/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Chrysene	ND	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/23/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/23/2008
Dibenzofuran	ND	10	μg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,3-Dichlorobenzene	ND	10	μg/L	. 1	8/23/2008
1,4-Dichlorobenzene	, ND	. 10	μg/L	1	8/23/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/23/2008
Diethyl phthalate	ND	10	μg/L	1	8/23/2008
Dimethyl phthalate	ND	10	μg/L	1	8/23/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/23/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrophenol	ND	20	µg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10	µg/L	1	8/23/2008
2,6-Dinitrotoluene	ND	10	µg/L	1	8/23/2008
Fluoranthene	ND	10	μg/L	1	8/23/2008

Qualifiers:

Page 12 of 42

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Client Sample ID: MW-26

Collection Date: 8/13/2008 9:15:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	s	·		<del> </del>	Analyst: JD
Fluorene	ND	10	μg/L	1 /	8/23/2008
Hexachlorobenzene	ND	10	µg/L	1	8/23/2008
Hexachlorobutadiene	ND	10	μg/L	1	8/23/2008
Hexachlorocyclopentadiene	ND	10	μg/L	1	8/23/2008
Hexachloroethane	ND	10	μg/L	1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/23/2008
Isophorone	ND	10	μg/L	1	8/23/2008
2-Methylnaphthalene	13	10	µg/L	1	8/23/2008
2-Methylphenol	ND	10	μg/L	1	8/23/2008
3+4-Methylphenol	ND	10	μg/L	1	8/23/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodimethylamine	NĐ	10	μg/L	1	8/23/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/23/2008
Naphthalene	60	10	μg/L	1	8/23/2008
2-Nitroaniline	ND	10	μg/L	1	8/23/2008
3-Nitroaniline	. ND	10	μg/L	1	8/23/2008
4-Nitroaniline	ND	10	μg/L	1	8/23/2008
Nitrobenzene	ND	10	μg/L	1	8/23/2008
2-Nitrophenol	ND	10	µg/L	1	8/23/2008
4-Nitrophenol	ND	10	μg/L	1	8/23/2008
Pentachlorophenol	ND	40	μg/L	1	8/23/2008
Phenanthrene	ND	10	μg/L	1	8/23/2008
Phenol	ND	10	μg/L	1	8/23/2008
Pyrene	ND	10	μg/L	1	8/23/2008
Pyridine	ND	10	μg/L	1	8/23/2008
1,2,4-Trichlorobenzene	ND	10	μg/L	1	8/23/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/23/2008
2,4,6-Trichlorophenol	ND	10	μg/L	1	8/23/2008
Surr: 2,4,6-Tribromophenol	63.1	16.6-150	%REC	1	8/23/2008
Surr: 2-Fluorobiphenyl	69.4	19.6-134	%REC	1	8/23/2008
Surr: 2-Fluorophenol	48.0	9.54-113	%REC	1	8/23/2008
Surr: 4-Terphenyl-d14	39.4	22.7-145	%REC	1 .	8/23/2008
Surr: Nitrobenzene-d5	70.3	14.6-134	%REC	1 .	8/23/2008
Surr: Phenol-d5	42.8	10.7-80.3	%REC	1	8/23/2008
PA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	120	2.0	μg/L	. 2	8/18/2008 4:44:12 PM
Toluene	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
Ethylbenzene	150	2.0	μg/L	2	8/18/2008 4:44:12 PM
Methyl tert-butyl ether (MTBE)	11	2.0	μg/L	2	8/18/2008 4:44:12 PM
1,2,4-Trimethylbenzene	1200	20	μg/L	20	8/18/2008 4:14:10 PM
1,3,5-Trimethylbenzene	ND	2.0	µg/L	2	8/18/2008 4:44:12 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 13 of 42

**Date:** 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-03

Client Sample ID: MW-26

Collection Date: 8/13/2008 9:15:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES	<del></del>				Analyst: HL
1,2-Dichloroethane (EDC)	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
1,2-Dibromoethane (EDB)	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
Naphthalene	160	4.0	μg/L	2	8/18/2008 4:44:12 PM
1-Methylnaphthalene	20	8.0	µg/L	2	8/18/2008 4:44:12 PM
2-Methylnaphthalene	36	8.0	μg/L	2	8/18/2008 4:44:12 PM
Acetone	ND	20	μg/L	2	8/18/2008 4:44:12 PM
Bromobenzene	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
Bromodichloromethane	ND	2.0	µg/L	2	8/18/2008 4:44:12 PM
Bromoform	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
Bromomethane	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
2-Butanone	ND	20	µg/L ⋅	2	8/18/2008 4:44:12 PM
Carbon disulfide	ND	20	µg/L	2	8/18/2008 4:44:12 PM
Carbon Tetrachloride	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
Chlorobenzene	ND	2.0	μg/L ·	2	8/18/2008 4:44:12 PM
Chloroethane	ND	4.0	μg/L	2	8/18/2008 4:44:12 PM
Chloroform	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
Chloromethane	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
2-Chlorotoluene	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
4-Chlorotoluene	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
cis-1,2-DCE	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
cis-1,3-Dichloropropene	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
1,2-Dibromo-3-chloropropane	ND	4.0	μg/L	2	8/18/2008 4:44:12 PM
Dibromochloromethane	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
Dibromomethane	ND	2.0	μg/L	2 .	8/18/2008 4:44:12 PM
1,2-Dichlorobenzene	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
1,3-Dichlorobenzene	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
1,4-Dichlorobenzene	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
Dichlorodifluoromethane	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
1,1-Dichloroethane	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
1,1-Dichloroethene	ND	2.0	µg/L	2	8/18/2008 4:44:12 PM
1,2-Dichloropropane	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
1,3-Dichloropropane	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
2,2-Dichloropropane	ND	4.0	μg/L	2	8/18/2008 4:44:12 PM
1,1-Dichloropropene	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
Hexachlorobutadiene	ND	2.0	μg/L	2	8/18/2008 4:44:12 PM
2-Hexanone	ND	20	μg/L	· 2	8/18/2008 4:44:12 PM
Isopropylbenzene	120	2.0	μg/L	2	8/18/2008 4:44:12 PM
4-Isopropyltoluene	6.4	2.0	μg/L	2	8/18/2008 4:44:12 PM
4-Methyl-2-pentanone	ND	20	μg/L	. 2	8/18/2008 4:44:12 PM
Methylene Chloride	ND	6.0	µg/L	. 2	8/18/2008 4:44:12 PM
n-Butylbenzene	. 8.2	2.0	μg/L	2	8/18/2008 4:44:12 PM
n-Propylbenzene	140	2.0	μg/L	2	8/18/2008 4:44:12 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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**Date:** 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: MW-26

ment bample to. 141 w 20

Lab Order:

0808240

**Collection Date:** 8/13/2008 9:15:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008
Matrix: AQUEOUS

Lab ID:

0808240-03

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: <b>HL</b>
sec-Butylbenzene	21	2.0		µg/L	2	8/18/2008 4:44:12 PM
Styrene	ND	2.0		μg/L	2	8/18/2008 4:44:12 PM
tert-Butylbenzene	3.2	2.0		µg/L	2	8/18/2008 4:44:12 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	8/18/2008 4:44:12 PM
1,1,2,2-Tetrachloroethane	ND	4.0		μg/L	2	8/18/2008 4:44:12 PM
Tetrachloroethene (PCE)	ND	2.0		μg/L	2	8/18/2008 4:44:12 PM
trans-1,2-DCE	ND	2.0		μg/L	2	8/18/2008 4:44:12 PM
trans-1,3-Dichloropropene	ND	2.0		μg/L	2	8/18/2008 4:44:12 PM
1,2,3-Trichlorobenzene	ND	2.0		μg/L	2	8/18/2008 4:44:12 PM
1,2,4-Trichlorobenzene	ND	2.0		μg/L	2	8/18/2008 4:44:12 PM
1,1,1-Trichloroethane	ND	2.0		µg/L	2	8/18/2008 4:44:12 PM
1,1,2-Trichloroethane	ND	2.0		µg/L	2	8/18/2008 4:44:12 PM
Trichloroethene (TCE)	ND	2.0		μg/L	2	8/18/2008 4:44:12 PM
Trichlorofluoromethane	ND	2.0		μg/L	2	8/18/2008 4:44:12 PM
1,2,3-Trichloropropane	ND	4.0		μg/L	2	8/18/2008 4:44:12 PM
Vinyl chloride	ND	2.0		μg/L	2	8/18/2008 4:44:12 PM
Xylenes, Total	3.9	3.0		μg/L	2	8/18/2008 4:44:12 PM
Surr: 1,2-Dichloroethane-d4	104	68.1-123		%REC	2	8/18/2008 4:44:12 PM
Surr: 4-Bromofluorobenzene	114	53.2-145		%REC	2	8/18/2008 4:44:12 PM
Surr: Dibromofluoromethane	100	68.5-119		%REC	2	8/18/2008 4:44:12 PM
Surr: Toluene-d8	127	64-131		%REC	2	8/18/2008 4:44:12 PM
SM 2320B: ALKALINITY						Analyst: <b>TA</b> F
Alkalinity, Total (As CaCO3)	1000	40		mg/L CaCO3	2	8/21/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/21/2008
Bicarbonate	1000	40		mg/L CaCO3	2	8/21/2008
TOTAL CARBON DIOXIDE CALCULATION						Analyst: TAF
Total Carbon Dioxide	1100	1.0		mg CO2/L	1	8/22/2008

Ona	lif	iare.

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

Client Sample ID: MW-27

0808240

Collection Date: 8/13/2008 10:30:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID: 0808240-04 Matrix: AQUEOUS

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	· · · · · · · · · · · · · · · · · · ·				Analyst: SLB
Fluoride	0.47	0.10	mg/L	1	8/15/2008 2:34:19 AM
Chloride	170	1.0	mg/L	10	8/15/2008 2:51:44 AM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/15/2008 2:34:19 AM
Bromide	1.2	0.10	mg/L	1	8/15/2008 2:34:19 AM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/15/2008 2:34:19 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 2:34:19 AM
Sulfate	990	10	mg/L	20	8/28/2008 12:23:56 PM

- Value exceeds Maximum Contaminant Level
- Estimated value E
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit
  - Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н
- MCL Maximum Contaminant Level
- Reporting Limit

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

0808240-04

Client Sample ID: MW-27

Collection Date: 8/13/2008 10:30:00 AM

Project: Lab ID:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E			<del></del>	Analyst: SCC
Diesel Range Organics (DRO)	1.3	1.0	mg/L	1	8/18/2008 12:40:12 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/18/2008 12:40:12 PM
Surr: DNOP	108	58-140	%REC	· 1	8/18/2008 12:40:12 PM
EPA METHOD 8015B: GASOLINE RA	NGE	•			Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/25/2008 8:02:36 PM
Surr: BFB	87.1	79.2-121	%REC	1	8/25/2008 8:02:36 PM
EPA METHOD 300.0: ANIONS	•				Analyst: SLB
Fluoride	0.47	0.10	mg/L	1	8/15/2008 2:34:19 AM
Chloride	170	1.0	mg/L	10	8/15/2008 2:51:44 AM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/15/2008 2:34:19 AM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/15/2008 2:34:19 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 2:34:19 AM
Sulfate	990	10	mg/L	20	8/28/2008 12:23:56 PM
EPA' METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	8/27/2008 4:16:58 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	8/29/2008 1:42:40 PM
Barium	0.028	0.020	mg/L	1	8/29/2008 1:42:40 PM
Cadmium	ND	0.0020	mg/L	1	8/29/2008 1:42:40 PM
Chromium	ND	0.0060	mg/L	1	8/29/2008 1:42:40 PM
Copper	ND	0.0060	mg/L	1	8/29/2008 1:42:40 PM
Iron	1.5	0.20	mg/L	10	8/29/2008 5:43:47 PM
Lead	ND	0.0050	mg/L	1	8/29/2008 1:42:40 PM
Manganese	4.6	0.020	mg/L	10	8/29/2008 5:43:47 PM
Selenium	ND	0.25	mg/L	5	9/8/2008 9:58:55 PM
Silver	ND	0.0050	mg/L	1	8/29/2008 1:42:40 PM
Zinc	0.058	0.050	mg/L	1	8/29/2008 1:42:40 PM
EPA 6010B: TOTAL RECOVERABLE	METALS				Analyst: <b>NM</b> O
Arsenic	ND	0.020	mg/L	1	8/28/2008 12:09:06 PM
Barium	0.026	0.020	mg/L	1	8/28/2008 12:09:06 PM
Cadmium	ND	0.0020	mg/L	1	8/28/2008 12:09:06 PM
Chromium	ND	0.0060	mg/L	1	8/28/2008 12:09:06 PM
Lead	0.0053	0.0050	mg/L	1	8/28/2008 12:09:06 PM
Selenium	ND	0.050	mg/L	1	8/28/2008 12:09:06 PM
Silver	ND	0.0050	mg/L	1	8/28/2008 12:09:06 PM
EPA METHOD 8270C: SEMIVOLATILE	S				Analyst: <b>JDC</b>

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 16 of 42

Date: 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

Client Sample ID: MW-27

Collection Date: 8/13/2008 10:30:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-04

Matrix: AQUEOUS

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATIL	ES				Analyst: JDC
Acenaphthene	ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND	10	µg/L	1	8/23/2008
Aniline	ND	10	μg/L	1	8/23/2008
Anthracene	ND	10	μg/L	1	8/23/2008
Azobenzene	ND	10	μg/L	1	8/23/2008
Benz(a)anthracene	ND	10	μg/L	1	8/23/2008
Benzo(a)pyrene	ND	10	µg/L	1	8/23/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/23/2008
Benzo(k)fluoranthene	ND	10 .	μg/L	1	8/23/2008
Benzoic acid	ND	20	μg/L	1	8/23/2008
Benzyl alcohol	ND	10	µg/L	1	8/23/2008
Bis(2-chloroethoxy)methane	ND	10	µg/L	1	8/23/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/23/2008
Carbazole	ND	10	µg/L	1	8/23/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/23/2008
4-Chloroaniline	ND	10	μg/L	1	8/23/2008
2-Chloronaphthalene	. ND	10	µg/L	. 1	8/23/2008
2-Chlorophenol	ND	10	μg/L	1	8/23/2008
4-Chlorophenyl phenyl ether	, ND	10	μg/L	1	8/23/2008
Chrysene	ND	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10	µg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/23/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/23/2008
Dibenzofuran	ND	10	μg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	µg/L	1	8/23/2008
1,3-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,4-Dichlorobenzene	ND	10	µg/L	1	8/23/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/23/2008
Diethyl phthalate	ND	10	μg/L	1	8/23/2008
Dimethyl phthalate	ND	10	μg/L	1	8/23/2008
2,4-Dichlorophenol	ND	20	µg/L	1	8/23/2008
2,4-Dimethylphenol	ND	10	µg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20	µg/L	1	8/23/2008
2,4-Dinitrophenol	ND	20	µg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
2,6-Dinitrotoluene	ND	10	µg/L	1	8/23/2008
Fluoranthene	ND	10	μg/L	1	8/23/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits J
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 17 of 42

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Client Sample ID: MW-27

Collection Date: 8/13/2008 10:30:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Lab ID:

0808240-04

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual T	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES	S					Analyst: JDC
Fluorene	ND	10	Į.	ıg/L	1	8/23/2008
Hexachlorobenzene	ND	10		ıg/L	1	8/23/2008
Hexachlorobutadiene	ND	10	ŀ	ug/L	1	8/23/2008
Hexachlorocyclopentadiene	ND	10	ŀ	ug/L	1	8/23/2008
Hexachloroethane	ND	10	ŀ	ıg/L	1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	į.	ug/L	1	8/23/2008
Isophorone	ND	10	1	ug/L	1	8/23/2008
2-Methylnaphthalene	ND	. 10	4	ıg/L	1	8/23/2008
2-Methylphenol	ND	10	ŀ	ıg/L	1	8/23/2008
3+4-Methylphenoi	ND	10	ļ.	ıg/L	1	8/23/2008
N-Nitrosodi-n-propylamine	ND	10	4	.g/L	1	8/23/2008
N-Nitrosodimethylamine	ND	10	ŀ	ıg/L	1	8/23/2008
N-Nitrosodiphenylamine	ND	10	Ļ	ıg/L	1	8/23/2008
Naphthalene	ND	10	ļ.	ug/L	1	8/23/2008
2-Nitroaniline	ND	10	ŀ	ug/L	1	8/23/2008
3-Nitroaniline	ND	10	Į.	ug/L	1	8/23/2008
4-Nitroaniline	ND	10	ŀ	ug/L	. 1	8/23/2008
Nitrobenzene	ND	10	1	ıg/L	1	8/23/2008
2-Nitrophenol	ND	10	1	ıg/L	1	8/23/2008
4-Nitrophenol	ND	10	1-	ıg/L	1	8/23/2008
Pentachlorophenol	ND	40	+	ıg/L	1	8/23/2008
Phenanthrene	ND	10		ıg/L	1	8/23/2008
Phenol	ND	10	ł	ıg/L	1	8/23/2008
Pyrene	ND	10	ŀ	ıg/L	1	8/23/2008
Pyridine	ND	10	1	ıg/L	1	8/23/2008
1,2,4-Trichlorobenzene	ND	10	ŀ	ıg/L	1	8/23/2008
2,4,5-Trichlorophenol	ND	10	Ļ	ıg/L	1	8/23/2008
2,4,6-Trichlorophenol	ND	10	ŀ	ıg/L	1	8/23/2008
Surr: 2,4,6-Tribromophenol	76.9	16.6-150	9	%REC	1	8/23/2008
Surr. 2-Fluorobiphenyl	91.0	19.6-134	9	%REC	1	8/23/2008
Surr: 2-Fluorophenol	65.5	9.54-113	0	%REC	1	8/23/2008
Surr: 4-Terphenyl-d14	70.9	22.7-145	9	%REC	1	8/23/2008
Surr: Nitrobenzene-d5	85.3	14.6-134	9	%REC	1	8/23/2008
Surr: Phenol-d5	56.1	10.7-80.3	9	%REC	. 1	8/23/2008
EPA METHOD 8260B: VOLATILES						Analyst: HL
Benzene	ND	1.0	Ļ	ıg/L	1	8/15/2008 7:06:35 PM
Toluene	ND	1.0		ıg/L	1	8/15/2008 7:06:35 PM
Ethylbenzene	. ND	1.0		ıg/L	1	8/15/2008 7:06:35 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		ug/L	1	8/15/2008 7:06:35 PM
1,2,4-Trimethylbenzene	ND	1.0		ug/L	1	8/15/2008 7:06:35 PM
1,3,5-Trimethylbenzene	ND	1.0		ug/L	1	8/15/2008 7:06:35 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

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**Date:** 18-Sep-08

CLIENT: Lab Order: Western Refining Southwest, Inc.

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-04

Client Sample ID: MW-27

Collection Date: 8/13/2008 10:30:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES				•	Analyst: HL
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
Naphthalene	ND	2.0	μg/L	. 1	8/15/2008 7:06:35 PM
1-Methylnaphthalene	ND	4.0	μg/L	1	8/15/2008 7:06:35 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/15/2008 7:06:35 PM
Acetone	ND	.10	μg/L	1	8/15/2008 7:06:35 PM
Bromobenzene	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
Bromodichloromethane	ND	1.0	μg/L	1 .	8/15/2008 7:06:35 PM
Bromoform	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
Bromomethane	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
2-Butanone	ND	10	μg/L	1	8/15/2008 7:06:35 PM
Carbon disulfide	ND	10	μg/L	1	8/15/2008 7:06:35 PM
Carbon Tetrachloride	ND	1.0	µg/L	1	8/15/2008 7:06:35 PM
Chlorobenzene	· ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
Chloroethane	ND	2.0	μg/L	1	8/15/2008 7:06:35 PM
Chloroform	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
Chloromethane	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
2-Chlorotoluene	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
4-Chlorotoluene	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
cis-1,3-Dichloropropene	ND	- 1.0	μg/L	1	8/15/2008 7:06:35 PM
1,2-Dibromo-3-chloropropane	ND.	2.0	μg/L	1	8/15/2008 7:06:35 PM
Dibromochloromethane	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
Dibromomethane	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
1,3-Dichlorobenzene	ND	1.0	µg/L	1	8/15/2008 7:06:35 PM
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
1,1-Dichloroethane	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	8/15/2008 7:06:35 PM
1,1-Dichloropropene	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
Hexachlorobutadiene	ND	1.0	µg/L	1	8/15/2008 7:06:35 PM
2-Hexanone	ND	10	μg/L	1	8/15/2008 7:06:35 PM
Isopropylbenzene	ND	1.0	μg/L	. 1	8/15/2008 7:06:35 PM
4-Isopropyltoluene	ND	1.0	μg/L	1	8/15/2008 7:06:35 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	8/15/2008 7:06:35 PM
Methylene Chloride	ND	3.0	μg/L	1	8/15/2008 7:06:35 PM
n-Butylbenzene	ND	1.0	μg/L ·	1	8/15/2008 7:06:35 PM
n-Propylbenzene	ND	1.0	μg/Ľ	1	8/15/2008 7:06:35 PM

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

Page 19 of 42

**Date:** 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

0808240

Client Sample ID: MW-27

Lab Order: 03

Collectio

Collection Date: 8/13/2008 10:30:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

**Date Received: 8/14/2008** 

Lab ID:

0808240-04

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
sec-Butylbenzene	ND	1.0		μg/L	1	8/15/2008 7:06:35 PM
Styrene	ND	1.0		μg/L	1	8/15/2008 7:06:35 PM
tert-Butylbenzene	ND	1.0		μg/L	1	8/15/2008 7:06:35 PM
1,1,1,2-Tetrachloroethane	ND	. 1.0		μg/L	1	8/15/2008 7:06:35 PM
1,1,2,2-Tetrachloroethane	ND	2.0		μg/L	1	8/15/2008 7:06:35 PM
Tetrachloroethene (PCE)	ND	1.0		μg/L	1	8/15/2008 7:06:35 PM
trans-1,2-DCE	ND	1.0		μg/L	1	8/15/2008 7:06:35 PM
trans-1,3-Dichloropropene	ND .	1.0		μg/L	1	8/15/2008 7:06:35 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/15/2008 7:06:35 PM
1,2,4-Trichlorobenzene	ND	1.0		μg/L	1	8/15/2008 7:06:35 PM
1,1,1-Trichloroethane	ND	1.0		μg/L	1	8/15/2008 7:06:35 PM
1,1,2-Trichloroethane	ND	1.0		μg/L	. 1	8/15/2008 7:06:35 PM
Trichloroethene (TCE)	ND	1.0		μg/L	1	8/15/2008 7:06:35 PM
Trichlorofluoromethane	ND	1.0		μg/L	1	8/15/2008 7:06:35 PM
1,2,3-Trichloropropane	ND	2.0		μg/L	1	8/15/2008 7:06:35 PM
Vinyl chloride	ND	1.0		μg/L	1	8/15/2008 7:06:35 PM
Xylenes, Total	ND	1.5		μg/L	1	8/15/2008 7:06:35 PM
Surr: 1,2-Dichloroethane-d4	94.3	68.1-123		%REC	1	8/15/2008 7:06:35 PM
Surr: 4-Bromofluorobenzene	99.0	53.2-145		%REC	1	8/15/2008 7:06:35 PM
Surr: Dibromofluoromethane	95.4	68.5-119		%REC	1	8/15/2008 7:06:35 PM
Surr: Toluene-d8	99.1	64-131		%REC	1 .	8/15/2008 7:06:35 PM
SM 2320B: ALKALINITY						Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	320	40		mg/L CaCO3	2	8/21/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/21/2008
Bicarbonate	320	40		mg/L CaCO3	2	8/21/2008
TOTAL CARBON DIOXIDE CALCULATION						Analyst: <b>TAF</b>
Total Carbon Dioxide	330	1.0		mg CO2/L	1	8/22/2008

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

0,000240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-05

Client Sample ID: MW-31

Collection Date: 8/13/2008 10:00:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.15	0.10	mg/L	1	8/15/2008 3:09:09 AM
Chloride	740	5.0	mg/L	50	8/28/2008 1:16:10 PM
Nitrogen, Nitrite (As N)	NĐ	1.0	mg/L	10	8/15/2008 3:26:33 AM
Bromide	17	1.0	mg/L	10	8/15/2008 3:26:33 AM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/15/2008 3:09:09 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 3:09:09 AM
Sulfate	6.4	0.50	mg/L	1	8/15/2008 3:09:09 AM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Client Sample ID: MW-31

Lab Order:

0808240

Collection Date: 8/13/2008 10:00:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-05

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	 E				Analyst: SCC
Diesel Range Organics (DRO)	 ND	1.0	mg/L	1	8/18/2008 1:14:00 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/18/2008 1:14:00 PM
Surr: DNOP	112	58-140	=	1	8/18/2008 1:14:00 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	30	2.5	mg/L	50	8/25/2008 8:35:35 PM
Surr: BFB	111	79.2-121	%REC	50	8/25/2008 8:35:35 PM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.15	0.10	mg/L	1	8/15/2008 3:09:09 AM
Chloride	740	5.0	mg/L	50	8/28/2008 1:16:10 PM
Nitrogen, Nitrite (As N)	ND	1.0	mg/L	10	8/15/2008 3:26:33 AM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	.8/15/2008 3:09:09 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 3:09:09 AM
Sulfate	6.4	0.50	mg/L	. 1	8/15/2008 3:09:09 AM
EPA METHOD 7470: MERCURY					Analyst: <b>SNV</b>
Mercury	ND	0.00020	mg/L	1	8/27/2008 4:27:50 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	8/29/2008 1:45:20 PM
Barium	1.1	0.10	mg/L	5	8/29/2008 5:46:43 PM
Cadmium	ND	0.0020	mg/L	1	8/29/2008 1:45:20 PM
Chromium	ND	0.0060	mg/L	1	8/29/2008 1:45:20 PM
Copper	ND	0.0060	mg/L	1	8/29/2008 1:45:20 PM
Iron	0.21	0.020	mg/L	1	8/29/2008 1:45:20 PM
Lead	ND	0.0050	mg/L	. 1	8/29/2008 1:45:20 PM
Manganese	0.71	0.0020	mg/L	1	8/29/2008 1:45:20 PM
Selenium	ND	0.050	mg/L	1	8/29/2008 1:45:20 PM
Silver	ND	0.0050	mg/L	1	8/29/2008 1:45:20 PM
Zinc	ND	0.050	mg/L	1	8/29/2008 1:45:20 PM
EPA 6010B: TOTAL RECOVERABLE	METALS				Analyst: <b>NMC</b>
Arsenic	ND	0.020	mg/L	1	8/28/2008 12:16:37 PM
Barium	1.1	0.040	mg/L	2	8/28/2008 1:15:26 PM
Cadmium	ND	0.0020	mg/L	1	8/28/2008 12:16:37 PM
Chromium	ND	0.0060	mg/L	1	8/28/2008 12:16:37 PM
Lead	ND	0.0050	mg/L	1	8/28/2008 12:16:37 PM
Selenium	ND	0.050	mg/L	. 1	8/28/2008 12:16:37 PM
Silver	ND	0.0050	mg/L	1	8/28/2008 12:16:37 PM
EPA METHOD 8270C: SEMIVOLATILI	=e				Analyst: <b>JDC</b>

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 21 of 42

Date: 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-05

Client Sample ID: MW-31

Collection Date: 8/13/2008 10:00:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLAT	TILES				Analyst: JD0
Acenaphthene	ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND	10	μg/Ĺ	1	8/23/2008
Aniline	ND	10	μg/L	1	8/23/2008
Anthracene	'ND	10	μg/L	1	8/23/2008
Azobenzene	ND	10	μg/L	1	8/23/2008
Benz(a)anthracene	ND	10	μg/L	· 1	8/23/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/23/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/23/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzoic acid	ND	20	μg/L	1	8/23/2008
Benzyl alcohol	. ND	10	μg/L	1 .	8/23/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1 .	8/23/2008
Bis(2-chloroethyl)ether	. ND	10	μg/L	1 .	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Butyl benzyl phthalate	ND .	10	μg/L	1	8/23/2008
Carbazole	ND	10	μg/L	1	8/23/2008
4-Chloro-3-methylphenol	, ND	10	μg/L	1	8/23/2008
4-Chloroaniline	ND	10	μg/L	1	8/23/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/23/2008
2-Chlorophenol	ND	10	μg/L	1	8/23/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Chrysene	ND	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	µg/L	· 1	8/23/2008
Dibenz(a,h)anthracene	ND	10	µg/L	1	8/23/2008
Dibenzofuran	ND	10	μg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	μg/L	, 1	8/23/2008
1,3-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,4-Dichlorobenzene	ND .	10	μg/L	1	8/23/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	· 1	8/23/2008
Diethyl phthalate	ND	10	μg/L	1	8/23/2008
Dimethyl phthalate	ND	10	μg/L	. 1	8/23/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/23/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	. 1	8/23/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10	µg/L	1	8/23/2008
2,6-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
Fluoranthene	ND	. 10	µg/L	, <b>1</b>	8/23/2008

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 22 of 42

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Project:

Cross-Gradient Wells Annual Aug 2008

Lab ID:

0808240-05

Client Sample ID: MW-31

Collection Date: 8/13/2008 10:00:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
PA METHOD 8270C: SEMIVOLATILE	S				Analyst: <b>JD</b> C
Fluorene	ND	10	µg/L	1	8/23/2008
Hexachlorobenzene	ND	10	μg/L	1	8/23/2008
Hexachlorobutadiene	ND	10	μg/L	1	8/23/2008
Hexachlorocyclopentadiene	ND	10	µg/L	1	8/23/2008
Hexachloroethane	ND	10°	μg/L	1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/23/2008
Isophorone	ND	10	μg/L	1	8/23/2008
2-Methylnaphthalene	82	10	μg/L	1	8/23/2008
2-Methylphenol	ND	10	µg/L	1	8/23/2008
3+4-Methylphenol	ND	10	μg/L	1	8/23/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/23/2008
Naphthalene	140	10	μg/L	1	8/23/2008
2-Nitroaniline	ND	10	μg/L	1	8/23/2008
3-Nitroaniline	ND	10	μg/L	1	8/23/2008
4-Nitroaniline	ND	10	μg/L	1	8/23/2008
Nitrobenzene	. ND	10	μg/L	1	8/23/2008
2-Nitrophenol	ND	10	μg/L	1	8/23/2008
4-Nitrophenol	ND	10	μg/L	1	8/23/2008
Pentachlorophenol	ND	40	μg/L	1	8/23/2008
Phenanthrene	ND	10	μg/L	1	8/23/2008
Phenol	10	10	μg/L	1	8/23/2008
Pyrene	ND	10	µg/L	1	8/23/2008
Pyridine	ND	10	μg/L	1	8/23/2008
1,2,4-Trichlorobenzene	ND	10	μg/L	1	8/23/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/23/2008
2,4,6-Trichlorophenol	ND	10	μg/L	1	8/23/2008
Surr: 2,4,6-Tribromophenol	85.4	16.6-150	%REC	1	8/23/2008
Surr: 2-Fluorobiphenyl	89.3	19.6-134	%REC	1	8/23/2008
Surr: 2-Fluorophenol	65.9	9.54-113	%REC	1	8/23/2008
Surr: 4-Terphenyl-d14	64.9	22.7-145	%REC	1	8/23/2008
Surr: Nitrobenzene-d5	92.0	14.6-134	%REC	1	8/23/2008
Surr: Phenol-d5	56.5	10.7-80.3	%REC	1	8/23/2008
PA METHOD 8260B: VOLATILES					Analyst: HL
Benzene	4000	50	μg/L	50	8/18/2008 5:42:49 PM
Toluene	18	10	μg/L	10	8/15/2008 7:36:36 PM
Ethylbenzene	1400	50	μg/L	50	8/18/2008 5:42:49 PM
Methyl tert-butyl ether (MTBE)	ND	10	μg/L	10	8/15/2008 7:36:36 PM
1,2,4-Trimethylbenzene	1900	50	μg/L	50	8/18/2008 5:42:49 PM
1,3,5-Trimethylbenzene	290	10	μg/L	10	8/15/2008 7:36:36 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 23 of 42

Date: 18-Sep-08

**CLIENT:** Lab Order: Western Refining Southwest, Inc.

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-05

Client Sample ID: MW-31

Collection Date: 8/13/2008 10:00:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES	<del></del>				Analyst: HL
1,2-Dichloroethane (EDC)	ND	. 10	μg/L	10	8/15/2008 7:36:36 PM
1,2-Dibromoethane (EDB)	ND	10	μg/L	10	8/15/2008 7:36:36 PM
Naphthalene	230	20	μg/L	10	8/15/2008 7:36:36 PM
1-Methylnaphthalene	88	40	μg/L	10	8/15/2008 7:36:36 PM
2-Methylnaphthalene	120	40	μg/L	10	8/15/2008 7:36:36 PM
Acetone	ND	100	μg/L	10	8/15/2008 7:36:36 PM
Bromobenzene	ND	10	μg/L	10	8/15/2008 7:36:36 PM
Bromodichloromethane	ND	10	μg/L	10	8/15/2008 7:36:36 PM
Bromoform	ND	10	μg/L	10	8/15/2008 7:36:36 PM
Bromomethane	ND	10	μg/L	10	8/15/2008 7:36:36 PM
2-Butanone	ND	100	μg/L	10	8/15/2008 7:36:36 PM
Carbon disulfide	ND	100	μg/L	10	8/15/2008 7:36:36 PM
Carbon Tetrachloride	ND	10	μg/L	10	8/15/2008 7:36:36 PM
Chlorobenzene	ND	10	μg/L	10	8/15/2008 7:36:36 PM
Chloroethane	ND	20	μg/L	10	8/15/2008 7:36:36 PM
Chloroform	ND	10	μg/L	10	8/15/2008 7:36:36 PM
Chloromethane	ND	10	μg/L	10	8/15/2008 7:36:36 PM
2-Chlorotoluene	ND	10	μg/L	10	8/15/2008 7:36:36 PM
4-Chlorotoluene	ND	10	μg/L	10	8/15/2008 7:36:36 PM
cis-1,2-DCE	· ND	10	μg/L	10	8/15/2008 7:36:36 PM
cis-1,3-Dichloropropene	ND	10	μg/L	10	8/15/2008 7:36:36 PM
1,2-Dibromo-3-chloropropane	ND	20	μg/L	10	8/15/2008 7:36:36 PM
Dibromochloromethane	ND	10	μg/L	10	8/15/2008 7:36:36 PM
Dibromomethane	ND	10	μg/L	10	8/15/2008 7:36:36 PM
1,2-Dichlorobenzene	ND	10	μg/L	10	8/15/2008 7:36:36 PM
1,3-Dichlorobenzene	ND	10	μg/L	10	8/15/2008 7:36:36 PM
1,4-Dichlorobenzene	ND	10	μg/L	10	8/15/2008 7:36:36 PM
Dichlorodifluoromethane	ND	10	μg/L	10	8/15/2008 7:36:36 PM
1,1-Dichloroethane	ND	10	μg/L	10	8/15/2008 7:36:36 PM
1,1-Dichloroethene	ND	10	μg/L	10	8/15/2008 7:36:36 PM
1,2-Dichloropropane	ND	10	μg/L	10	8/15/2008 7:36:36 PM
1,3-Dichloropropane	ND	10	μg/L	10	8/15/2008 7:36:36 PM
2,2-Dichloropropane	ND	20	µg/L	10	8/15/2008 7:36:36 PM
1,1-Dichloropropene	ND	10	μg/L	10	8/15/2008 7:36:36 PM
Hexachlorobutadiene	ND	10	μg/L	10	8/15/2008 7:36:36 PM
2-Hexanone	ND	100	μg/L	10	8/15/2008 7:36:36 PM
Isopropylbenzene	130	10	·μg/L	10	8/15/2008 7:36:36 PM
4-isopropyltoluene	16	10	μg/L	10	8/15/2008 7:36:36 PM
4-Methyl-2-pentanone	ND	100	µg/L	10	8/15/2008 7:36:36 PM
Methylene Chloride	ND ·	30	μg/L	10	8/15/2008 7:36:36 PM
n-Butylbenzene	70	10	μg/L	10	8/15/2008 7:36:36 PN
n-Propylbenzene	310	10	μg/L	·10	8/15/2008 7:36:36 PM

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- Value above quantitation range
- J Analyte detected below quantitation limits
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Holding times for preparation or analysis exceeded Η
- Maximum Contaminant Level MCL
- Reporting Limit

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Date: 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

. .

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-05

Client Sample ID: MW-31

Collection Date: 8/13/2008 10:00:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES	· · · · · · · · · · · · · · · · · · ·					Analyst: <b>HL</b>
sec-Butylbenzene	50	10		μg/L	10	8/15/2008 7:36:36 PM
Styrene	ND	10		μg/L	10	8/15/2008 7:36:36 PM
tert-Butylbenzene	ND	10		μg/L	10	8/15/2008 7:36:36 PM
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	8/15/2008 7:36:36 PM
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	8/15/2008 7:36:36 PM
Tetrachloroethene (PCE)	ND	10		μg/L	10	8/15/2008 7:36:36 PM
trans-1,2-DCE	ND	10		μg/L	10	8/15/2008 7:36:36 PM
trans-1,3-Dichloropropene	ND	. 10		μg/L	10	8/15/2008 7:36:36 PM
1,2,3-Trichlorobenzene	ND	10		μg/L	10	8/15/2008 7:36:36 PM
1,2,4-Trichlorobenzene	ND	10		μg/L	10	8/15/2008 7:36:36 PM
1,1,1-Trichloroethane	ND	10		μg/L	10	8/15/2008 7:36:36 PM
1,1,2-Trichloroethane	ND	10		μg/L	10	8/15/2008 7:36:36 PM
Trichloroethene (TCE)	ND	10		μg/L	10	8/15/2008 7:36:36 PM
Trichlorofluoromethane	ND	10		μg/L	10	8/15/2008 7:36:36 PM
1,2,3-Trichloropropane	ND -	20		μg/L	10	8/15/2008 7:36:36 PM
Vinyl chloride	ND	10		μg/L	10	8/15/2008 7:36:36 PM
Xylenes, Total	3000	75		μg/L	50	8/18/2008 5:42:49 PM
Surr: 1,2-Dichloroethane-d4	96.1	68.1-123		%REC	10	8/15/2008 7:36:36 PM
Surr: 4-Bromofluorobenzene	102	53.2-145		%REC	10	8/15/2008 7:36:36 PM
Surr: Dibromofluoromethane	97.3	68.5-119		%REC	10	8/15/2008 7:36:36 PM
Surr: Toluene-d8	123	64-131		%REC	10	8/15/2008 7:36:36 PM
SM 2320B: ALKALINITY						Analyst: TAF
Alkalinity, Total (As CaCO3)	1100	40		mg/L CaCO3	2	8/21/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/21/2008
Bicarbonate	1100	40		mg/L CaCO3	2	8/21/2008
TOTAL CARBON DIOXIDE CALCULATIO	N					Analyst: <b>TAF</b>
Total Carbon Dioxide	1100	1.0		mg CO2/L	1	8/22/2008

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

0808240

Client Sample ID: MW-32

Lab Order:

Collection Date: 8/13/2008 11:30:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-06

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS				-	Analýst: SLB
Fluoride	0.21	0.10	mg/L	• 1	8/15/2008 3:43:57 AM
Chloride	1000	5.0	mg/L	50	8/28/2008 1:33:34 PM
Nitrogen, Nitrite (As N)	ND	1.0	mg/L	10	8/15/2008 4:01:22 AM
Bromide	4.7	1.0	mg/L	10	8/15/2008 4:01:22 AM
Nitrogen, Nitrate (As N)	26	1.0	mg/L	10	8/15/2008 4:01:22 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	• 1	8/15/2008 3:43:57 AM
Sulfate	1400	25	mg/L	50	8/28/2008 1:33:34 PM

- Value exceeds Maximum Contaminant Level
- Estimated value Е
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н
- Maximum Contaminant Level MCL
- Reporting Limit RL

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

0808240

Collection Date: 8/13/2008 11:30:00 AM

Lab Order: **Project:** 

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Client Sample ID: MW-32

Lab ID:

0808240-06

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE					Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/18/2008 1:47:47 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/18/2008 1:47:47 PM
Surr: DNOP	110	58-140	%REC	1	8/18/2008 1:47:47 PM
EPA METHOD 8015B: GASOLINE RAN	NGE				Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/25/2008 9:06:04 PM
Surr: BFB	84.2	79.2-121	%REC	1	8/25/2008 9:06:04 PM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.21	0.10	mg/L	1	8/15/2008 3:43:57 AM
Chloride	1000	5.0	mg/L	50	8/28/2008 1:33:34 PM
Nitrogen, Nitrite (As N)	ND	1.0	mg/L	10	8/15/2008 4:01:22 AM
Nitrogen, Nitrate (As N)	26	1.0	mg/L	10	8/15/2008 4:01:22 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 3:43:57 AM
Sulfate	1400	25	mg/L	50	8/28/2008 1:33:34 PM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	8/27/2008 4:29:39 PM
EPA METHOD 6010B: DISSOLVED ME	TALS			٠	Analyst: TES
Arsenic	ND	0.020	mg/L	1	8/29/2008 3:40:27 PM
Barium	0.026	0.020	mg/L	1	8/29/2008 3:40:27 PM
Cadmium	ND	0.0020	mg/L	1	8/29/2008 3:40:27 PM
Chromium	ND	0.0060	mg/L	1	8/29/2008 3:40:27 PM
Copper	ND	0.0060	mg/L	1	8/29/2008 3:40:27 PM
Iron	ND	0.020	mg/L	1	8/29/2008 3:40:27 PM
Lead	ND	0.0050	mg/L	1	8/29/2008 3:40:27 PM
Manganese	ND	0.0020	mg/L	1	8/29/2008 3:40:27 PM
Selenium	ND	0.25	mg/L	5	9/8/2008 10:03:48 PM
Silver	ND	0.0050	mg/L	1	8/29/2008 3:40:27 PM
Zinc	ND	0.050	mg/L	1	8/29/2008 3:40:27 PM
EPA 6010B: TOTAL RECOVERABLE N	TETALS				Analyst: <b>NMO</b>
Arsenic	ND	0.020	mg/L	1	8/28/2008 12:19:35 PM
Barium	0.045	0.020	mg/L	1	8/28/2008 12:19:35 PM
Cadmium	ND	0.0020	mg/L	1	8/28/2008 12:19:35 PM
Chromium	ND	0.0060	mg/L	1	8/28/2008 12:19:35 PM
Lead	ND.	0.0050	mg/L	1	8/28/2008 12:19:35 PM
Selenium	ND	0.050	mg/L	1	8/28/2008 12:19:35 PM
Silver	ND	0.0050	mg/L	1	8/28/2008 12:19:35 PM
EPA METHOD 8270C: SEMIVOLATILE	S				Analyst: <b>JDC</b>

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 26 of 42

**Date:** 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Client Sample ID: MW-32

Lab Order:

0808240

Collection Date: 8/13/2008 11:30:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-06

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC
Acenaphthene	, ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND	10	μg/L	1	8/23/2008
Aniline	ND	10	μg/L	1	8/23/2008
Anthracene	ND	10	μg/L	1 .	8/23/2008
Azobenzene	ND	10	μg/L	· 1	8/23/2008
Benz(a)anthracene	ND	10	μg/L	1	8/23/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/23/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/23/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/23/2008
Benzoic acid	ND	20	μg/L	1	8/23/2008
Benzyl alcohol	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L .	1	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	µg/L	· 1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Butyl benzyl phthalate	' ND	10	μg/L	1	8/23/2008
Carbazole	ND	10	µg/L	1	8/23/2008
4-Chloro-3-methylphenol	ND	10	µg/L	. 1	8/23/2008
4-Chloroaniline	ND	10	μg/L	1	8/23/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/23/2008
2-Chlorophenol	ND	10	µg/L	. 1	8/23/2008
4-Chlorophenyl phenyl ether	ND	. 10	μg/L	1	8/23/2008
Chrysene	ND	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/23/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/23/2008
Dibenzofuran	ND	10	μg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
1,3-Dichlorobenzene	ND	10	µg/L	1	8/23/2008
1,4-Dichlorobenzene	ND	10	μg/L	1 .	8/23/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/23/2008
Diethyl phthalate	ND	10	μg/L	1	8/23/2008
Dimethyl phthalate	ND	10	μg/L	· <b>1</b>	8/23/2008
2,4-Dichlorophenol	ND	20	μg/L ˙	1	8/23/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1, ,	8/23/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
2,6-Dinitrotoluene	ND	10	μg/L	. 1	8/23/2008
Fluoranthene	ND	10	μg/L	1	8/23/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-06

Client Sample ID: MW-32

Collection Date: 8/13/2008 11:30:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Un	its	DF	Date Analyzed
PA METHOD 8270C: SEMIVOLATILES	3		· · · ·			Analyst: JDC
Fluorene	ND	10	μg/	Ĺ	1	8/23/2008
Hexachlorobenzene	ND	10	μg/	L	1	8/23/2008
Hexachlorobutadiene	ND	. 10	μg/	'L	1	8/23/2008
Hexachlorocyclopentadiene	ND	10	μg/	L.	1	8/23/2008
Hexachioroethane	ND	10	μg/	'L	1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/	Ľ	1	8/23/2008
Isophorone	ND	10	μg/	<u>"L</u>	1	8/23/2008
2-Methylnaphthalene	ND	10	μg/	'L	1	8/23/2008
2-Methylphenoi	ND	10	μg/		1	8/23/2008
3+4-Methylphenol	ND	10	μg/	'L	1	8/23/2008
N-Nitrosodi-n-propylamine	ND	10	μg/	Ľ	1	8/23/2008
N-Nitrosodimethylamine	ND	10	μg/		1	8/23/2008
N-Nitrosodiphenylamine	ND	10	μg/	'L	1	8/23/2008
Naphthalene	ND	10	μg/		1	8/23/2008
2-Nitroaniline	ND	10	μg/		1	8/23/2008
3-Nitroaniline	ND	10	μg/	'L	1	8/23/2008
4-Nitroaniline	ND	10	μg/	'L	1	8/23/2008
Nitrobenzene	ND	10	μg/	'L	1	8/23/2008
2-Nitrophenol	ND	10	μg/	'L	1	8/23/2008
4-Nitrophenol	ND	10	μg/		1	8/23/2008
Pentachlorophenol	ND	40	μg/	'L	1	8/23/2008
Phenanthrene	ND	10	μg/	'L	1	8/23/2008
Phenol	ND	10	μg/		1	8/23/2008
Pyrene	ND	10	μg/		1	8/23/2008
Pyridine	ND	10	μg/		1	8/23/2008
1,2,4-Trichlorobenzene	ND	10	μg/		1	8/23/2008
2,4,5-Trichlorophenol	ND	10	μg/		1	8/23/2008
2,4,6-Trichlorophenol	ND	10	μg/		1	8/23/2008
Surr: 2,4,6-Tribromophenol	75.8	. 16.6-150		REC	1	8/23/2008
Surr: 2-Fluorobiphenyl	85.9	19.6-134	%F	REC	1	8/23/2008
Surr: 2-Fluorophenol	63.8	9.54-113	%F	REC	1	8/23/2008
Surr: 4-Terphenyl-d14	69.2	22.7-145	%F	REC	1	8/23/2008
Surr: Nitrobenzene-d5	86.3	14.6-134	%F	REC	1	8/23/2008
Surr: Phenol-d5	55.9	10.7-80.3	%R	REC	1	8/23/2008
PA METHOD 8260B: VOLATILES						Analyst: <b>HL</b>
Benzene	ND	1.0	μg/	L	1	8/15/2008 8:33:57 PM
Toluene	ND	1.0	μg/		1	8/15/2008 8:33:57 PM
Ethylbenzene	ND	1.0	μg/		1	8/15/2008 8:33:57 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/		1	8/15/2008 8:33:57 PM
1,2,4-Trimethylbenzene	ND	1.0	μg/		1	8/15/2008 8:33:57 PM
1,3,5-Trimethylbenzene	ND	1.0	μg/		1	8/15/2008 8.33.57 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 28 of 42

Date: 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

Client Sample ID: MW-32

Collection Date: 8/13/2008 11:30:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-06

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES	7-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	· · ·	· · · · · · · · · · · · · · · · · · ·	******	. Analyst: HL
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
Naphthalene	ND	2.0	μg/L	1	8/15/2008 8:33:57 PM
1-Methylnaphthalene	ND	4.0	μg/L	1 .	8/15/2008 8:33:57 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/15/2008 8:33:57 PM
Acetone	ND	10	μg/L	1	8/15/2008 8:33:57 PM
Bromobenzene	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
Bromodichloromethane	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
Bromoform	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
Bromomethane	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
2-Butanone	ND	10	μg/L	1	8/15/2008 8:33:57 PM
Carbon disulfide	ND	10	μg/L	1	8/15/2008 8:33:57 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
Chlorobenzene	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
Chloroethane	ND	2.0	μg/L	1.	8/15/2008 8:33:57 PM
Chloroform	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
Chloromethane	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
2-Chlorotoluene	. ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
4-Chlorotoluene	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
1,2-Dibromo-3-chloropropane	ND -	2.0	μg/L	1	8/15/2008 8:33:57 PM
Dibromochloromethane	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
Dibromomethane	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
1,2-Dichlorobenzene	ND	1.0	· . µg/L	1	8/15/2008 8:33:57 PM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
1,1-Dichloroethane	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
1,1-Dichloroethene	ND	1.0	μg/L	1 .	8/15/2008 8:33:57 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
1,3-Dichloropropane	ND	.1.0	μg/L	1	8/15/2008 8:33:57 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	8/15/2008 8:33:57 PM
1,1-Dichloropropene	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
2-Hexanone	ND	10	μg/L	1	8/15/2008 8:33:57 PM
Isopropylbenzene	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM
4-isopropyltoluene	ND	1.0	µg/L	1	8/15/2008 8:33:57 PM
4-Methyl-2-pentanone	· ND	10	μg/L	.1	8/15/2008 8:33:57 PM
Methylene Chloride	ND	3.0	μg/L	1	8/15/2008 8:33:57 PM
n-Butylbenzene	ND	1.0	μg/L	. 1	8/15/2008 8:33:57 PM
n-Propylbenzene	ND	1.0	μg/L	1	8/15/2008 8:33:57 PM

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Η
- MCL Maximum Contaminant Level
- Reporting Limit

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**Date:** 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-06

Client Sample ID: MW-32

Collection Date: 8/13/2008 11:30:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: <b>HL</b>
sec-Butylbenzene	ND	1.0		µg/L	1	8/15/2008 8:33:57 PM
Styrene	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
tert-Butylbenzene	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
1,1,1,2-Tetrachloroethane	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/15/2008 8:33:57 PM
Tetrachloroethene (PCE)	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
trans-1,2-DCE	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
trans-1,3-Dichloropropene	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
1,2,3-Trichlorobenzene	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
1,2,4-Trichlorobenzene	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/15/2008 8:33:57 PM
1,1,2-Trichloroethane	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
Trichloroethene (TCE)	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
Trichlorofluoromethane	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
1,2,3-Trichloropropane	ND	2.0		μg/L	1	8/15/2008 8:33:57 PM
Vinyl chloride	ND	1.0		μg/L	1	8/15/2008 8:33:57 PM
Xylenes, Total	ND	1.5		μg/L	1	8/15/2008 8:33:57 PM
Surr: 1,2-Dichloroethane-d4	93.8	68.1-123		%REC	1	8/15/2008 8:33:57 PM
Surr: 4-Bromofluorobenzene	100	53.2-145		%REC	1	8/15/2008 8:33:57 PM
Surr: Dibromofluoromethane	97.6	68.5-119		%REC	1	8/15/2008 8:33:57 PM
Surr: Toluene-d8	96.1	64-131		%REC	1 .	8/15/2008 8:33:57 PM
SM 2320B: ALKALINITY						Analyst: <b>TA</b> F
Alkalinity, Total (As CaCO3)	180	20		mg/L CaCO3	1	8/21/2008
Carbonate	ND	2.0		mg/L CaCO3	1	8/21/2008
Bicarbonate	180	20		mg/L CaCO3	1	8/21/2008
TOTAL CARBON DIOXIDE CALCULATION						Analyst: <b>TA</b> F
Total Carbon Dioxide	160	1.0		mg CO2/L	1	8/22/2008

Oua	lifio	**
<b>Vua</b>		

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Page 30 of 42

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

Project:

Lab ID:

0808240

Cross-Gradient Wells Annual Aug 2008

0808240-07

Client Sample ID: MW-33

Collection Date: 8/13/2008 10:55:00 AM

Date Received: 8/14/2008
Matrix: AQUEOUS

Analyses	Result	PQL Qı	al Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	Analyst: SLB
Fluoride	0.35	0.10	mg/L	1	8/15/2008 4:18:47 AM
Chloride	540	2.0	mg/L	20	8/28/2008 1:50:59 PM
Nitrogen, Nitrite (As N)	<sup>'</sup> ND	1.0	mg/L	10	8/15/2008 4:36:11 AM
Bromide	2.7	0.10	mg/L	1	8/15/2008 4:18:47 AM
Nitrogen, Nitrate (As N)	19	1.0	mg/L	10	8/15/2008 4:36:11 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 4:18:47 AM
Sulfate	1100	10	mg/L	20	8/28/2008 1:50:59 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Client Sample ID: MW-33

Lab Order:

Collection Date: 8/13/2008 10:55:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-07

Matrix: AQUEOUS

				Date Analyzed
		· · · · · · · · · · · · · · · · · · ·		Analyst: SCC
ND	. 1.0	mg/L	1	8/18/2008 2:21:37 PM
ND	5.0	mg/L	1	8/18/2008 2:21:37 PM
112	58-140	%REC	1	8/18/2008 2:21:37 PM
NGE				Analyst: <b>DAM</b>
ND	0.050	mg/L	1	8/25/2008 11:07:28 PM
79.9	79.2-121	%REC	1	8/25/2008 11:07:28 PM
				Analyst: SLB
0.35	0.10	mg/L	1	8/15/2008 4:18:47 AM
540	2.0	mg/L	20	8/28/2008 1:50:59 PM
ND	1.0	mg/L	10	8/15/2008 4:36:11 AM
19	1.0	mg/L	10	8/15/2008 4:36:11 AM
ND	0.50	mg/L	1	8/15/2008 4:18:47 AM
1100	10	mg/L	20	8/28/2008 1:50:59 PM
				Analyst: <b>SNV</b>
ND	0.00020	mg/L	1	8/27/2008 4:31:28 PM
ETALS				Analyst: TES
ND	0.020	mg/L	1	8/29/2008 3:48:21 PM
ND	0.020	mg/L	1	8/29/2008 3:48:21 PM
ND	0.0020	mg/L	1	8/29/2008 3:48:21 PM
ND	0.0060	mg/L	1	8/29/2008 3:48:21 PM
ND	0.0060	mg/L	1	8/29/2008 3:48:21 PM
ND	0.020	mg/L	1	8/29/2008 3:48:21 PM
ND	0.0050	mg/L	1	8/29/2008 3:48:21 PM
ND	0.0020	mg/L	1	8/29/2008 3:48:21 PM
ND	0.25	mg/L	5	9/8/2008 10:06:17 PM
ND	0.0050	mg/L	1	8/29/2008 3:48:21 PM
0.055	0.050	mg/L	1	8/29/2008 3:48:21 PM
METALS				Analyst: <b>NMC</b>
ND	0.020	mg/L	1	8/28/2008 12:30:41 PM
0.022	0.020	mg/L	1	8/28/2008 12:30:41 PM
ND	0.0020	mg/L	1	8/28/2008 12:30:41 PM
ND	0.0060	mg/L	1	8/28/2008 12:30:41 PM
ND	0.0050	mg/L	1	8/28/2008 12:30:41 PM
ND	0.050	mg/L	1	8/28/2008 12:30:41 PM
	0.0050		1	
	ND 112  NGE ND 79.9  0.35 540 ND 19 ND 1100  ETALS ND	ND 1.0 ND 5.0 112 58-140  NGE  ND 0.050 79.9 79.2-121  0.35 0.10 540 2.0 ND 1.0 19 1.0 ND 0.50 1100 10  ND 0.0020 ND 0.0020 ND 0.0020 ND 0.0020 ND 0.0060 ND 0.0020 ND 0.0050 ND 0.0020 ND 0.0050 ND 0.0050 ND 0.0050 ND 0.0050 ND 0.0020 ND 0.0050 ND 0.0020 ND 0.0050 ND 0.0020	ND 1.0 mg/L ND 5.0 mg/L 112 58-140 %REC  NGE  ND 0.050 mg/L 79.9 79.2-121 %REC  0.35 0.10 mg/L 540 2.0 mg/L ND 1.0 mg/L 19 1.0 mg/L ND 0.50 mg/L 1100 10 mg/L ND 0.000 mg/L ND 0.0000 mg/L ND 0.0020 mg/L ND 0.0020 mg/L ND 0.0060 mg/L ND 0.0060 mg/L ND 0.0050 mg/L	ND 1.0 mg/L 1 ND 5.0 mg/L 1 112 58-140 %REC 1  NGE  ND 0.050 mg/L 1 79.9 79.2-121 %REC 1  0.35 0.10 mg/L 1 540 2.0 mg/L 10 ND 1.0 mg/L 10 ND 0.50 mg/L 10 ND 0.50 mg/L 10 ND 0.50 mg/L 1 1100 10 mg/L 1 1100 10 mg/L 1  ND 0.0020 mg/L 1  ND 0.0020 mg/L 1  ND 0.0060 mg/L 1  ND 0.0020 mg/L 1  ND 0.0020 mg/L 1  ND 0.0050 mg/L 1  ND 0.0055 mg/L 1  ND 0.0055 mg/L 1  ND 0.0055 mg/L 1  ND 0.0055 mg/L 1  ND 0.0050 mg/L 1

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range

**EPA METHOD 8270C: SEMIVOLATILES** 

- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 31 of 42

Analyst: JDC

Date: 18-Sep-08

**CLIENT:** Lab Order: Western Refining Southwest, Inc.

0808240-07

0808240

Client Sample ID: MW-33

Collection Date: 8/13/2008 10:55:00 AM

Project: Lab ID: Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATIL	ES			1	Analyst: JD0
Acenaphthene	ND	10	μg/L	1	8/23/2008
Acenaphthylene	ND	10	μg/L	1	8/23/2008
Aniline	. ND	10	μg/L	1	8/23/2008
Anthracene	ND	10	μg/L	1	8/23/2008
Azobenzene	ND	10	μg/L	1	8/23/2008
Benz(a)anthracene	ND	10	μg/L	1	8/23/2008
Benzo(a)pyrene	ND	10	μg/L	· 1	8/23/2008
Benzo(b)fluoranthene	ND	10	μg/L	. 1	8/23/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1 .	8/23/2008
Benzo(k)fluoranthene	ND .	10	μg/L	1	8/23/2008
Benzoic acid	ND	20	μg/L	1	8/23/2008
Benzyl alcohol	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/23/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1 .	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/23/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/23/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/23/2008
Carbazole	ND	10	μg/L	1	8/23/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/23/2008
4-Chloroaniline	ND	10	μg/L	1	8/23/2008
2-Chloronaphthalene	ND	10	μg/L	1 .	8/23/2008
2-Chlorophenol	ND	10	μg/L	. 1	8/23/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	, 1 ·	8/23/2008
Chrysene	ND	10	μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10	µg/L	1	8/23/2008
Dibenz(a,h)anthracene	ND	10	µg/L	1	8/23/2008
Dibenzofuran	ND	10	µg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10	µg/L	1	8/23/2008
1,3-Dichlorobenzene	ND	10	µg/L	1	8/23/2008
1,4-Dichlorobenzene	ND	10	μg/L	1	8/23/2008
3,3´-Dichlorobenzidine	ND	10	μg/L	1	8/23/2008
Diethyl phthalate	ND	10	μg/L	1	8/23/2008
Dimethyl phthalate	ND	10	μg/L	1	8/23/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/23/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
2,6-Dinitrotoluene	ND	10	μg/L	1	8/23/2008
Fluoranthene	ND	10	μg/L	1	8/23/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
  - Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 32 of 42

**Date:** 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

0000240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-07

Client Sample ID: MW-33

Collection Date: 8/13/2008 10:55:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S				Analyst: JD0
Fluorene	ND	10	μg/L	1	8/23/2008
Hexachlorobenzene	ND	10	μg/L	1	8/23/2008
Hexachlorobutadiene	ND	10	μg/L	1	8/23/2008
Hexachlorocyclopentadiene	ND	10	μg/L	1	8/23/2008
Hexachloroethane	ND	10	μg/L	1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/23/2008
Isophorone	ND	10	μg/L	1	8/23/2008
2-Methylnaphthalene	ND	10	μg/L	1	8/23/2008
2-Methylphenol	ИD	10	μg/L	1	8/23/2008
3+4-Methylphenol	ND	10	μg/L	1	8/23/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	1	8/23/2008
N-Nitrosodimethylaminė	ND	10	μg/L	1	8/23/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/23/2008
Naphthalene	ND	10	μg/L	1	8/23/2008
2-Nitroaniline	ND	10	μg/L	1	8/23/2008
3-Nitroaniline	ND	10	μg/L	1	8/23/2008
4-Nitfoaniline	ND	10	μg/L	1	8/23/2008
Nitrobenzene	ND	10	μg/L	1	8/23/2008
2-Nitrophenol	ND	10	μg/L	1	8/23/2008
4-Nitrophenol	ND	10	μg/L	1	8/23/2008
Pentachlorophenol	ND	. 40	μg/L	1	8/23/2008
Phenanthrene	ND	10	μg/L	1	8/23/2008
Phenol	ND	10	μg/L	1	8/23/2008
Pyrene	ND .	10	μg/L	1	8/23/2008
Pyridine	ND	10	μg/L	1	8/23/2008
1,2,4-Trichlorobenzene	ND	10	μg/L	1	8/23/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/23/2008
2,4,6-Trichlorophenol	ND	10	μg/L	1	8/23/2008
Surr: 2,4,6-Tribromophenol	73.5	16.6-150	%REC	1	8/23/2008
Surr: 2-Fluorobiphenyl	86.0	19.6-134	%REC	1	8/23/2008
Surr: 2-Fluorophenol	62.1	9.54-113	%REC	1	8/23/2008
Surr: 4-Terphenyl-d14	75.4	22.7-145	%REC	1	8/23/2008
Surr: Nitrobenzene-d5	86.2	14.6-134	%REC	1	8/23/2008
Surr: Phenol-d5	54.4	10.7-80.3	%REC	. 1	8/23/2008
PA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
Toluene	ND	1.0	µg/L	1	8/15/2008 9:02:41 PM
Ethylbenzene	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	8/15/2008 9:02:41 PM
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 18-Sep-08

**CLIENT:** Lab Order: Western Refining Southwest, Inc.

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-07

Client Sample ID: MW-33

Collection Date: 8/13/2008 10:55:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES	····		<del></del>		Analyst: HL
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1 .	8/15/2008 9:02:41 PM
Naphthalene	ND	2.0	μg/L	1	8/15/2008 9:02:41 PM
1-Methylnaphthalene	ND	4.0	µg/L	1	8/15/2008 9:02:41 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/15/2008 9:02:41 PM
Acetone	ND	10	μg/L	1	8/15/2008 9:02:41 PM
Bromobenzene	, ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
Bromodichloromethane	ND	1.0	µg/L	1	8/15/2008 9:02:41 PM
Bromoform	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
Bromomethane	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
2-Butanone	ND	10	μg/L	1	8/15/2008 9:02:41 PM
Carbon disulfide	ND	10	μg/L	1	8/15/2008 9:02:41 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
Chlorobenzene	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
Chloroethane	ND	2.0	μg/L	1	8/15/2008 9:02:41 PM
Chloroform	NĐ	1.0	μg/L	1	8/15/2008 9:02:41 PM
Chloromethane	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
2-Chlorotoluene	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
4-Chlorotoluene	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	8/15/2008 9:02:41 PM
Dibromochloromethane	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
Dibromomethane	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
1,2-Dichlorobenzene	ND	1.0	µg/L	1	8/15/2008 9:02:41 PM
1,3-Dichlorobenzene	ND	1.0	µg/L	1	8/15/2008 9:02:41 PM
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
1,1-Dichloroethane	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
1,1-Dichloroethene	ND	. 1.0	μg/L	1	8/15/2008 9:02:41 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM
1,3-Dichloropropane	ND	1.0	µg/L	1	8/15/2008 9:02:41 PM
2,2-Dichloropropane	ND	2.0	µg/L	1	8/15/2008 9:02:41 PM
1,1-Dichloropropene	ND	1.0	µg/L	1	8/15/2008 9:02:41 PM
Hexachlorobutadiene	ND	1.0	µg/L	· 1	8/15/2008 9:02:41 PM
2-Hexanone	ND	10	µg/L	1	8/15/2008 9:02:41 PM
Isopropylbenzene	. ND	1.0	µg/L	1	8/15/2008 9:02:41 PM
4-Isopropyltoluene	ND	1.0	µg/L	1	8/15/2008 9:02:41 PM
4-Methyl-2-pentanone	ND	10	µg/L	1	8/15/2008 9:02:41 PM
Methylene Chloride	ND	3.0	µg/L	1	8/15/2008 9:02:41 PM
n-Butylbenzene	ND	1.0	μg/L	. 1	8/15/2008 9:02:41 PM
n-Propylbenzene	ND	1.0	μg/L	1	8/15/2008 9:02:41 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

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Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Project:

Cross-Gradient Wells Annual Aug 2008

Lab ID:

0808240-07

Client Sample ID: MW-33

Collection Date: 8/13/2008 10:55:00 AM

**Date Received: 8/14/2008** 

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
sec-Butylbenzene	ND	1.0		μg/L	1	8/15/2008 9:02:41 PM
Styrene	ND	1.0		μg/L	1	8/15/2008 9:02:41 PM
tert-Butylbenzene	ND	1.0		µg/L	1	8/15/2008 9:02:41 PM
1,1,1,2-Tetrachloroethane	ND	1.0		μg/L	1	8/15/2008 9:02:41 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/15/2008 9:02:41 PM
Tetrachloroethene (PCE)	ND	1.0		μg/L	1	8/15/2008 9:02:41 PM
trans-1,2-DCE	ND	1.0		μg/L	1	8/15/2008 9:02:41 PM
trans-1,3-Dichloropropene	NĎ	1.0		µg/L	1	8/15/2008 9:02:41 PM
1,2,3-Trichlorobenzene	ND	1.0		μg/L	1	8/15/2008 9:02:41 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/15/2008 9:02:41 PM
1,1,1-Trichloroethane	ND	1.0		μg/L	1	8/15/2008 9:02:41 PM
1,1,2-Trichloroethane	ND	1.0		μg/L	1	8/15/2008 9:02:41 PM
Trichloroethene (TCE)	ND	1.0		μg/L	1	8/15/2008 9:02:41 PM
Trichlorofluoromethane	ND	1.0		μg/L	1	8/15/2008 9:02:41 PM
1,2,3-Trichloropropane	ND	2.0		μ <b>g/L</b>	1	8/15/2008 9:02:41 PM
Vinyl chloride	ND	1.0		µg/L	. 1	8/15/2008 9:02:41 PM
Xylenes, Total	ND	1.5		μg/L	1	8/15/2008 9:02:41 PM
Surr: 1,2-Dichloroethane-d4	94.3	68.1-123		%REC	1	8/15/2008 9:02:41 PM
Surr: 4-Bromofluorobenzene	105	53.2-145		%REC	1	8/15/2008 9:02:41 PM
Surr: Dibromofluoromethane	96.9	68.5-119		%REC	1	8/15/2008 9:02:41 PM
Surr: Toluene-d8	95.7	64-131		%REC	1	8/15/2008 9:02:41 PM
SM 2320B: ALKALINITY						Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	140	20		mg/L CaCO3	11	8/21/2008
Carbonate	ND	2.0		mg/L CaCO3	1	8/21/2008
Bicarbonate	140	20		mg/L CaCO3	1	8/21/2008
TOTAL CARBON DIOXIDE CALCULATIO	N					Analyst: <b>TA</b> F
Total Carbon Dioxide	130	1.0		mg CO2/L	1	8/22/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

0808240-08

Client Sample ID: MW-26 FD

Collection Date: 8/13/2008 9:20:00 AM

Project: Lab ID: Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS			, , , , , , , , , , , , , , , , , , , ,		Analyst: SLB
Fluoride	0.34	0.10	mg/L	1	8/15/2008 5:28:25 AM
Chloride	380	1.0	mg/L	10	8/15/2008 5:45:49 AM
Nitrogen, Nitrite (As N)	ND	1.0	mg/L	. 10	8/15/2008 5:45:49 AM
Bromide	5.5	1.0	mg/L	10	8/15/2008 5:45:49 AM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1 .	8/15/2008 5:28:25 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/15/2008 5:28:25 AM
Sulfate	. ND	0.50	mg/L	1	8/15/2008 5:28:25 AM

Qualifiers:

Value exceeds Maximum Contaminant Level

Ε Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

Date: 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-08

Client Sample ID: MW-26 FD

Collection Date: 8/13/2008 9:20:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE		· · · · · · · · · · · · · · · · · · ·			<del></del>	Analyst: SCC
Diesel Range Organics (DRO)	2.1	1.0		mg/L	1	8/18/2008 3:29:53 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/18/2008 3:29:53 PM
Surr: DNOP	110	58-140		%REC	1	8/18/2008 3:29:53 PM
EPA METHOD 8015B: GASOLINE RANG	SE.					Analyst: DAN
Gasoline Range Organics (GRO)	8.2	1.0		mg/L	20	8/26/2008 6:32:28 PM
Surr: BFB	121	79.2-121	S	%REC	20	8/26/2008 6:32:28 PM
EPA METHOD 300.0: ANIONS						Analyst: SLB
Fluoride	0.34	0.10		mg/L	1	8/15/2008 5:28:25 AM
Chloride	380	1.0		mg/L	10	8/15/2008 5:45:49 AM
Nitrogen, Nitrite (As N)	ND	1.0		mg/L	10	8/15/2008 5:45:49 AM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/15/2008 5:28:25 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/15/2008 5:28:25 AM
Sulfate	ND	0.50		mg/L	1	8/15/2008 5.28:25 AM
EPA METHOD 7470: MERCURY						Analyst: SNV
Mercury	ND	0.00020		mg/L	1	8/27/2008 4:33:18 PM
EPA METHOD 6010B: DISSOLVED MET	ALS					Analyst: <b>TES</b>
Arsenic	ND	0.020		mg/L	1	8/29/2008 3:51:13 PM
Barium	2.3	0.20		mg/L	10	8/29/2008 4:47:24 PM
Cadmium	ND	0.0020		mg/L	1	8/29/2008 3:51:13 PM
Chromium	ND	0.0060		mg/L	1	8/29/2008 3:51:13 PM
Copper	ND	0.0060		mg/L	1	8/29/2008 3:51:13 PM
Iron	7.2	0.20		mg/L	10	8/29/2008 4:47:24 PM
Lead	ND	0.0050		mg/L	1	8/29/2008 3:51:13 PM
Manganese	3.0	0.020		mg/L	10	8/29/2008 4:47:24 PM
Selenium	ND	0.25		mg/L	5	9/8/2008 10:08:43 PM
Silver	ND	0.0050		mg/L	1	8/29/2008 3:51:13 PM
Zinc	ND	0.050		mg/L	1	8/29/2008 3:51:13 PM
EPA 6010B: TOTAL RECOVERABLE ME	TALS					Analyst: NMC
Arsenic	ND	0.020		mg/L	1	8/28/2008 12:33:11 PM
Barium	2.4	0.20		mg/L	10	8/28/2008 1:18:09 PM
Cadmium	ND	0.0020		mg/L	1	8/28/2008 12:33:11 PM
Chromium	ND	0.0060		mg/L	1	8/28/2008 12:33:11 PM
Lead	ND -	0.0050	•	mg/L	. 1	8/28/2008 12:33:11 PM
Selenium	ND	0.050		mg/L	1	8/28/2008 12:33:11 PM
Silver	ND .	0.0050		mg/L	1	8/28/2008 12:33:11 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: <b>JDC</b>

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-08

Client Sample ID: MW-26 FD

Collection Date: 8/13/2008 9:20:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PA METHOD 8270C: SEMIVOLAT	TILES			<del></del>		Analyst: JD
Acenaphthene	ND	10		μg/L	1	8/23/2008
Acenaphthylene	ND	- 10		μg/L	1	8/23/2008
Aniline	ND	10		µg/L	1	8/23/2008
Anthracene	ND	-10		μg/L	1	8/23/2008
Azobenzene	ND	10		μg/L	1	8/23/2008
Benz(a)anthracene	ND	10		μg/L	1	8/23/2008
Benzo(a)pyrene	ND	10		μg/L	1	8/23/2008
Benzo(b)fluoranthene	ND	10		μg/L	1	8/23/2008
Benzo(g,h,i)perylene	ND	10		μg/L	1	8/23/2008
Benzo(k)fluoranthene	ND	10		μg/L	1	8/23/2008
Benzoic acid	ND	20		µg/L	1	8/23/2008
Benzyl alcohol	ND	10		μg/L	1	8/23/2008
Bis(2-chloroethoxy)methane	ND	10		μg/L	1	8/23/2008
Bis(2-chloroethyl)ether	ND	10		μg/L	1	8/23/2008
Bis(2-chloroisopropyl)ether	· ND	10		μg/L	1	8/23/2008
Bis(2-ethylhexyl)phthalate	ND	10		μg/L	1	8/23/2008
4-Bromophenyl phenyl ether	ND	10		μg/L	1	8/23/2008
Butyl benzyl phthalate	ND	10		μg/L	1	8/23/2008
Carbazole	ND	10		μg/L	1	8/23/2008
4-Chloro-3-methylphenol	, ND	10		μg/L	1	8/23/2008
4-Chloroaniline	ND	10		μg/L	1	8/23/2008
2-Chloronaphthalene	ND	10		μg/L	1	8/23/2008
2-Chlorophenol	ND	10		μg/L	1	8/23/2008
4-Chlorophenyl phenyl ether	ND	10		μg/L	1	8/23/2008
Chrysene	ND	10		μg/L	1	8/23/2008
Di-n-butyl phthalate	ND	10		μg/L	1	8/23/2008
Di-n-octyl phthalate	ND	10		μg/L	1	8/23/2008
Dibenz(a,h)anthracene	ND	10		μg/L	1	8/23/2008
Dibenzofuran	ND	10		μg/L	1	8/23/2008
1,2-Dichlorobenzene	ND	10		μg/L	1	8/23/2008
1,3-Dichlorobenzene	ND	10		µg/L	1	8/23/2008
1,4-Dichlorobenzene	. ND	10		μg/L	1	8/23/2008
3,3'-Dichlorobenzidine	ND	10		μg/L	1	8/23/2008
Diethyl phthalate	ND	10		μg/L	1	8/23/2008
Dimethyl phthalate	ND	10		μg/L	1.	8/23/2008
2,4-Dichlorophenol	ND .	20		μg/L	. 1	8/23/2008
2,4-Dimethylphenol	ND	10		μg/L	1	8/23/2008
4,6-Dinitro-2-methylphenol	ND	20		μg/L	. 1	8/23/2008
2,4-Dinitrophenol	ND	20		μg/L	1	8/23/2008
2,4-Dinitrotoluene	ND	10		μg/L	1	8/23/2008
2,6-Dinitrotoluene	. ND	10		µg/L	1	8/23/2008
Fluoranthene	ND	10		µg/L	1	8/23/2008

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 37 of 42

Date: 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

Client Sample ID: MW-26 FD

0808240

Collection Date: 8/13/2008 9:20:00 AM

**Project:** 

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID:

0808240-08

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Uni	ts DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE:	S				Analyst: JDC
Fluorene	ND	10	μg/L	. 1	8/23/2008
Hexachlorobenzene	ND	10	μg/L	. 1	8/23/2008
Hexachlorobutadiene	ND	10	µg/L	. 1	8/23/2008
Hexachlorocyclopentadiene	ND	10	µg/L	. 1	8/23/2008
Hexachloroethane	ND	10	µg/L	. 1	8/23/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	. 1	8/23/2008
Isophorone	ND	10	μg/L	. 1	8/23/2008
2-Methylnaphthalene	14	10	μg/L	. 1	8/23/2008
2-Methylphenol	ND	10	µg/L	. 1	8/23/2008
3+4-Methylphenol	ND	10	μg/L	. 1	8/23/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	. 1	8/23/2008
N-Nitrosodimethylamine	ND	10	μg/L	. 1	8/23/2008
N-Nitrosodiphenylamine	ND .	10	µg/L	. 1	8/23/2008
Naphthalene	63	10	μ <b>g/</b> L		8/23/2008
2-Nitroaniline	ND	10	μg/L	. 1	8/23/2008
3-Nitroaniline	ND	10	μg/L	. 1	8/23/2008
4-Nitroaniline	ND	10	μg/L	. 1	8/23/2008
Nitrobenzene	ND	10	μg/L	. 1	8/23/2008
2-Nitrophenol	ND	10	μg/L	. 1	8/23/2008
4-Nitrophenol	ND	10	μg/L	1	8/23/2008
Pentachlorophenol	ND	. 40	μg/L	. 1	8/23/2008
Phenanthrene	ND	10	μg/L	. 1	8/23/2008
Phenol	ND	10	μg/L	. 1	8/23/2008
Pyrene	ND	10	µg/L	. 1	8/23/2008
Pyridine	ND	10	µg/L		8/23/2008
1,2,4-Trichlorobenzene	ND	10	μg/L	. 1	8/23/2008
2,4,5-Trichlorophenol	ND	10	μg/L		8/23/2008
2,4,6-Trichlorophenol	ND	10	μg/L		8/23/2008
Surr: 2,4,6-Tribromophenol	86.4	16.6-150	%RI		8/23/2008
Surr: 2-Fluorobiphenyl	76.8	19.6-134	%RI	EC 1	8/23/2008
Surr: 2-Fluorophenol	42.2	9.54-113	%RI	EC 1	8/23/2008
Surr: 4-Terphenyl-d14	60.1	22.7-145	%RI	EC 1	8/23/2008
Surr: Nitrobenzene-d5	72.5	14.6-134	%Rŧ	EC 1	8/23/2008
Surr: Phenol-d5	36.1	10.7-80.3	%RI	EC 1	8/23/2008
PA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	120	2.0	µg/L	. 2	8/18/2008 6:42:47 PM
Toluene	ND	2.0	µg/L		8/18/2008 6:42:47 PM
Ethylbenzene	140	2.0	μg/L		8/18/2008 6:42:47 PM
Methyl tert-butyl ether (MTBE)	11	2.0	μg/L		8/18/2008 6:42:47 PM
1,2,4-Trimethylbenzene	1100	20	µg/L		8/18/2008 6:12:49 PM
1,3,5-Trimethylbenzene	ND	2.0	μg/L		8/18/2008 6:42:47 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 38 of 42

Date: 18-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808240

Cross-Gradient Wells Annual Aug 2008

Project: Lab ID:

0808240-08

Client Sample ID: MW-26 FD

Collection Date: 8/13/2008 9:20:00 AM

Date Received: 8/14/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES	<del></del>		· · · · · · · · · · · · · · · · · · ·		Analyst: HL
1,2-Dichloroethane (EDC)	ND	2.0	µg/L	2	8/18/2008 6:42:47 PM
1,2-Dibromoethane (EDB)	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
Naphthalene	150	4.0	µg/L	2	8/18/2008 6:42:47 PM
1-Methylnaphthalene	19	8.0	μg/L	2	8/18/2008 6:42:47 PM
2-Methylnaphthalene	33	8.0	μg/L	2	8/18/2008 6:42:47 PM
Acetone	ND	20	μg/L'	2	8/18/2008 6:42:47 PM
Bromobenzene	ND	2.0	µg/L	2	8/18/2008 6:42:47 PM
Bromodichloromethane	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
Bromoform	· ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
Bromomethane	ND .	2.0	μg/L	2	8/18/2008 6:42:47 PM
2-Butanone	ND	20	μg/L	2	8/18/2008 6:42:47 PM
Carbon disulfide	ND	20	μg/L	2	8/18/2008 6:42:47 PM
Carbon Tetrachloride	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
Chlorobenzene	ND	2.0	µg/L	2	8/18/2008 6:42:47 PM
Chloroethane	ND	4.0	μg/L	2	8/18/2008 6:42:47 PM
Chloroform	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
Chloromethane	ND	2.0	μg/L	. 2	8/18/2008 6:42:47 PM
2-Chlorotoluene	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
4-Chlorotoluene	ND	2.0	μg/Ľ	2.	8/18/2008 6:42:47 PM
cis-1,2-DCE	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
cis-1,3-Dichloropropene	. ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
1,2-Dibromo-3-chloropropane	ND	4.0	μg/L	2	8/18/2008 6:42:47 PM
Dibromochioromethane	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
Dibromomethane	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
1,2-Dichlorobenzene	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
1,3-Dichlorobenzene	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
1,4-Dichlorobenzene	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
Dichlorodifluoromethane	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
1,1-Dichloroethane	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
1,1-Dichloroethene	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
1,2-Dichloropropane	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
1,3-Dichloropropane	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
2,2-Dichloropropane	, ND	4.0	μg/L	2	8/18/2008 6:42:47 PM
1,1-Dichloropropene	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
Hexachlorobutadiene	ND	2.0	μg/L	2	8/18/2008 6:42:47 PM
2-Hexanone	ND	20	μg/L	2	8/18/2008 6:42:47 PM
Isopropylbenzene	110	2.0	μg/L	2	8/18/2008 6:42:47 PM
4-Isopropyltoluene	5.9	2.0	µg/L	2	8/18/2008 6:42:47 PM
4-Methyl-2-pentanone	ND	20	μg/L	2	8/18/2008 6:42:47 PM
Methylene Chloride	ND	6.0	μg/L	2	8/18/2008 6:42:47 PM
n-Butylbenzene	7.3	2.0	μg/L	2	8/18/2008 6:42:47 PM
n-Propylbenzene	130	2.0	μg/L	2	8/18/2008 6:42:47 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

0808240

Client Sample ID: MW-26 FD

Lab Order:

Collection Date: 8/13/2008 9:20:00 AM

Project:

Cross-Gradient Wells Annual Aug 2008

Date Received: 8/14/2008

Lab ID: 0808240-08 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES		· · · · · · · · · · · · · · · · · · ·		<del>, , , , , , , , , , , , , , , , , , , </del>		Analyst: HL
sec-Butylbenzene	19	2.0		µg/L	2	8/18/2008 6:42:47 PM
Styrene	ND	2.0		µg/L	2	8/18/2008 6:42:47 PM
tert-Butylbenzene	2.9	2.0		μg/L	2	8/18/2008 6:42:47 PM
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	8/18/2008 6:42:47 PM
1,1,2,2-Tetrachloroethane	ND	4.0		μg/L	2	8/18/2008 6:42:47 PM
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	8/18/2008 6:42:47 PM
trans-1,2-DCE	ND	2.0		μg/L	2	8/18/2008 6:42:47 PM
trans-1,3-Dichloropropene	ND	2.0		μg/L	2	8/18/2008 6:42:47 PM
1,2,3-Trichlorobenzene	ND	2.0		μg/Ł	2	8/18/2008 6:42:47 PM
1,2,4-Trichlorobenzene	ND	2.0		μg/L	2	8/18/2008 6:42:47 PM
1,1,1-Trichloroethane	ND	2.0		μg/L	2	8/18/2008 6:42:47 PM
1,1,2-Trichloroethane	ND	2.0		μg/L	2	8/18/2008 6:42:47 PM
Trichloroethene (TCE)	ND	2.0		μg/L	2	8/18/2008 6:42:47 PM
Trichlorofluoromethane	ND	2.0		μg/L	2	8/18/2008 6:42:47 PM
1,2,3-Trichloropropane	ND	4.0		μg/L	2	8/18/2008 6:42:47 PM
Vinyl chloride	ND	2.0		μg/L	2	8/18/2008 6:42:47 PM
Xylenes, Total	3.9	3.0		μg/L	2	8/18/2008 6:42:47 PM
Surr: 1,2-Dichloroethane-d4	109	68.1-123		%REC	2	8/18/2008 6:42:47 PM
Surr: 4-Bromofluorobenzene	120	53.2-145		%REC	2	8/18/2008 6:42:47 PM
Surr: Dibromofluoromethane	101	68.5-119		%REC	2	8/18/2008 6:42:47 PM
Surr: Toluene-d8	130	64-131		%REC	2	8/18/2008 6:42:47 PM
SM 2320B: ALKALINITY						Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	1000	40		mg/L CaCO3	2	8/21/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/21/2008
Bicarbonate	1000	40		mg/L CaCO3	2	8/21/2008
TOTAL CARBON DIOXIDE CALCULATION				•		Analyst: <b>TAF</b>
Total Carbon Dioxide	1100	1.0		mg CO2/L	1	8/22/2008

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

Analyte detected below quantitation limits

Not Detected at the Reporting Limit ND

Spike recovery outside accepted recovery limits

В Analyte detected in the associated Method Blank

Η Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808240

Project:

Cross-Gradient Wells Annual Aug 2008

Lab ID:

0808240-09

Client Sample ID: Trip Blank

**Collection Date:** 

Date Received: 8/14/2008

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RAN	IGE					- Analyst: DAN
Gasoline Range Organics (GRO)	. ND	0.050		mg/L	1	8/26/2008 12:10:52 AM
Surr: BFB	79.4	79.2-121		%REC	, <b>1</b>	8/26/2008 12:10:52 AM
EPA METHOD 8260B: VOLATILES						Analyst: HL
Benzene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
Toluene	· ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
Ethylbenzene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
1,2,4-Trimethylbenzene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
1,3,5-Trimethylbenzene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
Naphthalene	ND	2.0		μg/L	1	8/15/2008 10:29:59 PM
1-Methylnaphthalene	ND	4.0		μg/L	1	8/15/2008 10:29:59 PM
2-Methylnaphthalene	ND.	4.0		μg/L	1	8/15/2008 10:29:59 PM
Acetone	ND	10		μg/L	1	8/15/2008 10:29:59 PM
Bromobenzene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
Bromodichloromethane	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
Bromoform	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
Bromomethane	ND	1.0		µg/L	1	8/15/2008 10:29:59 PM
2-Butanone	ND	10		μg/L	1	8/15/2008 10:29:59 PM
Carbon disulfide	ND	10		μg/L	1	8/15/2008 10:29:59 PM
Carbon Tetrachloride	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
Chlorobenzene	ND	1.0		µg/L	1	8/15/2008 10:29:59 PM
Chloroethane	ND	2.0		µg/L	1	8/15/2008 10:29:59 PM
Chloroform	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
Chloromethane	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
2-Chlorotoluene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
4-Chlorotoluene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
cis-1,2-DCE	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
cis-1,3-Dichloropropene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
1,2-Dibromo-3-chloropropane	ND	2.0		μg/L	. 1	8/15/2008 10:29:59 PM
Dibromochloromethane	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
Dibromomethane	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
1,2-Dichlorobenzene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
1.3-Dichlorobenzene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
1,4-Dichlorobenzene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/15/2008 10:29:59 PM
1,1-Dichloroethane	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
1,1-Dichloroethene	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
1,2-Dichloropropane	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM
1,3-Dichloropropane	ND	1.0		μg/L	1	8/15/2008 10:29:59 PM

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 41 of 42

Date: 18-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

Lab ID:

0808240

0808240-09

Project:

Cross-Gradient Wells Annual Aug 2008

Client Sample ID: Trip Blank

**Collection Date:** 

Date Received: 8/14/2008

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual Units	<b>DF</b>	Date Analyzed
PA METHOD 8260B: VOLATILES					Analyst: HL
2,2-Dichloropropane	ND	2.0	μg/L	1	8/15/2008 10:29:59 PM
1,1-Dichloropropene	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
2-Hexanone	ND	10	μg/L	1	8/15/2008 10:29:59 PM
isopropyibenzene	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
4-Isopropyltoluene	ND:	1.0	μg/L	1	8/15/2008 10:29:59 PM
4-Methyl-2-pentanone	ND	. 10	μg/L	1	8/15/2008 10:29:59 PM
Methylene Chloride	ND	3.0	μg/L	1	8/15/2008 10:29:59 PM
n-Butylbenzene	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
n-Propylbenzene	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
sec-Butylbenzene	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
Styrene	ND	1.0	µg/L	1	8/15/2008 10:29:59 PM
tert-Butylbenzene	ND	1.0	µg/L	1	8/15/2008 10:29:59 PM
1,1,1,2-Tetrachloroethane	· ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/15/2008 10:29:59 PM
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
trams-1,2-DCE	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	8/15/2008 10:29:59 PN
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
Trichlorofluoromethane	ND	1.0	μg/L	1	8/15/2008 10:29:59 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	1	8/15/2008 10:29:59 PM
Vinyl chloride	ND	1.0	µg/L	1	8/15/2008 10:29:59 PM
Xylenes, Total	ND	1.5	µg/L	1	8/15/2008 10:29:59 PM
Surr: 1,2-Dichloroethane-d4	93.3	68.1-123	%REC	1	8/15/2008 10:29:59 PM
Surr: 4-Bromofluorobenzene	103	53.2-145	%REC	1	8/15/2008 10:29:59 PM
Surr: Dibromofluoromethane	95.7	68.5-119	%REC	1	8/15/2008 10:29:59 PN
Surr: Toluene-d8	97.6	64-131	%REC	1	8/15/2008 10:29:59 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

### **CASE NARRATIVE**

### September 8, 2008

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anatekiabs.com FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM

Project Tracking No.: 0808240 Anatek Batch: 080815024

**Project Summary:** Eight (8) water samples were received on 8/15/2008 for metals (EPA 6020A) analysis. All samples were received in good condition and with the appropriate chain of custody Samples were received at 4.1C.

Client Sample ID	Anatek Sample ID	Method/Prep Method
0808240-01F / MW-1	080815024-001	EPA 6020A/3005A
0808240-02F / MW-13	080815024-002	EPA 6020A/3005A
0808240-03F / MW-26	080815024-003	EPA 6020A/3005A
0808240-04F / MW-27	080815024-004	EPA 6020A/3005A
0808240-05F / MW-31	080815024-005	EPA 6020A/3005A
0808240-06F / MW-32	080815024-006	EPA 6020A/3005A
0808240-07F / MW-33	080815024-007	EPA 6020A/3005A
0808240-08F / MW-26 FD	080815024-008	EPA 6020A/3005A

### QA/QC Checks

Parameters	Yes / No	<b>Exceptions / Deviations</b>
Sample Holding Time Valid?	Υ	NA
Surrogate Recoveries Valid?	Υ	NA
QC Sample(s) Recoveries Valid?	Y	NA
Method Blank(s) Valid?	Υ	NA
Tune(s) Valid?	Υ	NA
Internal Standard Responses Valid?	Υ	NA
Initial Calibration Curve(s) Valid?	Υ	NA
Continuing Calibration(s) Valid?	Υ	NA
Comments:	Υ	NA

### 1. Holding Time Requirements

No problems encountered.

### 2. GC/MS Tune Requirements

. NA

### 3. Calibration Requirements

No problems encountered.

### 4. Surrogate Recovery Requirements

NA

### 5. QC Sample (LCS/MS/MSD) Recovery Requirements

· No problems encountered.

### 6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

### 7. Internal Standard(s) Response Requirements

No problems encountered.

### 8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by:

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080815024

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808240

Attn:

**ANDY FREEMAN** 

### **Analytical Results Report**

Sample Number

080815024-001

Sampling Date

8/13/2008

Date/Time Received

8/15/2008 10:45 AM

Client Sample ID

0808240-01F / MW-1

Sampling Time

8:00 AM **Extraction Date** 

Sample Location

8/28/2008

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dissolved Uranium	0.00219	mg/L	0.001	8/28/2008	ETL	EPA 6020A	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080815024

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808240

Attn:

ANDY FREEMAN

### **Analytical Results Report**

Sample Number

080815024-002

Sampling Date

8/13/2008 Date/Time Received

8:50 AM

8/15/2008

**Client Sample ID** 

0808240-02F / MW-13

Sampling Time

**Extraction Date** 

8/28/2008

Matrix Comments Water

Sample Location

Monday. September 08, 2008

Parameter

Units

Method **EPA 6020A**  Qualifier

Result PQL Analysis Date Analyst Dissolved Uranium 0.00973 mg/L 0.001 8/28/2008

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Page 2 of 8

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080815024

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808240

Attn:

ANDY FREEMAN

**Analytical Results Report** 

Sample Number

080815024-003

Sampling Date

8/13/2008 **Date/Time Received**  8/15/2008

10:45 AM

Client Sample ID Matrix

0808240-03F / MW-26 Water

Sampling Time Sample Location **Extraction Date** 

8/28/2008

Comments

**Parameter** 

Result

ND

Units

Analysis Date Analyst

9:15 AM

ETL.

Method Qualifier

**Dissolved Uranium** 

mg/L 0.001

**PQL** 

8/28/2008

EPA 6020A

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

**ANDY FREEMAN** 

Batch #:

080815024

**Project Name:** 

0808240

### **Analytical Results Report**

Sample Number

080815024-004

0808240-04F / MW-27

**Sampling Date** 

8/13/2008 10:30 AM

Date/Time Received

8/15/2008

10:45 AM

Client Sample ID Matrix

Water

Sampling Time

Sample Location

**Extraction Date** 

8/28/2008

Comments

**Parameter** 

Result

Units mg/L

**PQL** Analysis Date Analyst

Method

Qualifier

Dissolved Uranium

Monday. September 08, 2008

0.00191

0.001

8/28/2008

ETL

**EPA 6020A** 

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080815024

Address:

4901 HAWKINS NE SUITE D

Project Name:

0808240

Attn:

ALBUQUERQUE, NM 87109 ANDY FREEMAN

### **Analytical Results Report**

Sample Number

080815024-005

Sampling Date

8/13/2008 Date/Time Received 8/15/2008

Client Sample ID

0808240-05F / MW-31

10:00 AM **Sampling Time** 

**Extraction Date** 

8/28/2008

Matrix

Water

Sample Location

Comments

Result Analysis Date Analyst Method Qualifier Parameter Units PQL Dissolved Uranium ND 0.001 8/28/2008 **EPA 6020A** mg/L

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080815024

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808240

Attn:

ANDY FREEMAN

## **Analytical Results Report**

Sample Number

080815024-006

**Sampling Date** 

8/13/2008 **Date/Time Received**  8/15/2008 10:45 AM

**Client Sample ID** 

0808240-06F / MW-32

Sampling Time 11:30 AM **Extraction Date** 

Matrix

Water

Sample Location

8/28/2008

Comments

Parameter	Result	Units	PQL		Analyst	Method	Qualifier
Dissolved Uranium	0.0105	mg/L	0.001	8/28/2008	ETL	EPA 6020A	-

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080815024

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808240

Attn:

ANDY FREEMAN

### **Analytical Results Report**

Sample Number

080815024-007

Sampling Date

8/13/2008 Date/Time Received 8/15/2008 10:45 AM

Client Sample ID

0808240-07F / MW-33

Sampling Time Sample Location **Extraction Date** 

8/28/2008

Comments

Matrix

Result

Units

PQL 0.001

**Analysis Date Analyst** 

Method

Qualifier

**Parameter** Dissolved Uranium

0.00735

mg/L

8/28/2008

10:55 AM

**EPA 6020A** 

Certifications held by Anatek Labs ID: EPA;ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080815024

Address:

4901 HAWKINS NE SUITE D

**Project Name:** 

0808240

Attn:

ALBUQUERQUE, NM 87109 **ANDY FREEMAN** 

**Analytical Results Report** 

Sample Number

080815024-008

Sampling Date

8/13/2008 Date/Time Received

8/15/2008

10:45 AM

Client Sample ID

**Parameter** 

0808240-08F / MW-26 FD Water

Sampling Time Sample Location 9:20 AM **Extraction Date**  8/28/2008

Matrix

Comments

Result

Units mg/L

PQL

Analysis Date Analyst

Method

Qualifier

**Dissolved Uranium** 

ND

0.001

8/28/2008

**ETL** 

**EPA 6020A** 

**Authorized Signature** 

MCL

**EPA's Maximum Contaminant Level** 

ND

PQL

**Practical Quantitation Limit** 

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Monday. September 08. 2008

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Printed on: 8 September 2008 15:18:40

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080815024

Address:

4901 HAWKINS NE SUITE D

0808240

ALBUQUERQUE, NM 87109

**Project Name:** 

Attn:

ANDY FREEMAN

**Analytical Results Report** 

**Quality Control Data** 

Lab Control Sample									
Parameter Dissolved Uranium	LCS Res 0.0484		•			AR %Red 85-115		ep Date 28/2008	Analysis Date 8/28/2008
Matrix Spike			·	·					···
Sample Number Parameter	•	Sample	MS	Units	MS	%Rec	AR %Rec	Prep Date	Analysis Date
080815024-002 Dissolved Uranium		Result - 0.00973	<b>Result</b> 0.0598	mg/L	Spike 0.05	100.1	75-125	8/28/2008	8/28/2008
Matrix Spike Duplicate					· · · ·		<del></del>		
•	MSD		MSD				R		
Parameter	Result	Units	Spike	%Rec	%RF			rep Date	Analysis Date
Dissolved Uranium	0.0600	mg/L	0.05	100.5	0.3	3 0-	20 8	3/28/2008	8/28/2008
Method Blank					-				
Parameter	,	Res	ult	Un	its	PQI	L '	Prep Date	Analysis Date
Dissolved Uranium		ND		mg/	'L	0.001	1 :	8/28/2008	8/28/2008

AR

Acceptable Range

ND

Not Detected

PQL RPD **Practical Quantitation Limit** Relative Percentage Difference

Comments:

Certifications held by Analek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87693; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Analek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Monday, September 08, 2008

Page 1 of 1

DATES REPORT

# Hall Environmental Analysis Laboratory, Inc.

**Lab Order:** 0808240

Western Refining Southwest, Inc.

Client:

Project: Cross-Gradient Wells Annual Aug

	TO I STATE OF THE	Savi impirer i d				,	/
Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808240-01A	MW-1	8/13/2008 8:00:00 AM	Aqueous	EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
				EPA Method 8015B: Gasoline Range	R29921		8/25/2008
				EPA Method 8260B: VOLATILES	R29803		8/15/2008
0808240-01B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
0808240-01C				Carbon Dioxide	R29884		8/22/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				SM 2320B: Alkalinity	R29866		8/21/2008
0808240-01D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	90691	8/27/2008	8/27/2008
0808240-01E				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
0808240-02A	MW-13	8/13/2008 8:50:00 AM		EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
				EPA Method 8015B: Gasoline Range	R29921		8/25/2008
				EPA Method 8015B: Gasoline Range	R29921		8/26/2008
				EPA Method 8260B: VOLATILES	R29803		8/15/2008
0808240-02B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
0808240-02C				Carbon Dioxide	R29884		8/22/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R30068		9/3/2008
				SM 2320B: Alkalinity	R29866		8/21/2008
0808240-02D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
0808240-02E				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008

Lab Order:	0808240						
Client:	Western Refining Southwest, Inc.	outhwest, Inc.			DATES REPORT	EPORT	
Project:	Cross-Gradient Wells Annual Aug	ls Annual Aug					
Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808240-02E	MW-13	8/13/2008 8:50:00 AM	Aqueous	EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R30124		9/8/2008
				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
0808240-03A	MW-26	8/13/2008 9:15:00 AM		EPA Method 8015B. Diesel Range	16802	8/18/2008	8/18/2008
·				EPA Method 8015B: Gasoline Range	R29921		8/25/2008
				EPA Method 8015B: Gasoline Range	R29921		8/26/2008
				EPA Method 8260B: VOLATILES	R29824		8/18/2008
				EPA Method 8260B: VOLATILES	R29803		8/15/2008
				EPA Method 8260B: VOLATILES	R29824		8/18/2008
0808240-03B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
0808240-03C				Carbon Dioxide	R29884		8/22/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				SM 2320B: Alkalinity	R29866		8/21/2008
0808240-03D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
0808240-03E				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
		•		EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R30124		9/8/2008
0808240-04A	MW-27	8/13/2008 10:30:00 AM		EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
				EPA Method 8015B: Gasoline Range	R29921		8/25/2008
				EPA Method 8260B: VOLATILES	R29803		8/15/2008
0808240-04B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
0808240-04C				Carbon Dioxide	R29884		8/22/2008



DATES REPORT Cross-Gradient Wells Annual Aug 0808240 Western Refining Southwest, Inc. Lab Order: Project: Client:

Sample ID	Sample ID Client Sample ID	Collection Date	Matrix Test	Test Name	QC Batch ID	Prep Date	Analysis Date
0808240-04C	MW-27	8/13/2008 10:30:00 AM	Aqueous	EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R30012		8/28/2008
				SM 2320B: Alkalinity	R29866		8/21/2008
0808240-04D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
0808240-04E				EPA Method 6010B: Dissolved Metals	R30124		8/2008
				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
0808240-05A	MW-31	8/13/2008 10:00:00 AM		EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
				EPA Method 8015B: Gasoline Range	R29921		8/25/2008
				EPA Method 8260B: VOLATILES	R29803		8/15/2008
				EPA Method 8260B: VOLATILES	R29824		8/18/2008
0808240-05B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
0808240-05C				Carbon Dioxide	R29884		8/22/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R30012		8/28/2008
				SM 2320B: Alkalinity	R29866		8/21/2008
0808240-05D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
0808240-05E				EPA Method 6010B: Dissolved Metals	R30124		9/8/2008
				EPA Method 6010B. Dissolved Metals	R29998		8/29/2008

8/29/2008

R29998

EPA Method 6010B: Dissolved Metals

DATES REPORT Cross-Gradient Wells Annual Aug Western Refining Southwest, Inc. 0808240 Lab Order: Project: Client:

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808240-06A	MW-32	8/13/2008 11:30:00 AIM	Aqueous	EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
				EPA Method 8015B: Gasoline Range	R29921		8/25/2008
				EPA Method 8260B: VOLATILES	R29803		8/15/2008
0808240-06B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
0808240-06C				Carbon Dioxide	R29884		8/22/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R30012		8/28/2008
				SM 2320B: Alkalinity	R29866		8/21/2008
0808240-06D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
0808240-06E				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R30124		8/2008
0808240-07A	MW-33	8/13/2008 10:55:00 AM		EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
				EPA Method 8015B: Gasoline Range	R29921		8/25/2008
				EPA Method 8260B: VOLATILES	R29803		8/15/2008
0808240-07B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
0808240-07C				Carbon Dioxide	R29884		8/22/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R30012		8/28/2008
				SM 2320B: Alkalinity	R29866		8/21/2008
0808240-07D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
0808240-07E				EPA Method 6010B. Dissolved Metais	R29998		8/29/2008



1.1.125							
	Western Refining Southwest, Inc.	uthwest, Inc.			DATES REPORT	EPORT	
	Cross-Gradient Wells Annual Aug	s Annual Aug					
	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
	MW-33	8/13/2008 10:55:00 AM	Aqueous	EPA Method 6010B: Dissolved Metals	R30124		9/8/2008
0808240-08A	MW-26 FD	8/13/2008 9:20:00 AM		EPA Method 8015B: Diesel Range	16802	8/18/2008	8/18/2008
				EPA Method 8015B: Gasoline Range	R29921		8/25/2008
				EPA Method 8015B: Gasoline Range	R29921		8/26/2008
				EPA Method 8260B: VOLATILES	R29824		8/18/2008
				EPA Method 8260B: VOLATILES	R29803		8/15/2008
				EPA Method 8260B: VOLATILES	R29824		8/18/2008
0808240-08B				EPA Method 8270C: Semivolatiles	16804	8/18/2008	8/23/2008
0808240-08C				Carbon Dioxide	R29884		8/22/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				EPA Method 300.0: Anions	R29800		8/15/2008
				SM 2320B: Alkalinity	R29866		8/21/2008
0808240-08D				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA 6010B: Total Recoverable Metals	16876	8/25/2008	8/28/2008
				EPA Method 7470: Mercury	16906	8/27/2008	8/27/2008
0808240-08E				EPA Method 6010B: Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B; Dissolved Metals	R29998		8/29/2008
				EPA Method 6010B: Dissolved Metals	R30124		9/8/2008
0808240-09A	Trip Blank		Trip Blank	EPA Method 8015B: Gasoline Range	R29921		8/26/2008
				EPA Method 8260B: VOLATILES	R29803		8/15/2008

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# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte	Result	Units	PQL	%Rec	LowLimit HighLin	nit	%RPD	RPDLimit	Qual
Wethod: EPA Method 300.0: Anid	ons								
Sample ID: 0808240-08CMSD		MSD			Batch ID: R29	9800	Analysis Da	ite: 8/15/	2008 6:20:38 AM
Fluoride	0.8267	mg/L	0.10	97.0	65.1 121		1.49	20	
Nitrogen, Nitrite (As N)	0.9680	mg/L	0.10	96.8	52.9 128		1.04	20	•
Nitrogen, Nitrate (As N)	2.537	mg/L	0.10	99.5	83.8 112		0.647	20	
Phosphorus, Orthophosphate (As P)	2.290	mg/L	0.50	45.8	77.6 118		4.20	20	S
Sulfate	10.85	mg/L	0.50	104	59:4 126		0.733	20	
Sample ID: 0808240-08CMSD		MSD			Batch ID: R30	0068	Analysis Da	ite: 9/3/2	008 12:06:05 PM
Phosphorus, Orthophosphate (As P)	4.569	mg/L	0.50	91.4	77.6 118		4.87	20	
Sample ID: MB		MBLK	0.00	01.1		9800	Analysis Da		008 12:03:48 PM
Fluoride	ND		0.40						
Chloride		mg/L	0.10						
Unionae Nitrogen, Nitrite (As N)	ND ND	mg/L	0.10						
• , ,	ND ND	mg/L	0.10						
Nitrogen, Nitrate (As N)		mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50		D-4-1-D. Dag	0040	Annhain Da	. 0/20	2000 0-47-15 004
Sample ID: MB		MBLK			Batch ID: R30	0012	Analysis Da	ite: 0/20/	2008 9:47:15 AM
Fluoride	ND -	mg/L	0.10		•				
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50					*	
Sample ID: MB		MBLK			Batch ID: R30	0068	Analysis Da	ate: 9/3/2	008 10:04:12 AM
luoride	ND	mg/L	0.10						
Chloride ,	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS		LCS			Batch ID: R29	9800	Analysis Da	ate: 8/14/2	008 12:21:13 PM
luoride	0.4662	mg/L	0.10	93.2	90 110				
Chloride	5.081	mg/L	0.10	102	90 110				
Nitrogen, Nitrite (As N)	1.038	mg/L	0.10	104	90 110				
Nitrogen, Nitrate (As N)	2.577	mg/L	0.10	103	90 110		4		
Phosphorus, Orthophosphate (As P)	4.920	mg/L	0.50	98.4	90 110				
Sulfate	10.61	mg/L	0.50	106	90 110			,	
Sample ID: LCS		LCS			Batch ID: R30	0012	Analysis Da	ate: 8/28/2	008 10:04:39 AM
Fluoride	0.5088	mg/L	0.10	102	90 110				
Chloride	4.854	mg/L	0.10	97.1	90 110				
Nitrogen, Nitrite (As N)	0.9857	mg/L	0.10	98.6	90 110				
Nitrogen, Nitrate (As N)	2.504	mg/L	0.10	100	90 110				
Phosphorus, Orthophosphate (As P)	4.890	mg/L	0.50	97.8	90 110				
Sulfate	10.09	mg/L	0.50	101	90 110				
	. 5.50		5.00						



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client: roject: Western Refining Southwest, Inc.

ct: Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RPI	DLimit Qual
Method: EPA Method 300.0: Anio	ons						<del>==</del>	
Sample ID: LCS		LCS			Batch	D: <b>R30068</b>	Analysis Date:	9/3/2008 10:21:36 AM
Fluoride	0.5019	mg/L	0.10	100	90	110		
Chloride	4.758	mg/L	0.10	95.2	90	110		
Nitrogen, Nitrite (As N)	0.9222	mg/L	0.10	92.2	90	110		
litrogen, Nitrate (As N)	2.438	mg/L	0.10	97.5	90	110		
Phosphorus, Orthophosphate (As P)	4.756	mg/L	0.50	95.1	90	110		•
Sulfate	9.718	mg/L	0.50	97.2	90	110		
ample ID: 0808240-08CMS		MS			Batch	D: <b>R29800</b>	Analysis Date:	8/15/2008 6:03:14 AI
luoride	0.8392	mg/L	0.10	99.5	65.1	121		
litrogen, Nitrite (As N)	0.9580	mg/L	0.10	95.8	52.9	128		
litrogen, Nitrate (As N)	2.553	mg/L	0.10	100	83.8	112		
hosphorus, Orthophosphate (As P)	2.196	mg/L	0.50	43.9	77.6	118		S
ulfate	10.77	mg/L	0.50	103	59.4	126		
ample ID: 0808240-08CMS		MS			Batch	D: <b>R30068</b>	Analysis Date:	9/3/2008 11:48:40 Al
hosphorus, Orthophosphate (As P)	4.351	mg/L	0.50	87.0	77.6	118		
lethod: SM 2320B: Alkalinity								
ample ID: 0808240-06CMSD		MSD			Batch	D: <b>R29866</b>	Analysis Date:	8/21/200
Ikalinity, Total (As CaCO3)	253.0	mg/L CaC	20	96.3	80	120	0.794 2	0
ample ID: MB		MBLK			Batch	D: <b>R29866</b>	Analysis Date:	8/21/200
Ikalinity, Total (As CaCO3)	ND	mg/L CaC	20			•		
arbonate	ND	mg/L CaC	2.0					
icarbonate	ND	mg/L CaC	20					
ample ID: LCS		LCS			Batch I	D: <b>R29866</b>	Analysis Date:	8/21/200
•	02.00		20	404			, maryolo Balo.	5/21/200
lkalinity, Total (As CaCO3) ample ID: 0808240-06CMS	82.00	mg/L CaC	20	101	80 Potob t	120	Analysis Date:	9/24/200
•		MS			Batch i		Analysis Date:	8/21/200
Ikalinity, Total (As CaCO3)	251.0	mg/L CaC	20	93.8	80	120		
lethod: EPA Method 8015B: Die	sel Range							
ample ID: MB-16802		MBLK			Batch I	D: <b>16802</b>	Analysis Date:	8/18/2008 9:18:03 AM
iesel Range Organics (DRO)	ND	mg/L	1.0					
lotor Oil Range Organics (MRO)	ND	mg/L	5.0					
Surr: DNOP	1.225	mg/L	0	123	58	140		
ample ID: LCS-16802		LCS			Batch I	D: <b>16802</b>	Analysis Date:	8/18/2008 9:51:32 AM
iesel Range Organics (DRO)	4.911	mg/L	1.0	98.2	74	157		
Surr: DNOP	0.5625	mg/L	0	113	58	140		
ample ID: LCSD-16802		LCSD			Batch I	D: <b>16802</b>	Analysis Date:	8/18/2008 10:25:06 AM
iesel Range Organics (DRO)	4.761	mg/L	1.0	95.2	74	157	3.10 2	3
Surr: DNOP	0.5491	mg/L	0	110	58	140	0 0	



E Value above quantitation range

R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

J Analyte detected below quantitation limits

H Holding times for preparation or analysis exceeded

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte	Result	Units	PQL	%Rec	LowLimit Hig	hLimit	%RPD RPI	DLimit Qual
Method: EPA Method 8015B: G	asoline Ran	ıge						
Sample ID: 5ML RB		MBLK			Batch ID:	R29921	Analysis Date:	8/25/2008 9:06:48 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050					•
Surr: BFB	20.37	mg/L	0	102	79.2 12	21 ·		
Sample ID: 5ML RB		MBLK			Batch ID:	R29921	Analysis Date:	8/25/2008 9:06:48 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Surr: BFB	20.37	mg/L	0	102	79.2	21		
Sample ID: 5ML RB		MBLK			Batch ID:	R29921	Analysis Date:	8/26/2008 2:59:23 PM
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Surr: BFB	17.58	mg/L	0	87.9	79.2	21	•	
Sample ID: LCS-GRO		LCS			Batch ID:	R29921	Analysis Date:	8/25/2008 5:25:30 PM
Gasoline Range Organics (GRO)	0.5666	mg/L	0.050	113	80 1	15		
Surr: BFB	21.15	mg/L	0	106	79.2	21		
Sample ID: LCS-GRO		LCS			Batch ID:	R29921	Analysis Date:	8/25/2008 5:25:30 PM
Gasoline Range Organics (GRO)	0.5666	mg/L	0.050	113	80 1	15		, ,
Surr: BFB	21.15	mg/L	0	106	79.2	21		
Sample ID: LCS-GRO	•	LCS			Batch ID:	R29921	Analysis Date:	8/26/2008 4:30:47 PN
Gasoline Range Organics (GRO)	0.4266	mg/L	0.050	85.3	80 1	15		
Surr: BFB	17.61	mg/L	0	88.0	79.2 1.	21	•	



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# **QA/QC SUMMARY REPORT**

Client: roject: Western Refining Southwest, Inc.

Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B:	VOLATILES								
Sample ID: 0808240-01a MSD		MSD			Batch	ID: <b>R29803</b>	Analysis I	Date: 8/15/2	2008 5:10:23 P
Benzene	21.48	μg/L	1.0	107	72.4	126	2.32	15	
Toluene	20.09	μg/L	1.0	100	79.2	115	0.272	15	•
Chlorobenzene	22.86	μg/L	1.0	114	83.1	111	1.52	15	S
1,1-Dichloroethene	23.84	μg/L	1.0	119	81.4	122	1.59	17.8	
Trichloroethene (TCE)	20.72	μg/L	1.0	104	64.4	118	5.05	19.8	
Surr: 1,2-Dichloroethane-d4	9.394	μg/L	0	93.9	68.1	123	0	0	
Surr: 4-Bromofluorobenzene	10.51	μg/L	0	105	53.2	145	0	0	
Surr: Dibromofluoromethane	9.900	μg/L	o	99.0	68.5	119	0	0	
Surr: Toluene-d8	9.609	μg/L	0	96.1	64	131	0	0	
Sample ID: 5ml rb	3.003	MBLK	J	50.1	Batch		Analysis (		08 10:31:04 A
					Daton	10. 1123003	Allalysis	Jaic. 0/10/20	10.51.547
Benzene	ND	μg/L 	1.0			•			
Toluene	ND	μg/L 	1.0						
Ethylbenzene	ND	μg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0						
1,2,4-Trimethylbenzene	ND	μg/L	1.0						
1,3,5-Trimethylbenzene	ND	μg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
aphthalene	ND	μg/L	2.0						
-Methylnaphthalene	ND	μg/L	4.0						
2-Methylnaphthalene	ND	μg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	μg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	μg/L	1.0						
2-Butanone	ND	µg/L	10						•
Carbon disulfide	ND	μg/L	10						
Carbon Tetrachloride	ND	μg/L	1.0						
Chlorobenzene	ND	μg/L	1.0						
Chloroethane	ND	μg/L	2.0						
Chloroform	ND	μg/L	1.0						
Chloromethane	ND	μg/L	1.0						
2-Chlorotoluene	ND	μg/L	1.0						
4-Chlorotoluene	ND	µg/L	1.0						
cis-1,2-DCE	ND	μg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0						
Dibromochloromethane	ND	µg/L	1.0						
Dibromomethane	ND	μg/L	1.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	μg/L	1.0						
1,4-Dichlorobenzene	ND	μg/L μg/L	1.0						
Dichlorodifluoromethane	ND	μg/L	1.0						

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Date: 18-Sep-08.

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte	Result	Units	PQL	%Rec	LowLimit I	HighLimit	%RPD	RP	DLimit Qual
Method: EPA Method 8260B:	VOLATILES								
Sample ID: 5ml rb		MBLK			Batch ID	R29803	Analysis E	)ate:	8/15/2008 10:31:04 AM
1,1-Dichloroethane	ND	μg/L	1.0						
1,1-Dichloroethene	ND	μg/L	1.0						
1,2-Dichloropropane	ND	μg/L	1.0						
1,3-Dichloropropane	ND	μg/L	1.0						
2,2-Dichloropropane	ND	μg/L	2.0						
1,1-Dichloropropene	ND	μg/L	. 1.0						
Hexachlorobutadiene	ND	μg/L	.1.0						
2-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	μg/L	1.0						
4-Isopropyltoluene	ND	μg/L	1.0						
4-Methyl-2-pentanone	ND	μg/L	10						
Methylene Chloride	ND	μg/L	3.0						
n-Butylbenzene	ND	μg/L	1.0						
n-Propylbenzene	ND	μg/L	1.0					7	
sec-Butylbenzene	ND	μg/L	1.0						
Styrene	ND	μg/L	1.0						
ert-Butylbenzene	ND	μg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	μg/L	2.0						
Tetrachloroethene (PCE)	ND	μg/L	1.0						
rans-1,2-DCE	ND	μg/L	1.0						·
rans-1,3-Dichloropropene	ND	μg/L	1.0						
1,2,3-Trichlorobenzene	ND	μg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						
1,1,1-Trichloroethane	ND	μg/L	1.0						
1,1,2-Trichloroethane	ND	μg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	μg/L	1.0						
1,2,3-Trichloropropane	ND	μg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	μg/L	1.5						
Surr: 1,2-Dichloroethane-d4	9.460	μg/L	0	94.6	68.1	123			
Surr: 4-Bromofluorobenzene	10.49	μg/L →	0	105	53.2	145			
Surr: Dibromofluoromethane	9.672	μg/L	0	96.7	68.5	119			•
Surr: Toluene-d8	10.21	μg/L	0	102	64	131			
Sample ID: 5ml rb		MBLK			Batch II	D: <b>R29824</b>	Analysis I	Date:	8/18/2008 10:15:36 AM
Benzene	ND	μg/L	1.0						
Toluene	ND	μg/L	1.0						
Ethylbenzene	ND	μg/L	1.0		•				
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0			•			
1,3,5-Trimethylbenzene	ND	μg/L	1.0						
1,2-Dichloroethane (EDC)	ND	μg/L	1.0						
1,2-Dibromoethane (EDB)	ND	μg/L	1.0						

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# QA/QC SUMMARY REPORT

Client: Project: Western Refining Southwest, Inc.

Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte	Result	Units	PQL	%Rec	LowLimit Hi	ghLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B:	VOLATILES								
Sample ID: 5ml rb		MBLK			Batch ID:	R29824	Analysis D	ate: 8/18/2	2008 10:15:36 Af
Naphthalene	ND	μg/L	2.0						
1-Methylnaphthalene	ND	μg/L	4.0						
2-Methylnaphthalene	ND	μg/L	4.0		•				
Acetone	ND	μg/L	10						
Bromobenzene	ND	μg/L	1.0						•
Bromodichloromethane	ND	μg/L	1.0						
Bromoform	ND	μg/L	1.0						
Bromomethane	ND	μg/L	1.0						
2-Butanone	ND	μg/L	10						
Carbon disulfide	ND	μg/L	10						
Carbon Tetrachloride	ND	μg/L	1.0						
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	μg/L	2.0						
Chloroform	ND	μg/L	1.0						
Chloromethane	ND	µg/L	1.0						
2-Chiorotoluene	ND	μg/L	1.0						
4-Chlorotolyene	ND	μg/L	1.0						
cis-1,2-DCE	ND	μg/L μg/L	1.0						
çis-1,3-Dichloropropene	ND	μg/L	1.0						
2-Dibromo-3-chloropropane	ND	μg/L	2.0						
Dibromochtoromethane	ND	μg/L	1.0						
Dibromomethane	ND	μg/L	1.0						
1,2-Dichlorobenzene	ND	μg/L μg/L	1.0						
1,3-Dichlorobenzene	ND	μg/L	1.0						
1,4-Dichlorobenzene									
Dichlorodifluoromethane	ND ND	µg/L	1.0 1.0		•				
		μg/L							
1,1-Dichloroethane 1,1-Dichloroethene	ND ND	μg/L	1.0						
	ND	μg/L	1.0						
1,2-Dichloropropane	ND	μg/L	1.0						
1,3-Dichloropropane	ND ND	µg/L	1.0						
2,2-Dichloropropane		µg/L	2.0						
1,1-Dichloropropene Hexachlorobutadiene	ND ND	μg/L	1.0						
2-Hexanone	ND ND	μg/L	1.0 10						
	ND ND	µg/L	1.0						
sopropylbenzene		μg/L							
I-Isopropyltoluene I-Methyl-2-pentanone	ND ND	μg/L μg/L	1.0 10						
			3.0						
Methylene Chłoride n-Butylbenzene	ND ND	µg/L	3.0 1.0						
	ND	µg/L	1.0						
n-Propylbenzene		µg/L							
sec-Butylbenzene	ND ND	µg/L	1.0						
Styrene	ND	μg/L	1.0						
ert-Butylbenzene	ND	μg/L	1.0						
,1,1,2-Tetrachloroethane	ND	μg/L	1.0						

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	DLimit Qual
Method: EPA Method 8260B:	VOLATILES							
Sample ID: 5ml rb		MBLK			Batch I	D: <b>R29824</b>	Analysis Date:	8/18/2008 10:15:36 AM
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0		*			
Tetrachloroethene (PCE)	ND	μg/L	1.0					
trans-1,2-DCE	· ND	μg/L	1.0					
trans-1,3-Dichloropropene	ND	μg/L	1.0					
1,2,3-Trichlorobenzene	ND	μg/L	1.0					
1,2,4-Trichlorobenzene	ND	µg/L	1.0					
1,1,1-Trichloroethane	ND	µg/L	1.0					
1,1,2-Trichloroethane	ND	µg/L	1.0					
Trichloroethene (TCE)	ND	μg/L	1.0					
Trichlorofluoromethane	ND	μg/L	1.0					
1,2,3-Trichloropropane	ND	μg/L	2.0					
Vinyl chloride	ND	μg/L	1.0					
Xylenes, Total	ND	µg/L	1.5					
Surr: 1,2-Dichloroethane-d4	9.448	µg/L	0	94.5	68.1	123	•	
Surr: 4-Bromofluorobenzene	10.40	µg/L	0	104	53.2	145		
Surr: Dibromofluoromethane	9.891	μg/L	0	98.9	68.5	119		
Surr: Toluene-d8	9.648	μg/L	0.	96.5	64	131		
Sample ID: b7		MBLK			Batch I	D: <b>R29824</b>	Analysis Date:	8/18/2008 9:37:52 Pi
Benzene	ND	μg/L	1.0					•
oluene	ND	μg/L	1.0		•			
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND ·	µg/L	1.0					
,2,4-Trimethylbenzene	ND	μg/L	1.0					
,3,5-Trimethylbenzene	ND	μg/L	1.0					
,2-Dichloroethane (EDC)	ND	μg/L	1.0					
,2-Dibromoethane (EDB)	ND	µg/L	1.0					•
Naphthalene	ND	μg/L	2.0					
-Methylnaphthalene	ND	μg/L	4.0					
-Methylnaphthalene	ND	μg/L	4.0					
Acetone	ND	μg/L	10					
Bromobenzene	ND	μg/L	1.0					
Bromodichloromethane	ND	μg/L	1.0					
Bromoform	ND	μg/L	1.0					
Bromomethane	ND	μg/L	1.0			•		
2-Butanone	ND	μg/L	10					•
Carbon disulfide	ND	μg/L	10					
Carbon Tetrachloride	ND	μg/L	1.0					
Chlorobenzene	ND	μg/L	1.0					
Chloroethane	ND	μg/L	2.0		•			
Chloroform	ND	μg/L	1.0					
Chloromethane	ND	μg/L	1.0					•
-Chlorotoluene	ND	μg/L	1.0					
-Chlorotoluene	ND	μg/L	1.0					
cis-1,2-DCE	ND	μg/L	1.0					



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# **QA/QC SUMMARY REPORT**

Client: roject: Western Refining Southwest, Inc.

Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260B:	VOLATILES							
Sample ID: b7		MBLK			Batch	ID: <b>R29824</b>	Analysis Date:	8/18/2008 9:37:52 PN
cis-1,3-Dichloropropene	ND	μg/L	1.0					
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0					
Dibromochloromethane	ND	μg/L	1.0			·		
Dibromomethane	ND	μg/L	1.0					
1,2-Dichlorobenzene	ND	μg/L	1.0					•
1,3-Dichlorobenzene	ND	μg/L	1.0					
1,4-Dichlorobenzene	ND	μg/L	1.0					
Dichlorodifluoromethane	ND	μg/L	1.0					
1,1-Dichloroethane	ND	μg/L	1.0					
1,1-Dichloroethene	ND	μg/L	1.0					
1,2-Dichloropropane	ND	µg/L	1.0					
1,3-Dichloropropane	ND	μg/L	1.0					
2,2-Dichloropropane	. ND	μg/L	2.0					
1,1-Dichloropropene	ND	μg/L	1.0					
Hexachlorobutadiene	ND	μg/L	1.0					
2-Hexanone	ND	μg/L	1.0					
Isopropylbenzene	ND	μg/L μg/L	1.0					
4-isopropyltoluene	ND	μg/L μg/L	1.0					
4-isopropyloidene 4-Methyl-2-pentanone	ND	μg/L μg/L	1.0					
ethylene Chloride	ND		3.0					
n-Butylbenzene	ND	μg/L μg/L	1.0					
n-Propylbenzene	ND ND	µg/L	1.0					
sec-Butylbenzene	ND ND	μg/L	1.0					
Styrene	ND	μg/L	1.0					
tert-Butylbenzene	ND	μg/L	1.0					
1,1,1,2-Tetrachloroethane	ND	μg/L "	1.0					
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0					
Tetrachloroethene (PCE)	ND	μg/L "	1.0					
trans-1,2-DCE	ND	μg/L "	1.0					
trans-1,3-Dichloropropene	ND	μg/L	1.0					
1,2,3-Trichlorobenzene	ND ·	μg/L "	1.0					
1,2,4-Trichlorobenzene	ND	µg/L	1.0					
1,1,1-Trichloroethane	ND	µg/L	1.0	•				
1,1,2-Trichloroethane	ND	μg/L	1.0					
Trichloroethene (TCE)	ND	μg/L "	1.0					
Trichlorofluoromethane	ND	μg/L	1.0					
1,2,3-Trichloropropane	ND	µg/L "	2.0					
Vinyl chloride	ND	µg/L	1.0					
Xylenes, Total	ND	μg/L	1.5					,
Surr: 1,2-Dichloroethane-d4	9.424	µg/L 	0	94.2	68.1	123		•
Surr: 4-Bromofluorobenzene	10.87	μg/L 	0	109	53.2	145		
Surr: Dibromofluoromethane	9.412	μg/L 	0	94.1	68.5	119		
Surr: Toluene-d8	9.509	µg/L	0	95.1	64	131		
Sample ID: 100ng lcs_b		LCS			Batch	ID: <b>R29803</b>	Analysis Date:	8/15/2008 2:41:00 PM

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

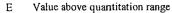
Cross-Gradient Wells Annual Aug 2008

Work Order:

1808240

Analyte	Result	Units	PQL	%Rec	LowLimit   F	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260B:	VOLATILES							
Sample ID: 100ng ics_b		LCS			Batch ID	R29803	Analysis Date:	8/15/2008 2:41:00 PM
Benzene	20.15	μg/L	1.0	101	86.8	120		
Toluene	20.41	μg/L	1.0	102	64.1	127		
Chiorobenzene	22.97	μg/L	1.0	115	82.4	113		S
1,1-Dichloroethene	24.69	μg/L	1.0	123	86.5	132		
Trichloroethene (TCE)	19.38	μg/L	1.0	96.9	77.3	123		
Surr: 1,2-Dichloroethane-d4	9.330	μg/L	0	93.3	68.1	123		
Surr: 4-Bromofluorobenzene	9.792	μg/L	0	97.9	53.2	145		
Surr: Dibromofluoromethane	9.599	μg/L	0	96.0	68.5	119		
Surr: Toluene-d8	9.648	μg/L	0	96.5	64	131		
Sample ID: 100ng lcs		LCS			Batch ID	R29824	Analysis Date:	8/18/2008 11:19:55 AM
Benzene	20.71	µg/L	1.0	104	86.8	120		
Toluene	20.33	μg/L	1.0	102	64.1	127		
Chlorobenzene	22.04	µg/L	1.0	110	82.4	113		
1,1-Dichloroethene	24.64	μg/L	1.0	123	86.5	132		
Trichloroethene (TCE)	19.74	μg/L	1.0	98.7	77.3	123		
Surr: 1,2-Dichloroethane-d4	9.319	μg/L	0	93.2	68.1	123		
Surr: 4-Bromofluorobenzene	10.14	μg/L	0	101	53.2	145		•
Surr: Dibromofluoromethane	9.536	µg/L	0 .	95.4	68.5	119		
Surr: Toluene-d8	9.273	μg/L	0	92.7	64	131		
Sample ID: 100ng lcs		LCS			Batch ID	R29824	Analysis Date:	8/18/2008 10:35:23 Pi
Benzene	21.32	μg/L	1.0	107	86.8	120		
Toluene	18.86	μg/L	1.0	94.3	64.1	127		
Chlorobenzene	21.47	μg/L	1.0	107	82.4	113		
1,1-Dichloroethene	24.68	μg/L	1.0	123	86.5	132		
Trichloroethene (TCE)	21.02	μg/L	1.0	105	77.3	123		
Surr: 1,2-Dichloroethane-d4	9.386	μg/L	0	93.9	68.1	123		
Surr: 4-Bromofluorobenzene	10.82	μg/L	0	108	53.2	145		
Surr: Dibromofluoromethane	9.762	μg/L	0	97.6	68.5	119		
Surr; Toluene-d8	9.388	μg/L	0	93.9	64	131		
Sample ID: 0808240-01a MS		MS			Batch ID	: R29803	Analysis Date:	8/15/2008 4:41:34 PM
Benzene	21.98	μg/L	1.0	110	72.4	126		
Toluene	20.14	μg/L	1.0	101	79.2	115		
Chlorobenzene	23.21	μg/L	1.0	116	83.1	111		S
1,1-Dichloroethene	24.22	μg/L	1.0	121	81.4	122	•	
Trichloroethene (TCE)	21.79	μg/L	1.0	109	64.4	118		•
Surr: 1,2-Dichloroethane-d4	9.216	μg/L	. 0	92.2	68.1	123		
Surr: 4-Bromofluorobenzene	9.940	μg/L	. 0	99.4	53.2	145		
Surr: Dibromofluoromethane	9.593	μg/L	0	95.9	68.5	119		
Surr: Toluene-d8	9.398	μg/L	0	94.0	64	131		•

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Qua	lifiers:



J Analyte detected below quantitation limits

RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# **QA/QC SUMMARY REPORT**

Client:
Project:

Western Refining Southwest, Inc.

Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte	Result	Units	PQL	%Rec	LowLimit	Highl	Limit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C:	Semivolatiles									
Sample ID: mb-16804		MBLK			Batch	ID:	16804	Analysis [	Date:	8/21/200
Acenaphthene	ND	μg/L	10							
Acenaphthylene	ND	μg/L	10							
Aniline	ND	µg/L	10							
Anthracene	ND	μg/L	10							
Azobenzene	ND	μg/L	10							
Benz(a)anthracene	ND	µg/L	10							
Benzo(a)pyrene	ND	µg/L	10							
Benzo(b)fluoranthene	ND	μg/L	10							
Benzo(g,h,i)perylene	ND	µg/L	10							
Benzo(k)fluoranthene	ND	µg/L	10							
Benzoic acid	ND	μg/L	20							
Benzyl alcohol	ND	μg/L	10							
Bis(2-chloroethoxy)methane	ND	μg/L	10							
Bis(2-chloroethyl)ether	ND	μg/L	10							
Bis(2-chloroisopropyl)ether	ND	μg/L	10	•						
Bis(2-ethylhexyl)phthalate	ND	μg/L	10							
4-Bromophenyl phenyl ether	ND	μg/L	10							
Butyl benzyl phthalate	ND	μg/L	10							
Carbazole	ND	μg/L	10							
-Chloro-3-methylphenol	ND	μg/L	10							
4-Chloroaniline	ND	μg/L	10							
2-Chloronaphthalene	ND	µg/L	10							
2-Chlorophenol	ND	μg/L	10							
4-Chlorophenyl phenyl ether	ND	μg/L	10							
Chrysene	ND ·	μg/L	10							
Di-n-butyl phthalate	ND	μg/L	10							
Di-n-octyl phthalate	ND	μg/L	10							
Dibenz(a,h)anthracene	ND	μg/L	10							
Dibenzofuran	ND	μg/L	10							
1,2-Dichlorobenzene	ND	μg/L	10							
1,3-Dichlorobenzene	ND	μg/L μg/L	10							
1,4-Dichlorobenzene	ND	μg/L	10							
3,3'-Dichlorobenzidine	ND	µg/L	10							
Diethyl phthalate	ND	μg/L	10							
Dimethyl phthalate	ND	μg/L	10							
2,4-Dichlorophenol	ND	µg/L	20							
2,4-Dimethylphenol	ND	µg/L	10							
4,6-Dinitro-2-methylphenol	ND	µg/L	20							
2,4-Dinitrophenol	ND	μg/L	20							
2,4-Dinitrotoluene	ND	μg/L μg/L	10							
2,6-Dinitrotoluene	ND	μg/L μg/L	10							
Fluoranthene	ND	μg/L	10							
Fluoranthene	ND	μg/L μg/L	10							
Hexachlorobenzene	ND ND	μg/L	10							
Hexacinorobenzene	טויו	μg/L	10							

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Cross-Gradient Wells Annual Aug 2008

Work Order:

Date: 18-Sep-08

0808240

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C:	Semivolatiles								
Sample ID: mb-16804		MBLK			Batch	ID: <b>16804</b>	Analysis D	ate:	8/21/2008
Hexachlorobutadiene	ND .	μg/L	10						
Hexachlorocyclopentadiene	ND	μg/L	10						
Hexachloroethane	ND	µg/L	10						
Indeno(1,2,3-cd)pyrene	ND	μg/L	10						
sophorone	ND	µg/L	10						•
2-Methylnaphthalene	ND	μg/L	10						
2-Methylphenol	ND	μg/L	10				•		
3+4-Methylphenol	ND	µg/L	10						
N-Nitrosodi-n-propylamine	ND	µg/L	10						
N-Nitrosodimethylamine	ND	µg/L	10						
N-Nitrosodiphenylamine	ND	µg/L	10						
Naphthalene	ND	µg/L	10						
2-Nitroaniline	ND	μg/L	10				•		
3-Nitroaniline	ND	μg/L	10						
l-Nitroaniline	ND	μg/L	10						
Nitrobenzene	ND	μg/L ΄	10						
-Nitrophenol "	ND	μg/L	10			•			
I-Nitrophenol	ND	μg/L	10						
Pentachlorophenol	ND	μg/L	40						
Phenanthrene	ND	μg/L	10						
Phenol	ND	μg/L	10						
Oyrene	ND	μg/L	10			•			
Pyridine	ND	μg/L	10						-
,2,4-Trichlorobenzene	ND	μg/L	10						
2,4,5-Trichlorophenol	ND	μg/L	. 10						
,4,6-Trichlorophenol	ND	μg/L	10						
Surr: 2,4,6-Tribromophenol	130.0	μg/L μg/L	0	65.0	16.6	150			
Surr: 2-Fluorobiphenyl	71.08	μg/L	0	71.1	19.6	134			
Surr: 2-Fluorophenol	119.1	μg/L	. 0	59.6	9.54	113			
Surr: 4-Terphenyl-d14	66.70	μg/L	0	66.7	22.7	145			
Surr: Nitrobenzene-d5	70.06	μg/L	0	70.1	14.6	134			•
Surr: Phenol-d5	88.94	μg/L μg/L	0	44.5	10.7	80.3			
Sample ID: Ics-16804	00.94	LCS	U	44.5	Batch		Analysis I	Date:	8/21/2008
	40.00		40	40.7			, wayono s	- Caro.	. 0/21/2000
Acenaphthene	43.66	μg/L	10	43.7	11	123			
I-Chloro-3-methylphenol	102.0	μg/L "	10	50.1	15.4	119			
?-Chlorophenol	95.42	μg/L	10	46.7	12.2	122			
,4-Dichlorobenzene	37.00	μg/L	10	37.0	16.9	100			
2,4-Dinitrotoluene	43.10	μg/L "	10	43.1	13	138			
N-Nitrosodi-n-propylamine	50.50	μg/L	10	50.5	9.93	122			
I-Nitrophenol	67.84	μg/L "	10	33.9	12.5	87.4			
Pentachlorophenol	91.04	µg/L	40	45.5	3.55	114			
Phenol	70.52	µg/L	10	35.3	7.53	73.1			
Pyrene	52.60	μg/L	10	52.6	12.6	140			
,2,4-Trichlorobenzene	38.40	µg/L	10	38.4	17.4	98.7			

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client: roject:

Western Refining Southwest, Inc.

Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte _	Result	Units 	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimi	t Qual
Method: EPA Method 8270C:	Semivolatiles						*****		
Sample ID: lcs-16804		LCS			Batch	ID: <b>16804</b>	Analysis D	ate:	8/21/
Surr: 2,4,6-Tribromophenol	85.24	μg/L	0	42.6	16.6	150		,	
Surr: 2-Fluorobiphenyl	47.88	μg/L	0	47.9	19.6	134			
Surr: 2-Fluorophenol	84.44	μg/L	0	42.2	9.54	113			
Surr: 4-Terphenyl-d14	45.86	μg/L	0 .	45.9	22.7	145			
Surr: Nitrobenzene-d5	49.30	μg/L	0	49.3	14.6	134			
Surr: Phenol-d5	71.26	μg/L	0	35.6	10.7	80.3			
Sample ID: lcsd-16804		LCSD			Batch	ID: <b>16804</b>	Analysis D	ate:	8/21/2
Acenaphthene	51.78	μg/L	10	51.8	11	123	17.0	30.5	
4-Chloro-3-methylphenol	120.8	μg/L	10	59.5	15.4	119	16.9	28.6	
2-Chlorophenol	112.9	μg/L	10	55.5	12.2	122	16.8	107	
1,4-Dichlorobenzene	42.48	μg/L	10	42.5	16.9	100	13.8	62.1	
2,4-Dinitrotoluene	50.30	μg/L	10	50.3	13	138	15.4	14.7	Ŕ
N-Nitrosodi-n-propylamine	58.30	μg/L	10	58.3	9.93	122	14.3	30.3	
4-Nitrophenol	92.10	μg/L	10	46.0	12.5	87.4	30.3	36.3	
Pentachlorophenol	103.7	μg/L	40	51.9	. 3.55	114	13.0	49	
Phenol	90.88	μg/L	10	45.4	7.53	73.1	25.2	52.4	
Pyrene	60.08	μg/L	10	60.1	12.6	140	13.3	16.3	
1,2,4-Trichlorobenzene	45.64	μg/L	10	45.6	17.4	98.7	17.2	36.4	
Surr: 2,4,6-Tribromophenol	97.70	μg/L	0	48.9	16.6	150	0	0	
Surr: 2-Fluorobiphenyl	55.80	μg/L	0	55.8	19.6	134	0	0	
Surr: 2-Fluorophenol	102.9	μg/L	0	51.5	9.54	113	0	0	
Surr: 4-Terphenyl-d14	50.72	μg/L	0	50.7	22.7	145	0	0	
Surr: Nitrobenzene-d5	56.00	μg/L	0	56.0	14.6	134	0 -	0	
Surr: Phenol-d5	90.52	μg/L	0	45.3	10.7	80.3	0	0	
Method: EPA Method 7470: M	ercurv					· · · · · · · · · · · · · · · · · · ·			
Sample ID: 0808240-02DMSD	<b></b> -,	MSD			Batch I	D: <b>16906</b>	Analysis D	ate: 8/27	7/2008 4:26:04
Mercury	0.005082	mg/L	0.0010	98.2	75	125	0.175	20	
Sample ID: 0808240-02DMS		MS	<b>-</b> · •	<b>-</b>	Batch I		Analysis D		7/2008 4:20:34
Mercury	0.005090	mg/L	0.0010	98.4	75	125	-		

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E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte		Result	Units	PQL	%Rec	LowLimit Hiç	ghLimit	%RPD RPI	DLimit Qual
Method: E	PA Method 6010	B: Dissolved Me	tals	<del></del>					
Sample ID:	MB .	•	MBLK			Batch ID:	R29998	Analysis Date:	8/29/2008 1:18:16 PM
Arsenic		ND	mg/L	0.020					
Barium		ND	mg/L	0.020					
Cadmium		ND	mg/L	0.0020					
Chromium		ND	mg/L	0.0060					
Copper		ND	mg/L	0.0060					
lron		· ND	mg/L	0.020					
Lead		ND	mg/L	0.0050					
Manganese		ND	mg/L	0.0020					
Selenium		ND	mg/L	0.050					
Silver		ND	mg/L	0.0050					
Zinc		ND	mg/L	0.050					
Sample ID:	МВ		MBLK			Batch ID:	R29998	Analysis Date:	8/29/2008 3:30:02 PM
Arsenic		ND	·mg/L	0.020					
Barium	•	ND	mg/L	0.020					
Cadmium		ND	mg/L	0.0020					
Chromium		ND	mg/L	0.0060					
Copper :		ND	mg/L	0.0060					
ron ,		ND	mg/L	0.020					
_ead		ND	mg/L	0.0050					
Manganese		ND	mg/L	0.0020					
Selenium		ND	mg/L	0.050					
Silver		ND	mg/L	0.0050					
Sample ID:	MB		MBLK			Batch ID:	R30124	Analysis Date:	9/8/2008 9:44:53 PM
Selenium		ND	mg/L	0.050					
Sample ID:	LCS		LCS			Batch ID:	R29998	Analysis Date:	8/29/2008 1:21:07 PM
Arsenic		0.5042	mg/L	0.020	101	80	120		
Barium		0.5032	mg/L	0.020	101		120		
Cadmium		0.5164	mg/L	0.0020	103	80	120		
Chromium		0.5062	mg/L	0.0060	101		120		
Copper		0.4904	mg/L	0.0060	98.1	80	120		
Iron	10	0.5268	mg/L	0.020	105	80	120		
Lead		0.5188	mg/L	0.0050	104	80	120		
Manganese	•	0.5008	mg/L	0.0020	100	80	120		•
Selenium		0.5137	mg/L	0.050	103	80	120		•
Silver		0.5081	mg/L	0.0050	102	80	120		
Zinç		0.5096	mg/L	0.050	102	80	120		
Sample ID:	LCS		LCS			Batch ID:	R29998	Analysis Date:	8/29/2008 3:32:53 PM
Arsenic		0.5219	mg/L	0.020	104	80	120		
Barium		0.5196	mg/L	0.020	104	80	120	•	
Cadmium		0.5339	mg/L	0.0020	107	80	120		
Chromium		0.5264	mg/L	0.0060	105	80	120		
Copper		0.5107	mg/L	0.0060	102	80	120		
ron		0.5102	mg/L	0.020	102	80	120		



R

E Value above quantitation range

J Analyte detected below quantitation limits RPD outside accepted recovery limits

Holding times for preparation or analysis exceeded Η

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

# **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 6010B	: Dissolved Me	tals	· · · · · · · · · · · · · · · · · · ·					
Sample ID: LCS		LCS			Batch I	D: <b>R29998</b>	Analysis Date:	8/29/2008 3:32:53 PM
Lead	0.5421	mg/L	0.0050	108	80	120		
Manganese	0.5171	mg/L	0.0020	103	80	120		
Selenium	0.5360	mg/L	0.050	107	80	120		
Silver	0.5257	mg/L	0.0050	105	80	120		
Sample ID: LCS		LCS			Batch i	D: <b>R30124</b>	Analysis Date:	9/8/2008 9:47:18 PM
Selenium	0.5051	mg/L	0.050	101	80	120		



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Cross-Gradient Wells Annual Aug 2008

Work Order:

0808240

		chi w chi A				<del> </del>			COrder: 0808240
Analyte		Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	PDLimit Qual
	EPA 6010B: Total Rec	overable Me				5		A	0.000,0000,40,44,00,50
•	0808240-04DMSD		MSD			Batch I		•	8/28/2008 12:14:03 PM
Barium		0.4940	mg/L	0.010	93.5	75	125		20
Silver	*** 400**	0.5029	mg/L	0.0050	101	75 Databat	125		20
Sample ID:	MB-16876		MBLK			Batch I	D: <b>1687</b>	Analysis Date:	8/28/2008 11:55:26 AN
Arsenic		ND	mg/L	0.020					
3arium		ND	mg/L	0.010	•				
Cadmium		ND	mg/L	0.0020					
Chromium		ND	mg/L	0.0060					
_ead	,	ND	mg/L	0.0050					
Selenium	•	ND	mg/L	0.050					
Silver		ND	mg/L	0.0050					
Sample ID:	MB-16876		MBLK			Batch I	D: <b>1687</b>	Analysis Date:	9/2/2008 10:17:34 AN
Barium		ND	mg/L	0.010					
Cadmium	•	ND	mg/L	0.0020					•
Chromium		ND	mg/L	0.0060					
.ead		ND .	mg/L	0.0050					
Silver		ND	mg/L	0:0050					
Sample ID:	MB-16876		MBLK	•		Batch I	D: <b>1687</b>	6 Analysis Date:	9/2/2008 12:52:59 PM
Arsenic	`	ND	mg/L	0.020					
Selenium		ND	mg/L	0.050					
Sample ID:	LCS-16876		LCS			Batch I	D: <b>1687</b>	6 Analysis Date:	8/28/2008 11:57:19 AN
Arsenic		0.4914	mg/L	0.020	98.3	80	120		
Barium		0.4796	mg/L	0.010	95.9	. 80	120		
Cadmium		0.4924	mg/L	0.0020	98.5	80	120	•	
Chromium		0.4942	mg/L	0.0060	98.8	80	120	•	•
.ead		0.4785	mg/L	0.0050	95.0	80	120		
Selenium		0.4934	mg/L	0.050	98.7	80	120		
Silver		0.4969	mg/L	0.0050	99.4	80	120		
	LCS-16876	0.1000	LCS	0.000		Batch i		6 Analysis Date:	9/2/2008 10:19:54 AM
Barium		0.4752		0.010	95.0	80	120	· · · · · · · ·	
Cadmium		0.4752	mg/L mg/L	0.010	95.0	80	120		
Chromium		0.4738	_	0.0020	96.2	80	120		
_ead		0.4736	mg/L mg/L	0.0050	94.7	80	120		
-eau Silver		0.4784	-	0.0050	95.7	80	120	•	
	LCS-16876	U.4/04	mg/L <i>LC</i> S	0.0000	33.1	Batch		6 Analysis Date:	9/2/2008 12:55:29 PI
•	L03-100/0				0.7.5			- Analysis Date.	3/2/2000 12.00.23 FI
Arsenic		0.4782	mg/L	0.020	95.6	80	120		
Selenium		0.4710	mg/L	0.050	94.2	80	120	_ ,	0.10.0.10.0.0.5
Sample ID:	0808240-04DMS		MS			Batch		6 Analysis Date:	8/28/2008 12:11:35 PM
Barium		0.4961	mg/L	0.010	93.9	75	125		
Silver		0.5070	mg/L	0.0050	101	75	125		

#### Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc. 4901 Hawkins NE, Suite D

Albuquerque, New Mexico 87109-4372

TEL: 5053453975

FAX: 5053454107

Subcontractor:

Anatek Labs, Inc. 1282 Alturas Dr

Moscow, ID 83843

(208) 883-2839 TEL: FAX:

(208) 882-9246

Acct #:

0808240 Project Name:

14-Aug-08

Lab ID	Client Sample ID		Matrix	Collection Date	Bottle Type	Requested Tests
0808240-01F	MW-1	-	Aqueous	8/13/2008 8:00:00 AM	125HDPHNO3	SEE BELOW
0808240-02F	MW-13	d	Aqueous	8/13/2008 8:50:00 AM	125HDPHN03	SEE BELOW
0808240-03F	MW-26	ÇV	Aqueous	8/13/2008 9:15:00 AM	125HDPHN03	SEE BELOW
0808240-04F	MW-27	Ŋ	Aqueous	8/13/2008 10:30:00 AM	125HDPHN03	SEE BELOW
0808240-05F	MW-31	<b>∨</b>	Aqueous	8/13/2008 10:00:00 AM	125HDPHN03	SEE BELOW
0808240-06F	MW-32	۵	Aqueous	8/13/2008 11:30:00 AM	125HDPHNO3	SEE BELOW
0808240-07F	MW-33	Ct.	Aqueous	8/13/2008 10:55:00 AM	125HDPHN03	SEE BELOW
0808240-08F	MW-26 FD	P	Aqueous	8/13/2008 9:20:00 AM	125HDPHN03	SEE BELOW

# MWRS

LEVEL 4 QA/QC FOR DISSOLVED U BY 6020, PLEASE REPORT @ 0.001 mg/L ANALYTICAL COMMENTS: Thank you. Standard TAT. Please fax (505) 345-4107 results when completed, or email to lab@hallenvironmental.com.

TEMP. ( ANATEK LABS RECEIVING LIST SHIPPED VIA: DATE & TIME AIS JAK (O'HINSPECTED BY: TABELS & CHAINS AGREE NUMBER OF CONTAINERS:\_\_ RECEIVED INTACT PRESERVATIVE NOTIENDSPACE K ž 5 Date/Time, Relinquished by: Relinquished by:

# Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

#### Login Report

Customer Name: HALL ENVIRONMENTAL ANALYSIS LAB

Order ID:

080815024

**Purchase Order:** 

Order Date:

8/15/2008

Project ID:

Project Name: 0808240

Comment:

Sample #:

080815024-001

Customer Sample #:

0808240-01F / MW-1

Site:

Collector: Matrix:

Water

**Date Collected:** 

8/13/2008

Date Received:

8/15/2008 10:45:00 A

Quantity: Comment:

Recv'd:

Test

**Test Group** 

Method

**Due Date** 

**Priority** 

**DISSOLVED URANIUM BY 6** 

~

**EPA 6020A** 

8/27/2008

Normal (6-10 Days)

Sample #:

Recv'd:

080815024-002

Customer Sample #:

0808240-02F / MW-13

Site:

8/13/2008

Quantity:

Matrix: Water

Collector:

**Date Collected:** Date Received:

8/15/2008 10:45:00 A

Comment:

Test '

**Test Group** 

Method

**Due Date** 

**Priority** 

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 

8/27/2008

Normal (6-10 Days)

Sample #:

080815024-003

Customer Sample #:

0808240-03F / MW-26

Recv'd:

Collector:

**Date Collected:** 

8/13/2008

Quantity:

**V** 

Matrix:

Water

**Date Received:** 

Comment:

8/15/2008 10:45:00 A

Test

**Test Group** 

Method

**Due Date** 

**Priority** 

DISSOLVED URANIUM BY 6

**EPA 6020A** 

8/27/2008

Normal (6-10 Days)

Sample #:

Customer Sample #: 080815024-004

0808240-04F / MW-27

Collector:

8/13/2008

Site:

Recv'd:

Quantity:

Matrix:

Water

**Date Collected:** Date Received:

8/15/2008 10:45:00 A

Comment:

Test

**Test Group** 

Method

**Due Date** 

**Priority** 

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 

8/27/2008

Normal (6-10 Days)

Customer Name: HALL ENVIRONMENTAL ANALYSIS LAB **Purchase Order:** Project ID:

Order ID:

080815024

**Order Date:** 

8/15/2008

Project Name: 0808240

Comment:

Sample #:

080815024-005

Customer Sample #:

0808240-05F / MW-31

Site:

Recv'd:

V

Collector:

Date Collected:

8/13/2008

Quantity:

1

Matrix:

Water

Date Received:

8/15/2008 10:45:00 A

Comment:

Test

**Test Group** 

Method

**Due Date** 

**Priority** 

DISSOLVED URANIUM BY 6

**EPA 6020A** 

8/27/2008

Normal (6-10 Days)

Sample #:

080815024-006

Customer Sample #:

Water

0808240-06F / MW-32

Site:

Recv'd: Quantity: ~

Collector:

Matrix:

Date Collected: Date Received:

8/13/2008

8/15/2008 10:45:00 A

Comment:

Test

**Test Group** 

Method

**Due Date** 8/27/2008 **Priority** 

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 

Method

Normal (6-10 Days)

Sample #:

080815024-007

Customer Sample #:

0808240-07F / MW-33

Site:

Recv'd:

V 1

Collector:

**Date Collected:** 

8/13/2008

Quantity:

Matrix:

Water

Date Received:

8/15/2008 10:45:00 A

Comment:

**DISSOLVED URANIUM BY 6** 

**Test Group** 

**EPA 6020A** 

**Due Date** 8/27/2008 **Priority** 

**Priority** 

Normal (6-10 Days)

Sample #:

Test

080815024-008

Customer Sample #:

0808240-08F / MW-26 FD Site:

**Date Collected:** 

8/13/2008

Recv'd: Quantity:

1

~

DISSOLVED URANIUM BY 6

Collector: Matrix:

Water

Date Received:

8/15/2008 10:45:00 A

Comment:

Test

**Test Group** 

Method

**Due Date** 

8/27/2008

EPA 6020A

Normal (6-10 Days)

#### SAMPLE CONDITION RECORD

Samples received in a cooler? Yes Samples received intact? Yes What is the temperature inside the cooler? 4.1 Samples received with a COC? Yes Samples received within holding time? Yes Are all sample bottles properly preserved? Yes Are VOC samples free of headspace? N/A Is there a trip blank to accompany VOC samples? N/A Labels and chain agree? Yes

#### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT				Date Rece	ived:	8/14/2008	
Work Order Number 0808240	$\left( \cdot \right)$			Received		۸.	
Checklist completed by:	M		X//	Sample II	D labels checked by	Initials	-
Matrix:	Carrier name	UPS	<u>.</u>				
Shipping container/cooler in good condition?		Yes	<b>✓</b>	No 🗌	Not Present		
Custody seals intact on shipping container/cooler	>	Yes	$\checkmark$	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗀	N/A	<b>✓</b>	
Chain of custody present?		Yes	$\checkmark$	No 🗌			
Chain of custody signed when relinquished and re	ceived?	Yes	$\checkmark$	No 🗌			
Chain of custody agrees with sample labels?		Yes	<b>V</b>	No 🗌			
Samples in proper container/bottle?		Yes	<b>✓</b>	No 🗌			
Sample containers intact?		Yes	<b>✓</b>	No 🗆			
Sufficient sample volume for indicated test?		Yes	<b>✓</b>	No 🗌			
All samples received within holding time?		Yes	<b>✓</b>	No 🗌			
Water - VOA vials have zero headspace?	No VOA vials subr	mitted		Yes 🗹	No 🗌		,
Water - Preservation labels on bottle and cap mat	ch?	Yes	<b>✓</b>	No 🗌	N/A		
Water - pH acceptable upon receipt?		Yes	<b>✓</b>	No 🗌	N/A		
Container/Temp Blank temperature?			4°	<6° C Accep	table		
COMMENTS:				If given suffic	ient time to cool.		
·							
•							
						•	
Client contacted	ate contacted:			F	Person contacted		
Contacted by:	legarding:			· ·			
Comments:	•						
			•				
Corrective Action	** <del>****</del> * ****			<del></del>			
			<del></del> ,				

	HALL ENVIRONMENTAL ANALYSIS LABORATORY	www.hallenvironmental.com	ns NE - Albuquerque, NM 87109	505-345-3975 Fax 505-345-4107	👬 🦰 Analíysis Request			(0) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	d 8266 HA9 10 HO3,1 GOV (AOV)	onteM) 86 ANA) Or ANA) Or ANA) or ANA) enoi ioitse 178 AOV) 808 -imeS) 07 -imeS) 07	83 808 7 7 808 28 >			X -	X		*	<b>→</b>	×	X	××	X		
			οβ 4901 Hawkins NE	Tel. 50		(λ)ι	(Gas or	Hd.	1 + 3E	EX + WTE	T8 T8		- 1			į	2 X	7	2	7	2	2	0.3 Remarks: 0.30	
e:	□ Rush	Project Name:	Aug, 2008	D				de / Bb	Ye¢'' □ No ture: Ч	Preservative HEAL No.	161	- \	KNOZ	HNO3	H2504		Ha.	)	HNO3	HW3	(4204)		Received by: 8  14   6.8	Received by:
Turn-Around Time:	( Standard	Project Name:	Annual	Project #:		Project Manager:		Sampler:	On Ice: Temperature:	Container Pre Type and #		Carlott Carl	7			500 m		ander		500 ml				Rec
Chain-of-Custody Record	Client: Western RefiniNg (RIM. Filt		CR 4990	NW 87413	32-461	-639-36//	December 1 (Full Validation)			Sample Request ID	Mix						MC-13						Relinfulshed by:	Relinquished by
Chain-of-	Olient: Western		Address: #50	TSloom Field, NM 874,	Phone #: 505-633	6, 1	QA/QC Package:	□ Other	□ EDD (Type)	Date Time	12.00	+				7	1308 850AM						Date: Time: //3-09 234 m.	Time:

HALL ENVIRONMENTAL	ANALYSIS LABORATORY		4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Ana 🐣 Ana	O <sup>¢</sup> )	PCB:	9085 9085 1) 1) 1) 1) 1) 1) 1) 1) 1) 1)	1 8015 1 8015 1 8016 1 1 8016 1	TM + X  TM + X  Method  Mothod  Mothod	### ### ##############################			*	*	*	×	× ×	×	*	×	×	Remarks:	
Turn-Around Time:	☑ Standard □ Rush	Project Name:	ANNUAL Aug. 2008	D		Project Manager:		Sampler: Pudu/Bah	On Ice: (1) (0) (1) Sample Temperature: (2)	Container Preservative HEAL No.	1ype and # 1ype   1ype   1ype   1ype and # 1ype   1ype	6-10A HC1 -3	Amber -3	250ml HN03 -3	500 MI H NO3 -3			10-10A HC14	Amber	25 ml 41034	500 MI HNO2 -4	Ť	Received by:   8   14   68	Received by:
	Client: Western (Refining (Binfld)		CR 4990	4/3	1914-	//	Except 4 (Full Validation)	<u> </u>		Sample Request ID	-	MW-26					·	MW-27	j				Relinquished by:	Relinquished by
Chain-of-	Client: Western		Address: #50	اه ا	Phone #: 505-6	email or Fax#: 505-6 3ユー3タ	QA/QC Package:		□ EDD (Type)	Date Time		8-13-08 915A					7	8 13-08 1020A	/				Date: Time: 8-13-08 283-	İ .

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



Chai	in-of-	Chain-of-Custody Record	Turn-Around Time:	)				i	,	1		ĺ	i		\		
Client: Lo	Stern	Client: Western Refining (Blufld)	☐ Standard □	□ Rush			- 35	I «	HALL ENVI Anai Ysts	Л <u>—</u> Л Ў	> \ 2 \ 2 \ 2	Y		<b>E C</b>	Z   E	ENVIKONMENIAL YSISIABORATORY	_
			Project Name:	ist to	weils	1			www.	iallen	vironr	www.hallenvironmental.com	l.com	i h _	, 0 9	¢ • •	0
Address: #	55 (	Address: #50 CR 4990	Arnual	4	3008	4	901 F	4901 Hawkins NE	IS NE		nbnq	Albuquerque, NM 87109	ΣZ	8710	•		
Bloomfield	Pield	1, NM 87413	Project #:	0		·	Tel. 5	505-345-3975	5-397		Fax	505-345-4107	45-41	107			
Phone #: 3	505-632	632-4161				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4			Ana		Request	est				
email or Fax	#: 505	email or Fax#: 505-632-35//	Project Manager:								( <sub>p</sub> C	,			5/1/1	-	
QA/QC Package:	age:	_									S' <sup>†</sup> (	s,BC			LM.	h.t	
□ Standard	_	PLevel 4 (Full Validation)							-		Od' <sup>₹</sup>	2 P(		1 4	79	1,1/	
□ Other			Sampler:	4/13	26							808		'نا	3	71	(V
☐ EDD (Type)	(ed		On Ice: Trades/ Sample Temperature	リロー/// 8:	0)	+ 3E	1 804 E	814 b	+09 P	4 826 1A9 10	'εON'	/ səp		(AOV \	3000	JIK	10 Y)
				C. C										<b>5</b> Μ	35	/	sə
Date	Time	Sample Request ID	Container Preser	Preservative Type	HEAL No.								V) 80	96) U	N JA	60	Iddus
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8-13-0B 1c	ladm	MW-31	H 401-01		٧-		×						X				
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			M+1	14103	~										X		
			100 TH	$\mathcal{Q}_{\mu}$	-5						X	ì					
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8-13-08	1304	MW-32	6-10A HC		7 -		X						X				
			Amber		1	_							X				
			HU03	03	1									X	- /		
			H NO.	0,2	-6										X		
			H3.	2504	1						又						
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Date: Time: $\beta$ -13-08 $\beta$	Time: 230 pm	Refinewished by:	Received by	. 0	8/14/68 9.50	Remarks:	ks:										
<del>'</del>	Time:	Relinquished by:	Received by:	d by:													
If necess:	ary, sample	If necessary, samples submitted to Half 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.	ontracted to other accredited Is	aboratories. This	s serves as notice of this po	ssibility.	Any sut	-contrac	ted dat	will be	clearly	notated	on the a	analytic	l report		

ATNIMNCOIVAR LAL			2008 4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	in Ana	O <sup>†</sup> )	o esé eid\e	9 (Ge 1) () ))	E + T 80158 418. 504. 504. 504. 504. 504.	TBI od 8 hod od 1 loid CI,I loid OO)	HEAL No.  HEAL No.  HEAL No.  HOUTH   HTPH TPH HTPH HTPH HTPH HTPH HTPH HTPH	×	-1 X	X	7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	7	× × × × × × × × × × × × × × × × × × ×	X	X	X	× × × × × × × × × × × × × × × × × × ×	X	X         X     X   X   X   X   X   X	933 Femarks:		
Turn-Around Time:	Z Standard □ Rush	Project Name:	Aug.	Project #: 0		Project Manager:		Sampler A. J. J. Park	On ice: 1976s// 1 No	Sample Lemperature:	Container Preservative HE	8080	6-10A HCi	Amber		500m/ HNO3			6.104	Lylvas	250m HNO3	500mg 41003			<u> </u>	Received by:
Chain-of-Custody Record	(C)	1	ADDRES: 4990 1 1 50	M	-632	1138		Level 4 (Full Validation)		131	Sample Request ID		MW-33						MW#26FD	•	-					Relinquished by:
Chain-c	Client: Wester		Address: 499	Bloom Pield	Phone #: 505	email or Fax#:505~632~	QA/QC Package:	☐ Standard ☐ Other	□ EDD (Type)		Date Time	873.08	the lossy						813-08 9204						Date: Time:	Date: Time:

samples submitted to Hall Environmental may be subcontracted to other accredited laboratories





#### **COVER LETTER**

Tuesday, September 23, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX: (505) 632-3911

RE: Refinery Wells - Annual 2008

Dear Cindy Hurtado:

Order No.: 0808297

Hall Environmental Analysis Laboratory, Inc. received 8 sample(s) on 8/19/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 23-Sep-08

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

Project: Refinery Wells - Annual 2008

**Lab Order:** 0808297

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808297-01A	MW #8	R29898	EPA Method 8260B: VOLATILES	8/18/2008 10:30:00 AM
0808297-01A	MW #8	R29968	EPA Method 8260B: VOLATILES	8/18/2008 10:30:00 AM
0808297-01A	MW #8	R29989	EPA Method 8015B: Gasoline Range	8/18/2008 10:30:00 AM
0808297-01A	MW #8	16847	EPA Method 8015B: Diesel Range	8/18/2008 10:30:00 AM
0808297-01R	MW #8	16839	EPA Method 8270C: Semivolatiles	8/18/2008 10:30:00 AM
0808297-01B	MW #8	R29848	EPA Method 300.0: Anions	8/18/2008 10:30:00 AM
0808297-01C	MW #8	R29848	EPA Method 300.0: Anions	8/18/2008 10:30:00 AM
0808297-01C	MW #8	R29857	EPA Method 300.0: Anions	8/18/2008 10:30:00 AM
0808297-01C	MW #8	R29883	SM 2320B: Alkalinity	8/18/2008 10:30:00 AM
0808297-01C	MW #8	R29886	Carbon Dioxide	8/18/2008 10:30:00 AM
0808297-01D	MW #8	16942	EPA Method 7470: Mercury	8/18/2008 10:30:00 AM
0808297-01D	MW #8	16920	EPA 6010B: Total Recoverable Metals	8/18/2008 10:30:00 AM
0808297-01D	MW #8	16920	EPA 6010B: Total Recoverable Metals	8/18/2008 10:30:00 AM
0808297-01E	MW #8	R30090	EPA Method 6010B: Dissolved Metals	8/18/2008 10:30:00 AM
0808297-01E	MW #8	R	EPA Method 6010B: Dissolved Metals	8/18/2008 10:30:00 AM
0808297-02A	MW #29	16847	EPA Method 8015B: Diesel Range	8/18/2008 11:10:00 AM
0808297-02A	MW #29	R29898	EPA Method 8260B: VOLATILES	8/18/2008 11:10:00 AM
0808297-02A	MW #29	R29968	EPA Method 8260B: VOLATILES	8/18/2008 11:10:00 AM
0808297-02A	MW #29	R29989	EPA Method 8015B: Gasoline Range	8/18/2008 11:10:00 AM
0808297-02B	MW #29	16839	EPA Method 8270C: Semivolatiles	8/18/2008 11:10:00 AM
0808297-02C	MW #29	R29886	Carbon Dioxide	8/18/2008 11:10:00 AM
0808297-02C	MW #29	R29883	SM 2320B: Alkalinity	8/18/2008 11:10:00 AM
0808297-02C	MW #29	R29848	EPA Method 300.0: Anions	8/18/2008 11:10:00 AM
0808297-02C	MW #29	R29848	EPA Method 300.0: Anions	8/18/2008 11:10:00 AM
0808297-02D	MW #29	16920	EPA 6010B: Total Recoverable Metals	8/18/2008 11:10:00 AM
0808297-02D	MW #29	16942	EPA Method 7470: Mercury	8/18/2008 11:10:00 AM
0808297-02E	MW #29	R30090	EPA Method 6010B: Dissolved Metals	8/18/2008 11:10:00 AM
0808297-02E	MW #29	R	EPA Method 6010B: Dissolved Metals	8/18/2008 11:10:00 AM
0808297-03A	Field Blank	R29898	EPA Method 8260B: VOLATILES	8/18/2008 12:20:00 PM
0808297-03A	Field Blank	R29968	EPA Method 8260B: VOLATILES	8/18/2008 12:20:00 PM
0808297-04A	MW #30	R29989	EPA Method 8015B: Gasoline Range	8/18/2008 12:30:00 PM
0808297 <b>-</b> 04A	MW #30	R29898	EPA Method 8260B: VOLATILES	8/18/2008 12:30:00 PM
0808297-04A	MW #30	16847	EPA Method 8015B: Diesel Range	8/18/2008 12:30:00 PM
0808297-04A	MW #30	R29968	EPA Method 8260B: VOLATILES	8/18/2008 12:30:00 PM
0808297-04B	MW #30	16839	EPA Method 8270C: Semivolatiles	8/18/2008 12:30:00 PM
0808297-04B	MW #30	16839	EPA Method 8270C: Semivolatiles	8/18/2008 12:30:00 PM
0808297-04C	MW #30	R29848	EPA Method 300.0: Anions	8/18/2008 12:30:00 PM
0808297-04C	MW #30	R29848	EPA Method 300.0: Anions	8/18/2008 12:30:00 PM

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

Refinery Wells - Annual 2008

Lab Order:

0808297

# Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808297-04C	MW #30	R29883	SM 2320B: Alkalinity	8/18/2008 12:30:00 PM
0808297-04C	MW #30	R29886	Carbon Dioxide	8/18/2008 12:30:00 PM
0808297-04D	MW #30	16942	EPA Method 7470: Mercury	8/18/2008 12:30:00 PM
0808297-04D	MW #30	16920	EPA 6010B: Total Recoverable Metals	8/18/2008 12:30:00 PM
0808297-04E	MW #30	R30090	EPA Method 6010B: Dissolved Metals	8/18/2008 12:30:00 PM
0808297-04E	MW #30	R30090	EPA Method 6010B: Dissolved Metals	8/18/2008 12:30:00 PM
0808297-05A	RW #1	R29989	EPA Method 8015B: Gasoline Range	8/18/2008 9:15:00 AM
0808297-05A	RW #1	16847	EPA Method 8015B: Diesel Range	8/18/2008 9:15:00 AM
0808297-05A	RW #1	R29898	EPA Method 8260B: VOLATILES	8/18/2008 9:15:00 AM
0808297-05A	RW #1	R29944	EPA Method 8260B: VOLATILES	8/18/2008 9:15:00 AM
0808297-05A	RW #1	R29944	EPA Method 8260B: VOLATILES	8/18/2008 9:15:00 AM
0808297-05B	RW #1	16839	EPA Method 8270C: Semivolatiles	8/18/2008 9:15:00 AM
0808297-05B	RW #1	16839	EPA Method 8270C: Semivolatiles	8/18/2008 9:15:00 AM
0808297-05C	RW #1	R29848	EPA Method 300.0: Anions	8/18/2008 9:15:00 AM
0808297-05C	RW #1	R29848	EPA Method 300.0: Anions	8/18/2008 9:15:00 AM
0808297-05C	RW #1	R29883	SM 2320B: Alkalinity	8/18/2008 9:15:00 AM
0808297-05C	RW #1	R29886	Carbon Dioxide	8/18/2008 9:15:00 AM
0808297-05D	RW #1	16942	EPA Method 7470: Mercury	8/18/2008 9:15:00 AM
0808297-05D	RW #1	16920	EPA 6010B: Total Recoverable Metals	8/18/2008 9:15:00 AM
0808297-05D	RW #1	16920	EPA 6010B: Total Recoverable Metals	8/18/2008 9:15:00 AM
0808297-05E	RW #1	R30090	EPA Method 6010B: Dissolved Metals	8/18/2008 9:15:00 AM
0808297-05E	RW #1	R30090	EPA Method 6010B: Dissolved Metals	8/18/2008 9:15:00 AM
0808297-06A	RW #1 FD	16847	EPA Method 8015B: Diesel Range	8/18/2008 9:25:00 AM
0808297-06A	RW #1 FD	R29944	EPA Method 8260B: VOLATILES	8/18/2008 9:25:00 AM
0808297-06A	RW #1 FD	R29944	EPA Method 8260B: VOLATILES	8/18/2008 9:25:00 AM
0808297-06A	RW #1 FD	R29989	EPA Method 8015B: Gasoline Range	8/18/2008 9:25:00 AM
0808297-06A	RW #1 FD	R29898	EPA Method 8260B: VOLATILES	8/18/2008 9:25:00 AM
0808297-06B	RW #1 FD	16839	EPA Method 8270C: Semivolatiles	8/18/2008 9:25:00 AM
0808297-06B	RW #1 FD	16839	EPA Method 8270C: Semivolatiles	8/18/2008 9:25:00 AM
0808297-06C	RW #1 FD	R29886	Carbon Dioxide	8/18/2008 9:25:00 AM
0808297-06C	RW #1 FD	R29848	EPA Method 300.0: Anions	8/18/2008 9:25:00 AM
0808297-06C	RW #1 FD	R29848	EPA Method 300.0: Anions	8/18/2008 9:25:00 AM
0808297-06C	RW #1 FD	R29883	SM 2320B: Alkalinity	8/18/2008 9:25:00 AM
0808297-06D	RW #1 FD	16920	EPA 6010B: Total Recoverable Metals	8/18/2008 9:25:00 AM
0808297-06D	RW #1 FD	16942	EPA Method 7470: Mercury	8/18/2008 9:25:00 AM
0808297-06D	RW #1 FD	16920	EPA 6010B: Total Recoverable Metals	8/18/2008 9:25:00 AM
0808297-06E	RW #1 FD	R30090	EPA Method 6010B: Dissolved Metals	8/18/2008 9:25:00 AM
0808297-06E	RW #1 FD	R30090	EPA Method 6010B: Dissolved Metals	8/18/2008 9:25:00 AM
0808297-06E	RW #1 FD	R	EPA Method 6010B: Dissolved Metals	8/18/2008 9:25:00 AM
0808297-07A	MW #4	16847	EPA Method 8015B: Diesel Range	8/18/2008 9:50:00 AM

CLIENT:

Western Refining Southwest, Inc.

Project:

Refinery Wells - Annual 2008

Lab Order:

0808297

# **Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808297-07A	MW #4	R29898	EPA Method 8260B: VOLATILES	8/18/2008 9:50:00 AM
0808297-07A	MW #4	R29944	EPA Method 8260B: VOLATILES	8/18/2008 9:50:00 AM
0808297-07A	MW #4	R29989	EPA Method 8015B: Gasoline Range	8/18/2008 9:50:00 AM
0808297-07B	MW #4	16839	EPA Method 8270C: Semivolatiles	8/18/2008 9:50:00 AM
0808297-07B	MW #4	16839	EPA Method 8270C: Semivolatiles	8/18/2008 9:50:00 AM
0808297-07C	MW #4	R29886	Carbon Dioxide	8/18/2008 9:50:00 AM
0808297-07C	MW #4	R29883	SM 2320B: Alkalinity	8/18/2008 9:50:00 AM
0808297-07C	MW #4	R29848	EPA Method 300.0: Anions	8/18/2008 9:50:00 AM
0808297-07C	MW #4	R29848	EPA Method 300.0: Anions	8/18/2008 9:50:00 AM
0808297-07D	MW #4	16942	EPA Method 7470: Mercury	8/18/2008 9:50:00 AM
0808297-07D	MW #4	16920	EPA 6010B: Total Recoverable Metals	8/18/2008 9:50:00 AM
0808297-07D	MW #4	16920	EPA 6010B: Total Recoverable Metals	8/18/2008 9:50:00 AM
0808297-07E	MW #4	R30090	EPA Method 6010B: Dissolved Metals	8/18/2008 9:50:00 AM
0808297-07E	MW #4	R30090	EPA Method 6010B: Dissolved Metals	8/18/2008 9:50:00 AM
0808297-07E	MW #4	R30090	EPA Method 6010B: Dissolved Metals	8/18/2008 9:50:00 AM
0808297-08A	TRIP BLANK	R29989	EPA Method 8015B: Gasoline Range	
0808297-08A	TRIP BLANK	R29898	EPA Method 8260B: VOLATILES	

Date: 25-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

Refinery Wells - Annual 2008

Lab Order:

0808297

CASE NARRATIVE

Analytical Comments for SAMPLES RW #1 and its field duplicate: Samples contained free floating product. Surrogate for DRO was not recovered.

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-01

Client Sample ID: MW #8

Collection Date: 8/18/2008 10:30:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	· · · · · · · · · · · · · · · · · · ·				Analyst: SLB
Fluoride	0.69	0.10	mg/L	1	8/19/2008 8:58:25 PM
Chloride	180	1.0	mg/L	10	8/19/2008 9:15:50 PM
Nitrogen, Nitrite (As N)	0.12	0.10	mg/L	1	8/19/2008 8:58:25 PM
Bromide	1.6	0.10	mg/L	1	8/19/2008 8:58:25 PM
Nitrogen, Nitrate (As N)	24	1.0	mg/L	10	8/19/2008 9:15:50 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/19/2008 8:58:25 PM
Sulfate	790	10	mg/L	20	8/20/2008 9:44:28 AM

Qualifiers:

Value exceeds Maximum Contaminant Level

E . Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 1 of 6

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

0808297-01

Project:

Lab ID:

Refinery Wells - Annual 2008

Collection Date: 8/18/2008 10:30:00 AM

Date Received: 8/19/2008

Client Sample ID: MW #8

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGI	<u> </u>				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/21/2008 8:40:17 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/21/2008 8:40:17 PM
Surr: DNOP	133	58-140	%REC	1	8/21/2008 8:40:17 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/28/2008 12:43:53 PM
Surr: BFB	88.5	79.2-121	%REC	1 .	8/28/2008 12:43:53 PM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.69	0.10	mg/L	1	8/19/2008 8:58:25 PM
Chloride	180	1.0	mg/L	10	8/19/2008 9:15:50 PM
Nitrogen, Nitrite (As N)	0.12	0.10	mg/L	1	8/19/2008 8:58:25 PM
Nitrogen, Nitrate (As N)	24	1.0	mg/L	10	8/19/2008 9:15:50 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/19/2008 8:58:25 PM
Sulfate	790	10	mg/L	20	8/20/2008 9:44:28 AM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	9/2/2008 2:04:15 PM
EPA METHOD 6010B: DISSOLVED MI	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	9/5/2008 11:46:54 AM
Barium	ND	0.020	mg/L	1	9/5/2008 11:46:54 AM
Cadmium	ND	0.0020	mg/L	1	9/5/2008 11:46:54 AM
Chromium	0.0071	0.0060	mg/L	1	9/5/2008 11:46:54 AM
Copper	ND	0.0060	mg/L	1.	9/5/2008 11:46:54 AM
Iron	0.082	0.020	mg/L	1	9/5/2008 11:46:54 AM
Lead	ND	0.0050	mg/L	1	9/5/2008 11:46:54 AM
Manganese	0.027	0.0020	mg/L	1	9/5/2008 11:46:54 AM
Selenium	ND	0.25	mg/L	5	9/8/2008 1:07:42 PM
Silver	ND 1	0.025	mg/L	5	9/8/2008 1:07:42 PM
Silver	ND	0.0050	mg/L	1	9/5/2008 11:46:54 AM
Zinc	0.096	0.050	mg/L	1	9/5/2008 11:46:54 AM
EPA 6010B: TOTAL RECOVERABLE I	WETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	9/3/2008 2:10:23 PM
Barium	0.030	0.020	mg/L	1	9/3/2008 2:10:23 PM
Cadmium	ND	0.0020	mg/L	1	9/3/2008 2:10:23 PM
Chromium	0.32	0.0060	mg/L	1	9/3/2008 2:10:23 PM
Lead	ND	0.0050	mg/L	1	9/3/2008 2:10:23 PM
Selenium	ND	0.25	mg/L	5	9/8/2008 1:05:09 PM
Silver	ND	0.0050	mg/L	1	9/3/2008 2:10:23 PM



- Value exceeds Maximum Contaminant Level
- Value above quantitation range Ε
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

**Date:** 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

000029

Refinery Wells - Annual 2008

Project: Lab ID:

0808297-01

Client Sample ID: MW #8

Collection Date: 8/18/2008 10:30:00 AM

**Date Received:** 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLAT	ILES				Analyst: JD0
Acenaphthene	ND	10	μg/L	1	8/24/2008
Acenaphthylene	ND	. 10	μg/L	1	8/24/2008
Aniline	ND	10	μg/L	1	8/24/2008
Anthracene	ND	10	μg/L	1	8/24/2008
Azobenzene	ND	10	µg/L	1	8/24/2008
Benz(a)anthracene	. ND	10	μg/L	1	8/24/2008
Benzo(a)pyrene	ND	10	µg/L	. 1	8/24/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/24/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/24/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/24/2008
Benzoic acid	ND	20	μg/L	1	8/24/2008
Benzyl alcohol	ND	10	μg/L	1	8/24/2008
Bis(2-chloroethoxy)methane	ND	10	µg/L	1	8/24/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/24/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/24/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/24/2008
4-Bromophenyl phenyl ether	ND	10	µg/L	1	8/24/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/24/2008
Carbazole	ND	10	μg/L	1	8/24/2008
4-Chloro-3-methylphenol	ND	10	µg/L	1	8/24/2008
4-Chloroaniline	ND	10	μg/L	1	8/24/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/24/2008
2-Chlorophenol	ND	10	μg/L	1	8/24/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/24/2008
Chrysene	ND	10	µg/L	· 1	8/24/2008
Di-n-butyl phthalate	ND	10	µg/L	1	8/24/2008
Di-n-octyl phthalate	ND	10	µg/L	1	8/24/2008
Dibenz(a,h)anthracene	ND	10	μg/L	√ 1	8/24/2008
Dibenzofuran	ND	10	μg/L	1	8/24/2008
1,2-Dichlorobenzene	ND	10	μg/L	1 ,	8/24/2008
1,3-Dichlorobenzene	ND	10	μg/L	1	8/24/2008
1,4-Dichlorobenzene	ND	10	µg/L	1	8/24/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/24/2008
Diethyl phthalate	ND	10	µg/L	1	8/24/2008
Dimethyl phthalate	ND	10	μg/L	1	8/24/2008
2,4-Dichlorophenol	NĐ	20	μg/L	. 1	8/24/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/24/2008
4,6-Dinitro-2-methylphenol	ND	20	μ <b>g</b> /L	1	8/24/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/24/2008
2,4-Dinitrotoluene	ND	10	µg/L	1	8/24/2008
2,6-Dinitrotoluene	ND	10	µg/L	1	8/24/2008
Fluoranthene	ND	10	μg/L	1	8/24/2008

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-01

Client Sample ID: MW #8

Collection Date: 8/18/2008 10:30:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES	·	<del> </del>				Analyst: JDC
Fluorene	ND	10		μg/L	1	8/24/2008
Hexachlorobenzene	ND	10		μg/L	1	8/24/2008
Hexachlorobutadiene	ND	10		μg/L	1	8/24/2008
Hexachlorocyclopentadiene	ND	10		μg/L	1	8/24/2008
Hexachloroethane	ND	10		μg/L	1	8/24/2008
Indeno(1,2,3-cd)pyrene	ND	10		μg/L	1	8/24/2008
Isophorone	ND	10		μg/L	1	8/24/2008
2-Methylnaphthalene	ND	10		μg/L	1	8/24/2008
2-Methylphenol	ND	10		µg/L	1	8/24/2008
3+4-Methylphenol	ND	10		μg/L	1	8/24/2008
N-Nitrosodi-n-propylamine	ND	10		μg/L	1	8/24/2008
N-Nitrosodimethylamine	ND	10		µg/L	1	8/24/2008
N-Nitrosodiphenylamine	ND	10		μg/L	1	8/24/2008
Naphthalene	ND	10		μg/L	1	8/24/2008
2-Nitroaniline	ND	10		μg/L	1	8/24/2008
3-Nitroaniline	ND	10		μg/L	1	8/24/2008
4-Nitroaniline	ND	10		μg/L	1	8/24/2008
Nitrobenzene	ND	10		μg/L	1	8/24/2008
2-Nitrophenol	ND	10		μg/L	1	8/24/2008
4-Nitrophenol	ND	10		μg/L	1	8/24/2008
Pentachlorophenol	ND	40		μg/L	1	8/24/2008
Phenanthrene	ND	10		μg/L	1	8/24/2008
Phenol	ND	10		µg/L	1	8/24/2008
Pyrene	ND	10		μg/L	1	8/24/2008
Pyridine	ND	10		μg/L	1	8/24/2008
1,2,4-Trichlorobenzene	ND	10		μg/L	1	8/24/2008
2,4,5-Trichlorophenol	ND	10		μg/L	1	8/24/2008
2,4,6-Trichlorophenol	ND	10		μg/L	1	8/24/2008
Surr: 2,4,6-Tribromophenol	24.4	16.6-150		%REC	1	8/24/2008
Surr: 2-Fluorobiphenyl	83.8	19.6-134		%REC	1	8/24/2008
Surr: 2-Fluorophenol	27.2	9.54-113		%REC	1	8/24/2008
Surr: 4-Terphenyl-d14	72.6	22.7-145		%REC	1	8/24/2008
Surr: Nitrobenzene-d5	76.2	14.6-134		%REC	1	8/24/2008
Surr: Phenol-d5	40.7	10.7-80.3		%REC	1	8/24/2008
EPA METHOD 8260B: VOLATILES						Analyst: <b>HL</b>
Benzene	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
Toluene	ND	1.0		µg/L	1	8/22/2008 11:05:14 AM
Ethylbenzene	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/22/2008 11:05:14 AM
1,2,4-Trimethylbenzene	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/22/2008 11:05:14 AM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 3 of 34

**Date:** 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

0000297

Refinery Wells - Annual 2008

Project: Lab ID:

0808297-01

Client Sample ID: MW #8

Collection Date: 8/18/2008 10:30:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qu	ual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
1,2-Dichloroethane (EDC)	*ND	1.0	μg/L	1	8/22/2008 11:05:14 AM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/22/2008 11:05:14 AM
Naphthalene	ND	2.0	μg/L	. 1	8/22/2008 11:05:14 AM
1-Methylnaphthalene	ND	4.0	μg/L	1	8/22/2008 11:05:14 AM
2-Methylnaphthalene	ND	4.0	μg/L	1 .	8/22/2008 11:05:14 AM
Acetone	ND	10	μg/L	1	8/22/2008 11:05:14 AM
Bromobenzene	.ND	1.0	μg/L	1	8/22/2008 11:05:14 AM
Bromodichloromethane	ND	1.0	μg/L	1	8/22/2008 11:05:14 AM
Bromoform	ND	1.0	μg/L	1	8/22/2008 11:05:14 AM
Bromomethane	ND	1.0	μg/L	1	8/22/2008 11:05:14 AM
2-Butanone	ND	10	μg/L	1	8/22/2008 11:05:14 AM
Carbon disulfide	, ND	10	μg/L	1	8/22/2008 11:05:14 AM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/22/2008 11:05:14 AM
Chlorobenzene	ND	1.0	μg/L	. 1	8/22/2008 11:05:14 AM
Chloroethane	ND	2.0	μg/L	1	8/22/2008 11:05:14 AM
Chloroform	ND ·	1.0	μg/L	1	8/22/2008 11:05:14 At
Chloromethane	ND	1.0	μg/L	1	8/22/2008 11:05:14 AI
2-Chlorotoluene	ND	1.0	μg/L	1	8/22/2008 11:05:14 AI
4-Chlorotoluene	ND	1.0	μg/L	1	. 8/22/2008 11:05:14 Al
cis-1,2-DCE	ND	1.0	μg/L	1	8/22/2008 11:05:14 AI
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 11:05:14 Al
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	8/22/2008 11:05:14 Al
Dibromochloromethane	ND	1.0	μg/L	1	8/22/2008 11:05:14 AI
Dibromomethane	ND	1.0	μg/L	1	8/22/2008 11:05:14 Al
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 11:05:14 Al
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 11:05:14 Al
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 11:05:14 A
Dichlorodifluoromethane	ND	1.0	µg/L	1	8/22/2008 11:05:14 A
1,1-Dichloroethane	ND	1.0	μg/L	1	8/22/2008 11:05:14 Al
1,1-Dichloroethene	ND	1.0	μg/L	1	8/22/2008 11:05:14 AI
1,2-Dichloropropane	, ND	1.0	μg/L	1	8/22/2008 11:05:14 Al
1,3-Dichloropropane	ND	1.0	μg/L	1	8/22/2008 11:05:14 Al
2,2-Dichloropropane	ND	2.0	μg/L	• 1	8/22/2008 11:05:14 A
1,1-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 11:05:14 A
Hexachlorobutadiene	ND	1.0	μg/L	1 .	8/22/2008 11:05:14 A
2-Hexanone	ND	10	μg/L	1	8/22/2008 11:05:14 A
Isopropylbenzene	ND	1.0	μg/L	1	8/22/2008 11:05:14 A
4-isopropyitoluene	ND	1.0	µg/L	1	8/22/2008 11:05:14 A
4-Methyl-2-pentanone	ND	10	μg/L	· 1	8/22/2008 11:05:14 A
Methylene Chloride	ND	3.0	μg/L	1	8/22/2008 11:05:14 A
n-Butylbenzene	ND	1.0	μg/L	1	8/22/2008 11:05:14 A
n-Propylbenzene	ND	. 1.0	μg/L	1	8/22/2008 11:05:14 Al

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

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Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Client Sample ID: MW #8

Collection Date: 8/18/2008 10:30:00 AM

Project:

Refinery Wells - Annual 2008

Date Received: 8/19/2008

Lab ID:

0808297-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
sec-Butylbenzene	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
Styrene	ND	1.0		µg/L	1	8/22/2008 11:05:14 AM
tert-Butylbenzene	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
1,1,1,2-Tetrachloroethane	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/22/2008 11:05:14 AM
Tetrachloroethene (PCE)	ND	1.0		μg/L	1	8/27/2008 3:36:29 PM
trans-1,2-DCE	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
trans-1,3-Dichloropropene	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
1,2,3-Trichlorobenzene	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
1,2,4-Trichlorobenzene	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/22/2008 11:05:14 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/22/2008 11:05:14 AM
Trichloroethene (TCE)	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
Trichlorofluoromethane	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
1,2,3-Trichloropropane	ND	2.0		μg/L	1	8/22/2008 11:05:14 AM
Vinyl chloride	ND	1.0		μg/L	1	8/22/2008 11:05:14 AM
Xylenes, Total	ND	1.5		µg/L	1	8/22/2008 11:05:14 AM
Surr: 1,2-Dichloroethane-d4	90.4	68.1-123		%REC	1	8/22/2008 11:05:14 AM
Surr: 4-Bromofluorobenzene	93.4	53.2-145		%REC	1	8/22/2008 11:05:14 AM
Surr: Dibromofluoromethane	94.4	68.5-119		%REC	1	8/22/2008 11:05:14 AM
Surr: Toluene-d8	97.0	64-131		%REC	1	8/22/2008 11:05:14 AM
SM 2320B: ALKALINITY						Analyst: <b>TA</b> F
Alkalinity, Total (As CaCO3)	230	40		mg/L CaCO3	2	8/22/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/22/2008
Bicarbonate	230	40		mg/L CaCO3	2	8/22/2008
TOTAL CARBON DIOXIDE CALCULATION	ON					Analyst: <b>TAF</b>
Total Carbon Dioxide	220	1.0		mg CO2/L	1	8/22/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

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Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

000029

Refinery Wells - Annual 2008

Project: Lab ID:

0808297-02

Client Sample ID: MW #29

Collection Date: 8/18/2008 11:10:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL (	ual Units	<b>DF</b>	Date Analyzed
EPA METHOD 300.0: ANIONS		<del>-</del>			Analyst: SLB
Fluoride	0.36	0.10	mg/L	1	8/19/2008 9:33:15 PM
Chloride	57	1.0	mg/L	10	8/19/2008 9:50:39 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/19/2008 9:33:15 PM
Bromide	0.40	0.10	mg/L	1	8/19/2008 9:33:15 PM
Nitrogen, Nitrate (As N)	0.99	0.10	mg/L	1	8/19/2008 9:33:15 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/19/2008 9:33:15 PM
Sulfate	160	5.0	mg/L	10	8/19/2008 9:50:39 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Client Sample ID: MW #29

Collection Date: 8/18/2008 11:10:00 AM

Project:

Refinery Wells - Annual 2008

Date Received: 8/19/2008

Lab ID:

0808297-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/21/2008 9:14:22 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/21/2008 9:14:22 PM
Surr: DNOP	138	58-140	%REC	1	8/21/2008 9:14:22 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/28/2008 1:14:14 PM
Surr: BFB	79.7	79.2-121	%REC	1	8/28/2008 1:14:14 PM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.36	0.10	mg/L	1	8/19/2008 9:33:15 PM
Chloride	57	1.0	mg/L	10	8/19/2008 9:50:39 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/19/2008 9:33:15 PM
Nitrogen, Nitrate (As N)	0.99	. 0.10	mg/L	1	8/19/2008 9:33:15 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/19/2008 9:33:15 PM
Sulfate	160	5.0	mg/L	10	8/19/2008 9:50:39 PM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	9/2/2008 2:06:01 PM
EPA METHOD 6010B: DISSOLVED M	ETALS		•		Analyst: TES
Arsenic	ND	0.020	mg/L	1	9/5/2008 11:51:06 AM
Barium	ND	0.020	mg/L	1	9/5/2008 11:51:06 AM
Cadmium	ND	0.0020	mg/L	1	9/5/2008 11:51:06 AM
Chromium	ND	0.0060	mg/L	1	9/5/2008 11:51:06 AM
Copper	ND	0.0060	mg/L	1	9/5/2008 11:51:06 AM
Iron	ND	0.020	mg/L	1	9/5/2008 11:51:06 AM
Lead	ND	0.0050	mg/L	1	9/5/2008 11:51:06 AM
Manganese	0.97	0.0020	mg/L	1	9/5/2008 11:51:06 AM
Selenium	ND	0.25	mg/L	5	9/8/2008 1:09:37 PM
Silver	ND	0.0050	mg/L	1	9/5/2008 11:51:06 AM
Zinc	0.059	0.050	mg/L	1	9/5/2008 11:51:06 AM
EPA 6010B: TOTAL RECOVERABLE	METALS				Analyst: TES
Arsenic .	ND	0.020	mg/L	1	9/3/2008 2:14:10 PM
Barium	0.072	0.020	mg/L	1	9/3/2008 2:14:10 PM
Cadmium	ND	0.0020	mg/L	1	9/3/2008 2:14:10 PM
Chromium	ND	0.0060	mg/L	1	9/3/2008 2:14:10 PM
Lead	ND	0.0050	mg/L	1	9/3/2008 2:14:10 PM
Selenium	ND	0.050	mg/L	1	9/3/2008 2:14:10 PM
Silver	ND	0.0050	mg/L .	1	9/3/2008 2:14:10 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range

**EPA METHOD 8270C: SEMIVOLATILES** 

- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

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Analyst: JDC

Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

Refinery Wells - Annual 2008

Project: Lab ID:

0808297-02

Client Sample ID: MW #29

Collection Date: 8/18/2008 11:10:00 AM

**Date Received:** 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
PA METHOD 8270C: SEMIVOLAT	ILES				Analyst: JD0
Acenaphthene	ND	10	μg/L	1	8/24/2008
Acenaphthylene	· ND	10	μg/L	1	8/24/2008
Aniline	ND	10	µg/L	1 ·	8/24/2008
Anthracene	ND	. 10	μg/L	1	8/24/2008
Azobenzene	ND	10	μg/L	1	8/24/2008
Benz(a)anthracene	ND .	10	µg/L	1	8/24/2008
Benzo(a)pyrene	ND	10	μg/L	. 1	8/24/2008
Benzo(b)fluoranthene	ND	10	µg/L	1	8/24/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/24/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/24/2008
Benzoic acid	ND ·	20	µg/L	1	8/24/2008
Benzyl alcohol	ND	10	µg/L	1	8/24/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/24/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/24/2008
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1	8/24/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/24/2008
4-Bromophenyl phenyl ether	ND	10	µg/L	1 .	8/24/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/24/2008
Carbazole	ND	10	µg/L	1	8/24/2008
4-Chloro-3-methylphenol	ND	10	µg/L	1	8/24/2008
4-Chloroaniline	ND	10	μg/L	1	8/24/2008
2-Chloronaphthalene	ND	10	µg/L	1	8/24/2008
2-Chlorophenol	ND	10	µg/L	· 1	8/24/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/24/2008
Chrysene	ND	10	μg/L	1	8/24/2008
Di-n-butyl phthalate	ND	10	µg/L	1	8/24/2008
Di-n-octyl phthalate	ND .	10	μg/L	1	8/24/2008
Dibenz(a,h)anthracene	ND	10	μg/L	. 1	8/24/2008
Dibenzofuran	ND	10	µg/L	1	8/24/2008
1,2-Dichlorobenzene	ND	10	µg/L	1	8/24/2008 .
1,3-Dichlorobenzene	. ND	10	µg/L	1	8/24/2008
1,4-Dichlorobenzene	ND .	10	μg/L	1	8/24/2008
3,3'-Dichlorobenzidine	ND	10	µg/L	1	8/24/2008
Diethyl phthalate	ND	10	μg/L .	1	8/24/2008
Dimethyl phthalate	ND	10	μg/L	1	8/24/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/24/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/24/2008
4,6-Dinitro-2-methylphenol	ND	. 20	μg/L	, 1	8/24/2008
2,4-Dinitrophenol	ND	` 20	µg/L	1 .	8/24/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/24/2008
2,6-Dinitrotoluene	ND	10	µg/L	1 .	8/24/2008
Fluoranthene	ND	10	μg/L	1	8/24/2008

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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**Date:** 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-02

Client Sample ID: MW #29

Collection Date: 8/18/2008 11:10:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S					Analyst: JD0
Fluorene	ND	10	i	µg/L	1	8/24/2008
Hexachlorobenzene	ND	10		µg/L	1	8/24/2008
Hexachlorobutadiene	ND	10		μg/L	1	8/24/2008
Hexachlorocyclopentadiene	ND	10	j	µg/L	1	8/24/2008
Hexachloroethane	ND	10	. 1	ug/L	1	8/24/2008
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	8/24/2008
Isophorone	ND	10	ļ	µg/L	1	8/24/2008
2-Methylnaphthalene	ND	10	i	µg/L	1	8/24/2008
2-Methylphenol	ND	10	}	µg/L	1	8/24/2008
3+4-Methylphenol	ND	10	ļ	ug/L	1	8/24/2008
N-Nitrosodi-n-propylamine	ND	10	ŀ	ug/L	1	8/24/2008
N-Nitrosodimethylamine	ND	10	ļ	ug/L	1	8/24/2008
N-Nitrosodiphenylamine	ND	10	ŀ	ug/L	1	8/24/2008
Naphthalene	ND	10	ļ	ug/L	1	8/24/2008
2-Nitroaniline	ND	10	ŀ	ug/L	1	8/24/2008
3-Nitroaniline	ND	10	1	ug/L	1	8/24/2008
4-Nitroaniline	ND	10	į.	ug/L	1	8/24/2008
Nitrobenzene	ND	10		ug/L	1	8/24/2008
2-Nitrophenol	ND	10	Ļ	ug/L	1	8/24/2008
4-Nitrophenol	ND	10	ŀ	Jg/L	1	8/24/2008
Pentachlorophenol	ND	40	ŀ	ug/L	1	8/24/2008
Phenanthrene	ND	10	ŀ	ug/L	1	8/24/2008
Phenol	ND	10	Ļ	ıg/L	1	8/24/2008
Pyrene	ND	10	1	ıg/L	1	8/24/2008
Pyridine	ND	10	Ļ	ıg/L	1	8/24/2008
1,2,4-Trichlorobenzene	ND	10		Jg/L	1	8/24/2008
2,4,5-Trichlorophenol	ND	10	١	ıg/L	1	8/24/2008
2,4,6-Trichlorophenol	ND	10	٢	ıg/L	1	8/24/2008
Surr: 2,4,6-Tribromophenol	75.5	16.6-150	9	%REC	1	8/24/2008
Surr: 2-Fluorobiphenyl	85.0	19.6-134	9	%REC	1	8/24/2008
Surr: 2-Fluorophenol	62.3	9.54-113	9	%REC	1	8/24/2008
Surr: 4-Terphenyl-d14	64.1	22.7-145	9	%REC	1	8/24/2008
Surr: Nitrobenzene-d5	83.0	14.6-134	9	%REC	1	8/24/2008
Surr: Phenol-d5	49.1	10.7-80.3	9,	%REC	1	8/24/2008
EPA METHOD 8260B: VOLATILES						Analyst: HL
Benzene	ND	1.0	μ	ıg/L	1	8/22/2008 11:33:54 AN
Toluene	ND	1.0		ıg/L	1	8/22/2008 11:33:54 AN
Ethylbenzene	ND	1.0		ıg/L	1	8/22/2008 11:33:54 AN
Methyl tert-butyl ether (MTBE)	1.0	1.0		ıg/L	1	8/22/2008 11:33:54 AN
1,2,4-Trimethylbenzene	ND	1.0		ıg/L	1	8/22/2008 11:33:54 AN
1,3,5-Trimethylbenzene	ND	1.0		ıg/L	1	8/22/2008 11:33:54 AN

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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**Date:** 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-02

Client Sample ID: MW #29

Collection Date: 8/18/2008 11:10:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
1,2-Dichloroethane (EDC)	, ND	1.0	µg/L	1	8/22/2008 11:33:54 AM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/22/2008 11:33:54 AM
Naphthalene	ND	2.0	μg/L	· 1	8/22/2008 11:33:54 AM
1-Methylnaphthalene	ND	4.0	μg/L	1	8/22/2008 11:33:54 AM
2-Methylnaphthalene	ND	4.0	μg/L	. 1	8/22/2008 11:33:54 AM
Acetone	· ND	10	μg/L	1	8/22/2008 11:33:54 AM
Bromobenzene	ND	1.0	μg/L	, 1	8/22/2008 11:33:54 AM
Bromodichloromethane	ND	1.0	μg/L	1	8/22/2008 11:33:54 AM
Bromoform	ND	1.0	μg/L	1	8/22/2008 11:33:54 AM
Bromomethane	ND	1.0	μg/L	1	8/22/2008 11:33:54 AM
2-Butanone	ND	10	μg/L	1	8/22/2008 11:33:54 Al
Carpon disulfide	ND	10	μg/L	1	8/22/2008 11:33:54 Al
Carbon Tetrachloride	ND	1.0	μg/L	1	8/22/2008 11:33:54 Al
Chlorobenzene	ND	1.0	μg/L	1	8/22/2008 11:33:54 Al
Chloroethane	ND	2.0	μg/L	1	8/22/2008 11:33:54 Al
Chloroform	ND	1.0	μg/L	1 .	8/22/2008 11:33:54 Af
Chloromethane	ND	1.0	μg/L	1	8/22/2008 11:33:54 A
2-Chlorotoluene	ND	1.0	μg/L	1	8/22/2008 11:33:54 Al
4-Chlorotoluene	ND	1.0	μg/L	, <u>i</u>	8/22/2008 11:33:54 Al
cis-1,2-DCE	ND	1.0	μg/L	1	8/22/2008 11:33:54 A
cis-1,3-Dichloropropene	. ND	1.0	μg/L	1	8/22/2008 11:33:54 A
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	8/22/2008 11:33:54 Al
Dibromochloromethane	ND	1.0	μ <b>g</b> /L	1	8/22/2008 11:33:54 Al
Dibromomethane	ND	1.0	μg/L	1	8/22/2008 11:33:54 Al
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 11:33:54 Al
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 11:33:54 AI
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 11:33:54 Al
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/22/2008 11:33:54 Al
1,1-Dichloroethane	ND	1.0	μg/L	1	8/22/2008 11:33:54 Al
1,1-Dichloroethene	ND	1.0	μg/L	1 .	8/22/2008 11:33:54 Al
1,2-Dichloropropane	ND	1.0	μg/L	1	8/22/2008 11:33:54 Al
1,3-Dichloropropane	ND	1.0	μg/L	1.1	8/22/2008 11:33:54 AI
2,2-Dichloropropane	ND	2.0	µg/L	1	8/22/2008 11:33:54 Al
1,1-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 11:33:54 AI
Hexachlorobutadiene	ND	1.0	μg/L	1	8/22/2008 11:33:54 Al
2-Hexanone	ND	10	μg/L	. 1	8/22/2008 11:33:54 A
Isopropylbenzene	ND	1.0	μg/L	1	8/22/2008 11:33:54 A
4-Isopropyltoluene	ND	1.0	μg/L	. 1	8/22/2008 11:33:54 A
4-Methyl-2-pentanone	ND	10	µg/L	1	8/22/2008 11:33:54 A
Methylene Chloride	ND	3.0	μg/L	. 1	8/22/2008 11:33:54 AI
n-Butylbenzene	ND	1.0	μg/L	1	8/22/2008 11:33:54 Al
n-Propylbenzene	ND	1.0	µg/L	1	8/22/2008 11:33:54 A

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

0000277

Project: Lab ID: Refinery Wells - Annual 2008

0808297-02

Client Sample ID: MW #29

Collection Date: 8/18/2008 11:10:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
sec-Butylbenzene	ND	1.0		μg/L	1	8/22/2008 11:33:54 AM
Styrene	ND	. 1.0		μg/L	1	8/22/2008 11:33:54 AM
tert-Butylbenzene	ND	1.0		µg/L	1	8/22/2008 11:33:54 AM
1,1,1,2-Tetrachloroethane	ND	1.0		μg/L	1	8/22/2008 11:33:54 AM
1,1,2,2-Tetrachloroethane	ND	2.0		μg/L	1	8/22/2008 11:33:54 AM
Tetrachloroethene (PCE)	ND	1.0		μg/L	1	8/27/2008 4:05:13 PM
trans-1,2-DCE	ND	1.0		μg/L	1	8/22/2008 11:33:54 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/22/2008 11:33:54 AM
1,2,3-Trichlorobenzene	ND	1.0		μg/L	1	8/22/2008 11:33:54 AM
1,2,4-Trichlorobenzene	ND	1.0		μg/L	1	8/22/2008 11:33:54 AM
1,1,1-Trichloroethane	ND	1.0		μg/L	1	8/22/2008 11:33:54 AM
1,1,2-Trichloroethane	ND	1.0		μg/L	1	8/22/2008 11:33:54 AM
Trichloroethene (TCE)	ND ·	1.0		μg/L	1	8/22/2008 11:33:54 AM
Trichlorofluoromethane	ND	1.0		μg/L	1	8/22/2008 11:33:54 AM
1,2,3-Trichloropropane	ND	2.0		μg/L	1	8/22/2008 11:33:54 AM
Vinyl chloride	ND	1.0		μg/L	1	8/22/2008 11:33:54 AM
Xylenes, Total	ND	1.5		μg/L	1	8/22/2008 11:33:54 AM
Surr: 1,2-Dichloroethane-d4	93.0	68.1-123		%REC	1	8/22/2008 11:33:54 AM
Surr: 4-Bromofluorobenzene	98.3	53.2-145		%REC	1	8/22/2008 11:33:54 AM
Surr: Dibromofluoromethane	93.2	68.5-119		%REC	1	8/22/2008 11:33:54 AM
Surr: Toluene-d8	97.3	64-131		%REC	1	8/22/2008 11:33:54 AM
SM 2320B: ALKALINITY						Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	210	40		mg/L CaCO3	2	8/22/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/22/2008
Bicarbonate	210	40		mg/L CaCO3	2	8/22/2008
TOTAL CARBON DIOXIDE CALCULATION	N					Analyst: TAF
Total Carbon Dioxide	200	1.0		mg CO2/L	1	8/22/2008

Qua	lif	ĭer	s
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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-03

Client Sample ID: Field Blank

Collection Date: 8/18/2008 12:20:00 PM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
Benzene	ND	1.0	μg/L	· 1	8/22/2008 12:02:36 PM
Toluene	, ND	1.0	µg/L	1	8/22/2008 12:02:36 PM
Ethylbenzene	ND	1.0	µg/L	1	8/22/2008 12:02:36 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1	8/22/2008 12:02:36 PM
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,2-Dichloroethane (EDC)	, ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
Naphthalene	ND	2.0	μg/L	1	8/22/2008 12:02:36 PM
1-Methylnaphthalene	ND	4.0	μg/L	1	8/22/2008 12:02:36 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/22/2008 12:02:36 PM
Acetone	ND	10	μg/L	1	8/22/2008 12:02:36 PM
Bromobenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
Bromodichloromethane	1:.2	1.0	μg/L .	1	8/22/2008 12:02:36 PM
Bromoform	ND	1.0	μg/L	· 1	8/22/2008 12:02:36 PM
Bromomethane	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
2-Butanone	ND	10	μg/L	1	8/22/2008 12:02:36 PM
Carbon disulfide	ND	10	μg/L	1	8/22/2008 12:02:36 PM
Carbon Tetrachloride	ND	1.0	µg/L	1	8/22/2008 12:02:36 PM
Chlorobenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
Chloroethane	ND	2.0	μg/L	1	8/22/2008 12:02:36 PM
Chloroform	11	1.0	μg/L	1	8/22/2008 12:02:36 PM
Chloromethane	ND	1.0	µg/L	1	8/22/2008 12:02:36 PM
2-Chlorotoluene	ND	1.0	µg/L	1	8/22/2008 12:02:36 PM
4-Chlorotoluene	ND	1.0	µg/L	1	8/22/2008 12:02:36 PN
cis-1,2-DCE	ND	. 1.0	μg/L	1	8/22/2008 12:02:36 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1.	8/22/2008 12:02:36 PM
Dibromochloromethane	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
Dibromomethane	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1 .	8/22/2008 12:02:36 PM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PN
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/22/2008 12:02:36 PN
1,1-Dichloroethane	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PN
1,2-Dichloropropane	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
2,2-Dichloropropane	ND	2.0	μg/L	. 1	8/22/2008 12:02:36 PM
1,1-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PN
Hexachlorobutadiene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
2-Hexanone	ND	· 10	μg/L	1	8/22/2008 12:02:36 PM

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-03

Client Sample ID: Field Blank

Collection Date: 8/18/2008 12:20:00 PM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
Isopropylbenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
4-Isopropyltoluene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
4-Methyl-2-pentanone	ND ·	10	μg/L	1	8/22/2008 12:02:36 PM
Methylene Chloride	ND	3.0	μg/L	1	8/22/2008 12:02:36 PM
n-Butylbenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
n-Propylbenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
sec-Butylbenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
Styrene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
tert-Butylbenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,1,1,2-Tetrachioroethane	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	8/22/2008 12:02:36 PM
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/27/2008 4:33:55 PM
trans-1,2-DCE	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/22/2008 12:02:36 PM
Trichlorofluoromethane	ND	1.0	µg/L	1	8/22/2008 12:02:36 PM
1,2,3-Trichloropropane	ND	2.0	µg/L	1	8/22/2008 12:02:36 PM
Vinyl chloride	ND	1.0	μg/L	. 1	8/22/2008 12:02:36 PM
Xylenes, Total	ND	1.5	μg/L	1	8/22/2008 12:02:36 PM
Surr: 1,2-Dichloroethane-d4	93.2	68.1-123	%REC	1	8/22/2008 12:02:36 PM
Surr: 4-Bromofluorobenzene	108	53.2-145	%REC	1	8/22/2008 12:02:36 PM
Surr: Dibromofluoromethane	97.3	68.5-119	%REC	1	8/22/2008 12:02:36 PM
Surr: Toluene-d8	98.1	64-131	%REC	1	8/22/2008 12:02:36 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 11-Dec-08

CLIENT: Lab Order:

Project:

Lab ID:

Western Refining Southwest, Inc.

0808297

0808297-04

Refinery Wells - Annual 2008

Collection Date: 8/18/2008 12:30:00 PM

Date Received: 8/19/2008

Client Sample ID: MW #30

Matrix: AQUEOUS

Analyses	Result	PQL Qua	I Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS		<del></del>			: Analyst: SLB
Fluoride	0,15	0.10	mg/L	1	8/19/2008 11:17:41 PM
Chloride	210	1.0	mg/L	10 -	8/19/2008 11:35:06 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/19/2008 11:17:41 PM
Bromide	5.6	1.0	mg/L	10	8/19/2008 11:35:06 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/19/2008 11:17:41 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L .	1	8/19/2008 11:17:41 PM
Sulfate	12	0.50	mg/L	1	8/19/2008 11:17:41 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

Refinery Wells - Annual 2008

Project: Lab ID:

0808297-04

Client Sample ID: MW #30

Collection Date: 8/18/2008 12:30:00 PM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG				·	Analyst: SCC
Diesel Range Organics (DRO)	6.3	1.0	mg/L	1	8/21/2008 9:48:25 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/21/2008 9:48:25 PM
Surr: DNOP	136	58-140	%REC	1	8/21/2008 9:48:25 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	80	2.5	mg/L	50	8/28/2008 1:44:50 PM
Surr: BFB	104	79.2-121	%REC	50	8/28/2008 1:44:50 PM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.15	0.10	mg/L	1	8/19/2008 11:17:41 PM
Chloride	210	1.0	mg/L	10	8/19/2008 11:35:06 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/19/2008 11:17:41 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/19/2008 11:17:41 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/19/2008 11:17:41 PM
Sulfate	12	0.50	mg/L	1	8/19/2008 11:17:41 PM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	<b>N</b> D	0.00020	mg/L	1	9/2/2008 2:07:48 PM
EPA METHOD 6010B: DISSOLVED MI	ETALS				Analyst: <b>TES</b>
Arsenic	ND	0.020	mg/L	1	9/5/2008 11:54:12 AM
Barium	0.72	0.020	mg/L	1	9/5/2008 11:54:12 AM
Cadmium	ND	0.0020	mg/L	1 .	9/5/2008 11:54:12 AM
Chromium	ND	0.0060	mg/L	1	9/5/2008 11:54:12 AM
Copper	ND	0.0060	mg/L	1	9/5/2008 11:54:12 AM
Iron	0.37	0.020	mg/L	1	9/5/2008 11:54:12 AM
Lead	ND	0.0050	mg/L	1	9/5/2008 11:54:12 AM
Manganese	1.7	0.010	mg/L	5	9/5/2008 1:28:31 PM
Selenium	ND	0.25	mg/L	5	9/5/2008 1:28:31 PM
Silver	ND	0.0050	mg/L	1	9/5/2008 11:54:12 AM
Zinc	ND	0.050	mg/L	1	9/5/2008 11:54:12 AM
EPA 6010B: TOTAL RECOVERABLE I	METALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	9/3/2008 2:17:03 PM
Barium	0.73	0.020	mg/L	1	9/3/2008 2:17:03 PM
Cadmium	ND	0.0020	mg/L	1	9/3/2008 2:17:03 PM
Chromium	ND	0.0060	mg/L	1	9/3/2008 2:17:03 PM
Lead	ND	0.0050	mg/L	1	9/3/2008 2:17:03 PM
Selenium	ND	0.050	mg/L	4	9/3/2008 2:17:03 PM
Silver	ND	0.0050	mg/L	1	9/3/2008 2:17:03 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range

**EPA METHOD 8270C: SEMIVOLATILES** 

- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

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Analyst: JDC

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-04

Client Sample ID: MW #30

Collection Date: 8/18/2008 12:30:00 PM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES	S		· · · · · · · · · · · · · · · · · · ·	· - · · · · · · · · · · · · · · · · · ·	Analyst: JD0
Acenaphthene	ND	10	μg/L	1	8/24/2008
Acenaphthylene	ND	10	µg/L	1	8/24/2008
Aniline	ND.	10	μg/L	1 .	8/24/2008
Anthracene	ND	10	µg/L	1 '	8/24/2008
Azobenzene	ND	10	µg/L	1	8/24/2008
Benz(a)anthracene	ND	10	µg/L	1	8/24/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/24/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/24/2008
Benzo(g,h,i)perylene	ND	10	µg/L	1	8/24/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/24/2008
Benzoic acid	ND	20	μg/L	1	8/24/2008
Benzyl alcohol	ND	10	μg/L	1	8/24/2008
Bis(2-chloroethoxy)methane	· ND	10	μg/L	1 ;	8/24/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/24/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/24/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/24/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/24/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/24/2008
Carbazole	ND	10	μg/L	1	8/24/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/24/2008
4-Chloroaniline	ND	10	μg/L	1	8/24/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/24/2008
2-Chlorophenol	ND	10	µg/L	1	8/24/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/24/2008
Chrysene	ND	10	μg/L	1	8/24/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/24/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/24/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/24/2008
Dibenzofuran	ND	10	μg/L	1	8/24/2008
1,2-Dichlorobenzene	ND	10	μg/L	1	8/24/2008
1,3-Dichlorobenzene	ND	10	µg/L	1	8/24/2008
1,4-Dichlorobenzene	, ND	10	μg/L	1	8/24/2008
3,3´-Dichlorobenzidine	ND	10	μg/L	1	8/24/2008
Diethyl phthalate	ND	10	μg/L	1	8/24/2008
Dimethyl phthalate	ND	10	μg/L	1	8/24/2008
2,4-Dichlorophenol	ND	20	µg/L	1	8/24/2008
2,4-Dimethylphenol	19	10	μg/L	1	8/24/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/24/2008
2,4-Dinitrophenol	ND	20	µg/L	1	8/24/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/24/2008
2,6-Dinitrotoluene	ND	10	µg/L	1	8/24/2008
Fluoranthene	ND	10	μg/L	1	8/24/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Page 14 of 34

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

Client Sample ID: MW #30

0808297

Collection Date: 8/18/2008 12:30:00 PM

Project:

Refinery Wells - Annual 2008

Date Received: 8/19/2008

Lab ID: 0808297-04 Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S				Analyst: JD0
Fluorene	ND	10	μg/L	1	8/24/2008
Hexachlorobenzene	NĐ	10	μg/L	1	8/24/2008
Hexachlorobutadiene	ND	10	µg/L	1	8/24/2008
Hexachlorocyclopentadiene	ND	10	µg/L	1	8/24/2008
Hexachloroethane	ND	10	μg/L	1	8/24/2008
Indeno(1,2,3-cd)pyrene	ND	· 10	μg/L	1	8/24/2008
Isophorone	ND	10	μg/L	1	8/24/2008
2-Methylnaphthalene	210	10	μg/L	1	8/24/2008
2-Methylphenol	ND	10	μg/L	1	8/24/2008
3+4-Methylphenol	25	10	μg/L	1	8/24/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	1	8/24/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/24/2008
N-Nitrosodiphenylamine,	ND	10	μg/L	1	8/24/2008
Naphthalene	590	50	μg/L	5	8/26/2008
2-Nitroaniline	ND	10	μg/L	1	8/24/2008
3-Nitroaniline	ND	10	μg/L	1	8/24/2008
4-Nitroaniline	ND	10	µg/L	1	8/24/2008
Nitrobenzene	ND	10	· μg/L	1	8/24/2008
2-Nitrophenol	ND	10	μg/L	1	8/24/2008
4-Nitrophenol	ND	10	µg/L	1	8/24/2008
Pentachlorophenol	ND	40	µg/L	1	8/24/2008
Phenanthrene	ND	10	μg/L	1	8/24/2008
Phenol	ND	10	μg/L	1	8/24/2008
Pyrene	ND	10	μg/L	1	8/24/2008
Pyridine	ND	10	µg/L	1	8/24/2008
1,2,4-Trichlorobenzene	ND	10	µg/L	1	8/24/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/24/2008
2,4,6-Trichlorophenol	ND	10	µg/L	1	8/24/2008
Surr: 2,4,6-Tribromophenol	76.5	16.6-150	%REC	1	8/24/2008
Surr: 2-Fluorobiphenyl	79.6	19.6-134	%REC	1	8/24/2008
Surr: 2-Fluorophenol	48.1	9.54-113	%REC	1	8/24/2008
Surr: 4-Terphenyl-d14	46.7	22.7-145	%REC	1	8/24/2008
Surr: Nitrobenzene-d5	84.4	14.6-134	%REC	1	8/24/2008
Surr: Phenol-d5	45.6	10.7-80.3	%REC	1	8/24/2008
PA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	6700	100	μg/L	100	8/22/2008 12:32:35 PM
Toluene	6700	100	μ <b>g</b> /L	100	8/22/2008 12:32:35 PM
Ethylbenzene	4500	100	μg/L	100	8/22/2008 12:32:35 PN
Methyl tert-butyl ether (MTBE)	ND	100	μg/L	100	8/22/2008 12:32:35 PN
1,2,4-Trimethylbenzene	4500	100	μg/L	100	8/22/2008 12:32:35 PN
1,3,5-Trimethylbenzene	950	100	μg/L	100	8/22/2008 12:32:35 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

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Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-04

Client Sample ID: MW #30

Collection Date: 8/18/2008 12:30:00 PM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	<b>DF</b>	Date Analyzed
EPA METHOD 8260B: VOLATILES			···· ·· · · · · · · · · · · · · · · ·		Analyst: HL
1,2-Dichloroethane (EDC)	ND	100	μg/L	100	8/22/2008 12:32:35 PN
1,2-Dibromoethane (EDB)	ND	100	μg/L	100	8/22/2008 12:32:35 PN
Naphthalene	950	200	μg/L	100	8/22/2008 12:32:35 PN
1-Methylnaphthalene	ND	400	μg/L	100	8/22/2008 12:32:35 PN
2-Methylnaphthalene	ND	400	μg/L	100	8/22/2008 12:32:35 PN
Acetone	ND	1000	μg/L	100	8/22/2008 12:32:35 PN
Bromobenzene	ND	100	μg/L	100	8/22/2008 12:32:35 PM
Bromodichloromethane	ND	100	μg/L	100	8/22/2008 12:32:35 PN
Bromoform	ND	100	μg/L	100	8/22/2008 12:32:35 PN
Bromomethane	ND	100	μg/L	100	8/22/2008 12:32:35 PM
2-Butanone	ND	1000	μg/L	100	8/22/2008 12:32:35 PN
Carbon disulfide	ND	1000	μg/L	100	8/22/2008 12:32:35 PN
Carbon Tetrachloride	ND	100	μg/L	100	8/22/2008 12:32:35 PN
Chlorobenzene	ND	100	μg/L	100	8/22/2008 12:32:35 PN
Chloroethane	ND	200	μg/L	100	8/22/2008 12:32:35 PN
Chloroform	ND	100	μg/L	100	8/22/2008 12:32:35 PN
Chloromethane	ND	100	μg/L	100	8/22/2008 12:32:35 PM
2-Chlorotoluene	ND	100	μg/L	100	8/22/2008 12:32:35 PM
4-Chlorotoluene	ND	100	μg/L	100	8/22/2008 12:32:35 PM
cis-1,2-DCE	ND	100	μg/L	100	8/22/2008 12:32:35 PM
cis-1,3-Dichloropropene	ND	100	μg/L	100	8/22/2008 12:32:35 PM
1,2-Dibromo-3-chloropropane	ND	200	μg/L	100	8/22/2008 12:32:35 PM
Dibromochloromethane	· ND	100	μg/L	100	8/22/2008 12:32:35 PM
Dibromomethane	ND	100	μg/L	100	8/22/2008 12:32:35 PN
1,2-Dichlorobenzene	ND	100	μg/L	100	8/22/2008 12:32:35 PM
1,3-Dichlorobenzene	ND	100	μg/L	100	8/22/2008 12:32:35 PM
1,4-Dichlorobenzene	ND	100	μg/L	100	8/22/2008 12:32:35 PM
Dichlorodifluoromethane	ND	100	μg/L	100	8/22/2008 12:32:35 PM
1.1-Dichloroethane	ND	100	μg/L	100	8/22/2008 12:32:35 PM
1,1-Dichloroethene	ND	100	μg/L	100	8/22/2008 12:32:35 PM
1,2-Dichloropropane	ND	100	μg/L	100	8/22/2008 12:32:35 PM
1,3-Dichloropropane	ND	100	μg/L	100	8/22/2008 12:32:35 PM
2,2-Dichloropropane	ND	200	μg/L	100	8/22/2008 12:32:35 PM
1,1-Dichloropropene	ND	100	μg/L	100	8/22/2008 12:32:35 PM
Hexachlorobutadiene	ND	100	μg/L	100	8/22/2008 12:32:35 PM
2-Hexanone	ND	1000	μg/L	100	8/22/2008 12:32:35 PM
Isopropylbenzene	150	100	μg/L	100	8/22/2008 12:32:35 PM
4-Isopropyltoluene	ND	100	µg/L	100	8/22/2008 12:32:35 PM
4-Methyl-2-pentanone	ND	1000	µg/L	100	8/22/2008 12:32:35 PM
Methylene Chloride	ND	300	μg/L	100	8/22/2008 12:32:35 PM
n-Butylbenzene	140	100	µg/L	100	8/22/2008 12:32:35 PM
n-Propylbenzene	610	100	μg/L	100	8/22/2008 12:32:35 PM

### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Project: F

Refinery Wells - Annual 2008

Lab ID:

0808297-04

Client Sample ID: MW #30

Collection Date: 8/18/2008 12:30:00 PM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES			· · · · · · · · · · · · · · · · · · ·			Analyst: HL
sec-Butylbenzene	ND	100		μg/L	100	8/22/2008 12:32:35 PM
Styrene	ND	100		μg/L	100	8/22/2008 12:32:35 PM
tert-Butylbenzene	ND	100		μg/L	100	8/22/2008 12:32:35 PM
1,1,1,2-Tetrachioroethane	ND	100		μg/L	100	8/22/2008 12:32:35 PM
1,1,2,2-Tetrachloroethane	ND	200		µg/L	100	8/22/2008 12:32:35 PM
Tetrachloroethene (PCE)	ND	100		μg/L	100	8/27/2008 5:03:53 PM
trans-1,2-DCE	ND	100		μg/L	100	8/22/2008 12:32:35 PM
trans-1,3-Dichloropropene	ND	100		μg/L	100	8/22/2008 12:32:35 PM
1,2,3-Trichlorobenzene	ND	100		μg/L	100	8/22/2008 12:32:35 PM
1,2,4-Trichlorobenzene	ND	100		μg/L	100	8/22/2008 12:32:35 PM
1,1,1-Trichloroethane	ND	100		μg/L	100	8/22/2008 12:32:35 PM
1,1,2-Trichloroethane	ND	100		μg/L	100	8/22/2008 12:32:35 PM
Trichloroethene (TCE)	ND	100		μg/L	100	8/22/2008 12:32:35 PM
Trichlorofluoromethane	ND	100		μg/L	100	8/22/2008 12:32:35 PM
1,2,3-Trichloropropane	ND	200		μg/L	100	8/22/2008 12:32:35 PM
Vinyl chloride	ND	100		μg/L	100	8/22/2008 12:32:35 PM
Xylenes, Total	18000	150		μg/L	100	8/22/2008 12:32:35 PM
Surr: 1,2-Dichloroethane-d4	93.3	68.1-123		%REC	100	8/22/2008 12:32:35 PM
Surr: 4-Bromofluorobenzene	93.0	53.2-145		%REC	100	8/22/2008 12:32:35 PM
Surr: Dibromofluoromethane	94.3	68.5-119		%REC	100	8/22/2008 12:32:35 PM
Surr: Toluene-d8	102	64-131		%REC	100	8/22/2008 12:32:35 PM
SM 2320B: ALKALINITY						Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	1400	40		mg/L CaCO3	2	8/22/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/22/2008
Bicarbonate	1400	40		mg/L CaCO3	2	8/22/2008
TOTAL CARBON DIOXIDE CALCULATION						Analyst: TAF
Total Carbon Dioxide	1500	1.0		mg CO2/L	1	8/22/2008

Value exceeds Maximum Contaminant Level

RL Reporting Limit

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

Client Sample ID: RW #1

Date Received: 8/19/2008

Project:

Refinery Wells - Annual 2008

**Collection Date:** 8/18/2008 9:15:00 AM

Lab ID:

0808297-05

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.31	0.10	mg/L	1	8/19/2008 11:52:31 PM
Chloride	250	1.0	mg/L	10	8/20/2008 12:09:55 AM
Nitrogen, Nitrite (As N)	. ND	0.10	mg/L	1	8/19/2008 11:52:31 PM
Bromide	2.3	0.10	mg/L	1	8/19/2008 11:52:31 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/19/2008 11:52:31 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/19/2008 11:52:31 PM
Sulfate	10	0.50	mg/L	<u> </u>	8/19/2008 11:52:31 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
  - S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: RW #1

Lab Order:

0808297

Collection Date: 8/18/2008 9:15:00 AM

Project:

Refinery Wells - Annual 2008

**Date Received: 8/19/2008** 

Lab ID:

0808297-05

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range Organics (DRO)	47	1.0	mg/L	1	8/21/2008 10:22:27 PM
Motor Oil Range Organics (MRO)	ND	5.0 <sup>-</sup>	mg/L	1	8/21/2008 10:22:27 PM
Surr: DNOP	135	58-140	%REC	1	8/21/2008 10:22:27 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: DAM
Gasoline Range Organics (GRO)	6.7	2.5	mg/L	50	8/28/2008 2:15:16 PM
Surr: BFB	102	79.2-121	%REC	50	8/28/2008 2:15:16 PM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.31	0.10	mg/L	1	8/19/2008 11:52:31 PM
Chloride	250	1.0	mg/L	10	8/20/2008 12:09:55 AM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/19/2008 11:52:31 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	. 1	8/19/2008 11:52:31 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/19/2008 11:52:31 PM
Sulfate	10	0.50	mg/L	1	8/19/2008 11:52:31 PM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	9/2/2008 2:09:36 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	9/5/2008 11:58:26 AM
Barium	1.7	0.10	mg/L	5	9/5/2008 1:31:26 PM
Cadmium	ND	0.0020	mg/L	1	9/5/2008 11:58:26 AM
Chromium	ND	0.0060	mg/L	1	9/5/2008 11:58:26 AM
Copper	ND	0.0060	mg/L	1	9/5/2008 11:58:26 AM
Iron	3.7	0.10	mg/L	5	9/5/2008 1:31:26 PM
Lead	ND	0.0050	mg/L	1	9/5/2008 11:58:26 AM
Manganese	2.5	0.010	mg/L	5	9/5/2008 1:31:26 PM
Selenium	ND	0.25	mg/L	5	9/5/2008 1:31:26 PM
Silver	ND	0.0050	mg/L	1	9/5/2008 11:58:26 AM
Zinc	0.052	0.050	mg/L	1	9/5/2008 11:58:26 AM
PA 6010B: TOTAL RECOVERABLE	METALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	9/3/2008 2:20:51 PM
Barium	1.9	0.10	mg/L	5	9/3/2008 3:27:14 PM
Cadmium	ND	0.0020	mg/L	1	9/3/2008 2:20:51 PM
Chromium	ND	0.0060	mg/L	1	9/3/2008 2:20:51 PM
Lead	0.0076	0.0050	mg/L	1	9/3/2008 2:20:51 PM
Selenium	ND	0.050	mg/L	1	9/3/2008 2:20:51 PM
Silver	ND	0.0050	mg/L	1	9/3/2008 2:20:51 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range

**EPA METHOD 8270C: SEMIVOLATILES** 

- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Analyst: JDC

Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

Client Sample ID: RW #1

D 5 W 11 1 10000

Collection Date: 8/18/2008 9:15:00 AM

Project:

Refinery Wells - Annual 2008

Date Received: 8/19/2008

Lab ID:

0808297-05

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLAT	<b>FILES</b>				Analyst: JD
Acenaphthene	. 11	10	μg/L	1	8/24/2008
Acenaphthylene	ND	10	μg/L	1	8/24/2008
Aniline	ND	10	μg/L	1	8/24/2008
Anthracene	ND	10	μg/L	1	8/24/2008
Azobenzene	ND	10	µg/L	1	8/24/2008
Benz(a)anthracene	ND	10	μg/L	1	8/24/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/24/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/24/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/24/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/24/2008
Benzoic acid	ND	20	μg/L	1	8/24/2008
Benzyl alcohol	ND .	10	µg/L	1	8/24/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/24/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/24/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/24/2008
Bis(2-ethylhexyl)phthalate	51	. 10	μg/L	1	8/24/2008
4-Bromophenyl phenyl ether	, ND	10	µg/L	1	8/24/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/24/2008
Carbazole	ND	10	μg/L	1	8/24/2008
4-Chloro-3-methylphenol	· ND	1,0	μg/L	1	8/24/2008
4-Chloroaniline	ND	10	µg/L	· 1	8/24/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/24/2008
2-Chlorophenol	ND	10	μg/L	1	8/24/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/24/2008
Chrysene	ND	10	μg/L	1	8/24/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/24/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/24/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/24/2008
Dibenzofuran	14	10	μg/L	1	8/24/2008
1,2-Dichlorobenzene	ND	. 10	µg/ <b>L</b>	1	8/24/2008
1,3-Dichlorobenzene	ND	10	μg/L	1	8/24/2008
1,4-Dichlorobenzene	ND	10	µg/L	1	8/24/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/24/2008
Diethyl phthalate	ND	10	μg/L	1	8/24/2008
Dimethyl phthalate	ND	10	μg/L	1	8/24/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/24/2008
2,4-Dimethylphenol	, ND	10	μg/L	1	8/24/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/24/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/24/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/24/2008
2,6-Dinitrotoluene	ND	10	μg/L	1	8/24/2008
Fluoranthene	ND	10	μg/L	1	8/24/2008

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-05

Client Sample ID: RW #1

Collection Date: 8/18/2008 9:15:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S				Analyst: JD0
Fluorene	58	10	μg/L	1	8/24/2008
Hexachlorobenzene	ND	. 10	μg/L	1	8/24/2008
Hexachlorobutadiene	ND	10	μg/L	1	8/24/2008
Hexachlorocyclopentadiene.	ND	10	μg/L	1	8/24/2008
Hexachloroethane	ND	10	μg/L	1	8/24/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/24/2008
Isophorone	ND	10	μg/L	1	8/24/2008
2-Methylnaphthalene	540	50	μg/L	5	8/25/2008
2-Methylphenol	ND	10	μg/L	1	8/24/2008
3+4-Methylphenol	ND	10	µg/L	1	8/24/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	1	8/24/2008
N-Nitrosodimethylamine	ND	10	µg/L	1	8/24/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/24/2008
Naphthalene	290	50	μg/L	5	8/25/2008
2-Nitroaniline	ND	10	μg/L	1	8/24/2008
3-Nitroaniline	ND	10	μg/L	1	8/24/2008
4-Nîtroaniline	ND	10	μg/L	1	8/24/2008
Nitrobenzene	ND	10	µg/L	1	8/24/2008
2-Nitrophenol	ND	10	µg/L	1	8/24/2008
4-Nitrophenol	ND	10	µg/L	1	8/24/2008
Pentachlorophenol	ND	40	μg/L	1	8/24/2008
Phenanthrene	77	10	µg/L	1	8/24/2008
Phenol	ND	10	µg/L	1	8/24/2008
Pyrene	ND	10	µg/L	1	8/24/2008
Pyridine	ND	10	μg/L	1	8/24/2008
1,2,4-Trichlorobenzene	ND	10	µg/L	1.	8/24/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/24/2008
2,4,6-Trichlorophenol	ND	10	µg/L	1	8/24/2008
Surr: 2,4,6-Tribromophenol	45.4	16.6-150	%REC	1	8/24/2008
Surr: 2-Fluorobiphenyl	87.8	19.6-134	%REC	1	8/24/2008
Surr: 2-Fluorophenol	82.6	9.54-113	%REC	1	8/24/2008
Surr: 4-Terphenyl-d14	48.9	22.7-145	%REC	1	8/24/2008
Surr: Nitrobenzene-d5	107	14.6-134	%REC	1	8/24/2008
Surr: Phenol-d5	63.9	10.7-80.3	%REC	1	8/24/2008
EPA METHOD 8260B: VOLATILES					Analyst: HL
Benzene	200	5.0	μg/L	5	8/26/2008 4:33:38 PM
Toluene	ND	5.0	µg/L	5	8/26/2008 4:33:38 PM
Ethylbenzene	210	5.0	μg/L	5	8/26/2008 4:33:38 PM
Methyl tert-butyl ether (MTBE)	21	5.0	μg/L	5	8/26/2008 4:33:38 PM
1,2,4-Trimethylbenzene	520	10	μg/L	10	8/26/2008 3:55:14 PM
1,3,5-Trimethylbenzene	80	5.0	µg/L	5	8/26/2008 4:33:38 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

**Date:** 23-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-05

Client Sample ID: RW #1

Collection Date: 8/18/2008 9:15:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual 1	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					<u> </u>	Analyst: HL
1,2-Dichloroethane (EDC)	ND	5.0		ıg/L	5	8/26/2008 4:33:38 PM
1,2-Dibromoethane (EDB)	ND '	5.0	١	Jg/L	5	8/26/2008 4:33:38 PM
Naphthalene	260	10	ŀ	ıg/L	5	8/26/2008 4:33:38 PM
1-Methylnaphthalene	130	20	ŀ	ug/L	5	8/26/2008 4:33:38 PM
2-Methylnaphthalene	190	20	Ļ	ıg/L	5	8/26/2008 4:33:38 PM
Acetone	ND	50		ıg/L	5	8/26/2008 4:33:38 PM
Bromobenzene	ND	5.0	ŀ	ug/L	5	8/26/2008 4:33:38 PM
Bromodichloromethane	ND	5.0	ŀ	ug/L	5	8/26/2008 4:33:38 PM
Bromoform	ND	5.0	ŀ	ug/L	5	8/26/2008 4:33:38 PM
Bromomethane	ND	5.0	1	ig/L	5	8/26/2008 4:33:38 PM
2-Butanone	ND	50		ug/L	5	8/26/2008 4:33:38 PM
Carbon disulfide	ND	50	ŀ	ug/L	5	8/26/2008 4:33:38 PM
Carbon Tetrachloride	ND	5.0	ŀ	ug/L	5	8/26/2008 4:33:38 PM
Chlorobenzene	ND	5.0	ŀ	ug/L	5	8/26/2008 4:33:38 PM
Chloroethane	ND	10		ug/L	5	8/26/2008 4:33:38 PM
Chloroform	ND	5.0	1	ug/L	5	8/26/2008 4:33:38 PM
Chloromethane	ND	5.0	1	ug/L	5	8/26/2008 4:33:38 PM
2-Chlorotoluene	ND	5.0	ŀ	ug/L	5	8/26/2008 4:33:38 PM
4-Chlorotoluene	ND	5.0	ŀ	ug/L	5	8/26/2008 4:33:38 PM
cis-1,2-DCE	ND	5.0	ŀ	ug/L	5	8/26/2008 4:33:38 PM
cis-1,3-Dichloropropene	ND	5.0	ŀ	ug/L	5	8/26/2008 4:33:38 PM
1,2-Dibromo-3-chloropropane	ND	10	ŀ	ug/L	5	8/26/2008 4:33:38 PN
Dibromochloromethane	ND	5.0	1	ug/L	5	8/26/2008 4:33:38 PM
Dibromomethane	ND .	5.0	ŀ	ig/L	5	8/26/2008 4:33:38 PM
1,2-Dichlorobenzene	ND	5.0	1	ug/L	5	8/26/2008 4:33:38 PM
1,3-Dichlorobenzene	ND	5.0	1	ug/L	5	8/26/2008 4:33:38 PM
1,4-Dichlorobenzene	ND	5.0	ı	µg/L	5	8/26/2008 4:33:38 PN
Dichlorodifluoromethane	ND	5.0	ļ	µg/L	5	8/26/2008 4:33:38 PM
1,1-Dichloroethane	ND	5.0	i	µg/L	5	8/26/2008 4:33:38 PM
1,1-Dichloroethene	ND	5.0	i	μg/L	5	8/26/2008 4:33:38 PM
1,2-Dichloropropane	ND	5.0	Ì	µg/L	5	8/26/2008 4:33:38 PM
1,3-Dichloropropane	, ND	5.0	1	µg/L	5	8/26/2008 4:33:38 PM
2,2-Dichloropropane	ND	10	ı	µg/L	5	8/26/2008 4:33:38 PM
1,1-Dichloropropene	ND	5.0		μg/L	5	8/26/2008 4:33:38 PM
Hexachlorobutadiene	· ND	5.0	l	µg/L	<b>5</b> .	8/26/2008 4:33:38 PM
2-Hexanone	ND	50	ı	µg/L	5	8/26/2008 4:33:38 PM
Isopropylbenzene	110	5.0	1	µg/L	5	8/26/2008 4:33:38 PM
4-isopropyltoluene	11	5.0	1	µg/L	5	8/26/2008 4:33:38 PM
4-Methyl-2-pentanone	ND	50	1	µg/L	. 5	8/26/2008 4:33:38 PN
Methylene Chloride	ND	15	1	μg/L	5	8/26/2008 4:33:38 PM
n-Butylbenzene	16	5.0	1	µg/L	5	8/26/2008 4:33:38 PM
n-Propylbenzene	140	5.0	ı	µg/L	5	8/26/2008 4:33:38 PN

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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**Date:** 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Refinery Wells - Annual 2008

Project: Lab ID:

0808297-05

Client Sample ID: RW #1

Collection Date: 8/18/2008 9:15:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES			·		Analyst: HL
sec-Butylbenzene	23	5.0	μg/L	5	8/26/2008 4:33:38 PM
Styrene	ND	5.0	μg/L	5	8/26/2008 4:33:38 PM
tert-Butylbenzene	ND	5.0	μg/L	5	8/26/2008 4:33:38 PM
1,1,1,2-Tetrachloroethane	ND	5.0	µg/L	5	8/26/2008 4:33:38 PM
1,1,2,2-Tetrachloroethane	ND	10	μg/L	5	8/26/2008 4:33:38 PM
Tetrachloroethene (PCE)	ND	5.0	μg/L	5	8/26/2008 4:33:38 PM
trans-1,2-DCE	ND	5.0	μg/L	5	8/26/2008 4:33:38 PM
trans-1,3-Dichloropropene	ND	5.0	μg/L	5	8/26/2008 4:33:38 PM
1,2,3-Trichlorobenzene	ND	5.0	µg/L	5	8/26/2008 4:33:38 PM
1,2,4-Trichlorobenzene	ND	5.0	μg/L	5	8/26/2008 4:33:38 PM
1,1,1-Trichloroethane	ND	5.0	μg/L	5	8/26/2008 4:33:38 PM
1,1,2-Trichloroethane	ND	5.0	μg/L	5	8/26/2008 4:33:38 PM
Trichloroethene (TCE)	ND	5.0	μg/L	5	8/26/2008 4:33:38 PM
Trichlorofluoromethane	ND	5.0	μg/L	. 5	8/26/2008 4:33:38 PM
1,2,3-Trichloropropane	ND	10	μg/L	5	8/26/2008 4:33:38 PM
Vinyl chloride	ND	5.0	μg/L	5	8/26/2008 4:33:38 PM
Xylenes, Total	67	7.5	μg/L	5	8/26/2008 4:33:38 PM
Surr: 1,2-Dichloroethane-d4	99.2	68.1-123	%REC	5	8/26/2008 <sup>-</sup> 4:33:38 PM
Surr: 4-Bromofluorobenzene	105	53.2-145	%REC	5	8/26/2008 4:33:38 PM
Surr: Dibromofluoromethane	98.2	68.5-119	%REC	5	8/26/2008 4:33:38 PM
Surr: Toluene-d8	106	64-131	%REC	5	8/26/2008 4:33:38 PM
SM 2320B: ALKALINITY					Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	1100	40	mg/L CaCO3	2	8/22/2008
Carbonate	ND	4.0	mg/L CaCO3	2	8/22/2008
Bicarbonate	1100	40	mg/L CaCO3	2	8/22/2008
TOTAL CARBON DIOXIDE CALCULATION	ON				Analyst: <b>TA</b> F
Total Carbon Dioxide	1100	1.0	mg CO2/L	1	8/22/2008

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Value exceeds Maximum Contaminant Level

Reporting Limit

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E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-06

Client Sample ID: RW #1 FD

Collection Date: 8/18/2008 9:25:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS			· · · · · · · · · · · · · · · · · · ·		Analyst: SLB
Fluoride	0.32	0.10	mg/L	1	8/20/2008 12:27:20 AM
Chloride	270	1.0	mg/L	10	8/20/2008 12:44:45 AM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/20/2008 12:27:20 AM
Bromide	2.0	0.10	mg/L	1	8/20/2008 12:27:20 AN
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/20/2008 12:27:20 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/20/2008 12:27:20 AM
Sulfate	10	0.50	mg/L	1	8/20/2008 12:27:20 AM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

0808297-06

Collection Date: 8/18/2008 9:25:00 AM

Project: Lab ID:

Refinery Wells - Annual 2008

Date Received: 8/19/2008

Client Sample ID: RW #1 FD

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E					Analyst: SCC
Diesel Range Organics (DRO)	190	10		mg/L	10	8/26/2008 3:17:44 PM
Motor Oil Range Organics (MRO)	ND	50		mg/L	. 10	8/26/2008 3:17:44 PM
Surr: DNOP	0	58-140	s	%REC	10	8/26/2008 3:17:44 PM
EPA METHOD 8015B: GASOLINE RA	NGE					Analyst: DAN
Gasoline Range Organics (GRO)	6.2	2.5		mg/L	50	8/28/2008 2:45:45 PM
Surr: BFB	102	79.2-121		%REC	50	8/28/2008 2:45:45 PM
EPA METHOD 300.0: ANIONS						Analyst: SLB
Fluoride	0.32	0.10		mg/L	1	8/20/2008 12:27:20 AM
Chloride	270	1.0		mg/L	10	8/20/2008 12:44:45 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/20/2008 12:27:20 AM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/20/2008 12:27:20 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/20/2008 12:27:20 AM
Sulfate	10	0.50		mg/L	1	8/20/2008 12:27:20 AM
EPA METHOD 7470: MERCURY						Analyst: SNV
Mercury	ND	0.00020		mg/L	1	9/2/2008 2:11:23 PM
EPA METHOD 6010B: DISSOLVED MI	ETALS					Analyst: TES
Arsenic	ND	0.020		mg/L	1	9/5/2008 12:03:59 PM
Barium	2.1	0.20		mg/L	10	9/5/2008 1:34:11 PM
Cadmium	ND	0.0020		mg/L	1	9/5/2008 12:03:59 PM
Chromium	ND	0.0060		mg/L	1	9/5/2008 12:03:59 PM
Copper	ND	0.0060		mg/L	1	9/5/2008 12:03:59 PM
Iron	4.4	0.20		mg/L	10	9/5/2008 1:34:11 PM
Lead	0.0052	0.0050		· mg/L	1	9/5/2008 12:03:59 PM
Manganese	3.1	0.020		mg/L	10	9/5/2008 1:34:11 PM
Selenium	ND	0.25		mg/L	5	9/8/2008 1:12:08 PM
Silver	ND	0.0050		mg/L	1	9/5/2008 12:03:59 PM
Zinc	0.050	0.050		mg/L	1	9/5/2008 12:03:59 PM
EPA 6010B: TOTAL RECOVERABLE I	METALS			•		Analyst: TES
Arsenic	ND	0.020		mg/L	1	9/3/2008 2:26:42 PM
Barium	1.8	0.10		mg/L	5	9/3/2008 3:41:55 PM
Cadmium	ND	0.0020		mg/L	1	9/3/2008 2:26:42 PM
Chromium	. ND	0.0060		mg/L	1	9/3/2008 2:26:42 PM
Lead	0.011	0.0050		mg/L	1	9/3/2008 2:26:42 PM
Selenium	ND	0.050		mg/L	1	9/3/2008 2:26:42 PM
Silver	ND	0.0050		mg/L	1	9/3/2008 2:26:42 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range

**EPA METHOD 8270C: SEMIVOLATILES** 

- J Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

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Analyst: JDC

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Refinery Wells - Annual 2008

Project: Lab ID:

0808297-06

Client Sample ID: RW #1 FD

Collection Date: 8/18/2008 9:25:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

analyses	Result	PQL	Qual	Units	<b>DF</b>	Date Analyzed
PA METHOD 8270C: SEMIVOLATIL	ES			<del> </del>	·	Analyst: JDC
Acenaphthene	ND	10		μg/L	1	8/24/2008
Acenaphthylene	ND	10		μg/L	1	8/24/2008
Aniline	· ND	10		μg/L	. 1	8/24/2008
Anthracene	ND	10		μg/L	1	8/24/2008
Azobenzene	ND	10		μg/L	1	8/24/2008
Benz(a)anthracene	ND	10		μg/L	1	8/24/2008
Benzo(a)pyrene	ND	10		μg/L	1	8/24/2008
Benzo(b)fluoranthene	ND	10		μg/L	1	8/24/2008
Benzo(g,h,i)perylene	ND	10		μg/L	1	8/24/2008
Benzo(k)fluoranthene	ND	10		μg/L	1	8/24/2008
Benzoic acid	ND	20		µg/L	1	8/24/2008
Benzyl alcohol	ND	10		µg/L	1	8/24/2008
Bis(2-chloroethoxy)methane	ND	10		μg/L	1	8/24/2008
Bis(2-chloroethyl)ether	ND	10		μg/L	1	8/24/2008
Bis(2-chloroisopropyl)ether	ND	10		μg/L	· 1	8/24/2008
Bis(2-ethylhexyl)phthalate	19	10		μg/L	1	8/24/2008
4-Bromophenyl phenyl ether	ND	10		μg/L	1	8/24/2008
Butyl benzyl phthalate	ND	10		μg/L	1	8/24/2008
Carbazole	ND	10		μg/L	· 1	. 8/24/2008
4-Chloro-3-methylphenol	ND	10		μg/L	1	8/24/2008
4-Chloroaniline	ND	10		μg/L	1,	8/24/2008
2-Chloronaphthalene	ND	10		μg/L	1	8/24/2008
2-Chlorophenol	ND	10		µg/L	1	8/24/2008
4-Chlorophenyl phenyl ether	ND	10		μg/L	1	8/24/2008
Chrysene	ND	10		μg/L	1	8/24/2008
Di-n-butyl phthalate	, ND	10		μg/L	1	8/24/2008
Di-n-octyl phthalate	ND	.10		μg/L	1	8/24/2008
Dibenz(a,h)anthracene	ND	10		μg/L	1	8/24/2008
Dibenzofuran	ND	10		μg/L	1	8/24/2008
1,2-Dichlorobenzene	ND	10		μg/L	1	8/24/2008
1,3-Dichlorobenzene	, ND	10		μg/L	1.	8/24/2008
1,4-Dichlorobenzene	ND	10		µg/L	1	8/24/2008
3,3'-Dichlorobenzidine	ND	10		μg/L.	1	8/24/2008
Diethyl phthalate	, ND	10		µg/L	1	8/24/2008
Dimethyl phthalate	ND	10		μg/L	1	8/24/2008
2,4-Dichlorophenol	ND ·	20		μg/L	1	8/24/2008
2,4-Dimethylphenol	ND	10		μg/L	1	8/24/2008
4,6-Dinitro-2-methylphenol	ND	20	-	μg/L	1	8/24/2008
2,4-Dinitrophenol	ND	20		μg/L	1	8/24/2008
2,4-Dinitrotoluene	· ND	10		μg/L	1	8/24/2008
2,6-Dinitrotoluene	ND	10	•	μg/L	1.	8/24/2008
Fluoranthene	ND	10		μg/L	1	8/24/2008

Qualifiers:
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- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

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Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Client Sample ID: RW #1 FD

Collection Date: 8/18/2008 9:25:00 AM

Project:

Refinery Wells - Annual 2008

Date Received: 8/19/2008

Lab ID:

0808297-06

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S			<u> </u>	Analyst: JD0
Fluorene	24	10	μg/L	1	8/24/2008
Hexachlorobenzene	ND	10	µg/L	1	8/24/2008
Hexachlorobutadiene	ND	10	μg/L	1	8/24/2008
Hexachlorocyclopentadiene	ND	10	μg/L	1	8/24/2008
Hexachioroethane	ND	10	μg/L	1	8/24/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/24/2008
Isophorone	ND	10	μg/L	1	8/24/2008
2-Methylnaphthalene	210	50	μg/L	5	8/25/2008
2-Methylphenol	ND	10	μg/L	1	8/24/2008
3+4-Methylphenol	ND	10	μg/L	1	8/24/2008
N-Nitrosodi-n-propylamine	ND	10	.µg/L	1	8/24/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/24/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/24/2008
Naphthalene	180	10	μg/L	1	8/24/2008
2-Nitroaniline	ND	10	μg/L	1	8/24/2008
3-Nitroaniline	ND	10	μg/L	1	8/24/2008
4-Nitroaniline	.ND	10	μg/L	1	8/24/2008
Nitrobenzene	ND	10	μg/L	1	8/24/2008
2-Nitrophenol	ND	10	μg/L	1	8/24/2008
4-Nitrophenol	ND	10	μg/L	1	8/24/2008
Pentachlorophenol	ND	40	μg/L	1	8/24/2008
Phenanthrene	30	10	μg/L	1	8/24/2008
Phenol	ND	10	μg/L	1	8/24/2008
Pyrene	ND	10	μg/L	1	8/24/2008
Pyridine	ND	10	μg/L	1	8/24/2008
1,2,4-Trichlorobenzene	ND	10	μg/L	1	8/24/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/24/2008
2,4,6-Trichlorophenol	ND	.10	μg/L	1	8/24/2008
Surr: 2,4,6-Tribromophenol	19.4	16.6-150	%REC	1	8/24/2008
Surr: 2-Fluorobiphenyl	89.3	19.6-134	%REC	1	8/24/2008
Surr: 2-Fluorophenol	24.8	9.54-113	%REC	1	8/24/2008
Surr: 4-Terphenyl-d14	59.1	22.7-145	%REC	1	8/24/2008
Surr: Nitrobenzene-d5	91.6	14.6-134	%REC	1	8/24/2008
Surr: Phenol-d5	32.5	10.7-80.3	%REC	1.	8/24/2008
EPA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	210	5.0	μg/L	5	8/26/2008 6:26:35 PM
Toluene	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
Ethylbenzene	210	5.0	μg/L	5	8/26/2008 6:26:35 PM
Methyl tert-butyl ether (MTBE)	22	5.0	μg/L	5	8/26/2008 6:26:35 PM
1,2,4-Trimethylbenzene	530	10	μg/L	10	8/26/2008 5:48:04 PM
1,3,5-Trimethylbenzene	82	5.0	μg/L	5	8/26/2008 6:26:35 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- Analyte detected below quantitation limits J
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

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**Date:** 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Refinery Wells - Annual 2008

Project: Lab ID:

0808297-06

Client Sample ID: RW #1 FD

Collection Date: 8/18/2008 9:25:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
1,2-Dichloroethane (EDC)	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
1,2-Dibromoethane (EDB)	ND	5.0	µg/L	5	8/26/2008 6:26:35 PM
Naphthalene	260	10	µg/L	. 5	8/26/2008 6:26:35 PM
1-Methylnaphthalene	140	20	μg/L	5	8/26/2008 6:26:35 PM
2-Methylnaphthalene	180	20	μg/L	5	8/26/2008 6:26:35 PM
Acetone	ND	50	μg/L	5	8/26/2008 6:26:35 PM
Bromobenzene	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
Bromodichloromethane	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
Bromoform	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
Bromomethane	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
2-Butanone	ND	50	μg/L	5	8/26/2008 6:26:35 PM
Carbon disulfide	ND	50	μg/L	5	8/26/2008 6:26:35 PM
Carbon Tetrachloride	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
Chlorobenzene	ND	5.0	. μg/L	5	8/26/2008 6:26:35 PM
Chioroethane	ND	.10	μg/L	5	8/26/2008 6:26:35 PM
Chloroform	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
Chloromethane	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
2-Chlorotoluene	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
4-Chiorotoluene	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
cis-1,2-DCE	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
cis-1,3-Dichloropropene	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
1,2-Dibromo-3-chloropropane	ND	10	μg/L	5	8/26/2008 6:26:35 PM
Dibromochloromethane	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
Dibromomethane	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
1,2-Dichlorobenzene	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
1,3-Dichlorobenzene	ND .	5.0	μg/L	5	8/26/2008 6:26:35 PM
1,4-Dichlorobenzene	ND.	5.0	μg/ <b>L</b>	5	8/26/2008 6:26:35 PM
Dichlorodifluoromethane	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
1,1-Dichloroethane	ND	5.0	μg/L	. 5	8/26/2008 6:26:35 PM
1,1-Dichloroethene	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
1,2-Dichloropropane	ND	5.0	μg/L	. 5	8/26/2008 6:26:35 PM
1,3-Dichloropropane	ND	5.0	µg/L	5	8/26/2008 6:26:35 PM
2,2-Dichloropropane	ND	10	μg/L	5	8/26/2008 6:26:35 PM
1,1-Dichloropropene	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
Hexachlorobutadiene	ND	5.0	μg/L	5	8/26/2008 6:26:35 PM
2-Hexanone	ND	· 50	μg/L	5	8/26/2008 6:26:35 PM
isopropylbenzene	110	5.0	μg/L	5	8/26/2008 6:26:35 PM
4-Isopropyltoluene	10	5.0	μg/L	5	8/26/2008 6:26:35 PM
4-Methyl-2-pentanone	ND	50	μg/L	5	8/26/2008 6:26:35 PM
Methylene Chloride	ND	15	μg/L	5	8/26/2008 6:26:35 PM
n-Butylbenzene	16	5.0	μg/L	5	8/26/2008 6:26:35 PM
n-Propylbenzene	120	5.0	μg/L	5	8/26/2008 6:26:35 PM

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 23-Sep-08

**CLIENT:** Lab Order: Western Refining Southwest, Inc.

0808297

Collection Date: 8/18/2008 9:25:00 AM

Project:

Refinery Wells - Annual 2008

Date Received: 8/19/2008

Client Sample ID: RW #1 FD

Lab ID:

0808297-06

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
sec-Butylbenzene	21	5.0		μg/L	5	8/26/2008 6:26:35 PM
Styrene	ND	5.0		μg/L	5	8/26/2008 6:26:35 PM
tert-Butylbenzene	ND	5.0		μg/L	5	8/26/2008 6:26:35 PM
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	5	8/26/2008 6:26:35 PM
1,1,2,2-Tetrachloroethane	ND	10		μg/L	5	8/26/2008 6:26:35 PM
Tetrachloroethene (PCE)	ND	5.0		μg/L	5	8/26/2008 6:26:35 PM
trans-1,2-DCE	ND	5.0		μg/L	5	8/26/2008 6:26:35 PM
trans-1,3-Dichloropropene	ND	5.0		μg/L	5	8/26/2008 6:26:35 PM
1,2,3-Trichlorobenzene	ND	5.0		μg/Ĺ	5	8/26/2008 6:26:35 PM
1,2,4-Trichlorobenzene	ND	5.0		μg/L	5	8/26/2008 6:26:35 PM
1,1,1-Trichloroethane	ND	5.0		μg/L	5	8/26/2008 6:26:35 PM
1,1,2-Trichloroethane	ND	5.0		μg/L	5	8/26/2008 6:26:35 PM
Trichloroethene (TCE)	ND	5.0		μg/L	5	8/26/2008 6:26:35 PM
Trichlorofluoromethane	ND	5.0		μg/L	5	8/26/2008 6:26:35 PM
1,2,3-Trichloropropane	ND	10		μg/L	5	8/26/2008 6:26:35 PM
Vinyl chloride	ND	5.0		μg/L	5	8/26/2008 6:26:35 PM
Xylenes, Total	72	7.5		μg/L	5	8/26/2008 6:26:35 PM
Surr: 1,2-Dichloroethane-d4	101	68.1-123		%REC	5	8/26/2008 6:26:35 PM
Surr: 4-Bromofluorobenzene	107	53.2-145		%REC	5	8/26/2008 6:26:35 PM
Surr: Dibromofluoromethane	98.5	68.5-119		%REC	5	8/26/2008 6:26:35 PM
Surr: Toluene-d8	105	64-131		%REC	5	8/26/2008 6:26:35 PM
SM 2320B: ALKALINITY						Analyst: TAF
Alkalinity, Total (As CaCO3)	1100	40		mg/L CaCO3	2	8/22/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/22/2008
Bicarbonate	1100	40		mg/L CaCO3	2	8/22/2008
TOTAL CARBON DIOXIDE CALCULATION				·		Analyst: <b>TAF</b>
Total Carbon Dioxide	1100	1.0		mg CO2/L	1	8/22/2008

Qual	fie	ers
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- Value exceeds Maximum Contaminant Level
- Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: MW #4

Lab Order:

0808297

Collection Date: 8/18/2008 9:50:00 AM

Project:

Refinery Wells - Annual 2008

Date Received: 8/19/2008

Lab ID:

0808297-07

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	·· <del>····</del> ··				Analyst: SLB
Fluoride	0.23	0.10	mg/L	1	8/20/2008 1:02:09 AM
Chloride	190	1.0	mg/L	10	8/20/2008 1:19:33 AM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/20/2008 1:02:09 AM
Bromide	3.5	0.10	mg/L	1	8/20/2008 1:02:09 AM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/20/2008 1:02:09 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/20/2008 1:02:09 AM
Sulfate	4.4	0.50	mg/L	1	8/20/2008 1:02:09 AM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Client Sample ID: MW #4

Collection Date: 8/18/2008 9:50:00 AM

Project:

Refinery Wells - Annual 2008

Date Received: 8/19/2008

Lab ID: 0808297-07		JS			
Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range Organics (DRO)	17	1.0	mg/L	1	8/21/2008 11:30:38 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/21/2008 11:30:38 PM
Surr: DNOP	139	58-140	%REC	1	8/21/2008 11:30:38 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: DAM
Gasoline Range Organics (GRO)	. 10	2.5	mg/L	50	8/28/2008 3:16:11 PM
Surr: BFB	92.0	79.2-121	%REC	50	8/28/2008 3:16:11 PM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.23	0.10	mg/L	1	8/20/2008 1:02:09 AM
Chloride	190	1.0	mg/L	10	8/20/2008 1:19:33 AM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/20/2008 1:02:09 AM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1 .	8/20/2008 1:02:09 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/20/2008 1:02:09 AM
Sulfate	4.4	0.50	mg/L	1	8/20/2008 1:02:09 AM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	9/2/2008 2:13:11 PM
EPA METHOD 6010B: DISSOLVED MI	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	9/5/2008 12:07:53 PM
Barium	1.3	0.10	mg/L	5	9/5/2008 1:37:08 PM
Cadmium	ND	0.0020	mg/L	. 1	9/5/2008 12:07:53, PM
Chromium	ND	0.0060	mg/L	1	9/5/2008 12:07:53 PM
Copper	ND	0.0060	mg/L	1	9/5/2008 12:07:53 PM
Iron	9.6	1.0	mg/L	50	9/5/2008 1:39:54 PM
Lead	ND	0.0050	mg/L	1	9/5/2008 12:07:53 PM
Manganese	3.1	0.010	mg/L	5	9/5/2008 1:37:08 PM
Selenium	ND	0.25	mg/L	5	9/5/2008 1:37:08 PM
Silver	ND	0.0050	mg/L	1	9/5/2008 12:07:53 PM
Zinc	ND	0.050	mg/L	1	9/5/2008 12:07:53 PM
EPA 6010B: TOTAL RECOVERABLE I	METALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	9/3/2008 2:30:28 PM
Barium	1.7	0.10	mg/L	5	9/3/2008 3:44:38 PM
Cadmium	ND	0.0020	mg/L	1	9/3/2008 2:30:28 PM
Chromium	0.016	0.0060	mg/L	1	9/3/2008 2:30:28 PM
Lead	0.012	0.0050	mg/L	1	9/3/2008 2:30:28 PM
Selenium	ND	0.050	mg/L	1 '	9/3/2008 2:30:28 PM
Silver	ND	0.0050	mg/L	1	9/3/2008 2:30:28 PM

### **EPA METHOD 8270C: SEMIVOLATILES**

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 28 of 34

Analyst: JDC

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Refinery Wells - Annual 2008

Project: Lab ID:

0808297-07

Client Sample ID: MW #4

Collection Date: 8/18/2008 9:50:00 AM

Date Received: 8/19/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual 1	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S		<del></del>		· · · · · · · · · · · · · · · · · · ·	Analyst: JD0
Acenaphthene	ND	10	٠.	ug/L	1	8/24/2008
Acenaphthylene	ND	10		ug/L	1	8/24/2008
Aniline	ND	10		ug/L	1	8/24/2008
Anthracene	ND	10		ug/L	1	8/24/2008
Azobenzene	ND	10		ug/L	1	8/24/2008
Benz(a)anthracene	ND	10	1	ug/L	1	8/24/2008
Benzo(a)pyrene	ND	- 10	ŀ	ug/L	1	8/24/2008
Benzo(b)fluoranthene	ND	10	1	ug/L	1	8/24/2008
Benzo(g,h,i)perylene	ND	10	١	ug/L	1	8/24/2008
Benzo(k)fluoranthene	ND	10	,	µg/L	1	8/24/2008
Benzoic acid	ND	20		µg/L	1	8/24/2008
Benzyl alcohol	ND	10		µg/L	1	8/24/2008
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	8/24/2008
Bis(2-chloroethyl)ether	ND	10		µg/L	· 1	8/24/2008
Bis(2-chloroisopropyl)ether	ND	10	i	µg/L	1	8/24/2008
Bis(2-ethylhexyl)phthalate	22	10	í	µg/L	1	8/24/2008
4-Bromophenyl phenyl ether	ND	10	9	μg/L	1	8/24/2008
Butyl benzyl phthalate	ND	10		µg/L	1	8/24/2008
Carbazole	ND	10	ı	μg/L	1	8/24/2008
4-Chloro-3-methylphenol	ND	10		μg/L	1	8/24/2008
4-Chloroaniline	ND	10		μg/L	1	8/24/2008
2-Chloronaphthalene	ND	10		μg/L	1	8/24/2008
2-Chlorophenol	ND	10		µg/L	1	8/24/2008
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	8/24/2008
Chrysene	ND	10		µg/L	1	8/24/2008
Di-n-butyl phthalate	ND	10		μg/L	1	8/24/2008
Di-n-octyl phthalate	12	10		µg/L	1 .	8/24/2008
Dibenz(a,h)anthracene	ND	10		µg/L	1	8/24/2008
Dibenzofuran	ND	10		μg/L	1	8/24/2008
1,2-Dichlorobenzene	ND	10		µg/L	1	8/24/2008
1,3-Dichlorobenzene	ND	10		µg/L	1	8/24/2008
1,4-Dichlorobenzene	ND	. 10		µg/L	1	8/24/2008
3,3'-Dichlorobenzidine	ND	10		µg/L	1	8/24/2008
Diethyl phthalate	ND	10		μg/L	1	8/24/2008
Dimethyl phthalate	ND	10		µg/L	, 1	8/24/2008
2,4-Dichlorophenol	ND	20		μg/L	1	8/24/2008
2,4-Dimethylphenol	22	10		μg/L	1	8/24/2008
4,6-Dinitro-2-methylphenol	ND	. 20		μg/L	1	8/24/2008
2,4-Dinitrophenol	ND	20		μg/L	1	8/24/2008
2,4-Dinitrotoluene	ND	10		μg/L	1	8/24/2008
2,6-Dinitrotoluene	ND	10		µg/L	1	8/24/2008
Fluoranthene	ND	10		µg/L	1	8/24/2008

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 29 of 34

**Date:** 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Refinery Wells - Annual 2008

Project: Lab ID:

0808297-07

Client Sample ID: MW #4

Collection Date: 8/18/2008 9:50:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual U	nits	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S			<del> </del>		Analyst: JD0
Fluorene	ND	10	μ	g/L	,1	8/24/2008
Hexachlorobenzene	ND	10	μ	g/L	1	8/24/2008
Hexachlorobutadiene	ND	10	μ	g/L	1	8/24/2008
Hexachlorocyclopentadiene	ND	10	μ	g/L	1	8/24/2008
Hexachloroethane	ND	10	μ	g/L	1	8/24/2008
Indeno(1,2,3-cd)pyrene	ND	10	μ	g/L	1	8/24/2008
Isophorone	ND	10	μ	g/L	1	8/24/2008
2-Methylnaphthalene	82	10	μ	g/L	1	8/24/2008
2-Methylphenol	ND	10		g/L	1	8/24/2008
3+4-Methylphenol	ND	10	μ	g/L	1	8/24/2008
N-Nitrosodi-n-propylamine	ND	10	μ	g/L	1	8/24/2008
N-Nitrosodimethylamine	ND	10		g/L	1	8/24/2008
N-Nitrosodiphenylamine	ND	10	μί	g/L	1	8/24/2008
Naphthalene	96	10	μ	g/L	1	8/24/2008
2-Nitroaniline	ND	10	μ	g/L	1	8/24/2008
3-Nitroaniline	ND	10	μ	g/L	1	8/24/2008
4-Nitroaniline	ND	10	μ	g/L	1	8/24/2008
Nitrobenzene	ND	10	μ	g/L	1	8/24/2008
2-Nitrophenol	ND	10	μ	g/L	1	8/24/2008
4-Nitrophenol	ND	10	μί	g/L	1	8/24/2008
Pentachlorophenol	ND	40	μg	g/L	1 .	8/24/2008
Phenanthrene	ND	10	μί	g/L	1	8/24/2008
Phenol	ND	10		g/L	1	8/24/2008
Pyrene	ND	10	μ	g/L	1	8/24/2008
Pyridine	ND	10	μί	g/L	1	8/24/2008
1,2,4-Trichlorobenzene	ND	10	μ	g/L	1	8/24/2008
2,4,5-Trichlorophenol	ND	10	μ	g/L	1	8/24/2008
2,4,6-Trichlorophenol	ND	10	μί	g/L	1	8/24/2008
Surr: 2,4,6-Tribromophenol	104	16.6-150	%	REC	1	8/24/2008
Surr: 2-Fluorobiphenyl	71.8	19.6-134	%	REC	1	8/24/2008
Sürr: 2-Fluorophenol	60.8	9.54-113	. %	REC	1	8/24/2008
Surr: 4-Terphenyl-d14	60.7	22.7-145	%	REC	1	8/24/2008
Surr: Nitrobenzene-d5	73.5	14.6-134	%	REC	1	8/24/2008
Surr: Phenol-d5	51.3	10.7-80.3	%	REC	1	8/24/2008
PA METHOD 8260B: VOLATILES						Analyst: HL
Benzene	530	10	μç	g/L	10	8/26/2008 7:40:54 PM
Toluene	ND	10		]/L	10	8/26/2008 7:40:54 PM
Ethylbenzene	110	10		, g/L	10	8/26/2008 7:40:54 PM
Methyl tert-butyl ether (MTBE)	ND	10		;/L	10	8/26/2008 7:40:54 PM
1,2,4-Trimethylbenzene	690	10		, J/L	10	8/26/2008 7:40:54 PM
1,3,5-Trimethylbenzene	230	10		, J/L	10	8/26/2008 7:40:54 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

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Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-07

Client Sample ID: MW #4

Collection Date: 8/18/2008 9:50:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
1,2-Dichloroethane (EDC)	ND	10	μg/L	10	8/26/2008 7:40:54 PM
1,2-Dibromoethane (EDB)	ND	10	μg/L	10	8/26/2008 7:40:54 PM
Naphthalene	170	20	μg/L	10	8/26/2008 7:40:54 PM
1-Methylnaphthalene	61	40	μg/L	10	8/26/2008 7:40:54 PM
2-Methylnaphthalene	88	40	µg/L	10	8/26/2008 7:40:54 PM
Acetone	ND	100	μg/L	10	8/26/2008 7:40:54 PM
Bromobenzene	ND	10	μg/L	10	8/26/2008 7:40:54 PM
Bromodichloromethane	ND	10	μg/L	10	8/26/2008 7:40:54 PM
Bromoform	ND	10	μg/L	10	8/26/2008 7:40:54 PM
Bromomethane	ND	10	μg/L	10	8/26/2008 7:40:54 PM
2-Butanone	ND	100	μg/L	10	8/26/2008 7:40:54 PM
Carbon disulfide	ND	100	μg/L	10	8/26/2008 7:40:54 PN
Carbon Tetrachloride	ND	10	μg/L	10	8/26/2008 7:40:54 PM
Chlorobenzene	ND	10	μg/L	10	8/26/2008 7:40:54 PM
Chloroethane	ND	20	μg/L	10	8/26/2008 7:40:54 PM
Chloroform	ND	10	μg/L	10	8/26/2008 7:40:54 PN
Chloromethane	ND	10	μg/L	10	8/26/2008 7:40:54 PN
2-Chlorotoluene	ND	10	μg/L	10	8/26/2008 7:40:54 PN
4-Chiorotoluene	ND	10	μg/L	10	8/26/2008 7:40:54 PN
cis-1,2-DCE	ND	10	μg/L	10	8/26/2008 7:40:54 PN
cis-1,3-Dichloropropene	ND	10	μg/L	10	8/26/2008 7:40:54 PN
1,2-Dibromo-3-chloropropane	ND	20	μg/L	10	8/26/2008 7:40:54 PM
Dibromochloromethane	ND	10	μg/L	10	8/26/2008 7:40:54 PN
Dibromomethane	ND	10	μg/L	10	8/26/2008 7:40:54 PN
1,2-Dichlorobenzene	ND	10	μg/L	10	8/26/2008 7:40:54 PN
1,3-Dichlorobenzene	ND	10	μg/L	10	8/26/2008 7:40:54 PN
1,4-Dichlorobenzene	ND	10	μg/L	10	8/26/2008 7:40:54 PN
Dichlorodifluoromethane	ND	10	μg/L	10	8/26/2008 7:40:54 PN
1,1-Dichloroethane	· ND	10	μg/L	10	8/26/2008 7:40:54 PN
1,1-Dichloroethene	ND	10	μg/L	10	8/26/2008 7:40:54 PN
1,2-Dichloropropane	ND	10	μg/L	10	8/26/2008 7:40:54 PN
1,3-Dichloropropane	ND	10	µg/L	10	8/26/2008 7:40:54 PM
2,2-Dichloropropane	ND	20	μg/L	10	8/26/2008 7:40:54 PN
1,1-Dichloropropene	ND	10	μg/L	- 10	8/26/2008 7:40:54 PN
Hexachlorobutadiene	ND	10	μg/L	10	8/26/2008 7:40:54 PN
2-Hexanone	ND	100	µg/L	10	8/26/2008 7:40:54 PN
Isopropylbenzene	56	10	μg/L	10	8/26/2008 7:40:54 PN
4-isopropyltoluene	14	. 10	μg/L	10	8/26/2008 7:40:54 PM
4-Methyl-2-pentanone	ND	100	μg/L	. 10	8/26/2008 7:40:54 PN
Methylene Chloride	ND	30	μg/L	10	8/26/2008 7:40:54 PN
n-Butylbenzene .	36	10	µg/L	10	8/26/2008 7:40:54 PN
n-Propylbenzene	60	10	μg/L	10	8/26/2008 7:40:54 PN

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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**Date:** 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

000025

Project:

Refinery Wells - Annual 2008

Lab ID:

0808297-07

Client Sample ID: MW #4

Collection Date: 8/18/2008 9:50:00 AM

Date Received: 8/19/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
sec-Butylbenzene	12	10		µg/L	10	8/26/2008 7:40:54 PM
Styrene	ND	10		μg/L	10	8/26/2008 7:40:54 PM
tert-Butylbenzene	ND	10		μg/L	10	8/26/2008 7:40:54 PM
1,1,1,2-Tetrachloroethane	ND	10		μg/L	10	8/26/2008 7:40:54 PM
1,1,2,2-Tetrachloroethane	ND	20		μg/L	10	8/26/2008 7:40:54 PM
Tetrachloroethene (PCE)	ND	10		µg/L	10	8/26/2008 7:40:54 PM
trans-1,2-DCE	ND	10		μg/L	10	8/26/2008 7:40:54 PM
trans-1,3-Dichloropropene	ND	10		μg/L	10	8/26/2008 7:40:54 PM
1,2,3-Trichlorobenzene	ND	10		μg/L	10	8/26/2008 7:40:54 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	10	8/26/2008 7:40:54 PM
1,1,1-Trichloroethane	ND	10		μg/L	10	8/26/2008 7:40:54 PM
1,1,2-Trichloroethane	ND	10		μg/L	10	8/26/2008 7:40:54 PM
Trichloroethene (TCE)	ND	10		μg/L	10	8/26/2008 7:40:54 PM
Trichlorofluoromethane	ND	10		μg/L	10	8/26/2008 7:40:54 PM
1,2,3-Trichloropropane	ND	20		μg/L	10	8/26/2008 7:40:54 PM
Vinyl chloride	ND	10		μg/L	10	8/26/2008,7:40:54 PM
Xylenes, Total	1600	15		μg/L	10	8/26/2008 7:40:54 PM
Surr: 1,2-Dichloroethane-d4	98.5	68.1-123		%REC	10	8/26/2008 7:40:54 PM
Surr: 4-Bromofluorobenzene	99.0	53.2-145		%REC	10	8/26/2008 7:40:54 PM
Surr: Dibromofluoromethane	102	68.5-119		%REC	10	8/26/2008 7:40:54 PM
Surr: Toluene-d8	109	64-131		%REC	10	8/26/2008 7:40:54 PM
SM 2320B: ALKALINITY						Analyst: <b>TA</b> F
Alkalinity, Total (As CaCO3)	1000	40		mg/L CaCO3	2	8/22/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/22/2008
Bicarbonate	1000	40		mg/L CaCO3	2	8/22/2008
TOTAL CARBON DIOXIDE CALCULATION	1					Analyst: TAF
Total Carbon Dioxide	1000	1.0		mg CO2/L	1	8/22/2008

Q	u	a	l	i	f	ì	e	r	S	:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Client Sample ID: TRIP BLANK

**Collection Date:** 

**Project:** 

Refinery Wells - Annual 2008

Date Received: 8/19/2008

Lab ID:

0808297-08

Matrix: TRIP BLANK

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RAN	IGE	· · · · · · · · · · · · · · · · · · ·			Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1.	8/28/2008 3:46:43 PM
Surr: BFB	80.7	79.2-121	%REC	1.	8/28/2008 3:46:43 PM
EPA METHOD 8260B: VOLATILES	•				Analyst: <b>HL</b>
Benzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Toluene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Ethylbenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	8/22/2008 2:31:19 PM
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,2-Dichloroethane (EDC)	ND	· 1.0	μg/L	1	8/22/2008 2:31:19 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Naphthalene	ND	2.0	μg/L	1	8/22/2008 2:31:19 PM
1-Methylnaphthalene	ND	4.0	μg/L	1	8/22/2008 2:31:19 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/22/2008 2:31:19 PM
Acetone	ND	10	μg/L	1	8/22/2008 2:31:19 PM
Bromobenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Bromodichloromethane	ND	1.0	μg/L .	1	8/22/2008 2:31:19 PM
Bromoform	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Bromomethane	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
2-Butanone	ND	10	μg/L	1	8/22/2008 2:31:19 PM
Carbon disulfide	ND	10	μg/L	1	8/22/2008 2:31:19 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Chlorobenzene	ND	1.0	μ <b>g</b> /L	1	8/22/2008 2:31:19 PM
Chloroethane	ND	2.0	μg/L	1	8/22/2008 2:31:19 PM
Chloroform	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Chloromethane	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
2-Chlorotoluene	ND	1,0	µg/L	1	8/22/2008 2:31:19 PM
4-Chlorotoluene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
cis-1,3-Dichloropropene	ND	1.0	μ <b>g/</b> L	1	8/22/2008 2:31:19 PM
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	8/22/2008 2:31:19 PM
Dibromochloromethane	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Dibromomethane	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,1-Dichloroethane	ND .	1.0	μg/L.	1	8/22/2008 2:31:19 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,2-Dichloropropane	ND	1.0	µg/L	1.	8/22/2008 2:31:19 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM

### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- Maximum Contaminant Level
- Reporting Limit

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**Date:** 23-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808297

Refinery Wells - Annual 2008

Project: Lab ID:

0808297-08

Client Sample ID: TRIP BLANK

**Collection Date:** 

Date Received: 8/19/2008

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
2,2-Dichloropropane	ND	2.0	μg/L	1	8/22/2008 2:31:19 PM
1,1-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
2-Hexanone	ND	10	μg/L	1	8/22/2008 2:31:19 PM
Isopropylbenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
4-Isopropyltoluene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	8/22/2008 2:31:19 PM
Methylene Chloride	ND	3.0	μg/L	1	8/22/2008 2:31:19 PM
n-Butylbenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
n-Propylbenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
sec-Butylbenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Styrene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
tert-Butylbenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/22/2008 2:31:19 PM
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
trans-1,2-DCE	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
Trichloroethene (TCE)	ND.	1.0	μg/L	1	8/22/2008 2:31:19 PM
Trichlorofluoromethane	ND	1.0	μg/L	1	8/22/2008 2:31:19 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	1	8/22/2008 2:31:19 PM
Vinyl chloride	ND	1.0	µg/L	1	8/22/2008 2:31:19 PM
Xylenes, Total	ND	1.5	μg/L	1	8/22/2008 2:31:19 PM
Surr: 1,2-Dichloroethane-d4	93.2	68.1-123	%REC	1	8/22/2008 2:31:19 PM
Surr: 4-Bromofluorobenzene	105	53.2-145	%REC	1 .	8/22/2008 2:31:19 PM
Surr: Dibromofluoromethane	96.3	68.5-119	%REC	1	8/22/2008 2:31:19 PM
Surr: Toluene-d8	98.1	64-131	%REC	1	8/22/2008 2:31:19 PM

Ouamicis.	Qua	li	ſi	ers	:
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- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Page 34 of 34

### **CASE NARRATIVE**

September 5, 2008

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM

Project Tracking No.: 0808297 Anatek Batch: 080820024

**Project Summary:** Six (6) water samples were received on 8/20/2008 for metals (EPA 6020A) analysis. All samples were received in good condition and with the appropriate chain of custody Samples were received at 1.55C.

Client Sample ID	Anatek Sample ID	Method/Prep Method
0808297-01F / MW-#8	080820024-001	EPA 6020A/3005A
0808297-02F / MW-#29	080820024-002	EPA 6020A/3005A
0808297-04F / MW-30	080820024-003	EPA 6020A/3005A
0808297-05F / RW#1	080820024-004	EPA 6020A/3005A
0808297-06F / RW#1 FD	080820024-005	EPA 6020A/3005A
0808297-07F / MW #4	080820024-006	EPA 6020A/3005A

### **QA/QC Checks**

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Υ	NA
Surrogate Recoveries Valid?	Υ	NA
QC Sample(s) Recoveries Valid?	Υ	NA
Method Blank(s) Valid?	Υ	NA
Tune(s) Valid?	Υ	NA
Internal Standard Responses Valid?	Y	NA .
Initial Calibration Curve(s) Valid?	Υ	NA
Continuing Calibration(s) Valid?	Υ	NA
Comments:	Υ	NA

### 1. Holding Time Requirements

No problems encountered.

### 2. GC/MS Tune Requirements

NA

### 3. Calibration Requirements

No problems encountered.

### 4. Surrogate Recovery Requirements

NA

### 5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

### 6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

### 7. Internal Standard(s) Response Requirements

No problems encountered.

### 8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by:

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D · Spokane WA 99202 · (509) 838-3999 · Fax (509) 838-4433 · email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080820024

Address: 4901 HAWKINS NE SUITE D **Project Name:** 

0808297

Attn:

ANDY FREEMAN

ALBUQUERQUE, NM 87109

**Analytical Results Report** 

Sample Number

080820024-001

Sampling Date

8/18/2028

**Date/Time Received** 

8/20/2008 10:30 AM

Client Sample ID

0808297-01F / MW-#8

Sampling Time

10:30 AM

**Extraction Date** 

8/27/2008

Matrix:

Water

Parameter Result Units PQL Analysis Date Analyst Method Qualifier 8/27/2008 **EPA 6020A** Dissolved Uranium 0.0104 0.001 mg/L

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

080820024

**Project Name:** 

0808297

### **Analytical Results Report**

Sample Number Client Sample ID 080820024-002

0808297-02F / MW-#29

Sampling Date Sampling Time 8/18/2028 11:10 AM Date/Time Received

**Extraction Date** 

8/20/2008 10:30 AM

8/27/2008

Matrix:

Water

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dissolved Uranium	0.00165	mg/L	0.001	8/27/2008	ETL	EPA 6020A	

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID000013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

.

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

080820024

**Project Name:** 

0808297

### **Analytical Results Report**

Sample Number Client Sample ID 080820024-003

0808297-04F / MW-30

Sampling Date Sampling Time 8/18/2028 12:30 PM Date/Time Received

**Extraction Date** 

8/20/2008 8/27/2008 10:30 AM

Matrix:

Water

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dissolved Uranium	ND	mg/L	0.001	8/27/2008	ETL	EPA 6020A	

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87693; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

080820024

**Project Name:** 

0808297

### **Analytical Results Report**

Sample Number Client Sample ID 080820024-004

0808297-05F / RW#1

Sampling Date Sampling Time 8/18/2028 9:15 AM Date/Time Received

**Extraction Date** 

8/20/2008 1

8/27/2008

10:30 AM

Matrix:

Water

ParameterResultUnitsPQLAnalysis DateAnalystMethodQualifierDissolved UraniumNDmg/L0.0018/27/2008ETLEPA 6020A

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

080820024

**Project Name:** 

0808297

## **Analytical Results Report**

Sample Number Client Sample ID 080820024-005

Sampling Date Sampling Time 8/18/2028 9:25 AM

Date/Time Received

**Extraction Date** 

8/20/2008 8/27/2008 10:30 AM

Matrix:

0808297-06F / RW#1 FD

Units

PQL

Analysis Date

Method

Qualifier

Parameter Result Analyst **Dissolved Uranium** ND 0.001 **EPA 6020A** mg/L 8/27/2008 ETL

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080820024

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808297

Attn:

ANDY FREEMAN

### **Analytical Results Report**

Sample Number

080820024-006

0808297-07F / MW #4

**Sampling Date** 

8/18/2028

Date/Time Received

8/20/2008

10:30 AM

Client Sample ID Matrix:

Water

Sampling Time

9:50 AM

**Extraction Date** 

8/27/2008

**Parameter** 

Result

Units

PQL Analysis Date Analyst

Method

Qualifier

Dissolved Uranium

ND

mg/L

0.001

8/27/2008

ETL **EPA 6020A** 

**Authorized Signature** 

EPA's Maximum Contaminant Level

MCL ND

Not Detected

**PQL** 

Practical Quantitation Limit

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #: Project Name: 080820024

0808297

0808297

# Analytical Results Report Quality Control Data

Lab Control Sai	mple									
Parameter		LCS Res	ult Units	LCS Sp	ike %F	Rec A	R %Rec	Pre	p Date	Analysis Date
Dissolved Uranium	· · · · · · · · · · · · · · · · · · ·	0.0503	mg/L	0.05	10	0.6	85-115	8/2	27/2008	8/27/2008
Matrix Spike					<del></del>		•		· · · · · · ·	
Comple Number	Parameter		Sample	MS	Units	MS	%Rec	AR %Rec	Prep Date	Analysis Date
Sample Number 080820024-002	Dissolved Uranium		Result 0.00165	Result 0.0552	mg/L	Spike 0.05	107.1	75-125	8/27/2008	8/27/2008
000020024-002	Dissilved Gramani	· · · · · · · · · · · · · · · · · · ·	0.00100		mg. L	0.00		70 120	0.2.7.2.000	
Matrix Spike Du	ıplicate							-		
Parameter		MSD	l lmita	MSD	%Rec	%RF		R	rep Date	Analysis Data
Dissolved Uranium	•	Result 0.0578		Spike	112.3	70KF	•		7 ep Date 3/27/2008	Analysis Date 8/27/2008
— Dissolved Oranium		. 0.0576	mg/L	0.05	112.3	4.0	5 U	20 6	3/2//2006	6/2//2006
Method Blank										
Parameter			Res	ult	Un	its	PQL	-	Prep Date	Analysis Date
Dissolved Uranium	•		ND		ma	/L	0.001		8/27/2008	8/27/2008

AR ND Acceptable Range

PQL

Not Detected

BBD

Practical Quantitation Limit Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Friday, September 05, 2008

Page 1 of 1

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DATES REPORT

# Hall Environmental Analysis Laboratory, Inc.

Lab Order: 0808297

Client: Western Refining Southwest, Inc.

Project: Refinery Wells - Annual 2008

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808297-01A	MW #8	8/18/2008 10:30:00 AM	Aqueous	EPA Method 8015B: Diesel Range	16847	8/21/2008	8/21/2008
				EPA Method 8015B: Gasoline Range	R29989		8/28/2008
				EPA Method 8260B: VOLATILES	R29968		8/27/2008
				EPA Method 8260B: VOLATILES	R29898		8/22/2008
0808297-01B				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/24/2008
0808297-01C				Carbon Dioxide	R29886		8/22/2008
				EPA Method 300.0: Anions	R29848		8/19/2008
				EPA Method 300.0: Anions	R29848		8/19/2008
				EPA Method 300.0: Anions	R29857		8/20/2008
			•	· SM 2320B: Alkalinity	R29883		8/22/2008
0808297-01D				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/8/2008
				EPA Method 7470: Mercury	16942	9/2/2008	9/2/2008
0808297-01E				EPA Method 6010B: Dissolved Metals	R30090		9/5/2008
				EPA Method 6010B: Dissolved Metals	æ		9/8/2008
0808297-02A	MW #29	8/18/2008 11:10:00 AM		EPA Method 8015B: Diesel Range	16847	8/21/2008	8/21/2008
				EPA Method 8015B: Gasoline Range	R29989		8/28/2008
				EPA Method 8260B: VOLATILES	R29898		8/22/2008
				EPA Method 8260B: VOLATILES	R29968		8/27/2008
0808297-02B				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/24/2008
0808297-02C				Carbon Dioxide	R29886		8/22/2008
				EPA Method 300.0: Anions	R29848		8/19/2008
				EPA Method 300.0: Anions	R29848		8/19/2008
				SM 2320B: Alkalinity	R29883		8/22/2008
0808297-02D				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008

40

DATES REPORT Western Refining Southwest, Inc. Refinery Wells - Annual 2008 0808297 Lab Order: Project: Client:

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch 1D	Prep Date	Analysis Date
0808297-02D	MW #29	8/18/2008 11:10:00 AM	Aqueous	EPA Method 7470: Mercury	16942	9/2/2008	9/2/2008
0808297-02E				EPA Method 6010B: Dissolved Metals	R30090		9/5/2008
				EPA Method 6010B: Dissolved Metals	ĸ		9/8/2008
0808297-03A	Field Blank	8/18/2008 12:20:00 PM		EPA Method 8260B: VOLATILES	R29898		8/22/2008
				EPA Method 8260B: VOLATILES	R29968	•	8/27/2008
0808297-04A	MW #30	8/18/2008 12:30:00 PM		EPA Method 8015B: Diesel Range	16847	8/21/2008	8/21/2008
				EPA Method 8015B: Gasoline Range	R29989		8/28/2008
				EPA Method 8260B: VOLATILES	R29898		8/22/2008
				EPA Method 8260B: VOLATILES	R29968		8/27/2008
0808297-04B				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/24/2008
				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/26/2008
0808297-04C				Carbon Dioxide	R29886		8/22/2008
				EPA Method 300.0: Anions	R29848		8/19/2008
				EPA Method 300.0: Anions	R29848		8/19/2008
				SM 2320B: Alkalinity	R29883		8/22/2008
0808297-04D				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA Method 7470: Mercury	16942	9/2/2008	9/2/2008
0808297-04E				EPA Method 6010B: Dissolved Metals	R30090		9/5/2008
				EPA Method 6010B: Dissolved Metals	R30090		8/2/2008
0808297-05A	RW #1	8/18/2008 9:15:00 AM		EPA Method 8015B: Diesel Range	16847	8/21/2008	8/21/2008
				EPA Method 8015B: Gasoline Range	R29989		8/28/2008
				EPA Method 8260B: VOLATILES	R29944		8/26/2008
				EPA Method 8260B: VOLATILES	R29898		8/22/2008
				EPA Method 8260B: VOLATILES	R29944		8/26/2008
0808297-05B				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/24/2008

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DATES REPORT

# Hall Environmental Analysis Laboratory, Inc.

**Lab Order:** 0808297

Client: Western Refining Southwest, Inc.

Project: Refinery Wells - Annual 2008

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808297-05B	RW#1	8/18/2008 9:15:00 AM	Aqueous	EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/25/2008
0808297-05C				Carbon Dioxide	R29886		8/22/2008
				EPA Method 300.0: Anions	R29848		8/19/2008
				EPA Method 300.0: Anions	R29848		8/20/2008
				SM 2320B: Alkalinity	R29883		8/22/2008
0808297-05D				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA Method 7470: Mercury	16942	9/2/2008	9/2/2008
0808297-05E				EPA Method 6010B: Dissolved Metals	R30090		9/5/2008
				EPA Method 6010B: Dissolved Metals	R30090		9/5/2008
0808297-06A	RW #1 FD	8/18/2008 9:25:00 AM		EPA Method 8015B: Diesel Range	16847	8/21/2008	8/26/2008
				EPA Method 8015B: Gasoline Range	R29989		8/28/2008
				EPA Method 8260B: VOLATILES	R29898		8/22/2008
				EPA Method 8260B: VOLATILES	R29944		8/26/2008
				EPA Method 8260B: VOLATILES	R29944		8/26/2008
0808297-06B				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/24/2008
				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/25/2008
0808297-06C				Carbon Dioxide	R29886		8/22/2008
٠				EPA Method 300 0: Anions	R29848		8/20/2008
			٠	EPA Method 300 0: Anions	R29848		8/20/2008
				SM 2320B: Alkalinity	R29883		8/22/2008
0808297-06D				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA Method 7470: Mercury	16942	8/2/2008	9/2/2008
0808297-06E				EPA Method 6010B: Dissolved Metals	R30090		9/5/2008

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DATES REPORT

# Hall Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc. 0808297 Lab Order: Project: Client:

Refinery Wells - Annual 2008

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Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808297-06E	RW #1 FD	8/18/2008 9:25:00 AM	. Aqueous	EPA Method 6010B: Dissolved Metals	R30090		9/5/2008
				EPA Method 6010B: Dissolved Metals	R		8/2008
0808297-07A	MW #4	8/18/2008 9:50:00 AM		EPA Method 8015B: Diesel Range	16847	8/21/2008	8/21/2008
				EPA Method 8015B: Gasoline Range	R29989		8/28/2008
				EPA Method 8260B: .VOLATILES	R29898		8/22/2008
				EPA Method 8260B: VOLATILES	R29944		8/26/2008
0808297-07B				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/24/2008
				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/25/2008
0808297-07C				Carbon Dioxide	R29886		8/22/2008
				EPA Method 300.0: Anions	R29848		8/20/2008
				EPA Method 300.0: Anions	R29848		8/20/2008
				SM 2320B: Alkalinity	R29883		8/22/2008
0808297-07D				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	8)02/5/6
			•	EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA Method 7470: Mercury	16942	9/2/2008	9/2/2008
0808297-07E				EPA Method 6010B: Dissolved Metals	R30090		9/5/2008
	-			EPA Method 6010B: Dissolved Metals	R30090		9/5/2008
				EPA Method 6010B: Dissolved Metals	R30090		9/5/2008
0808297-08A	TRIP BLANK		Trip Blank	EPA Method 8015B: Gasoline Range	R29989		8/28/2008
				EPA Method 8260B: VOLATILES	R29898		8/22/2008



**Date:** 23-Sep-08

# **QA/QC SUMMARY REPORT**

lient: roject: Western Refining Southwest, Inc.

Refinery Wells - Annual 2008

Work Order:

0808297

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD R	PDLimit Qual
Method: EPA Method 300.0: Anic	ons							
Sample ID: 0808297-02CMSD		MSD			Batch	ID: <b>R29848</b>	Analysis Date:	8/19/2008 10:25:28 PM
Fluoride	0.7935	mg/L	0.10	86.7	65.1	121	3.04	20
Nitrogen, Nitrite (As N)	1.242	mg/L	0.10	124	52.9	128	2.59	20
Nitrogen, Nitrate (As N)	3.386	mg/L	0.10	95.8	83.8	112	0.433	20
Phosphorus, Orthophosphate (As P)	4.915	mg/L	0.50	98.3	77.6	118	3.13	20
Sample ID: MB		MBLK			Batch	ID: <b>R29848</b>	Analysis Date:	8/19/2008 9:22:04 AM
Fluoride	ND	mg/L	0.10					
Chloride	ND	mg/L	0.10					
Nitrogen, Nitrite (As N)	ND	mg/L	0.10					
Nitrogen, Nitrate (As N)	ND	mg/L	0.10					
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50					
Sulfate	ND	mg/L	0.50					
Sample ID: MB		MBLK			Batch	ID: <b>R29857</b>	Analysis Date:	8/20/2008 8:34:50 AN
Fluoride	ND	mg/L	0.10					
Chloride	ND	mg/L	0.10					
Nitrogen, Nitrite (As N)	ND	mg/L	0.10	•				
Nitrogen, Nitrate (As N)	ND	mg/L	0.10					
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50					
Sulfate	· ND	mg/L	0.50			•		
ample ID: LCS		LCS			Batch	ID: <b>R29848</b>	Analysis Date:	8/19/2008 9:39:29 AM
Fluoride	0.5144	mg/L	0.10	103	90	110		•
Chloride	4.885	mg/L	0.10	97.7	90	110		
Nitrogen, Nitrite (As N)	1.013	mg/L	0.10	101	90	110		
Nitrogen, Nitrate (As N)	2.512	mg/L	0.10	100	90	110		
Phosphorus, Orthophosphate (As P)	4.816	mg/L	0.50	96.3	90	110		
Sulfate	10.10	mg/L	0.50	101	90	110		
Sample ID: LCS		LCS			Batch		Analysis Date:	8/20/2008 8:52:14 AM
Fluoride	0.4991	mg/L	0.10	99.8	90	110	•	
Chloride	4.828	mg/L	0.10	96.6	90	110		
Nitrogen, Nitrite (As N)	1.003	mg/L	0.10	100	90	110		
Nitrogen, Nitrate (As N)	2.503	mg/L	0.10	100	90	110		
Phosphorus, Orthophosphate (As P)	4.815	mg/L	0.50	96.3	90	110		
Sulfate	10.03	mg/L	0.50	100	90	110		
Sample ID: 0808297-02CMS		MS	2.00		Batch		Analysis Date:	8/19/2008 10:08:04 PM
Fluoride	0.7698		0.10	82.0	65.1	121		
riuoride Nitrogen, Nitrite (As N)	1.211	mg/L mg/L	0.10 0.10	82.0 121	52.9	121		
Nitrogen, Nitrate (As N)	3.371	mg/L	0.10	95.2	83.8	112		
-					63.6 77.6			
Phosphorus, Orthophosphate (As P)	4.764	mg/L	0.50	95.3	0.11	118		

### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

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## **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells - Annual 2008

Work Order:

)808297<sup>1</sup>

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Result	Units	PQL	%Rec	LowLimit H	ighLimit	%RPD F	RPDLimit Qual
	•						·
	MBLK			Batch ID:	R29883	Analysis Date	e: 8/22/2008
ND	mg/L CaC	2.0					
ND	mg/L CaC	2.0					
ND	mg/L CaC	2.0			•		
	· LCS			Batch ID:	R29883	Analysis Date	e: 8/22/2008
81.00	mg/L CaC	20	100	80	120		
esel Range							
	MBLK			Batch ID:	16847	Analysis Date	e: 8/21/2008 6:58:00 PM
ND	mg/L	1.0			•		
ND	mg/L	5.0					·
	LCS			Batch ID:	16847	Analysis Date	e: 8/21/2008 7:32:04 PM
5.664	mg/L	1.0	113	74	157		
	LCSD .			Batch ID:	16847	Analysis Date	e: 8/21/2008 8:06:10 PM
5.516	mg/L	1.0	110	74	157	2.64	23
asoline Rar	nge						•
	MSD			Batch ID:	R29989	Analysis Date	e: 8/28/2008 5:17:51 PM
0.4432	mg/L	0.050	88.6	80	115	1.04	8.39
•	MBLK			Batch ID:	R29989	Analysis Date	e: 8/28/2008 9:10:51 AM
ND	ma/L	0.050		•			
	LCS			Batch ID:	R29989	Analysis Date	e: 8/28/2008 5:48:03 PM
0.4892	mg/L	0.050	97.8	80	115		
	MS	•		Batch ID:	R29989	Analysis Date	e: 8/28/2008 4:47:28 PM
	ND ND 81.00 esel Range ND ND 5.664 5.516 asoline Ran 0.4432 ND	MBLK           ND         mg/L CaC           ND         mg/L CaC           LCS         81.00         mg/L CaC           esel Range           MBLK           ND         mg/L           LCS         5.664         mg/L           LCSD         5.516         mg/L           asoline Range         MSD           0.4432         mg/L           MBLK           ND         mg/L           LCS           0.4892         mg/L	MBLK         ND       mg/L CaC       2.0         ND       mg/L CaC       2.0         LCS       81.00       mg/L CaC       20         esel Range         MBLK         ND       mg/L       5.0         LCS       5.664       mg/L       1.0         LCSD       5.516       mg/L       1.0         asoline Range         MSD       0.050       MBLK         ND       mg/L       0.050         MBLK       ND       mg/L       0.050         LCS       0.4432       mg/L       0.050         LCS       0.4892       mg/L       0.050	MBLK         ND       mg/L CaC       2.0         ND       mg/L CaC       2.0         LCS       81.00       mg/L CaC       20       100         esel Range         MBLK         ND       mg/L       1.0       113         ND       mg/L       1.0       113         LCS       5.664       mg/L       1.0       110         asoline Range       MSD         0.4432       mg/L       0.050       88.6         MBLK         ND       mg/L       0.050       88.6         MBLK         ND       mg/L       0.050       97.8	MBLK       Batch ID:         ND       mg/L CaC       2.0         ND       mg/L CaC       2.0         LCS       Batch ID:         81.00       mg/L CaC       20       100       80         esel Range         MBLK       Batch ID:         ND       mg/L       5.0       LCS       Batch ID:         ND       mg/L       1.0       113       74       Batch ID:         5.516       mg/L       1.0       110       74         asoline Range         MSD       Batch ID:         0.4432       mg/L       0.050       88.6       80         MBLK       Batch ID:         ND       mg/L       0.050       Batch ID:         0.4892       mg/L       0.050       97.8       80	MBLK       Batch ID: R29883         ND       mg/L CaC       2.0         ND       mg/L CaC       2.0         LCS       Batch ID: R29883         81.00       mg/L CaC       20       100       80       120         esel Range         MBLK       Batch ID: 16847         ND       mg/L       1.0       113       74       157         LCS       Batch ID: 16847         5.516       mg/L       1.0       110       74       157         asoline Range         MSD       Batch ID: R29989         0.4432       mg/L       0.050       88.6       80       115         MBLK       Batch ID: R29989         ND       mg/L       0.050       Batch ID: R29989         0.4892       mg/L       0.050       97.8       80       115	MBLK         Batch ID: R29883         Analysis Date           ND         mg/L CaC         2.0         ND mg/L CaC         2.0         LCS         Batch ID: R29883         Analysis Date           81.00         mg/L CaC         2.0         100         80         120           esel Range           MBLK         Batch ID: 16847         Analysis Date           ND         mg/L         5.0         5.0           LCS         Batch ID: 16847         Analysis Date           5.664         mg/L         1.0         113         74         157         2.64           asoline Range         MSD         Batch ID: R29989         Analysis Date           0.4432         mg/L         0.050         88.6         80         115         1.04           ND         mg/L         0.050         Batch ID: R29989         Analysis Date           0.4892         mg/L         0.050         97.8         80         115

Qua	lifiers
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- E Value above quantitation range
- J Analyte detected below quantitation limits .
- RPD outside accepted recovery limits

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

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Refinery Wells - Annual 2008

Work Order:

0808297

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B:	VOLATILES								
Sample ID: 5ml rb		MBLK			Batch	ID: <b>R29898</b>	Analysis I	Date: 8/22	/2008 9:00:38 AN
Benzene	^ ND	μg/L	1.0				Ţ		
Toluene	ND	μg/L μg/L	1.0						
Ethylbenzene	ND	μg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	μg/L μg/L	1.0						
1,2,4-Trimethylbenzene	ND	μg/L μg/L	1.0						
1,3,5-Trimethylbenzene	ND	μg/L μg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0	•					
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
Naphthalene	ND	μg/L μg/L	2.0	•					
	ND		4.0						
1-Methylnaphthalene	ND ND	μg/L							
2-Methylnaphthalene		μg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	μg/L "	1.0						
Bromodichloromethane	ND	μg/L 	1.0						
Bromoform	ND	μg/L 	1.0						
Bromomethane	ND	μg/L 	1.0			•			
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	μg/L	10						
arbon Tetrachloride	ND	µg/L	1.0						•
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	μg/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	μg/L	1.0					•	
2-Chlorotoluene	ND	μg/L	1.0						
4-Chlorotoluene	ND	μg/L	1.0						
cis-1,2-DCE	ND	μg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromethane	ND	μg/L	1.0						
Dibromomethane	ND	µg/L	1.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	µg/L	1.0						
1,4-Dichlorobenzene	ND	µg/L	1.0			•			
Dichlorodifluoromethane	ND	μg/L	1.0						
1,1-Dichloroethane	ND	µg/L	1.0						
1,1-Dichloroethene	ND	μg/L	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						
1,3-Dichloropropane	ND	μg/L	1.0						
2,2-Dichloropropane	ND	µg/L	2.0						
1,1-Dichloropropene	ND	μg/L	1.0						
Hexachlorobutadiene	ND	μg/L	1.0						
2-Hexanone	ND	μg/L	10						
sopropylbenzene	ND	µg/L	1.0						
-isopropyltoluene	ND	µg/L	1.0						
	· ·	F3: =							

#### Qualifiers:

S Spike recovery outside accepted recovery limits

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

### QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells - Annual 2008

Work Order:

808297

Analyte	Result	Units	PQL	%Rec	LowLimit Hig	jhLimit 	%RPD RP	DLimit Qual
Method: EPA Method 8260B:	VOLATILES		·					
Sample ID: 5ml rb		MBLK			Batch ID:	R29898	Analysis Date:	8/22/2008 9:00:38 AM
4-Methyl-2-pentanone	ND	μg/L	10					
Methylene Chloride	ND	µg/L	3.0					
n-Butylbenzene	ND	μg/L	1.0					
n-Propylbenzene	ND	μg/L	1.0					
sec-Butylbenzene	ND	µg/L	1.0					•
Styrene	ND	µg/L	1.0					
tert-Butylbenzene	ND	µg/L	1.0					
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0					
1,1,2,2-Tetrachloroethane	ND	μg/L	2.0					
Tetrachloroethene (PCE)	3.025	μg/L	1.0					
trans-1,2-DCE	ND		1.0					•
		μg/L						
trans-1,3-Dichloropropene	ND	μg/L	1.0					
1,2,3-Trichlorobenzene	ND	µg/L	1.0					
1,2,4-Trichlorobenzene	ND	μg/L "	1.0					
1,1,1-Trichloroethane	ND	μg/L 	1.0		•			
1,1,2-Trichloroethane	ND	μg/L ,	1.0					
Trichloroethene (TCE)	ND	µg/L	1.0					
Trichlorofluoromethane	ND	μg/L	1.0					
1,2,3-Trichloropropane	ND	μg/L	2.0					
Vinyl chloride	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	1.5			•		
Sample ID: b3		MBLK			Batch ID:	R29898	Analysis Date:	8/22/2008 9:46:24 PM
Benzene	ND	μg/L	1.0				•	
Toluene	. ND	µg/L	1.0					•
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L .	1.0					
1,2,4-Trimethylbenzene	ND	μg/L	1.0					
1,3,5-Trimethylbenzene	ND	μg/L	1.0					
1,2-Dichloroethane (EDC)	ND	μg/L	1.0					
1,2-Dibromoethane (EDB)	ND	μg/L	1.0		,			
Naphthalene	ND	μg/L	2.0					
1-Methylnaphthalene	ND	μg/L	4.0					
2-Methylnaphthalene	ND	μg/L	4.0					1,
Acetone	ND	μg/L	10					
Bromobenzene	ND	μg/L	1.0					
Bromodichloromethane	ND	μg/L	1.0					
Bromoform	ND	μg/L μg/L	1.0	,	•			
Bromomethane	ND		1.0					
		μg/L	1.0					
2-Butanone Carbon disulfide	ND ND	μg/L				•		
,	ND ND	μg/L	10					
Carbon Tetrachloride	ND	μg/L	1.0					
Chlorobenzene	ND	μg/L 	1.0					
Chloroethane	ND	µg/L	2.0					
Chloroform	ND	μg/L	1.0					

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Refinery Wells - Annual 2008

Work Order:

0808297

Analyte	Result	Units	PQL	%Rec	LowLimit H	lighLimit	%RPD	RPDLimit Qual
Method: EPA Method 8260B:	VOLATILES							
Sample ID: b3		MBLK			Batch ID	R29898	Analysis Da	ite: 8/22/2008 9:46:24
Chloromethane	ND	μg/L	1.0					
2-Chlorotoluene	ND	μg/L	1.0					
4-Chlorotoluene	ND	μg/L	1.0					
cis-1,2-DCE	ND	μg/L	1.0					
cis-1,3-Dichloropropene	ND	μg/L	1.0					
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0					
Dibromochloromethane	ND	µg/L	1.0					
Dibromomethane	ND	μg/L	1.0					
1,2-Dichlorobenzene	ND	μg/L	1.0	•				
1,3-Dichlorobenzene	ND	μg/L	1.0					
1,4-Dichlorobenzene	ND	μg/L	1.0					
Dichlorodifluoromethane	ND	µg/L	1.0					
1,1-Dichloroethane	ND	μg/L	1.0					
1,1-Dichloroethene	ND	μg/L	1.0	•				
1,2-Dichloropropane	ND	µg/L	1.0					
1,3-Dichloropropane	ND	μg/L	1.0					
2,2-Dichloropropane	ND	μg/L	2.0					
1,1-Dichloropropene	ND	μg/L	1.0					
lexachlorobutadiene	ND	μg/L	1.0					
2-Hexanone	ND	μg/L	10					
sopropylbenzene	ND	μg/L	1.0					
4-Isopropyltoluene	ND	μg/L	1.0					
4-Methyl-2-pentanone	ND	μg/L	10					
Methylene Chloride	ND	μg/L	3.0					
n-Butylbenzene	ND	μg/L	1.0					
n-Propylbenzene	ND	μg/L	1.0					
sec-Butylbenzene	ND	μg/L	1.0				•	
Styrene	ND	μg/L	1.0					
ert-Butylbenzene	ND	μg/L	1.0					
I,1,1,2-Tetrachloroethane	ND	μg/L	1.0					
1,1,2,2-Tetrachloroethane	ND	μg/L	2.0					
Fetrachloroethene (PCE)	ND	μg/L	1.0					
rans-1,2-DCE	ND	μg/L	1.0					
rans-1,3-Dichloropropene	ND	μg/L	1.0					
,2,3-Trichlorobenzene	ND	μg/L	1.0					
,2,4-Trichlorobenzene	ND	μg/L	1.0					
,1,1-Trichloroethane	ND	μg/L	1.0					
,1,2-Trichloroethane	ND	μg/L	1.0					
richloroethene (TCE)	ND	µg/L	1.0					
richlorofluoromethane	ND	μg/L	1.0					
,2,3-Trichloropropane	ND	μg/L	2.0		•			
/inyl chloride	ND	µg/L	1.0					
(ylenes, Total	ND	μg/L	1.5					
Sample ID: 5ml rb		MBLK			Batch ID:	R29944	Analysis Dat	te: 8/26/2008 9:10:18

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells - Annual 2008

Work Order:

<mark>በደብደን</mark>ወ

Analyte	Result	Units	PQL	%Rec	LowLimit HighLim	nit	%RPD	RPD	Limit	Qual
Method: EPA Method 8260B:	VOLATILES									
Sample ID: 5ml rb		MBLK			Batch ID: R29	944	Analysis I	Date:	8/26/2	2008 9:10:18
Benzene	ND	μg/L	1.0							
Toluene	ND	μg/L	1.0					•		
Ethylbenzene	ND	μg/L	1.0							
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0							
1,2,4-Trimethylbenzene	ND	μg/L	1.0							
1,3,5-Trimethylbenzene	ND	μg/L	1.0							
1,2-Dichloroethane (EDC)	ND	μg/L	1.0							
1,2-Dibromoethane (EDB)	ND	μg/L	1.0							
Naphthalene	ND	μg/L	2.0				•			
1-Methylnaphthalene	ND	μg/L	4.0		•					
2-Methylnaphthalene	ND	μg/L	4.0							
Acetone	ND	μg/L	10							
Bromobenzene	ND	μg/L	1.0							
Bromodichloromethane	ND	μg/L	1.0							
Bromoform	ND	μg/L	1.0							
Bromomethane	ND	μg/L	1.0							
2-Butanone	ND	μg/L	10							
Carbon disulfide	ND	μg/L	10							
Carbon Tetrachloride	ND	μg/L μg/L	1.0							
Chlorobenzene	ŇD	μg/L	1.0							
Chloroethane	ND	μg/L	2.0							
Chloroform	ND	μg/L	1.0							
Chloromethane	ND	μg/L	1.0							
2-Chlorotoluene	ND	μg/L	1.0				•			
4-Chlorotoluene	ND	μg/L	1.0							
cis-1,2-DCE	ND	μg/L	1.0							
cis-1,3-Dichloropropene	ND	µg/L	1.0							
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0		•					
Dibromochloromethane	ND	μg/L	1.0							
Dibromomethane	ND	μg/L	1.0							
1,2-Dichlorobenzene	ND	µg/L	1.0							
1,3-Dichlorobenzene	ND	µg/L	1.0							
1,4-Dichlorobenzene	ND	μg/L	1.0							
Dichlorodifluoromethane	ND	μg/L	1.0							
1,1-Dichloroethane	ND	µg/L	1.0							
1,1-Dichloroethene	ND	μg/L	1.0							
1,2-Dichloropropane	ND	µg/L	1.0							
1,3-Dichioropropane	ND	μg/L	1.0							
2,2-Dichloropropane	ND	µg/L	2.0							
1,1-Dichloropropene	ND.	μg/L	1.0							
Hexachlorobutadiene	ND	μg/L μg/L	1.0							
2-Hexanone	ND	µg/L	10							
Isopropylbenzene	ND	µg/L	1.0							
4-isopropyltaluene	ND	μg/L	1.0							

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# QA/QC SUMMARY REPORT

lient: Project: Western Refining Southwest, Inc. Refinery Wells - Annual 2008

Work Order:

0808297

Analyte	Result	Units	PQL	%Rec	LowLimit Hi	ghLimit	%RPD	RPI	DLimit	Qual
Method: EPA Method 8260B:	VOLATILES									,
Sample ID: 5ml rb		MBLK			· Batch ID:	R29944	Analysis D	ate:	8/26/2	008 9:10:18 AI
1-Methyl-2-pentanone	ND	μg/L	10							
Methylene Chloride	ND	μg/L	3.0							
n-Butylbenzene	ND	μg/L	1.0							
n-Propylbenzene	ND	μg/L	1.0							
sec-Butylbenzene	ND	μg/L	1.0							
Styrene	ND	μg/L	1.0							
ert-Butylbenzene	ND	μg/L	1.0							
I,1,1,2-Tetrachloroethane	ND	μg/L	1.0							
1,1,2,2-Tetrachloroethane	ND	μg/L	2.0							
Tetrachloroethene (PCE)	ND	μg/L	1.0							
rans-1,2-DCE	ND	μg/L	1.0							
rans-1,3-Dichloropropene	ND	µg/L	1.0							
,2,3-Trichlorobenzene	ND	μg/L	1.0							
,2,4-Trichlorobenzene	ND	μg/L	1.0							
1,1-Trichloroethane	ND	μg/L	1.0							
,1,2-Trichloroethane	ND	µg/L	1.0							
Frichloroethene (TCE)	ND	μg/L	1.0							
richlorofluoromethane	ND	μg/L	1.0							
2,3-Trichloropropane	ND	μg/L	2.0							
inyl chloride	ND	µg/L	1.0							
(ylenes, Total	ND	µg/L	1.5							
Sample ID: b8		MBLK			Batch ID:	R29944	Analysis D	ate:	8/26/200	08 11:56:52 PM
Benzene	ND	μg/L	1.0							
oluene	ND	μg/L	1.0							
Ethylbenzene	ND	μg/L	1.0							
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0							
,2,4-Trimethylbenzene	ND	μg/L	1.0							
,3,5-Trimethylbenzene	ND	μg/L	1.0							
,2-Dichloroethane (EDC)	ND	μg/L	1.0							
,2-Dibromoethane (EDB)	ND	μg/L	1.0							
laphthalene	ND	μg/L	2.0							
-Methylnaphthalene	ND	μg/L	4.0							
-Methylnaphthalene	ND	μg/L	4.0							
cetone	ND	μg/L	10							
Bromobenzene	ND	μg/L	1.0							
Bromodichloromethane	ND	µg/L	1.0							
Bromoform	ND	μg/L	1.0							
Bromomethane	ND	μg/L	1.0							
-Butanone	ND	μg/L	10							
arbon disulfide	ND	μg/L	10							
arbon Tetrachloride	ND	μg/L	1.0							
hlorobenzene	ND	μg/L	1.0							
hloroethane	ND	µg/L	2.0							
hloroform	ND	μg/L	1.0							

#### Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Inc. Date: 23-Sep-08

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

**Project:** Refinery Wells - Annual 2008

Work Order:

0808297

Analyte	Result	Units	PQL	%Rec	LowLimit Hig	hLimit	%RPD R	PDLimit Qual
Method: EPA Method 8260B: V	OLATILES	4, 4,		.,				
Sample ID: b8		MBLK			Batch ID:	R29944	Analysis Date	8/26/2008 11:56:52 PM
Chloromethane	ND	μg/L	1.0					
2-Chlorotoluene	ND	μg/L	1.0					
4-Chlorotoluene	ND	μg/L	1.0					
cis-1,2-DCE	ND	μg/L	1.0	•				
cis-1,3-Dichloropropene	ND	μg/L	1.0					
1,2-Dibromo-3-chloropropane	NĐ	μg/L	2.0					•
Dibromochloromethane	ND	μg/L	1.0					
Dibromomethane ·	ND	µg/L	1.0					
1,2-Dichlorobenzene	ND	μg/L	1.0					
1,3-Dichlorobenzene	ND	μg/L	1.0	•				
1,4-Dichlorobenzene	ND	μg/L	1.0					
Dichlorodifluoromethane	ND	μg/L	1.0					
1,1-Dichloroethane	ND	μg/L	1.0					
1,1-Dichloroethene	ND	μg/L	1.0					
1,2-Dichloropropane	ND	μg/L	1.0					
1,3-Dichloropropane	ND	μg/L	1.0					
2,2-Dichloropropane	ND	µg/L	2.0					
1,1-Dichloropropene	ND .	µg/L	1.0					
Hexachlorobutadiene	ND ·	μg/L	1.0					
2-Hexanone	ND	μg/L	10					•
Isopropylbenzene	ND	μg/L	1.0					
4-Isopropyltoluene	ND	μg/L	1.0					
4-Methyl-2-pentanone	ND	μg/L	10					
Methylene Chloride	ND	μg/L	3.0					
n-Butylbenzene	ND	μg/L	1.0					
n-Propylbenzene	ND	μg/L	1.0					
sec-Butylbenzene	ND	μg/L	1.0					
Styrene	ND	μg/L	1.0					
tert-Butylbenzene	ND	μg/L	1.0					
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0					
1,1,2,2-Tetrachloroethane	ND	μg/L	2.0					•
Tetrachloroethene (PCE)	ND	µg/L	1.0					
trans-1,2-DCE	ND	μg/L μg/L	1.0					
trans-1,3-Dichloropropene	ND	μg/L	1.0					
1,2,3-Trichlorobenzene	ND	μg/L	1.0					
1,2,4-Trichlorobenzene	ND	μg/L	1.0					
1,1,1-Trichloroethane	ND	µg/L .	1.0					
1,1,2-Trichloroethane	ND	μg/L	1.0			٠		
Trichloroethene (TCE)	ND	µg/L µg/L	1.0					
Trichlorofluoromethane	ND ND	μg/L μg/L	1.0					
		•	2.0					
1,2,3-Trichloropropane	ND ND	μg/L						
Vinyl chloride	ND	μg/L	1.0					•
Xylenes, Total	ND	μg/L	1.5		D 1-1-15	Dacco	Amakista Dit	
Sample ID: 5ml rb		MBLK			Batch ID:	R29968	Analysis Date	e: 8/27/2008 1:41:36 PM

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

### QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Refinery Wells - Annual 2008

Work Order:

0808297

Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RPI	DLimit Qual
Method: EPA Method 8260B	: VOLATILES						
Sample ID: 5ml rb		MBLK			Batch ID: R29968	Analysis Date:	8/27/2008 1:41:36 PM
Benzene	ND	μg/L	1.0				
Toluene	ND	μg/L	1.0				
Ethylbenzene	ND	μg/L	1.0				
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0				
1,2,4-Trimethylbenzene	ND	μg/L	1.0				
1,3,5-Trimethylbenzene	ND	μg/L	1.0				
1,2-Dichloroethane (EDC)	ND	μg/L	1.0				
1,2-Dibromoethane (EDB)	ND	μg/L	1.0				•
Naphthalene	ND	μg/L	2.0			,	
1-Methylnaphthalene	ND	μg/L	4.0				
2-Methylnaphthalene	ND	μg/L	4.0				
Acetone	ND	μg/L	10				
Bromobenzene	ND	μg/L	1.0				
Bromodichloromethane	ND	μg/L	1.0		•		
Bromoform	ND	μg/L	1.0				
Bromomethane	ND	μg/L	1.0				
2-Butanone	ND	μg/L	10				
Carbon disulfide	ND	μg/L	10			•	
Carbon Tetrachloride	ND	μg/L	1.0				
Chlorobenzene	ND	μg/L	. 1.0				
Chloroethane	ND	μg/L	2.0				
Chloroform	ND	μg/L	1.0				
Chloromethane	ND	μg/L	1.0	•			
2-Chlorotoluene	ND	μg/L	1.0				
4-Chlorotoluene	ND	μg/L	1.0				
cis-1,2-DCE	ND	μg/L	1.0				
cis-1,3-Dichloropropene	ND	μg/L	1.0				
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0				
Dibromochloromethane	ND	μg/L	1.0				
Dibromomethane	ND	μg/L	1.0				
1,2-Dichlorobenzene	ND	μg/L	1.0				
1,3-Dichlorobenzene	ND	μg/L	· 1.0				
1,4-Dichlorobenzene	ND	μg/L	1.0				
Dichlorodifluoromethane	ND	μg/L	1.0				
1,1-Dichloroethane	ND	μg/L	1.0				
1,1-Dichloroethene	ND	μg/L	1.0		•		
1,2-Dichloropropane	ND	μg/L	1.0				
1,3-Dichloropropane	ND	μg/L	1.0				
2,2-Dichloropropane	ND	μg/L	2.0				
1,1-Dichloropropene	ND	μg/L	1.0				
Hexachlorobutadiene	ND	μg/L	1.0				
2-Hexanone	ND	µg/L	10				
Isopropylbenzene	ND	μg/L	1.0				
4-Isopropyltoluene	ND	µg/L	1.0				
Qualifiers:							

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Refinery Wells - Annual 2008

Work Order:

0808297

Analyte .	Result	Units	PQL	%Rec	LowLimit Hi	ghLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260B:	VOLATILES							
Sample ID: 5ml rb		MBLK .			Batch ID:	R29968	Analysis Date:	8/27/2008 1:41:36 PM
4-Methyl-2-pentanone	ND	µg/L	10					
Methylene Chloride	ND	µg/L	3.0			•		
n-Butylbenzene	ND	μg/L	1.0			•		
n-Propylbenzene	ND .	µg/L	1.0					
sec-Butylbenzene	ND	µg/L	1.0					
Styrene	ND	μg/L	1.0					•
ert-Butylbenzene	ND	µg/L	1.0					
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0					
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0					
Tetrachloroethene (PCE)	ND	μg/L	1.0					
trans-1,2-DCE	ND	µg/L	1.0					
trans-1,3-Dichloropropene	ND	μg/L	1.0					
1,2,3-Trichlorobenzene	ND	μg/L	1.0					•
1,2,4-Trichlorobenzene	ND	μg/L	1.0					
1,1,1-Trichloroethane	ND	μg/L	1.0					
1,1,2-Trichloroethane	ND	μg/L ·	1.0					
Frichloroethene (TCE)	ND	μg/L	1.0					
richlorofluoromethane	ND	µg/L	1.0		• .			
,2,3-Trichloropropane	ND	μg/L	2.0					•
/inyl chloride	ND	µg/L	1.0					,
(ylenes, Total	ND	μg/L	1.5					
Sample ID: b4		MBLK			Batch ID:	R29968	Analysis Date:	8/28/2008 1:47:54 Af
Benzene	NĐ	µg/L	1.0					
Foluene	ND	μg/L	1.0		•			
Ethylbenzene	ND .	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	, ND	μg/L	1.0					
I,2,4-Trimethylbenzene	ND	μg/L	1.0					
1,3,5-Trimethylbenzene	ND	μg/L	1.0					
1,2-Dichloroethane (EDC)	ND	μg/L	1.0					
1,2-Dibromoethane (EDB)	ND	µg/L	1.0					
Naphthalene .	ND	µg/L	2.0					
1-Methylnaphthalene	ND	μg/L	4.0					
2-Methylnaphthalene	ND	μg/L	4.0					
Acetone	ND	μg/L	10					
Bromobenzene	ND	μg/L	1.0					
Bromodichloromethane	ND	μg/L	1.0					
Bromoform	ND -	µg/L	1.0					
Bromomethane	ND	μg/L	1.0					
2-Butanone	ŃD	μg/L	10					
Carbon disulfide	ND	μg/L	10					
Carbon Tetrachloride	ND	μg/L	1.0					
Chlorobenzene	ND	μg/L	1.0					
Chloroethane	ND	μg/L	2.0					
Chloroform	ND	µg/L	1.0					

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

### QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Refinery Wells - Annual 2008

Work Order:

0808297

Analyte	Result	Units	PQL	%Rec	LowLimit H	ighLimit	%RPD I	RPDLimit Qual
Method: EPA Method 8260B:	VOLATILES			,				
Sample ID: b4		MBLK			Batch ID:	R29968	Analysis Date	e: 8/28/2008 1:47:54 AN
Chloromethane	ND .	μg/L	1.0					
2-Chlorotoluene	ND	μg/L	1.0		,			
4-Chlorotoluene	ND	μg/L	1.0					
cis-1,2-DCE	ND .	μg/L	1.0					
cis-1,3-Dichloropropene	ND	μg/L	1.0					
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0					
Dibromochloromethane	ND	μg/L	1.0					
Dibromomethane	ND	μg/L	1.0					
1,2-Dichlorobenzene	ND	μg/L	1.0					
1,3-Dichlorobenzene	ND	µg/L	1.0				•	
1,4-Dichlorobenzene	ND	μg/L	1.0					
Dichlorodifluoromethane	ND	μg/L	1.0					
1,1-Dichloroethane	ND	µg/L	1.0					
1,1-Dichloroethene	ND	μg/L	1.0					
1,2-Dichloropropane	ND	µg/L	1.0					
1,3-Dichloropropane	ND	µg/L	1.0					
2,2-Dichloropropane	ND	μg/L	2.0					
1,1-Dichloropropene	ND	μg/L	1.0					
exachlorobutadiene	ND	μg/L	1.0					
2-Hexanone	ND	μg/L	1.0					
Isopropylbenzene	ND	μg/L	1.0					
4-Isopropyltoluene	ND	μg/L μg/L	1.0					
4-Methyl-2-pentanone	ND	μg/L	1.0					
Methylene Chloride	ND	μg/L μg/L	3.0					
n-Butylbenzene	ND	µg/L µg/L	1.0					
n-Propylbenzene	ND	μg/L μg/L	1.0					
sec-Butylbenzene	ND	μg/L	1.0					
Styrene	ND	μg/L	1.0					
tert-Butylbenzene	ND	μg/L μg/L	1.0			•		
1,1,1,2-Tetrachloroethane	ND	μg/L μg/L	1.0				•	•
1,1,2,2-Tetrachloroethane	ND	μg/L μg/L	2.0					
Tetrachloroethene (PCE)	ND	μg/L μg/L	1.0					
trans-1,2-DCE	ND	μg/L	1.0					
trans-1,3-Dichloropropene	ND	μg/L μg/L	1.0					
1,2,3-Trichlorobenzene	ND	μg/L μg/L	1.0					
1,2,4-Trichlorobenzene	ND ·	μg/L	1.0					
1,1,1-Trichloroethane	ND	μg/L μg/L	1.0				-	
1,1,2-Trichloroethane	ND	μg/L μg/L	1.0					
Trichloroethene (TCE)	ND	μg/L	1.0					a a
Trichlorofluoromethane	ND	μg/L μg/L	1.0					
1,2,3-Trichloropropane	ND	μg/L μg/L	2.0					
Vinyl chloride	ND	μg/L μg/L	1.0					
Xylenes, Total	ND		1.5					
	NU	µg/L	1.0		Dotah ID	Danno	Analysis Det-	. 0/00/0000 40:07:00 ***
Sample ID: 100ng lcs		LCS			Batch ID:	R29898	Analysis Date	: 8/22/2008 10:07:58 AM

#### Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Refinery Wells - Annual 2008

Work Order:

0808291

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260	B: VOLATILES			,				
Sample ID: 100ng Ics		LCS			Batch I	D: <b>R29898</b>	Analysis Date:	8/22/2008 10:07:58 AM
Benzene	21.36	μg/L	1.0	107	86.8	120		
Toluene	20.15	μg/L	1.0	101	64.1	127	•	
Chlorobenzene	22.26	μg/L	1.0	111	82.4	113		
1,1-Dichloroethene	24.50	μg/L	1.0	122	86.5	132		
Trichloroethene (TCE)	20.02	μg/L	1.0	100	77.3	123		
Sample ID: 100ng Ics	•	LCS			Batch I	D: <b>R29898</b>	Analysis Date:	8/22/2008 10:43:56 PM
Benzene	21.89	μg/L	1.0	109	86.8	120		
Toluene	20.01	μg/L	1.0	100	64.1	127		
Chlorobenzene	21.91	μg/L	1.0	110	82.4	113	•	
,1-Dichloroethene	25.21	μg/L	1.0	126	86.5	132		
Frichloroethene (TCE)	20.05	μg/L	1.0	100	77.3	123		
Sample ID: 100ng lcs		LCS			Batch I	D: <b>R29944</b>	Analysis Date:	8/26/2008 10:22:08 AM
Benzene	19.59	μg/L	1.0	97.9	86.8	120		
Foluene .	20.66	μg/L	1.0	103	64.1	127		
Chlorobenzene	22.08	μg/L	1.0	110	82.4	113		
,1-Dichloroethene	24.66	μg/L	1.0	123	86.5	132		
Trichloroethene (TCE)	19.33	μg/L	1.0	96.7	77.3	123		
Sample ID: 100ng lcs		LCS			Batch I	D: <b>R29944</b>	Analysis Date:	8/27/2008 1:08:33 AM
Benzene	20.49	μg/L	1.0	102	86.8	120		•
oluene	20.66	μg/L	1.0	103	64.1	127		
Chlorobenzene	23.33	μg/L	1.0	117	82.4	113		S
,1-Dichloroethene	25.11	μg/L	1.0	126	86.5	132		•
richloroethene (TCE)	21.06	μg/L	1.0	105	77.3	123		1
Sample ID: 100ng Ics		LCS			Batch I	D: <b>R29968</b>	Analysis Date:	8/27/2008 2:38:58 PM
Benzene	21.89	μg/L	1.0	109	86.8	120		
Foluene	20.00	μg/L	1.0	100	64.1	127		•
Chlorobenzene	22.59	μg/L	1.0	113	82.4	113		
,1-Dichloroethene	24.83	μg/L	1.0	124	86.5	132		
Frichloroethene (TCE)	21.09	μg/L	1.0	105	77.3	123		
Sample ID: 100ng Ics		LCS			Batch 1	ID: <b>R29968</b>	Analysis Date:	8/28/2008 2:45:23 AM
Benzene	21.80	μg/L	1.0	109	86.8	120		
Toluene	20.36	μg/L	1.0	102	64.1	127		
Chlorobenzene	22.04	μg/L	1.0	110	82.4	113		
1,1-Dichloroethene	24.09	μg/L	, 1.0	120	86.5	132		
Trichloroethene (TCE)	19.55	μg/L	1.0	97.8	77.3	123		

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4 h	ıя	li i	10	MC

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

## **QA/QC SUMMARY REPORT**

lient: Project: Western Refining Southwest, Inc. Refinery Wells - Annual 2008

Work Order:

0808297

Analyte	Result	Units	PQL	%Rec	LowLimit	High	nLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C	: Semivolatiles							-		
Sample ID: mb-16839		MBLK			Batch	ID:	16839	Analysis [	Date:	8/24/200
Acenaphthene	ND	µg/L	10							
Acenaphthylene	ND	μg/L	10							
Aniline	ND	μg/Ľ	10							
Anthracene	ND	μg/L	10		•					
Azobenzene	ND	μg/L	10							
Benz(a)anthracene	ND	μg/L	10							
Benzo(a)pyrene	ND	μg/L	10							
Benzo(b)fluoranthene	ND	μg/L	10							
Benzo(g,h,i)perylene	ND	μg/L	10							
Benzo(k)fluoranthene	ND	μg/L	10							
Benzoic acid	ND	μg/L	20							
Benzyl alcohol	ND	μg/L	10							
Bis(2-chloroethoxy)methane	ND	μg/L	10							
Bis(2-chloroethyl)ether	ND	μg/L	10							
Bis(2-chloroisopropyl)ether	ND	μg/L	10							
Bis(2-ethylhexyl)phthalate	ND	μg/L	10							
4-Bromophenyl phenyl ether	ND	μg/L	10							
Butyl benzyl phthalate	ND	μg/L	10							
arbazole	ND	μg/L	10							
4-Chloro-3-methylphenol	ND	μg/L	10							
4-Chloroaniline	ND	μg/L	10							
2-Chloronaphthalene	ND	μg/L	10							
2-Chlorophenol	ND	μg/L	10							
4-Chlorophenyl phenyl ether	ND	μg/L	10							
Chrysene	ND	µg/L	10							
Di-n-butyl phthalate	ND	µg/L	10							
Di-n-octyl phthalate	ND	μg/L	10 .							
Dibenz(a,h)anthracene	ND	µg/L	10							•
Dibenzofuran	ND	μg/L	10							
1,2-Dichlorobenzene	ND	μg/L	10							
1,3-Dichlorobenzene	ND	μg/L	10							
1,4-Dichlorobenzene	ND	μg/L	10							
3,3´-Dichlorobenzidine	ND	μg/L	10							
Diethyl phthalate	ND	µg/L	10							
Dimethyl phthalate	ND	µg/L	10							
2,4-Dichlorophenol	ND	μg/L	20							
2,4-Dimethylphenol	ND	µg/L	10							
4,6-Dinitro-2-methylphenol	ND	μg/L	20							
2,4-Dinitrophenol	ND	μg/L	20							
2,4-Dinitrotoluene	ND	μg/L	10							
2,6-Dinitrotoluene	ND	µg/L	10							
Fluoranthene	ND	μg/L	10							
Fluorene	ND	μg/L	10							
exachlorobenzene	ND	μg/L	10							
7										

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Refinery Wells - Annual 2008

Work Order:

0808297

Analyte .	Result	Units	PQL	%Rec	LowLimit	HighL	imit.	%RPD	RPDLimit	Qua	
Method: EPA Method 8270C:	Semivolatiles					,	*****				
Sample ID: mb-16839		MBLK			Batch	ID:	16839	Analysis E	Date:		8/24/2008
fexachlorobutadiene	ND	μg/L	10								
lexachlorocyclopentadiene	ND	μg/L	10							•	
lexachloroethane	ND	μg/L	10								
ndeno(1,2,3-cd)pyrene	ND	µg/L	10								
sophorone	ND	μg/L	10								
-Methylnaphthalene	ND	μg/L	10								
-Methylphenol	ND	µg/L	10								
+4-Methylphenol	ND	μg/L	. 10					•			
I-Nitrosodi-n-propylamine	ND	μg/L	10								
I-Nitrosodimethylamine	ND	μg/L	10								
I-Nitrosodiphenylamine	ND	μg/L	10								
laphthalene	ND	µg/L	10								
-Nitroaniline	· ND	μg/L	10			-					
-Nitroaniline	ND	µg/L	10								•
-Nitroaniline	ND	μg/L	10								
litrobenzene	ND	μg/L	10								
-Nitrophenol	ND	μg/L μg/L	10		•						•
-Nitrophenol	ND	µg/∟ µg/L	10								
entachlorophenol	ND		40								
Phenanthrene	ND	µg/Ŀ					•				•
		μg/L	10								•
Phenol	ND	μg/L	10								
Pyrene	ND	μg/L	10								
Pyridine	ND	μg/L	10								
,2,4-Trichlorobenzene	ND	μg/L	10								
,4,5-Trichlorophenol	ND	μg/L 	10								*
,4,6-Trichlorophenol	ND	μg/L	10		D	10	40000	A	3-4		0.10.4.10.000
Sample ID: lcs-16839		LCS			Batch		16839	Analysis [	Jate:		8/24/2008
cenaphthene	58.44	µg/L	10	58.4	-11	123					
-Chloro-3-methylphenol	114.2	µg/L	10	56.2	15.4	119					
-Chlorophenol	101.3	µg/L	10	49.7	12.2	122					
,4-Dichlorobenzene	46.86	μg/L	10	46.9	16.9	100					
2,4-Dinitrotoluene	58.54	µg/L	10	58.5	13	138					
N-Nitrosodi-n-propylamine	61.86	µg/L	10	61.9	9.93	122					
-Nitrophenol	72.66	μg/L	10	36.3	12.5	87.4					
Pentachlorophenol	126.3	μg/L	40	63.2	3.55	114					
Phenol	57.74	μg/L	10	28.9	7.53	73.1				•	
Pyrene	64.38	μg/L	10	64.4	12.6	140					•
,2,4-Trichlorobenzene	50.96	μg/L	10	51.0	17.4	98.7					
Sample ID: Icsd-16839		LCSD			Batch	ID:	16839	Analysis [	Date:		8/24/2008
cenaphthene	64.70	μg/L	10	64.7	11	123		10.2	30.5		
-Chloro-3-methylphenol	142.0	μg/L	10	70.1	15.4	119		21.7	28.6		
-Chlorophenol	129.7	μg/L	10	63.9	12.2	122		24.6	107		
,4-Dichlorobenzene	55.12	μg/L	10	55.1	16.9	100		16.2	62.1		
1	JJ. 12	F3'-	10	63.9	13	138		8.76	14.7		

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

## **QA/QC SUMMARY REPORT**

lient: roject: Western Refining Southwest, Inc.

Refinery Wells - Annual 2008

Work Order:

0808297

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLi	mit Qual
Method: EPA Method 8270C	: Semivolatiles		<u>-</u>						
Sample ID: lcsd-16839		LCSD		,	Batch	ID: 16839	Analysis [	Date:	8/24/2008
N-Nitrosodi-n-propylamine	71.76	μg/L	10	71.8	9.93	122	14.8	30.3	
4-Nitrophenol	83.46	μg/L	10	41.7	12.5	87.4	13.8	36.3	
Pentachlorophenol	143.3	μg/L	40	71.7	3.55	114	12.6	49	
Phenol	78.56	μg/L	10	39.3	7.53	73.1	30.6	52.4	
Pyrene	74.56	μg/L	10	74.6	12.6	140	14.7	16.3	
1,2,4-Trichlorobenzene	57.44	µg/L	10	57.4	17.4	98.7	12.0	36.4	
Method: EPA Method 7470:	Mercury								
Sample ID: MB-16942		MBLK			Batch	ID: 16942	Analysis D	Date:	9/2/2008 1:57:14 PM
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-16942		LCS			Batch	ID: 16942	Analysis [	Date:	9/2/2008 1:58:59 PM
Mercury	0.004755	mg/L	0.00020	95.1	80	120			



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

## **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

Project: Refinery Wells - Annual 2008

Work Order:

0808297

Sample ID: 08/ Arsenic Cadmium Chromium Copper Lead Silver Zinc	A Method 6010B: Di 08297-07EMSD 08297-07EMSD	0.5511 0.5230 0.5214 0.5637 0.4984 0.4870 0.5575 3.593 2.523	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.020 0.0020 0.0060 0.0060 0.0050 0.0050 0.050	110 105 104 112 98.9 97.4 104	Batch 75 75 75 75 75 75	ID: <b>R30090</b> 125 125 125 125 125 125 125 125	Analysis I 6.47 5.68 5.82 6.82 4.95 6.39	Date: 20 20 20 20 20 20 20 20 20	9/5/200	8 12:26:36 PN
Arsenic Cadmium Chromium Copper Lead Silver Zinc Sample ID: 08 Barium Selenium Sample ID: ME Arsenic Barium Cadmium	08297-07EMSD	0.5230 0.5214 0.5637 0.4984 0.4870 0.5575 3.593 2.523	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0020 0.0060 0.0060 0.0050 0.0050 0.050	105 104 112 98.9 97.4 104	75 75 75 75 75 75 75	125 125 125 125 125 125	6.47 5.68 5.82 6.82 4.95 6.39	20 20 20 20 20 20	9/5/200	8 12:26:36 PN
Cadmium Chromium Copper Lead Silver Zinc Sample ID: 08 Barium Selenium Sample ID: ME Arsenic Barium Cadmium	٠	0.5230 0.5214 0.5637 0.4984 0.4870 0.5575 3.593 2.523	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	0.0020 0.0060 0.0060 0.0050 0.0050 0.050	105 104 112 98.9 97.4 104	75 75 75 75 75 75	125 125 125 125 125	5.68 5.82 6.82 4.95 6.39	20 20 20 20 20	·	
Chromium Copper Lead Silver Zinc Sample ID: 08 Barium Selenium Sample ID: ME Arsenic Barium Cadmium	٠	0.5214 0.5637 0.4984 0.4870 0.5575 3.593 2.523	mg/L mg/L mg/L mg/L mg/L MSD mg/L mg/L	0.0060 0.0060 0.0050 0.0050 0.050	104 112 98.9 97.4 104	75 75 75 75 75	125 125 125 125	5.82 6.82 4.95 6.39	20 20 20 20 20		·
Copper Lead Silver Zinc Sample ID: 08 Barium Selenium Sample ID: ME Arsenic Barium Cadmium	٠	0.5637 0.4984 0.4870 0.5575 3.593 2.523	mg/L mg/L mg/L mg/L mg/L MSD mg/L mg/L	0.0060 0.0050 0.0050 0.050	112 98.9 97.4 104	75 75 75 75	125 125 125	6.82 4.95 6.39	20 20 20		
Lead Silver Zinc Sample ID: 08 Barium Selenium Sample ID: ME Arsenic Barium Cadmium	٠	0.4984 0.4870 0.5575 3.593 2.523	mg/L mg/L mg/L <i>MSD</i> mg/L mg/L	0.0050 0.0050 0.050	98.9 97.4 104	75 75 75	125 125	4.95 6.39	20 20		
Silver Zinc Sample ID: 08 Barium Selenium Sample ID: ME Arsenic Barium Cadmium	٠	0.4870 0.5575 3.593 2.523	mg/L mg/L <i>MSD</i> mg/L mg/L	0.0050 0.050 0.10	97.4 104	75 75	125	6.39	20		
Zinc Sample ID: 08 Barium Selenium Sample ID: ME Arsenic Barium Cadmium	٠	0.5575 3.593 2.523	mg/L <i>MSD</i> mg/L mg/L	0.050	104	75					
Sample ID: 08 Barium Selenium Sample ID: ME Arsenic Barium Cadmium	٠	3.593 2.523	<i>MSD</i> mg/L mg/L	0.10			125		20		
Barium Selenium Sample ID: ME Arsenic Barium Cadmium	٠	2.523	mg/L mg/L		60.5	Datab		5.03	20		
Selenium Sample ID: ME Arsenic Sarium Cadmium	В	2.523	mg/L		00.0	Batch	ID: R30090	Analysis [	Date:	9/5/20	08 1:55:56 PN
Sample ID: ME Arsenic Barium Cadmium	В		mg/L	0.25	90.2	75	125	0.616	20		•
Arsenic Barium Cadmium	В	ND.		0.25	101	75	125	0.670	20	•	:
Arsenic Barium Cadmium		ND	IVILITY			Batch				4/30/20	08 9:19:40 AN
Barium Cadmium			mg/L	0.020				•			
Cadmium		ND	mg/L	0.020							
		ND	mg/L	0.0020							
		ND	mg/L	0.0060							
Copper		ND	mg/L	0.0060							
ron		ND	mg/L	0.020							
_ead		ND	mg/L	0.0050							
Manganese		ND	mg/L	0.0020							
Selenium		ND	mg/L	0.050							
Silver		ND	mg/L	0.0050							
Zinc		ND	mg/L	0.050							
Sample ID: ME	BLK		MBLK			Batch	ID: R	Analysis I	Date:	6/25/20	08 3:24:59 PM
∖rsenic		ND	mg/L	0.020				· · · · · · · · · · · · · · · · · · ·			
Barium		ND	mg/L	0.020							
Cadmium		ND	mg/L	0.0020							
Chromium		ND	mg/L	0.0060				•			
Copper		ND	mg/L	0.0060							
ron		ND	mg/L	0.020							
_ead		ND	mg/L	0.0050		•					
Vlanganese	•	ND	mg/L	0.0020							
Selenium		ND	mg/L	0.050							
Silver		ND	mg/L	0.0050							
Zinc		ND	mg/L	0.050							
Sample ID: ME	В		MBLK			Batch	ID: R30090	Analysis I	Date:	9/5/200	8 11:35:22 AM
Arsenic		ND	mg/L	0.020	,						
Riseriic Barium		ND		0.020				•			
sanum Cadmium		ND	mg/L	0.020							
Chromium		ND	mg/L mg/l	0.0020							
		ND ND	mg/L	0.0060							•
Copper ron		ND	mg/L	0.020		•		-			
-ead		ND	mg/L	0.020							
Lead Manganese		ND ND	mg/L mg/L	0.0050							

#### Qualifiers:

R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

E Value above quantitation range

J Analyte detected below quantitation limits

H Holding times for preparation or analysis exceeded

# **QA/QC SUMMARY REPORT**

Client: Project: Western Refining Southwest, Inc.

Refinery Wells - Annual 2008

Work Order:

0808297

Analyte	Result	Units	PQL	%Rec	LowLimit I	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 6010B:	Dissolved Me	etals						
Sample ID: MB		MBLK			Batch ID	): <b>R30090</b>	Analysis Date:	9/5/2008 11:35:22 Af
Selenium	ND	mg/L	0.050					
Silver	ND.	mg/L	0.0050					
Zinc	ND	mg/L	0.050					
Sample ID: LCS		LCS			Batch ID	): <b>R</b>	Analysis Date:	4/30/2008 9:22:42 AI
Arsenic	0.5348	mg/L	0.020	107	80	120		
Barium	0.5362	mg/L	0.020	107	80	120		
Cadmium	0.5444	mg/L	0.0020	109	80	120		
Chromium	0.5356	mg/L	0.0060	107	80	120		
Copper	0.5334	mg/L	0.0060	107	- 80	120		
Iron	0.5420	mg/L	0.020	108	80	120		
Lead	0.5346	mg/L	0.0050	107	80	120		
Manganese	0.5326	mg/L	0.0020	107	80	120		
Selenium	0.5310	mg/L	0.050	106	80	120	•	
Silver	0.5409	mg/L	0.0050	108	80	120		
Zinc	0.5359	mg/L	0.050	107	80	120		
Sample ID: LCS	0.0000	LCS	0.030	107	Batch ID		Analysis Date:	6/25/2008 3:30:49 PM
	0.5405		0.000	404			Analysis Date.	0/25/2000 3,50.43 F F
Arsenic	0.5195	mg/L	0.020	104	80	120		
Barium	0.5029	mg/L	0.020	101	80	120		
admium	0.5084	mg/L	0.0020	102	80	120		
Chromium	0.5059	mg/L	0.0060	101	80	120		
Copper	0.4906	mg/L	0.0060	98.1	80	120		
Iron	0.5204	mg/L	0.020	104	80	120		
Lead	0.5068	mg/L	0.0050	101	80	120		•
Manganese	0.4978	mg/L	0.0020	99.6	80	120		
Selenium	0.4864	mg/L	0.050	97.3	80	120		
Silver	0.5139	mg/L	0.0050	103	80	120		
Zinc	0.5138	mg/L	0.050	103	80	120		
Sample ID: LCS		LCS			Batch ID	: R30090	Analysis Date:	9/5/2008 11:38:21 AN
Arsenic	0.4961	mg/L	0.020	99.2	80	120		
Barium	0.4826	mg/L	0.020	96.5	80	120		
Cadmium	0.4964	mg/L	0.0020	99.3	80	120		
Chromium	0.4885	mg/L	0.0060	97.7	80	120	•	
Copper	0.4819	mg/L	0.0060	96.4	80	120		
Iron	0.4808	mg/L	0.020	96.2	80	120		
Lead	0.4835	mg/L	0.0050	96.7	80	120		
Manganese	0.4788	mg/L	0.0020	95.8	80	120		
Selenium	0.4809	mg/L	0.050	96.2	80	120		
Silver	0.4876	mg/L	0.0050	97.5	. 80	120		
Zinc	0.4903	mg/L	0.050	98.1	80	120		
Sample ID: 0808297-07EMS		MS			Batch ID	R30090	Analysis Date:	9/5/2008 12:13:04 PM
Arsenic	0.5166	mg/L	0.020	103	75	125		
Cadmium	0.4941	mg/L	0.0020	98.8	75	125		
Chromium	0.4919	mg/L	0.0060	98.4	75	125		
		-						
Qualifiers:								

#### Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

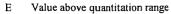
Refinery Wells - Annual 2008

Work Order:

080829

	·····							Older: 0808297
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RPI	DLimit Qual
Method: EPA Method 6010B:	Dissolved Me	etals						
Sample ID: 0808297-07EMS		MS			Batch	ID: <b>R30090</b>	Analysis Date:	9/5/2008 12:13:04 PM
Copper	0.5265	mg/L	0.0060	104	75	125	•	
Lead	0.4743	mg/L	0.0050	94.1	75	125		
Silver	0.4568	mg/L	0.0050	91.4	75	125		•
Zinc	0.5301	mg/L	0.050	98.5	75	125		
Sample ID: 0808297-07EMS		MS			Batch	ID: <b>R30090</b>	Analysis Date:	9/5/2008 1:53:10 PM
Barium	3.615	mg/L	0.10	91.1	75	125		,
Selenium	2.506	mg/L	0.25	100	75	125	, 	
Method: EPA 6010B: Total Re	coverable Me	etals						
Sample ID: MB-16920		MBLK			Batch	ID: <b>16920</b>	Analysis Date:	9/3/2008 2:05:00 PM
Arsenic	ND ·	mg/L	0.020					
Barium	ND	mg/L	0.010					
Cadmium	ND	mg/L	0.0020					
Chromium ·	ND	mg/L	0.0060					
Lead	ND	mg/L	0.0050			•		
Selenium	ND	mg/L	0.050				•	
Silver	ND	mg/L	0.0050					
Sample ID: LCS-16920		LCS			Batch	ID: <b>16920</b>	Analysis Date:	9/3/2008 2:07:22 PM
Arsenic	0.5251	mg/L	0.020	105	- 80	120		
3arium ·	0.4887	mg/L	0.010	97.7	80	120		•
Cadmium	0.4999	mg/L	0.0020	100	80	120		
Chromium	0.5075	mg/L	0.0060	102	80	120		•
Lead	0.4964	mg/L	0.0050	99.3	80	120		
Selenium	0.4892	mg/L	0.050	97.8	80	120		
Silver	0.5013	mg/L	0.0050	100	80	120		





J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

#### Login Report

Customer Name: HALL ENVIRONMENTAL ANALYSIS LAB

Order ID:

080820024

**Purchase Order:** 

**Order Date:** 

8/20/2008

Project ID:

Project Name: 0808297

Comment:

Sample #: 080820024-001 Customer Sample #:

Water

0808297-01F / MW-#8

Site:

Recv'd:

V

Collector:

**Date Collected:** 

8/18/2028

Quantity:

Matrix:

**Date Received:** 

8/20/2008 10:30:00 A

Comment:

**Test Group** 

Method

**Due Date** 

**Priority** 

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 

9/2/2008

Normal (6-10 Days)

Sample #:

080820024-002

Customer Sample #:

Water

0808297-02F / MVV-#29

Site:

Quantity:

Recv'd:

Collector:

Matrix:

**Date Collected:** Date Received: 8/18/2028

Comment:

Test

**Test Group** 

Method

**Due Date** 

**Priority** 

**DISSOLVED URANIUM BY 6** 

EPA 6020A

0808297-04F / MW-30

9/2/2008

8/20/2008 10:30:00 A

Customer Sample #:

Water

Normal (6-10 Days)

Sample #:

Collector:

**Date Collected:** 

8/18/2028

Site:

Recv'd: Quantity: **V** 

Matrix:

Date Received:

8/20/2008 10:30:00 A

Comment:

Test

**Test Group** 

080820024-003

Method

**Date Collected:** 

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 

**Due Date** 

**Priority** 

Customer Sample #:

9/2/2008

Normal (6-10 Days)

Sample #:

080820024-004

0808297-05F / RW#1

Site:

Recv'd:

Collector: Matrix:

Water Date Received: 8/18/2028

Quantity: Comment:

**Test Group** 

Method

**Due Date** 

8/20/2008 10:30:00 A

**Priority** 

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 

9/2/2008

Normal (6-10 Days)

Customer Name: HALL ENVIRONMENTAL ANALYSIS LAB

Order ID:

080820024

**Purchase Order:** 

**Order Date:** 

8/20/2008

Project ID:

Project Name: 0808297

Comment:

Sample #:

080820024-005

Customer Sample #:

Water

0808297-06F / RW#1 FD

Recv'd:

~

Collector:

**Date Collected:** 

Quantity:

Matrix:

8/18/2028

Date Received:

8/20/2008 10:30:00 A

Comment:

Test

**Test Group** 

Method

**Due Date** 

**Priority** 

DISSOLVED URANIUM BY 6

**EPA 6020A** 

9/2/2008

Sample #:

080820024-006

Normal (6-10 Days)

Customer Sample #:

0808297-07F / MW #4

Site:

Recv'd: Quantity:

~

Collector: Matrix:

Water

**Date Collected:** Date Received:

8/18/2028

8/20/2008 10:30:00 A

Comment:

Test

**Test Group** 

Method

**Due Date** 

**Priority** 

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 

9/2/2008

Normal (6-10 Days)

#### **SAMPLE CONDITION RECORD**

Samples received in a cooler? Yes Samples received intact? Yes What is the temperature inside the cooler? 1.5 Samples received with a COC? Yes Samples received within holding time? Yes Are all sample bottles properly preserved? Yes Are VOC samples free of headspace? N/A is there a trip blank to accompany VOC samples? N/A Labels and chain agree? Yes

Printed on: 5 September 2008 14:59:39

9/2/2008

8/18/2028 1st RCVD 8/20/2008

GHAN-OF-DUSTOP808297

4901 Hawkins NE, Suite D Hall Environmental Analysis Laboratory, Inc.

TEL: 5053453975 Albuquerque, New Mexico 87109-4372

FAX: 5053454107

Subcontractor:

Anatek Labs, Inc. 1282 Alturas Dr Moscow, ID 83843

FAR Accl #: (208) 883-2839 (208) 882-9246

Project Name:

0808297

19-Aug-08

0808297-07F	0808297-06F	0808297-05F	0808297-04F	0808297-02F	0808297-01F	Lab ID Cli
MW #4	RW#1 FD 5	RW#1 4	MW-30 S	MW#29 2	MW-#8	Client Sample ID
Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Matrix
8/18/2008 9:50:00 AM	8/18/2008 9:25:00 AM	8/18/2008 9:15:00 AM	8/18/2008 12:30:00 PM	8/18/2008 11:10:00 AM	8/18/2008 10:30:00 AM	Collection Date
125HDPHNO3	125HDPHNO3	125HDPHNO3	125HDPHNO3	125HDPHNO3	125HDPHNO3	Bottle Type
SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW	Requested Tests

ANALYTICAL COMMENTS: LEVEL 4 QA/QC FOR DISSOLVED U BY 6020, PLEASE REPORT @ 0.001mg/L

Standard TAT. Please fax (505) 345-4107 results when completed, or email to lab@hallenvironmental.com. Thank you.

	Relinquished by: Recei	Relinquished by: 8 19 05-1042 Recei	Date/Time	
DATE & TIME: \$20 08 18:30 INSPECTED BY:	NUMBER OF CONTAINERS. SHIPPED VIA	PRESERVATIVE: # 103	RECEIVED INTACT TEMP: 15 °C	ANATEK LABS RECEIVING LIST

#### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT		Date Receive	ed:	8/19/2008	
Work Order Number 0808297		Received b	y: TLS	_	
Checklist completed by: Signature	8	Sample ID	labels checked by:	Initials	
Matrix: Carrier name	<u>UPS</u>	•			
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present		
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?	Yes 🗌	No 🗌	N/A		
Chain of custody present?	Yes 🗹	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🔽	No 🗆			
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌		·	
Samples in proper container/bottle?	Yes 🗹	No 🗔			
Sample containers intact?	Yes 🗹	No 🗀			
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌			
All samples received within holding time?	Yes 🗹	No 🗌			
Water - VOA vials have zero headspace? No VOA vials subi	mitted	Yes 🗹	No 🗆		
Water - Preservation labels on bottle and cap match?	Yes 🗹	No 🗔	N/A		
Water - pH acceptable upon receipt?	Yes 🔽	Class	N/A		
Container/Temp Blank temperature?	4°	<6° C Accepta			
COMMENTS:		If given sufficie	nt time to cool.		
				· 	
Client contacted Date contacted:		Pe	rson contacted		•
Contacted by: Regarding:					
comments: addled In Hno3 to n PH. TS 8/19/08	# Qas	4D + 7D	to get	to accupical	ole
fer Cet Level 4 (	PC/AT	8/21/08	<del>-</del>		
Corrective Action					
	· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·	

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Albuquerque, New Mexico 87109  Tel. 505.345.3975 Fax 505.345.4107  www.hallenvironmental.com			7217	/ <i>M</i> /	) par ) par (08) s,	(1.1) (1.2) (1.0)	OG boo OG boo Or PA Stals In NO In NO	TPH (Meth EDB (Meth B310 (PNA B310 (PNA B081 Pest 8081 Pest 8081 Pest 8250 (Sem W/ACC	×.	X	X	X	X	X	×	<i>&gt;</i>	×	\(\forall \)	×	<b>X</b>		
Std □ Level 4 📉 Other:	Project Name: W/B-	ANNUA 2008	Project #:	(4)	nO ənil	oseg)) s,;	НДТ	+ 38T	Number/Yolume HgCl <sub>2</sub> HNO <sub>3</sub> Preservative HEAL No. BT EX + Method HgCl <sub>2</sub> HNO <sub>3</sub> Preservative HEAL No. BT EX + Method HgCl <sub>2</sub> HNO <sub>3</sub> Preservative HEAL No. BT EX + Method HgCl <sub>2</sub> HNO <sub>3</sub> Preservative HEAL No. BT EX + Method HgCl <sub>2</sub> HNO <sub>3</sub> Preservative HEAL No. BT EX + Method HgCl <sub>2</sub> HNO <sub>3</sub> Preservative HgCl <sub>2</sub> Preservative H	6.VOF- HC! 1 X	With Amby	1-252 X	X nes-1	0025-1	1-250 HSSy 1	6-Var Acc 2 X	1-1, G. (Autor 2	1,250 X 2	z X nes-/	1-500	1-250 420 2	Received By: (Signature) 8/19/08 Remarks:	Received By: (\$ignature)
CHAIN-OF-CUSTODY RECORD	Client: Western Kething - Bloomfield	(	Address=#50 R/ 4990	Slowfeld, NM 87413			Phone #:505-633-4/6/	Fax#: 505-632 -381/	Date Matrix Sample I.D. No.	8#MM 034 AED MW#8					ر -	81808 1110A HZO MW#Z9					_	Ime:	Date:   Time:   Relinquished By: (Signature)

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www. hallenvironmental.com	ANALYSIS REQUEST	(VIUC)	(1920) 2 (19	128 (C	+ 38T - 08 bor - 08 bor	BTEX + Methor TPH (Methors Check Methors Che	<b>X</b>		×	×	× .	*	××			Remarks:	
Other:   Day OC Package: x<812   08   Other:   Project Name:   Xe     Std       Std	ANNUA 2008 Project #:		Project Manager:	Gird	Sample Temperature: / + :	Number/Volume HgCl <sub>2</sub> HNO <sub>3</sub> HSAL No.	3-VOA 12 3	6-10A HCL 4	Cate Ander	4 X V V V	1-500ml X 4	1-500ml d	1-250mg H56y 4	,		Signature) 8 19 03	Hece wed by talging turner
CHAIN-OF-CUSTODY RECORD  Client: Wistern Popus, -Blowshild		Sloomfeld NM 87413		Phone #: 505-632-4161	1	Date Time Matrix Sample I.D. No.	8-18-08 1220 HW Febl Blank	8-1808 /730 A20 MW #30								Time:	Uate:   Ime:   Relinquished by: Cagnature)

	HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Albuquerque, New Mexico 87109  Tel. 505.345.3975 Fax 505.345.4107  www. hallenvironmental.com	ANALYSIS RECUEST	5   W   S   W   W	nine onino (lesei) (lesei) (so <sub>2</sub> ), (so <sub>2</sub> )	71 4 74 7 9 8) \$,8: 70d ' <sup>2</sup> ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	1881 1881 1871 1871 1871 1871 1871 1871	18E + 38T 108 bod 105 bor 107 bod 108 bod 107 bod 108 bod 109 bod 100 bod 1	BTEX + M TPH Methor TPH (Methor TPH (Methor BSTO (PNA BSTO (PNA BSTO (Sena BSTO (Sena BS	×	X	<b>&gt;</b>	X	X	×	× ×	*	×	×	*	×	Remarks:	
yol i The second	OA/OC Package: المراجع المراج	Project Name: Pofinery Wells - Annual - 2008	Project #:		Project Manager:	Convolue	Sampler Bob/Lindy	Sample Temperat <i>u</i> re: / 1 /	Number/Yolume HgCl <sub>2</sub> HNO <sub>3</sub> HEAL No.	6.40A- HU 5	11/14/4/br S	1.250ml X 5	1-500mg X 5	1-500mg	1-25 cml Hady 5	6-10A Hel	1-2 the Amber 60	on X pross-1	1-500mg X.	1-500 mg		Received By: (Signaturé) 8 19103	Received By: (Signature)
	CHAIN-OF-CUSTODY RECORD	Client: Western Refung - Bloomfield	Address #50 R/4990	Bloom Field NM 89413		Obcord #: Of the condition	1011 = 4.5 US -632-416 1	Fax#: 505-632-3911	Date Matrix Sample I.D. No.	\$1808 9K4 Nco RW#1						8-1808 928A HZJ RW#1FD						Date: Time: Relinquished By: (Signature)	Time: Relinquished By: (Si

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	88/Diesel)  1 Metals  1 Metals  2 Metals  2 Metals	01 867 58 (6) 11 (17.8 17) (17.8 17.8 17) (17.	TPH Methor TPH Methor TPH (Methor Methor Met	X	X	X	X	X	<b>X</b>					
	r (8021) (Value Only)	1 1 8MT + 38T ) H9T + 38T											Remarks:	<del></del>
Od/ QC Package: M 4 1 Std Od/ QC Package: M 4 1 Std Od Level 4 1 Std Od Cher:  Project Name:  Refusery Wells Annual 2008 Project #: 1	Project Manager:	Sample Temperature:	Number/Volume HgCl <sub>2</sub> HNO <sub>3</sub> CPC A G	77	( later Amber 7	1-250m2 X 7	1-500ml X 7	1- Junes-1	1-250ml H294 7	60	20 0		Received By: (Signature) 8 19 03	Received By: (Signature)
CHAIN-OF-CUSTODY RECORD  Client: Western Patining - Bloom field  Address: 4220 01 1090	Hommfuld, NM 87413	Phone #: 505-632-4[6] Fax #: 505-632-391/	Date Time Matrix Sample I.D. No.	8-18-09 GOA 160/ MW#4						tripplank	200			Date: Time: Relinquished By: (Signature)



#### **COVER LETTER**

Monday, September 29, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: Refinery Wells Annual 2008

Dear Cindy Hurtado:

Order No.: 0808316

Hall Environmental Analysis Laboratory, Inc. received 6 sample(s) on 8/20/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 29-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Lab Order:

0808316

Work Order Sample Summary

والمراجع المراجع				
Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808316-01A	RW #23	16847	EPA Method 8015B: Diesel Range	8/19/2008 10:00:00 AM
0808316-01A	RW #23	R29944	EPA Method 8260B: VOLATILES	8/19/2008 10:00:00 AM
0808316-01A	RW #23	R29968	EPA Method 8260B: VOLATILES	8/19/2008 10:00:00 AM
0808316-01A	RW #23	R29989	EPA Method 8015B: Gasoline Range	8/19/2008 10:00:00 AM
0808316-01A	RW #23	R29898	EPA Method 8260B: VOLATILES	8/19/2008 10:00:00 AM
.0808316-01B	RW #23	16839	EPA Method 8270C: Semivolatiles	8/19/2008 10:00:00 AM
0808316-01B	RW #23	16839	EPA Method 8270C: Semivolatiles	8/19/2008 10:00:00 AM
0808316-01C	RW #23	R29875	EPA Method 300.0: Anions	8/19/2008 10:00:00 AM
0808316-01C	RW #23	R29984	SM 2320B: Alkalinity	8/19/2008 10:00:00 AM
0808316-01C	RW #23	R29875	EPA Method 300.0: Anions	8/19/2008 10:00:00 AM
0808316-01C	RW #23	R29985	Carbon Dioxide	8/19/2008 10:00:00 AM
0808316-01D	RW #23	16942	EPA Method 7470: Mercury	8/19/2008 10:00:00 AM
0808316-01D	RW #23	16920	EPA 6010B: Total Recoverable Metals	8/19/2008 10:00:00 AM
0808316-01D	RW #23	16920	EPA 6010B: Total Recoverable Metals	8/19/2008 10:00:00 AM
.0808316-01E	RW #23	R30098	EPA Method 6010B: Dissolved Metals	8/19/2008 10:00:00 AM
0808316-01E	RW #23	R30098	EPA Method 6010B: Dissolved Metals	8/19/2008 10:00:00 AM
0808316-01E	RW #23	R30124	EPA Method 6010B: Dissolved Metals	8/19/2008 10:00:00 AM
0808316-02A	MW #44	R29898	EPA Method 8260B: VOLATILES	8/19/2008 10:25:00 AM
0808316-02A	MW #44	R29989	EPA Method 8015B: Gasoline Range	8/19/2008 10:25:00 AM
0808316-02A	MW #44	16847	EPA Method 8015B: Diesel Range	8/19/2008 10:25:00 AM
0808316-02B	MW #44	16839	EPA Method 8270C: Semivolatiles	8/19/2008 10:25:00 AM
0808316-02C	MW #44	R29875	EPA Method 300.0: Anions	8/19/2008 10:25:00 AM
0808316-02C	MW #44	R29875	EPA Method 300.0: Anions	8/19/2008 10:25:00 AM
0808316-02C	MW #44	R29899	EPA Method 300.0: Anions	8/19/2008 10:25:00 AM
0808316-02C	MW #44	R29984	SM 2320B: Alkalinity	8/19/2008 10:25:00 AM
0808316-02C	MW #44	R29985	Carbon Dioxide	8/19/2008 10:25:00 AM
0808316-02D	MW #44	16942	EPA Method 7470: Mercury	8/19/2008 10:25:00 AM
0808316-02D	MW #44	16920	EPA 6010B: Total Recoverable Metals	8/19/2008 10:25:00 AM
0808316-02E	MW #44	R30098	EPA Method 6010B: Dissolved Metals	8/19/2008 10:25:00 AM
0808316-02E	MW #44	R30124	EPA Method 6010B: Dissolved Metals	8/19/2008 10:25:00 AM
0808316-02E	MW #44	R30098	EPA Method 6010B: Dissolved Metals	8/19/2008 10:25:00 AM
0808316-03A	RW #15	R29898	EPA Method 8260B: VOLATILES	8/19/2008 11:05:00 AM
0808316-03A	RW #15	16847	EPA Method 8015B: Diesel Range	8/19/2008 11:05:00 AM
0808316-03A	RW #15	R29944	EPA Method 8260B: VOLATILES	8/19/2008 11:05:00 AM
0808316-03A	RW #15	R29989	EPA Method 8015B: Gasoline Range	8/19/2008 11:05:00 AM
0808316-03B	RW #15	16839	EPA Method 8270C: Semivolatiles	8/19/2008 11:05:00 AM
0808316-03B	RW #15	16839	EPA Method 8270C: Semivolatiles	8/19/2008 11:05:00 AM
0808316-03C	RW #15	R29875	EPA Method 300.0: Anions	8/19/2008 11:05:00 AM

CLIENT:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Lab Order:

0808316

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808316-03C	RW #15	R29875	EPA Method 300.0: Anions	8/19/2008 11:05:00 AM
0808316-03C	RW #15	R29984	SM 2320B: Alkalinity	8/19/2008 11:05:00 AM
0808316-03C	RW #15	R29985	Carbon Dioxide	8/19/2008 11:05:00 AM
0808316-03D	RW #15	16942	EPA Method 7470: Mercury	8/19/2008 11:05:00 AM
0808316-03D	RW #15	16920	EPA 6010B: Total Recoverable Metals	8/19/2008 11:05:00 AM
0808316-03D	RW #15	16920	EPA 6010B: Total Recoverable Metals	8/19/2008 11:05:00 AM
0808316-03E	RW #15	R30098	EPA Method 6010B: Dissolved Metals	8/19/2008 11:05:00 AM
0808316-03E	RW #15	R30098	EPA Method 6010B: Dissolved Metals	8/19/2008 11:05:00 AM
0808316-03E	RW #15	R30124	EPA Method 6010B: Dissolved Metals	8/19/2008 11:05:00 AM
0808316-04A	MW #40	R29989	EPA Method 8015B: Gasoline Range	8/19/2008 11:20:00 AM
0808316-04A	MW #40	R29898	EPA Method 8260B: VOLATILES	8/19/2008 11:20:00 AM
0808316-04A	MW #40	16847	EPA Method 8015B: Diesel Range	8/19/2008 11:20:00 AM
0808316-04A	MW #40	R29944	EPA Method 8260B: VOLATILES	8/19/2008 11:20:00 AM
0808316-04A	MW #40	R29944	EPA Method 8260B: VOLATILES	8/19/2008 11:20:00 AM
0808316-04A	MW #40	R29968	EPA Method 8260B: VOLATILES	8/19/2008 11:20:00 AM
0808316-04A	MW #40	R29976	EPA Method 8260B: VOLATILES	8/19/2008 11:20:00 AM
0808316-04B	MW #40	16839	EPA Method 8270C: Semivolatiles	8/19/2008 11:20:00 AM
0808316-04B	MW #40	16839	EPA Method 8270C: Semivolatiles	8/19/2008 11:20:00 AM
0808316-04C	MW #40	R29875	EPA Method 300.0: Anions	8/19/2008 11:20:00 AM
0808316-04C	MW #40	R29875	EPA Method 300.0: Anions	8/19/2008 11:20:00 AM
0808316-04C	MW #40	R29984	SM 2320B: Alkalinity	8/19/2008 11:20:00 AM
0808316-04C	MW #40	R29985	Carbon Dioxide	8/19/2008 11:20:00 AM
0808316-04D	MW #40	16920	EPA 6010B: Total Recoverable Metals	8/19/2008 11:20:00 AM
0808316-04D	MW #40	16942	EPA Method 7470: Mercury	8/19/2008 11:20:00 AM
0808316-04D	MW #40	16920	EPA 6010B: Total Recoverable Metals	8/19/2008 11:20:00 AM
0808316-04E	MW #40	R30131	EPA Method 6010B: Dissolved Metals	8/19/2008 11:20:00 AM
0808316-04E	MW #40	R30124	EPA Method 6010B: Dissolved Metals	8/19/2008 11:20:00 AM
0808316-04E	MW #40	R30098	EPA Method 6010B: Dissolved Metals	8/19/2008 11:20:00 AM
0808316-04E	MW #40	R30098	EPA Method 6010B: Dissolved Metals	8/19/2008 11:20:00 AM
0808316-04E	MW #40	R30098	EPA Method 6010B: Dissolved Metals	8/19/2008 11:20:00 AM
0808316-05A	Field Blank	R29898	EPA Method 8260B: VOLATILES	8/19/2008 10:40:00 AM
0808316-05A	Field Blank	R29989	EPA Method 8015B: Gasoline Range	8/19/2008 10:40:00 AM
0808316-06A	Trip Blank	R29989	EPA Method 8015B: Gasoline Range	
0808316-06A	Trip Blank	R29898	EPA Method 8260B: VOLATILES	

Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Lab Order:

0808316

**CASE NARRATIVE** 

<sup>&</sup>quot;S" flags denote that the surrogate was not recoverable due to sample dilution or matrix interferences.

Date: 11-Dec-08

CLIENT: Lab Order: Western Refining Southwest, Inc.

0808316

Refinery Wells Annual 2008

Project: Lab ID:

0808316-01

Client Sample ID: RW #23

Collection Date: 8/19/2008 10:00:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qua	l Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS			<del></del>		Analyst: SLB
Fluoride	0.40	0.10	mg/L	1	8/20/2008 3:47:58 PM
Chloride	76	1.0	mg/L	10	8/20/2008 1:11:17 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/20/2008 3:47:58 PM
Bromide	· ND	1.0	mg/L	10	8/20/2008 1:11:17 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/20/2008 3:47:58 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/20/2008 3:47:58 PM
Sulfate	3.2	0.50	mg/L	1	8/20/2008 3:47:58 PM

- Value exceeds Maximum Contaminant Level
- Е Estimated value
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

Date: 29-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808316

Client Sample ID: RW #23

Collection Date: 8/19/2008 10:00:00 AM

Project:

Refinery Wells Annual 2008

Date Received: 8/20/2008

Lab ID:

0808316-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range Organics (DRO)	48	10	mg/L	10	8/26/2008 3:51:47 PM
Motor Oil Range Organics (MRO)	ND	50	mg/L	10	8/26/2008 3:51:47 PM
Surr: DNOP	0	58-140	S %REC	10 .	8/26/2008 3:51:47 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: DAM
Gasoline Range Organics (GRO)	70	5.0	mg/L	100	8/29/2008 3:25:25 AM
Surr: BFB	91.1	79.2-121	%REC	100	8/29/2008 3:25:25 AM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.40	0.10	mg/L	1	8/20/2008 3:47:58 PM
Chloride	76	1.0	mg/L	10	8/20/2008 1:11:17 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/20/2008 3:47:58 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/20/2008 3:47:58 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/20/2008 3:47:58 PM
Sulfate	3.2	0.50	mg/L	1	8/20/2008 3:47:58 PM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	9/2/2008 2:18:41 PM
EPA METHOD 6010B: DISSOLVED M	ETALS	•			Analyst: <b>TES</b>
Arsenic	ND	0.020	mg/L	1	9/5/2008 4:17:29 PM
Barium	1.4	0.20	mg/L	10	9/5/2008 6:01:34 PM
Cadmium	ND	0.0020	mg/L	1	9/5/2008 4:17:29 PM
Calcium	110	10	mg/L	10	9/5/2008 6:01:34 PM
Chromium	ND	0.0060	mg/L	· 1	9/5/2008 4:17:29 PM
Copper	ND	0.0060	mg/L	1	9/5/2008 4:17:29 PM
Iron	2.9	0.20	mg/L	10	9/5/2008 6:01:34 PM
Lead	0.013	0.0050	mg/L	1 .	9/5/2008 4:17:29 PM
Magnesium	47	1.0	mg/L	1	9/5/2008 4:17:29 PM
Manganese	4.6	0.020	mg/L	10	9/5/2008 6:01:34 PM
Potassium	6.3	1.0	mg/L	1	9/5/2008 4:17:29 PM
Selenium	ND	0.25	mg/L	5	9/8/2008 10:37:31 PM
Silver	ND.	0.0050	mg/L	1	9/5/2008 4:17:29 PM
Sodium	170	10	mg/L	10	9/5/2008 6:01:34 PM
Zinc	ND	0.050	mg/L	1	9/5/2008 4:17:29 PM
EPA 6010B: TOTAL RECOVERABLE	METALS				Analyst: TES
Arsenic	ND ·	0.020	mg/L	1.	9/3/2008 2:34:21 PM
Barium	1.5	0.10	mg/L	5	9/3/2008 3:47:22 PM
Cadmium	ND	0.0020	mg/L	1	9/3/2008 2:34:21 PM
Chromium	ND	0.0060	mg/L	1	9/3/2008 2:34:21 PM
Lead	0.027	0.0050	mg/L	1 .	9/3/2008 2:34:21 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

Page 1 of 24

Date: 29-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808316

Refinery Wells Annual 2008

Project: Lab ID:

0808316-01

Client Sample ID: RW #23

Collection Date: 8/19/2008 10:00:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA 6010B: TOTAL RECOVERABLE ME	TALS				Analyst: TES
Selenium	ND	0.050	mg/L	1	9/3/2008 2:34:21 PM
Silver	ND	0.0050	mg/L	1	9/3/2008 2:34:21 PM
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC
Acenaphthene	ND	50	μg/L	1	8/25/2008
Acenaphthylene	ND	50	μg/L	1	8/25/2008
Aniline	ND	50	μg/L	1	8/25/2008
Anthracene	ND	50	μg/L	1	8/25/2008
Azobenzene	ND	50	μg/L	1	8/25/2008
Benz(a)anthracene	ND	50	μg/Ľ	1	8/25/2008
Benzo(a)pyrene	ND	50	μg/L	1	8/25/2008
Benzo(b)fluoranthene	ND	50	μg/L	1	8/25/2008
Benzo(g,h,i)perylene	ND	50	μg/L	1	8/25/2008
Benzo(k)fluoranthene	ND	50	μg/L	1	8/25/2008
Benzoic acid	ND	100	μg/L	1	8/25/2008
Benzyl alcohol	ND	50	μg/L	1	8/25/2008
Bis(2-chloroethoxy)methane	ND	50	μg/L	1	8/25/2008
Bis(2-chloroethyl)ether	ND	50	μg/L	1	8/25/2008
Bis(2-chloroisopropyl)ether	ND	50	μg/L	1	8/25/2008
Bis(2-ethylhexyl)phthalate	ND	. 50	μg/L	1	8/25/2008
4-Bromophenyl phenyl ether	ND	50	μg/L	1	8/25/2008
Butyl benzyl phthalate	ND	50	μg/L	1	8/25/2008
Carbazole	ND	50	μg/L	1	8/25/2008
4-Chloro-3-methylphenol	ND	50	μg/L	1	8/25/2008
4-Chloroaniline	ND	50	μg/L	1	8/25/2008
2-Chloronaphthalene	ND	50	μg/L	1	8/25/2008
2-Chlorophenol	ND	50	μg/L	1	8/25/2008
4-Chlorophenyl phenyl ether	ND	50	μg/L	1	8/25/2008
Chrysene	ND	50	.µg/L	1	8/25/2008
Di-n-butyl phthalate	ND	50	μg/L	1	8/25/2008
Di-n-octyl phthalate	ND	50	μg/L	1 .	8/25/2008
Dibenz(a,h)anthracene	ND	50	µg/L	1	8/25/2008
Dibenzofuran	ND	50	μg/L	1	8/25/2008
1,2-Dichlorobenzene	ND	50	μg/L	1	8/25/2008
,3-Dichlorobenzene	ND	- 50	μg/L	1	8/25/2008
,4-Dichlorobenzene	ND	50	μg/L	1	8/25/2008
3,3'-Dichlorobenzidine	МD	50	μg/L	1	8/25/2008
Diethyl phthalate	ND	50	μg/L	1	8/25/2008
Dimethyl phthalate	ND	50	μg/L	1	8/25/2008
2,4-Dichlorophenol	ND	100	μg/L	1	8/25/2008
,4-Dimethylphenol	ND	50	μg/L	1	8/25/2008
l,6-Dinitro-2-methylphenol	ND	100	μg/L	1	8/25/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Project:

Refinery Wells Annual 2008

Lab ID:

0808316-01

Client Sample ID: RW #23

Collection Date: 8/19/2008 10:00:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S				Analyst: JD
2,4-Dinitrophenol	ND	100	µg/L	1	8/25/2008
2,4-Dinitrotoluene	ND	50	μg/L	. 1	8/25/2008
2,6-Dinitrotoluene	ND	50	μ <b>g/</b> L	1	8/25/2008
Fluoranthene	ND	50	µg/L	1	8/25/2008
Fluorene	83	50	µg/L	1	8/25/2008
Hexachlorobenzene	ND	50	μg/L	1	8/25/2008
Hexachlorobutadiene	ND	50	μg/L	. 1	8/25/2008
Hexachlorocyclopentadiene	ND	50	μg/L	1	8/25/2008
Hexachloroethane	ND	50	μg/L	1	8/25/2008
Indeno(1,2,3-cd)pyrene	ND	50	μg/L	1	8/25/2008
Isophorone	ND	50	μg/L	1	8/25/2008
2-Methylnaphthalene	2600	250	μg/L	5	8/25/2008
2-Methylphenol	ND	50	μg/L	1	8/25/2008
3+4-Methylphenol	ND	50	μg/L	1	8/25/2008
N-Nitrosodi-n-propylamine	ND	50	µg/L	1	8/25/2008
N-Nitrosodimethylamine	ND	50	µg/L	1	8/25/2008
N-Nitrosodiphenylamine	ND	50	μg/L	· 1	8/25/2008
Naphthalene	1500	250	μg/L	5	8/25/2008
2-Nitroaniline	ND	50	μg/L	1	8/25/2008
3-Nitroaniline	· ND	50	μg/L	1	8/25/2008
4-Nitroaniline	ND	50	μg/L	1	8/25/2008
Nitrobenzene	ND	50	μg/L	1	8/25/2008
2-Nitrophenol	NĐ	50	μg/L	1	8/25/2008
4-Nitrophenol	ND	50	µg/L	1	8/25/2008
Pentachlorophenol	ND	200	µg/L	1	8/25/2008
Phenanthrene	150	50	μg/L	1	8/25/2008
Phenol	ND	50	µg/L	1	8/25/2008
Pyrene	ND	50	µg/L	1 .	8/25/2008
Pyridine	ND	50	μg/L	1	8/25/2008
1,2,4-Trichlorobenzene	- ND	50	μg/L	1	8/25/2008
2,4,5-Trichlorophenol	ND	50	µg/L	1	8/25/2008
2,4,6-Trichlorophenol	ND	50	μg/L	1	8/25/2008
Surr: 2,4,6-Tribromophenol	99.0	16.6-150	%REC	1	8/25/2008
Surr: 2-Fluorobiphenyl	86.0	19.6-134	%REC	1	8/25/2008
Surr: 2-Fluorophenol	69.2	9.54-113	%REC	1	8/25/2008
Surr: 4-Terphenyl-d14	68.2	22.7-145	%REC	- 1	8/25/2008
Surr. Nitrobenzene-d5	99.4	14.6-134	%REC	1	8/25/2008
Surr: Phenol-d5	60.3	10.7-80.3	%REC	1	8/25/2008
PA METHOD 8260B: VOLATILES					Analyst: HL
Benzene	9800	200	μg/L	200	8/27/2008 5:32:32 PM
Toluene	· ND	100	μg/L	100	8/22/2008 3:01:22 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Project:

Refinery Wells Annual 2008

Lab ID:

0808316-01

Client Sample ID: RW #23

Collection Date: 8/19/2008 10:00:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES				*	Analyst: HL
Ethylbenzene	1600	100	μg/L	100	8/22/2008 3:01:22 PM
Methyl tert-butyl ether (MTBE)	1500	100	μg/L	100	8/22/2008 3:01:22 PM
1,2,4-Trimethylbenzene	3600	100	μg/L	100	8/22/2008 3:01:22 PM
1,3,5-Trimethylbenzene	790	100	μg/L	100	8/22/2008 3:01:22 PM
1,2-Dichloroethane (EDC)	ND	100	μg/L	100	8/22/2008 3:01:22 PM
1,2-Dibromoethane (EDB)	ND	100	μg/L	100	8/22/2008 3:01:22 PM
Naphthalene	870	200	μg/L	100	8/22/2008 3:01:22 PM
1-Methylnaphthalene	ND	400	μg/L	100	8/22/2008 3:01:22 PM
2-Methylnaphthalene	500	400	μg/L	100	8/22/2008 3:01:22 PM
Acetone	ND	1000	μg/L	100	8/22/2008 3:01:22 PM
Bromobenzene	ND	100	μg/L	100	8/22/2008 3:01:22 PM
Bromodichloromethane	ND	100	μg/L	100	8/22/2008 3:01:22 PM
Bromoform	ND	100	μg/L	100	8/22/2008 3:01:22 PM
Bromomethane	ND.	100	μg/L	100	8/22/2008 3:01:22 PM
2-Butanone	ND	1000	μg/L	100	8/22/2008 3:01:22 PM
Carbon disulfide	ND	1000	μg/L	100	8/22/2008 3:01:22 PM
Carbon Tetrachloride	ND	100	μg/L	100	8/22/2008 3:01:22 PM
Chlorobenzene	ND	100	μg/L	100	8/22/2008 3:01:22 PM
Chloroethane	ND	200	μg/L	100	8/22/2008 3:01:22 PM
Chloroform	ND	100	μg/L	100	8/22/2008 3:01:22 PM
Chloromethane	ND	100	μg/L	100	8/22/2008 3:01:22 PM
2-Chlorotoluene	ND	100	μg/L	100	8/22/2008 3:01:22 PM
4-Chlorotoluene	ND	100	μg/L	100	8/22/2008 3:01:22 PM
cis-1,2-DCE	ND	100	μg/L	100	8/22/2008 3:01:22 PM
cis-1,3-Dichloropropene	ND	100	μg/L	100	8/22/2008 3:01:22 PM
1,2-Dibromo-3-chloropropane	ND	200	μg/L	100	8/22/2008 3:01:22 PM
Dibromochloromethane	ND	100	μg/L	100	8/22/2008 3:01:22 PM
Dibromomethane	ND	100	μg/L	100	8/22/2008 3:01:22 PM
1,2-Dichlorobenzene	ND	100	μg/L	100	8/22/2008 3:01:22 PM
1,3-Dichlorobenzene	ND	100	μg/L	100	8/22/2008 3:01:22 PM
1,4-Dichlorobenzene	ND	100	μg/L	100	8/22/2008 3:01:22 PM
Dichlorodifluoromethane	ND	100	µg/L	100	8/22/2008 3:01:22 PM
1,1-Dichloroethane	ND	100	μg/L	100	8/22/2008 3:01:22 PM
1,1-Dichloroethene	ND	100	μg/L	100	8/22/2008 3:01:22 PM
1,2-Dichloropropane	ND	100	μg/L	100	8/22/2008 3:01:22 PM
1,3-Dichloropropane	ND	100	μg/L	100	8/22/2008 3:01:22 PM
2,2-Dichloropropane	ND	200	μg/L	100	8/22/2008 3:01:22 PM
1,1-Dichloropropene	ND	100	μg/L	100	8/22/2008 3:01:22 PM
Hexachlorobutadiene	ND	100	μg/L	100	8/22/2008 3:01:22 PM
2-Hexanone	ND	1000	µg/L	100	8/22/2008 3:01:22 PM
isopropylbenzene	110	100	µg/L	100	8/22/2008 3:01:22 PM
4-Isopropyltoluene	ND	100	µg/L	100	8/22/2008 3:01:22 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order: Project:

0808316

Refinery Wells Annual 2008

Lab ID:

0808316-01

Client Sample ID: RW #23

Collection Date: 8/19/2008 10:00:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
4-Methyl-2-pentanone	ND	1000		μg/L	100	8/22/2008 3:01:22 PM
Methylene Chloride	ND	300		µg/L	100	8/22/2008 3:01:22 PM
n-Butylbenzene	130	100		μg/L	100	8/22/2008 3:01:22 PM
n-Propylbenzene	210	100		µg/L	100	8/22/2008 3:01:22 PM
sec-Butylbenzene	ND	100		µg/L	100	8/22/2008 3:01:22 PM
Styrene	ND	100		μg/L	100	8/22/2008 3:01:22 PM
tert-Butyibenzene	ND	100		μg/L	100	8/22/2008 3:01:22 PM
1,1,1,2-Tetrachloroethane	ND	100		μg/L	100	8/22/2008 3:01:22 PM
1,1,2,2-Tetrachloroethane	ND	200		µg/Ŀ	100	8/22/2008 3:01:22 PM
Tetrachloroethene (PCE)	ND	100		μg/L	100	8/22/2008 3:01:22 PM
trans-1,2-DCE	ND	100		µg/L	100	8/22/2008 3:01:22 PM
trans-1,3-Dichloropropene	ND	100		μg/L	100	8/22/2008 3:01:22 PM
1,2,3-Trichlorobenzene	ND	100		μg/L	100	8/22/2008 3:01:22 PM
1,2,4-Trichlorobenzene	ND	100		μg/L	100	8/22/2008 3:01:22 PM
1,1,1-Trichloroethane	ND	100		μg/L	100	8/22/2008 3:01:22 PM
1,1,2-Trichloroethane	ŅĐ	100		μg/L	100	8/22/2008 3:01:22 PM
Trichloroethene (TCE)	ND	100		μg/L	100	8/22/2008 3:01:22 PM
Trichlorofluoromethane	ND	100		μg/L	100	8/22/2008 3:01:22 PM
1,2,3-Trichloropropane	ND	200		μg/L	100	8/22/2008 3:01:22 PM
Vinyl chloride	ND	100	•	μg/L	100	8/22/2008 3:01:22 PM
Xylenes, Total	9700	150		μg/L	100	8/22/2008 3:01:22 PM
Surr: 1,2-Dichloroethane-d4	92.3	68.1-123		%REC	100	8/22/2008 3:01:22 PM
Surr: 4-Bromofluorobenzene	99.1	53.2-145		%REC	100	8/22/2008 3:01:22 PM
Surr: Dibromofluoromethane	99.0	68.5-119		%REC	100	8/22/2008 3:01:22 PM
Surr: Toluene-d8	100	64-131		%REC	100	8/22/2008 3:01:22 PM
SM 2320B: ALKALINITY						Analyst: <b>TA</b> i
Alkalinity, Total (As CaCO3)	780	40		mg/L CaCO3	2	8/28/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/28/2008
Bicarbonate	780	40		mg/L CaCO3	2 .	8/28/2008
TOTAL CARBON DIOXIDE CALCULATION						Analyst: TAF
Total Carbon Dioxide	850	1.0		mg CO2/L	1	8/29/2008

Qualifiers
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- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808316

Project:

Refinery Wells Annual 2008

Lab ID:

0808316-02

Client Sample ID: MW #44

Collection Date: 8/19/2008 10:25:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS.

Analyses	Result	PQL Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.62	0.10	m <b>g/L</b>	Í	8/20/2008 1:28:41 PM
Chloride	72	1.0	mg/L	10	8/20/2008 6:24:39 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/20/2008 1:28:41 PM
Bromide	0.28	0.10	mg/L	1	8/20/2008 1:28:41 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/20/2008 1:28:41 PM
Phosphorus, Orthophosphate (As P)	ИD	0.50	mg/L	1	8/20/2008 1:28:41 PM
Sulfate	3000	25	mg/L	50	8/22/2008 10:05:47 AM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 29-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808316

Client Sample ID: MW #44

Collection Date: 8/19/2008 10:25:00 AM

Project:

Refinery Wells Annual 2008

Date Received: 8/20/2008 Matrix: AQUEOUS

Lab ID:

0808316-02

Analyses	Result	PQL Q	ual Units	<b>DF</b>	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E	······································			Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/22/2008 1:12:01 AM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/22/2008 1:12:01 AM
Surr: DNOP	139	58-140	%REC	1	8/22/2008 1:12:01 AM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/29/2008 3:55:48 AM
Surr: BFB	81.1	79.2-121	%REC	1	8/29/2008 3:55:48 AM
EPA METHOD 300.0: ANIONS	4				Analyst: SLB
Fluoride	0.62	0.10	mg/L	1	8/20/2008 1:28:41 PM
Chloride	72	1.0	mg/L	10	8/20/2008 6:24:39 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/20/2008 1:28:41 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/20/2008 1:28:41 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/20/2008 1:28:41 PM
Sulfate	3000	25	mg/L	50	8/22/2008 10:05:47 AM
EPA METHOD 7470: MERCURY	•				Analyst: SNV
Mercury	, ND	0.00020	mg/L	1	9/2/2008 2:20:31 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	9/5/2008 4:20:18 PM
Barium	ND	0.020	mg/L	1	9/5/2008 4:20:18 PM
Cadmium	ND	0.0020	mg/L	1	9/5/2008 4:20:18 PM
Calcium	470	10	mg/L	10	9/5/2008 6:04:24 PM
Chromium	ND	0.0060	mg/L	1	9/5/2008 4:20:18 PM
Copper	ND	0.0060	mg/L	1	9/5/2008 4:20:18 PM
Iron	0.083	0.020	mg/L	1	9/5/2008 4:20:18 PM
Lead	ND	0.0050	mg/L	1	9/5/2008 4:20:18 PM
Magnesium	64	1.0	mg/L	1	9/5/2008 4:20:18 PM
Manganese	1.7	0.020	mg/L	10	9/5/2008 6:04:24 PM
Potassium	8.0	1.0	mg/L	1	9/5/2008 4:20:18 PM
Selenium	, ND	0.25	mg/L	5	9/8/2008 10:39:59 PM
Silver	ND	0.0050	mg/L	1	9/5/2008 4:20:18 PM
Sodium	900	10	mg/L	. 10	9/5/2008 6:04:24 PM
Zinc	ND	0.050	mg/L	1	9/5/2008 4:20:18 PM
EPA 6010B: TOTAL RECOVERABLE	METALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	9/3/2008 3:15:13 PM
Barium	ND	0.020	mg/L	1	9/3/2008 3:15:13 PM
Cadmium	ND	0.0020	mg/L	1	9/3/2008 3:15:13 PM
Chromium	· ND	0.0060	mg/L	. 1	9/3/2008 3:15:13 PM
Lead	0.0058	0.0050	mg/L	1	9/3/2008 3:15:13 PM

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- Value above quantitation range Ė
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

**Date:** 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Refinery Wells Annual 2008

Project: Lab ID:

0808316-02

Client Sample ID: MW #44

Collection Date: 8/19/2008 10:25:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA 6010B: TOTAL RECOVERABLE	METALS				Analyst: TES
Selenium	ND	0.050	mg/L	1	9/3/2008 3:15:13 PM
Silver	ND	0.0050	mg/L	. 1	9/3/2008 3:15:13 PM
EPA METHOD 8270C: SEMIVOLATII	LES				Analyst: JDC
Acenaphthene	ND	10	μg/L	1	8/25/2008
Acenaphthylene	ND	10	μg/L	1	8/25/2008
Aniline	ND	10	μg/L	1	8/25/2008
Anthracene	ND	10	μg/L	1	8/25/2008
Azobenzene	ND	10	μg/L	1	8/25/2008
Benz(a)anthracene	ND	10	μg/L	1	8/25/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/25/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/25/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/25/2008
Benzo(k)fluoranthene	ND	. 10	μg/L	1	8/25/2008
Benzoic acid	ND	20	μg/L	1	8/25/2008
Benzyl alcohol	ND	10	µg/L	1	8/25/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/25/2008
Bis(2-chloroethyl)ether	ND	10	μg/L \	1	8/25/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/25/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/25/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/25/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/25/2008
Carbazole	ND	10	μg/L	1	8/25/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/25/2008
4-Chloroaniline	ND	10	μg/L	1	8/25/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/25/2008
2-Chlorophenol	ND	10	μg/L	1	8/25/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/25/2008
Chrysene	ND	10	μg/L	1	8/25/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/25/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/25/2008
Dibenz(a,h)anthracene	ND .	10	μg/L	1	8/25/2008
Dibenzofuran	ND	10	μg/L	1	8/25/2008
1,2-Dichlorobenzene	ND	10	μg/L	1	8/25/2008
1,3-Dichlorobenzene	ND	10	μg/L	1	8/25/2008
1,4-Dichlorobenzene	ND	10	μg/L	1	8/25/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/25/2008
Diethyl phthalate	ND	10	μg/L	1	8/25/2008
Dimethyl phthalate	ND	10	μg/L	1	8/25/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/25/2008
2,4-Dimethylphenol	ND	10	µg/L	1	8/25/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/L	1	8/25/2008

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 7 of 24

Date: 29-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808316

Project:

Refinery Wells Annual 2008

Lab ID:

0808316-02

Client Sample ID: MW #44

Collection Date: 8/19/2008 10:25:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S				Analyst: JDC
2,4-Dinitrophenol	ND	20	μg/L	1	8/25/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/25/2008
2,6-Dinitrotoluene	ND	10	μg/L	1	8/25/2008
Fluoranthene	ND	10	μg/L	1 ·	8/25/2008
Fluorene	ND	10	μg/L	1	8/25/2008
Hexachlorobenzene	ND	10	μg/L	1	8/25/2008
Hexachlorobutadiene	ND	10	μg/L	1	8/25/2008
Hexachlorocyclopentadiene	ND	10	μg/L	1	8/25/2008
Hexachloroethane	ND	10	μg/L	1	8/25/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/25/2008
Isophorone	ND	10	μg/L	· 1	8/25/2008
2-Methylnaphthalene	ND	10	μg/L	. 1	8/25/2008
2-Methylphenol	ND	10	μg/L	1	8/25/2008
3+4-Methylphenol	ND	10	μg/L	1	8/25/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	1	8/25/2008
N-Nitrosodimethylamine	ND	10	µg/L	1	8/25/2008
N-Nitrosodiphenylamine	ND	10	μ <b>g/L</b>	1	8/25/2008
Naphthalene	ND .	10	μg/L	1	8/25/2008
2-Nitroaniline	ND	10	μg/L	1	8/25/2008
3-Nitroaniline	ND	10	µg/L	1	8/25/2008
4-Nitroaniline	ND	10	μg/L	1	8/25/2008
Nitrobenzene	ND	10	μg/L	1	8/25/2008
2-Nitrophenol	ND	10	μg/L	1	8/25/2008
4-Nitrophenol	ND	10	μg/L	1	8/25/2008
Pentachiorophenol	ND	40	µg/L	1	8/25/2008
Phenanthrene	ND	10	μg/L	1	8/25/2008
Phenol	ND	10	μg/L	1	8/25/2008
Pyrene	ND	10	µg/L	1	8/25/2008
Pyridine	ND	10	µg/L	1	8/25/2008
1,2,4-Trichlorobenzene	ND	10	µg/L	. 1	8/25/2008
2;4,5-Trichlorophenol	ND	10	μg/L	1 '	8/25/2008
2,4,6-Trichlorophenol	ND	10	μg/L	1	8/25/2008
Surr: 2,4,6-Tribromophenol	92.3	16.6-150	%REC	1	8/25/2008
Surr: 2-Fluorobiphenyl	84.7	19.6-134	%REC	1	8/25/2008
Surr: 2-Fluorophenol	65.2	9.54-113	%REC	1	8/25/2008
Surr: 4-Terphenyl-d14	61.5	22.7-145	%REC	1	8/25/2008
Surr: Nitrobenzene-d5	85.7	14.6-134	%REC	1	8/25/2008
Surr: Phenol-d5	57.9	10.7-80.3	%REC	1 .	8/25/2008
EPA METHOD 8260B: VOLATILES					Analyst: HL
Benzene	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
Toluene	ND	1.0	µg/L	1	8/22/2008 3:30:15 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 8 of 24

Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Project: Re

Refinery Wells Annual 2008

Lab ID:

0808316-02

Client Sample ID: MW #44

Collection Date: 8/19/2008 10:25:00 AM

Date Received: 8/20/2008
Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF .	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: HL
Ethylbenzene	ND	1.0	µg/L	1	8/22/2008 3:30:15 PM
Methyl tert-butyl ether (MTBE)	1.8	1.0	μg/L	1	8/22/2008 3:30:15 PM
1,2,4-Trimethylbenzene	ND	1.0	μg/L`	1	8/22/2008 3:30:15 PM
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	8/22/2008 3:30:15 PM
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1	8/22/2008 3:30:15 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
Naphthalene	ND	2.0	µg/L	1 '	8/22/2008 3:30:15 PM
1-Methylnaphthalene	ND	4.0	μg/L	1	8/22/2008 3:30:15 PM
2-Methylnaphthalene	ND	4.0	µg/L	1	8/22/2008 3:30:15 PM
Acetone	ND	10	µg/L	1	8/22/2008 3:30:15 PM
Bromobenzene	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
Bromodichloromethane	ND	1.0	µg/L	1	8/22/2008 3:30:15 PM
Bromoform	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
Bromomethane	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
2-Butanone	ND	10	µg/L	1	8/22/2008 3:30:15 PM
Carbon disulfide	ND	10	µg/L	1	8/22/2008 3:30:15 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
Chlorobenzene	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
Chloroethane	ND	2.0	µg/L	1	8/22/2008 3:30:15 PM
Chloroform	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
Chloromethane	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
2-Chlorotoluene	ND	1.0	µg/L	1	8/22/2008 3:30:15 PM
4-Chlorotoluene	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	8/22/2008 3:30:15 PM
Dibromochloromethane	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
Dibromomethane	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
1,3-Dichlorobenzene	ND.	1.0	μg/L	1	8/22/2008 3:30:15 PM
1,4-Dichlorobenzene	· ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
1,1-Dichloroethane	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	8/22/2008 3:30:15 PM
1,1-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM
2-Hexanone	ND	10	μg/L	1	8/22/2008 3:30:15 PM
Isopropylbenzene	ND	- 1.0	μg/L	1	8/22/2008 3:30:15 PM
4-Isopropyltoluene	ND	1.0	μg/L	1	8/22/2008 3:30:15 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 9 of 24

Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Refinery Wells Annual 2008

Project: Lab ID:

0808316-02

Client Sample ID: MW #44

Collection Date: 8/19/2008 10:25:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF .	Date Analyzed
EPA METHOD 8260B: VOLATILES	-					Analyst: HL
4-Methyl-2-pentanone	ND	10		μg/L	1	8/22/2008 3:30:15 PM
Methylene Chloride	ND	3.0		μg/L	1	8/22/2008 3:30:15 PM
n-Butylbenzene	ND	1.0		μg/L	1	8/22/2008 3:30:15 PM
n-Propylbenzene	ND	1.0		μg/L	1	8/22/2008 3:30:15 PM
sec-Butylbenzene	ND	1.0		μg/L	1	8/22/2008 3:30:15 PM
Styrene	ND	1.0		μg/L	1	8/22/2008 3:30:15 PM
tert-Butylbenzene	· ND	1.0		μg/L	1	8/22/2008 3:30:15 PM
1,1,1,2-Tetrachloroethane	ND	1.0		μg/L	1	8/22/2008 3:30:15 PM
1,1,2,2-Tetrachloroethane	ND	2.0		μg/L	1	8/22/2008 3:30:15 PM
Tetrachloroethene (PCE)	ND	1.0		μg/L	1	8/22/2008 3:30:15 PM
trans-1,2-DCE	ND -	1.0		µg/L	1	8/22/2008 3:30:15 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/22/2008 3:30:15 PM
1,2,3-Trichlorobenzene	ND	1.0		μg/L	1	8/22/2008 3:30:15 PM
1,2,4-Trichlorobenzene	ND	1.0		μg/L	1	8/22/2008 3:30:15 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/22/2008 3:30:15 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/22/2008 3:30:15 PM
Trichloroethene (TCE)	ND	1.0		μg/L	, 1	8/22/2008 3:30:15 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	8/22/2008 3:30:15 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1 '	8/22/2008 3:30:15 PM
Vinyl chloride	ND	1.0		µg/L	1	8/22/2008 3:30:15 PM
Xylenes, Total	ND	1.5		µg/L	1	8/22/2008 3:30:15 PM
Surr: 1,2-Dichloroethane-d4	93.5	68.1-123		%REC	1	8/22/2008 3:30:15 PM
Surr: 4-Bromofluorobenzene	96.0	53.2-145		%REC	1	8/22/2008 3:30:15 PM
Surr: Dibromofluoromethane	91.4	68.5-119		%REC	1	8/22/2008 3:30:15 PM
Surr: Toluene-d8	97.1	64-131		%REC	1	8/22/2008 3:30:15 PM
SM 2320B: ALKALINITY						Analyst: <b>TA</b> F
Alkalinity, Total (As CaCO3)	350	20		mg/L CaCO3	1	8/28/2008
Carbonate	ND	2.0		mg/L CaCO3	1	8/28/2008
Bicarbonate	350	20		mg/L CaCO3	1	8/28/2008
TOTAL CARBON DIOXIDE CALCULATION						Analyst: <b>TAF</b>
Total Carbon Dioxide	360	1.0		mg CO2/L	1	8/29/2008
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- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level.
  - RL Reporting Limit

Page 10 of 24

Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808316

Refinery Wells Annual 2008

Project: Lab ID:

0808316-03

Client Sample ID: RW #15

Collection Date: 8/19/2008 11:05:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS			·		Analyst: SLB
Fluoride	0.29	0.10	mg/L	1	8/20/2008 2:20:54 PM
Chloride	420	2.0	mg/L	20	8/20/2008 6:42:04 PM
Nitrogen, Nitrite (As N)	ND	2.0	mg/L	20	8/20/2008 6:42:04 PM
Bromide	7.8	2.0	mg/L	20	8/20/2008 6:42:04 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/20/2008 2:20:54 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/20/2008 2:20:54 PM
Sulfate	0.76	0.50	mg/L	1	8/20/2008 2:20:54 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Project:

Refinery Wells Annual 2008

Lab ID:

0808316-03

Client Sample ID: RW #15

Collection Date: 8/19/2008 11:05:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

<b>Lab 1D:</b> 0808310-03	·						
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD 8015B: DIESEL RANG	E					Analyst: SCC	
Diesel Range Organics (DRO)	2.3	1.0		mg/L	1	8/26/2008 2:09:33 PM	
Motor Oil Range Organics (MRO)	ND ·	5.0		mg/L	1	8/26/2008 2:09:33 PM	
Surr: DNOP	182	58-140	S	%REC	1	8/26/2008 2:09:33 PM	
EPA METHOD 8015B: GASOLINE RA	NGE					Analyst: DAM	
Gasoline Range Organics (GRO)	62	2.5		mg/L	50	8/29/2008 4:26:07 AM	
Surr: BFB	96.2	79.2-121		%REC	50	8/29/2008 4:26:07 AM	
EPA METHOD 300.0: ANIONS						Analyst: SLB	
Fluoride	0.29	0.10		mg/L	1	8/20/2008 2:20:54 PM	
Chloride	420	2.0		mg/L	20	8/20/2008 6:42:04 PM	
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	8/20/2008 6:42:04 PM	
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/20/2008 2:20:54 PM	
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/20/2008 2:20:54 PM	
Sulfate	0.76	0.50		mg/L	1 .	8/20/2008 2:20:54 PM	
EPA METHOD 7470: MERCURY						Analyst: SNV	
Mercury	ND	0.00020		mg/L	1	9/2/2008 2:26:00 PM	
EPA METHOD 6010B: DISSOLVED M	ETALS					Analyst: TES	
Arsenic	ND ND	0.020		mg/L	1	9/5/2008 4:24:24 PM	
Barium	1.2	0.20		mg/L	10	9/5/2008 6:07:18 PM	
Cadmium	ND	0.0020		mg/L	1	9/5/2008 4:24:24 PM	
Calcium	130	10		mg/L	10	9/5/2008 6:07:18 PM	
Chromium	ND	0.0060		mg/L	1	9/5/2008 4:24:24 PM	
Copper	ND	0.0060		mg/L	1	9/5/2008 4:24:24 PM	
Iron	5.3	0.20		mg/L	• 10	9/5/2008 6:07:18 PM	
Lead	ND	0.0050		mg/L	. 1	9/5/2008 4:24:24 PM	
Magnesium	44	1.0		mg/L	1	9/5/2008 4:24:24 PM	
Manganese	2.8	0.020		mg/L	10	9/5/2008 6:07:18 PM	
Potassium	3.7	1.0		mg/L	1	9/5/2008 4:24:24 PM	
Selenium	ND	. 0.25		mg/L	<b>5</b> .	9/8/2008 10:42:28 PM	
Silver	ND	0.0050		mg/L	1	9/5/2008 4:24:24 PM	
Sodium	550	10		mg/L	10	9/5/2008 6:07:18 PM	
Zinc	0.054	0.050		mg/L	1	9/5/2008 4:24:24 PM	
EPA 6010B: TOTAL RECOVERABLE	METALS					Analyst: TES	
Arsenic	ND	0.020		mg/L	1	9/3/2008 2:37:06 PM	
Barium	1.5	0.10		mg/L	5	9/3/2008 3:50:05 PM	
Cadmium	, ND	0.0020		mg/L	1	9/3/2008 2:37:06 PM	
Chromium	ND	0.0060		mg/L	1	9/3/2008 2:37:06 PM	
Lead	ND	0.0050		mg/L	1	9/3/2008 2:37:06 PM	



- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit



Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Project:

Refinery Wells Annual 2008

Lab ID:

0808316-03

Client Sample ID: RW #15

Collection Date: 8/19/2008 11:05:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual U	nits	DF	Date Analyzed
EPA 6010B: TOTAL RECOVERABLE	METALS					Analyst: TES
Selenium	ND	0.050	mg	g/L	1	9/3/2008 2:37:06 PM
Silver	ND	0.0050	mg	g/L	1	9/3/2008 2:37:06 PM
EPA METHOD 8270C: SEMIVOLATILE	ES					Analyst: JDC
Acenaphthene	ND	10	μg.	/L	1	8/25/2008
Acenaphthylene	ND	10	μg.	/L	1	8/25/2008
Aniline	ND	10	μg	/L	1	8/25/2008
Anthracene	ND	10	μg	/L	1	8/25/2008
Azobenzene	ND	10	μg	/L	1	8/25/2008
Benz(a)anthracene	ND	10	μg	/L	1	8/25/2008
Benzo(a)pyrene	ND	10	μg	/L	1	8/25/2008
Benzo(b)fluoranthene	ND	10	μg	/L	1	8/25/2008
Benzo(g,h,i)perylene	ND	10	μg/		1	8/25/2008
Benzo(k)fluoranthene	ND	10	μg		1	8/25/2008
Benzoic acid	ND	20	μg		1	8/25/2008
Benzyl alcohol	ND	10	μg/		1	8/25/2008
Bis(2-chloroethoxy)methane	ND	10	µg/		1	8/25/2008
Bis(2-chloroethyl)ether	ND	10	μg/		1	8/25/2008
Bis(2-chloroisopropyl)ether	ND	10	µg/		1	8/25/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/		1	8/25/2008
4-Bromophenyl phenyl ether	ND	10	μg/		1	8/25/2008
Butyl benzyl phthalate	ND	10	µg/		1 .	8/25/2008
Carbazole	ND	10	μg/		1	8/25/2008
4-Chloro-3-methylphenol	ND	10	μg/		1	8/25/2008
4-Chloroaniline	ND	10	µg/		· 1	8/25/2008
2-Chloronaphthalene	ND	10	μg/		1	8/25/2008
2-Chlorophenol	ND	10	μg/		1	8/25/2008
4-Chlorophenyl phenyl ether	ND	10	μg/		1	8/25/2008
Chrysene	ND	10	μg/		1	8/25/2008
Di-n-butyl phthalate	ND	10	μg/		1	8/25/2008
Di-n-octyl phthalate	ND	10	μg/		1	8/25/2008
Dibenz(a,h)anthracene	ND	10	μg/		1	8/25/2008
Dibenzofuran	ND	10	μg/		1	8/25/2008
1,2-Dichlorobenzene	NĐ	10	μg/		1	8/25/2008
1,3-Dichlorobenzene	ND	10	μg/		1	8/25/2008
1,4-Dichlorobenzene	ND	10	μg/		1	8/25/2008
3,3'-Dichlorobenzidine	ND	10	μg/		1	8/25/2008
Diethyl phthalate	ND	10	μg/		1	8/25/2008
Dimethyl phthalate	ND	10	μg/l		1	8/25/2008
2,4-Dichlorophenol	ND	20	μg/l		1	8/25/2008
2,4-Dimethylphenol	13	10	μg/l		1	8/25/2008
4,6-Dinitro-2-methylphenol	ND	20	µg/l		1	8/25/2008

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Refinery Wells Annual 2008

Project: Lab ID:

0808316-03

Client Sample ID: RW #15

Collection Date: 8/19/2008 11:05:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES	3					Analyst: JDC
2,4-Dinitrophenol	· ND	20		μg/L	. 1	8/25/2008
2,4-Dinitrotoluene	ND	10		μg/L	1	8/25/2008
2,6-Dinitrotoluene	ND	10		µg/L	1	8/25/2008
Fluoranthene	ND	10		μg/L	1	8/25/2008
Fluorene	ND	10		μg/L	1	8/25/2008
Hexachlorobenzene	ND	10		μg/L	1	8/25/2008
Hexachlorobutadiene	ND	10		μg/L	1	8/25/2008
Hexachlorocyclopentadiene	ND	10		μg/L	1	8/25/2008
Hexachloroethane	ND	10		µg/L	1	8/25/2008
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	8/25/2008
Isophorone	ND	10		μg/L	1	8/25/2008
2-Methylnaphthalene	79	10		μg/L	1	8/25/2008
2-Methylphenol	ND	10		μg/L	1	8/25/2008
3+4-Methylphenol	ND	10		μg/L	1	8/25/2008
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	8/25/2008
N-Nitrosodimethylamine	ND	10		µg/L	1	8/25/2008
N-Nitrosodiphenylamine	ND	10		µg/L	1	8/25/2008
Naphthalene	280	50		μg/L	5	8/25/2008
2-Nitroaniline	ND	. 10		μg/L	1	8/25/2008
3-Nitroaniline	ND	10		µg/L	1	8/25/2008
4-Nitroaniline	ND	10		μg/L	1 .	8/25/2008
Nitrobenzene	ND	10		μg/L	1	8/25/2008
2-Nitrophenol	ND	10		µg/L	1	8/25/2008
4-Nitrophenol	ND	10		µg/L	1	8/25/2008
Pentachiorophenol	ND	40		µg/L	1	8/25/2008
Phenanthrene	ND	10		μg/L	1	8/25/2008
Phenol	18	10		μg/L	1	8/25/2008
Pyrene	ND	10		μg/L	1	8/25/2008
Pyridine	ND	10		μg/L	1	8/25/2008
1,2,4-Trichlorobenzene	ND	10		μg/L	1	8/25/2008
2,4,5-Trichlorophenol	ND	10		μg/L	1	8/25/2008
2,4,6-Trichlorophenol	ND	10		µg/L	1	8/25/2008
Surr: 2,4,6-Tribromophenol	88.8	16.6-150		%REC	1	8/25/2008
Surr: 2-Fluorobiphenyl	76.1	19.6-134		%REC	1	8/25/2008
Surr: 2-Fluorophenol	61.4	9.54-113		%REC	1	8/25/2008
Surr: 4-Terphenyl-d14	55.1	22.7-145		%REC	1	8/25/2008
Surr: Nitrobenzene-d5	81.2	14.6-134		%REC	1	8/25/2008
Surr: Phenol-d5	52.2	10.7-80.3		%REC	· 1	8/25/2008
EPA METHOD 8260B: VOLATILES						Analyst: <b>HL</b>
Benzene	6000	100		μg/L	100	8/26/2008 8:55:08 PM
Toluene	1000	100		μg/L	100	8/26/2008 8:55:08 PM

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 29-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808316

Project:

Refinery Wells Annual 2008

Lab ID:

0808316-03

Client Sample ID: RW #15

Collection Date: 8/19/2008 11:05:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Unit	s DF	Date Analyzed
PA METHOD 8260B: VOLATILES					Analyst: HL
Ethylbenzene	4100	100	μg/L	100	8/26/2008 8:55:08 PM
Methyl tert-butyl ether (MTBE)	30	10	μg/L	10	8/22/2008 4:00:14 PN
1,2,4-Trimethylbenzene	2900	100	µg/L	100	8/26/2008 8:55:08 PM
1,3,5-Trimethylbenzene	680	10	μg/L	10	8/22/2008 4:00:14 PM
1,2-Dichloroethane (EDC)	ND	10	μg/L	10	8/22/2008 4:00:14 PM
1,2-Dibromoethane (EDB)	ND	10	μg/L	10	8/22/2008 4:00:14 PM
Naphthalene	620	20	µg/L	10	8/22/2008 4:00:14 PM
1-Methylnaphthalene	92	40	μg/L	10	8/22/2008 4:00:14 PN
2-Methylnaphthalene	150	40	μg/L	10	8/22/2008 4:00:14 PM
Acetone	ND	100	µg/L	10	8/22/2008 4:00:14 PM
Bromobenzene	ND	10	μg/L	10	8/22/2008 4:00:14 PM
Bromodichloromethane	ND	10	μg/L	10	8/22/2008 4:00:14 PM
Bromoform	ND	10	μg/L	. 10	8/22/2008 4:00:14 PN
Bromomethane	ND	10	μg/L	10	8/22/2008 4:00:14 PM
2-Butanone	ND	100	μg/L	10	8/22/2008 4:00:14 PM
Carbon disulfide	ND	100	µg/L	10	8/22/2008 4:00:14 PM
Carbon Tetrachloride	ND	10	μg/L	10	8/22/2008 4:00:14 PM
Chiorobenzene	ND	10	µg/L	10	8/22/2008 4:00:14 PM
Chloroethane	ND	20	μg/L	10	8/22/2008 4:00:14 PM
Chloroform	ND	10	μg/L	10	8/22/2008 4:00:14 PM
Chloromethane	ND	10	µg/L	10	8/22/2008 4:00:14 PM
2-Chlorotoluene	ND	10	μg/L	10	8/22/2008 4:00:14 PM
4-Chlorotoluene	ND	10	μg/L	10	8/22/2008 4:00:14 PM
cis-1,2-DCE	ND	10	μg/L	10	8/22/2008 4:00:14 PM
cis-1,3-Dichloropropene	ND	10	µg/L	10	8/22/2008 4:00:14 PM
1,2-Dibromo-3-chloropropane	ND	20	μg/L	10	8/22/2008 4:00:14 PM
Dibromochloromethane	ND	10	μg/L	10	8/22/2008 4:00:14 PM
Dibromomethane	ND	10	μg/L	10	8/22/2008 4:00:14 PM
1,2-Dichlorobenzene	ND	10	µg/L	10	8/22/2008 4:00:14 PM
1,3-Dichlorobenzene	ND	10	μg/L	10	8/22/2008 4:00:14 PM
1,4-Dichlorobenzene	ND	10	μg/L	10	8/22/2008 4:00:14 PM
Dichlorodifluoromethane	ND	10	µg/L	10	8/22/2008 4:00:14 PM
1,1-Dichloroethane	ND	10	µg/∟	10	8/22/2008 4:00:14 PM
1,1-Dichloroethene	ND	10	µg/L	10	8/22/2008 4:00:14 PM
1,2-Dichloropropane	ND	10	μg/L	10	8/22/2008 4:00:14 PM
1,3-Dichloropropane	ND	10	μg/L	10	8/22/2008 4:00:14 PM
2,2-Dichloropropane	ND	20	μg/L	10	8/22/2008 4:00:14 PM
1,1-Dichloropropene	ND	10	μg/L	10	8/22/2008 4:00:14 PM
Hexachlorobutadiene	ND	10	μg/L	10	8/22/2008 4:00:14 PM
2-Hexanone	ND	100	μg/L	· 10	8/22/2008 4:00:14 PM
Isopropylbenzene	150	10	µg/L	10	8/22/2008 4:00:14 PM
4-Isopropyltoluene	ND	10	µg/L	10	8/22/2008 4:00:14 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

**Project:** Refinery Wells Annual 2008

Lab ID:

0808316-03

Client Sample ID: RW #15

Collection Date: 8/19/2008 11:05:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

EPA METHOD 8260B: VOLATILES 4-Methyl-2-pentanone	ND			<del></del>		A
	ND					Analyst: HL
		100		μg/L	10	8/22/2008 4:00:14 PM
Methylene Chloride	ND	30	-	µg/L	10	8/22/2008 4:00:14 PM
n-Butylbenzene	73	10		μg/L	10	8/22/2008 4:00:14 PM
n-Propylbenzene	390	. 10		μg/L	10	8/22/2008 4:00:14 PM
sec-Butylbenzene	17	10		μg/L	10	8/22/2008 4:00:14 PM
Styrene	ND	10		μg/L	10	8/22/2008 4:00:14 PM
tert-Butylbenzene	ND	10		μg/L	10	8/22/2008 4:00:14 PM
1,1,1,2-Tetrachloroethane	ND	10		μg/L	10	8/22/2008 4:00:14 PM
1,1,2,2-Tetrachloroethane	ND	20		μg/L	10	8/22/2008 4:00:14 PM
Tetrachloroethene (PCE)	ND	10		μg/L	10	8/22/2008 4:00:14 PM
trans-1,2-DCE	ND	10		μg/L	10	8/22/2008 4:00:14 PM
trans-1,3-Dichloropropene	ND	10		μg/L	10	8/22/2008 4:00:14 PM
1,2,3-Trichlorobenzene	ND	10		µg/L	10	8/22/2008 4:00:14 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	10	8/22/2008 4:00:14 PM
1,1,1-Trichloroethane	ND	10		μg/L	10	8/22/2008 4:00:14 PM
1,1,2-Trichloroethane	ND	10		μg/L	10	8/22/2008 4:00:14 PM
Trichloroethene (TCE)	ND	10		µg/L	10	8/22/2008 4:00:14 PM
Trichlorofluoromethane	ND	10		μg/L	10	8/22/2008 4:00:14 PM
1,2,3-Trichloropropane	ND	20		μg/L	.10	8/22/2008 4:00:14 PM
Vinyl chloride	ND	10		μg/L	10	8/22/2008 4:00:14 PM
Xylenes, Total	21000	150		μg/L	100	8/26/2008 8:55:08 PM
Surr: 1,2-Dichloroethane-d4	91.1	68.1-123		%REC	10	8/22/2008 4:00:14 PM
Surr: 4-Bromofluorobenzene	97.6	53.2-145		%REC	10	8/22/2008 4:00:14 PM
Surr: Dibromofluoromethane	93.9	68.5-119		%REC	10	8/22/2008 4:00:14 PM
Surr: Toluene-d8	129	64-131		%REC	10	8/22/2008 4:00:14 PM
SM 2320B: ALKALINITY						Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	1200	40		mg/L CaCO3	2	8/28/2008
Carbonate	ND	4.0		mg/L CaCO3	. 2	8/28/2008
Bicarbonate	1200	40		mg/L CaCO3	2	8/28/2008
TOTAL CARBON DIOXIDE CALCULAT	ION	*				Analyst: <b>TAF</b>
Total Carbon Dioxide	1200	1.0		mg CO2/L	1	8/29/2008

Qualifier	
-----------	--

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

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Date: 11-Dec-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order: Project: 0808316

Refinery Wells Annual 2008

Lab ID:

0808316-04

Client Sample ID: MW #40

Collection Date: 8/19/2008 11:20:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qua	l Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS		<del></del>			Analyst: SLB
Fluoride	0.33	0.10	mg/L	1	8/20/2008 2:38:19 PM
Chloride	310	2.0	mg/L	20	8/20/2008 6:59:28 PM
Nitrogen, Nitrite (As N)	· ND	2.0	mġ/L	20	8/20/2008 6:59:28 PM
Bromide	. 4.4	0.10	mg/L	1	8/20/2008 2:38:19 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/20/2008 2:38:19 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/20/2008 2:38:19 PM
Sulfate	ND	0.50	mg/L	1	8/20/2008 2:38:19 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

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Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Project:

Refinery Wells Annual 2008

Lab ID:

0808316-04

Client Sample ID: MW #40

Collection Date: 8/19/2008 11:20:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units		DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E						Analyst: SCC
Diesel Range Organics (DRO)	41	1.0		mg/L		1	8/26/2008 2:43:37 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L		1	· 8/26/2008 2:43:37 PM
Surr: DNOP	178	58-140	S	%REC		1	8/26/2008 2:43:37 PM
EPA METHOD 8015B: GASOLINE RA	NGE						Analyst: DAM
Gasoline Range Organics (GRO)	5.1	0.25		mg/L		5	8/29/2008 4:59:08 AM
Surr: BFB	210	79.2-121	S	%REC		5	8/29/2008 4:59:08 AM
EPA METHOD 300.0: ANIONS							Analyst: SLB
Fluoride	0.33	0.10		mg/L		1	8/20/2008 2:38:19 PM
Chloride	310	2.0		mg/L		20	8/20/2008 6:59:28 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	•	20	8/20/2008 6:59:28 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L		1	8/20/2008 2:38:19 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L		1	8/20/2008 2:38:19 PM
Sulfate	ND	0.50		mg/L		1	8/20/2008 2:38:19 PM
EPA METHOD 7470: MERCURY							Analyst: SNV
Mercury	ND	0.00020		mg/L	•	1	9/2/2008 2:27:51 PM
EPA METHOD 6010B: DISSOLVED M	ETALS						Analyst: TES
Arsenic	ND	0.020		mg/L		1	9/5/2008 4:28:12 PM
Barium	1.8	0.10		mg/L		5	9/5/2008 6:12:57 PM
Cadmium	ND	0.0020		mg/L		1	9/5/2008 4:28:12 PM
Calcium	91	1.0		mg/L		1	9/5/2008 4:28:12 PM
Chromium	ND	0.0060		mg/L		1	9/5/2008 4:28:12 PM
Copper	ND	0.0060		mg/L		1	9/5/2008 4:28:12 PM
Iron	5.5	0.20		mg/L		10	9/5/2008 6:10:09 PM
Lead	ND	0.0050		mg/L		1	9/5/2008 4:28:12 PM
Magnesium	42	1.0		mg/L		1	9/5/2008 4:28:12 PM
Manganese	2.5	0.020		mg/L		10	9/5/2008 6:10:09 PM
Potassium	3.5	1.0		mg/L		1	9/5/2008 4:28:12 PM
Selenium	ND	0.25		mg/L		5	9/8/2008 10:52:19 PM
Silver	ND	0.0050		mg/L		1	9/5/2008 4:28:12 PM
Sodium	520	10		mg/L		10	9/5/2008 6:10:09 PM
Zinc	0.063	0.050		mg/L		1	9/5/2008 4:28:12 PM
EPA 6010B: TOTAL RECOVERABLE	METALS						Analyst: TES
Arsenic	ND	0.020		mg/L	,	1	9/3/2008 2:51:15 PM
Barium	2.6	0.10		mg/L	•	5	9/3/2008 3:52:49 PM
Cadmium	ND	0.0020		mg/L		1	9/3/2008 2:51:15 PM
Chromium	ND	0.0060		mg/L		1	9/3/2008 2:51:15 PM
Lead	0.0095	0.0050		mg/L		1	9/3/2008 2:51:15 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 16 of 24

**Date:** 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Project:

Refinery Wells Annual 2008

Lab ID:

0808316-04

Client Sample ID: MW #40

Collection Date: 8/19/2008 11:20:00 AM

Date Received: 8/20/2008 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA 6010B: TOTAL RECOVERABLE ME	TALS					Analyst: TES
Selenium	ND	0.050		mg/L	1	9/3/2008 2:51:15 PM
Silver	ND	0.0050	•	mg/L	1	9/3/2008 2:51:15 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	50		μg/L	1	8/25/2008
Acenaphthylene	ND	50		μg/L	1	8/25/2008
Aniline	ND	50		µg/L	1	8/25/2008
Anthracene	ND	50		μg/L	1	8/25/2008
Azobenzene	ND	50		µg/L	.1	8/25/2008
Benz(a)anthracene	ND	50		µg/L	1	8/25/2008
Benzo(a)pyrene	ND	50		µg/L	1	8/25/2008
Benzo(b)fluoranthene	ND	50		μg/L	1	8/25/2008
Benzo(g,h,i)perylene	ND	50		µg/L	1	8/25/2008
Benzo(k)fluoranthene	ND	50		µg/L	1	8/25/2008
Benzoic acid	ND	100		µg/L	1	8/25/2008
Benzyl alcohol	ND	50		μg/L	1	8/25/2008
Bis(2-chloroethoxy)methane	ND	50		μg/L	1	8/25/2008
Bis(2-chloroethyl)ether	ND	50		μg/L	1	8/25/2008
Bis(2-chloroisopropyl)ether	ND	50		μg/L	1	8/25/2008
Bis(2-ethylhexyl)phthalate	ND	50	1	μg/L	1	8/25/2008
4-Bromophenyl phenyl ether	ND	50		μg/L	1	8/25/2008
Butyl benzyl phthalate	ND	50		μg/L	1	8/25/2008
Carbazole	ND	50	1	μg/L	1	8/25/2008
4-Chloro-3-methylphenol	ND	50		μg/L	1	8/25/2008
4-Chloroaniline	ND	50		μg/L	1	8/25/2008
2-Chloronaphthalene	ND	50		µg/L	1	8/25/2008
2-Chlorophenol	ND	50	,	µg/L	1	8/25/2008
4-Chlorophenyl phenyl ether	ND	50		ug/L	1	8/25/2008
Chrysene	ND	50		ug/L	1	8/25/2008
Di-n-butyl phthalate	ND	50		ug/L	1	8/25/2008
Di-n-octyl phthalate	ND	50	ļ	ug/L	1	8/25/2008
Dibenz(a,h)anthracene	ND	50	ŀ	ug/L	1	8/25/2008
Dibenzofuran	ND	50	ŀ	ug/L	1	8/25/2008
1,2-Dichlorobenzene	ND	50		ug/L	1	8/25/2008
1,3-Dichlorobenzene	ND	50	ŀ	ug/L	1	8/25/2008
1,4-Dichlorobenzene	ND	50		ug/L	1	8/25/2008
3,3'-Dichlorobenzidine	ND	50	ŀ	ug/L	1	8/25/2008
Diethyl phthalate	ND	50	ŀ	ug/L	1	8/25/2008
Dimethyl phthalate	ND	50	ŀ	ıg/L	1	8/25/2008
2,4-Dichlorophenol	ND	100		ıg/L	1	8/25/2008
2,4-Dimethylphenol	ND	50		ıg/L	1	8/25/2008
4,6-Dinitro-2-methylphenol	ND	100		ıg/L	1	8/25/2008

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- ·B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Collection Date: 8/19/2008 11:20:00 AM

Project:

Refinery Wells Annual 2008

Date Received: 8/20/2008

Client Sample ID: MW #40

Lab ID:

0808316-04

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JD0
2,4-Dinitrophenol	· ND	100	μg/L	· 1	8/25/2008
2,4-Dinitrotoluene	ND	50	μg/L ·	1	8/25/2008
2,6-Dinitrotoluene	ND	50	μg/L	1	8/25/2008
Fluoranthene	ND	50	μg/L	1	8/25/2008
Fluorene	ND	50	μg/L	1	8/25/2008
Hexachlorobenzene	ND	50	μg/L	1	8/25/2008
Hexachlorobutadiene	ND	50	μg/L	1	8/25/2008
Hexachlorocyclopentadiene	ND	50	µg/L	1	8/25/2008
Hexachloroethane	ND	50	μg/L	1	8/25/2008
Indeno(1,2,3-cd)pyrene	ND	50	μg/L	• 1	8/25/2008.
Isophorone	ND	50	μg/L	1	8/25/2008
2-Methylnaphthalene	300	50	μg/L	1	8/25/2008
2-Methylphenol	ND	50	µg/L	1	8/25/2008
3+4-Methylphenol	ND	50	µg/L	1	8/25/2008
N-Nitrosodi-n-propylamine	ND	50	μg/L	1	8/25/2008
N-Nitrosodimethylamine	ND	50	µg/L	1	8/25/2008
N-Nitrosodiphenylamine	ND	50	µg/L	1	8/25/2008
Naphthalene	140	50	μg/L	1	8/25/2008
2-Nitroaniline	ND	50	μg/L	1	8/25/2008
3-Nitroaniline	ND	50	μg/L	1	8/25/2008
4-Nitroaniline	ND	50	μg/L	1	8/25/2008
Nitrobenzene	ND	50	μġ/L	. 1	8/25/2008
2-Nitrophenol	ND	50	μg/L	1	8/25/2008
4-Nitrophenol	ND	50	μg/L	1	8/25/2008
Pentachlorophenol	ND	200	μg/L	1	8/25/2008
Phenanthrene	56	50	µg/L	1	8/25/2008
Phenol	ND	50	µg/L	1	8/25/2008
Pyrene	ND	50	µg/L	1	8/25/2008
Pyridine	ND	50	µg/L	. 1	8/25/2008
1,2,4-Trichlorobenzene	ND	50	µg/L	1	8/25/2008
2,4,5-Trichlorophenol	ND	50	μg/L	1	8/25/2008
2,4,6-Trichlorophenol	ND	50	µg/L	1	8/25/2008
Surr: 2,4,6-Tribromophenol	87.2	16.6-150	%REC	1	8/25/2008
Surr: 2-Fluorobiphenyl	75.5	19.6-134	%REC	1	8/25/2008
Surr: 2-Fluorophenol	47.4	9.54-113	%REC	1	8/25/2008
Surr: 4-Terphenyl-d14	57.9	22.7-145	%REC	1	8/25/2008
Surr: Nitrobenzene-d5	79.1	14.6-134	%REC	1	8/25/2008
Surr: Phenol-d5	42.1.	10.7-80.3	%REC	1	8/25/2008
EPA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	34	1.0	μg/L	1	8/27/2008 6:01:10 PM
Toluene	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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**Date:** 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Project:

Refinery Wells Annual 2008

Lab ID:

0808316-04

Client Sample ID: MW #40

Collection Date: 8/19/2008 11:20:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ıal Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES	······································				Analyst: HL
Ethylbenzene	5.6	1.0	μg/L	1	8/27/2008 6:01:10 PM
Methyl tert-butyl ether (MTBE)	16	1.0	μg/L	1	8/27/2008 6:01:10 PM
1,2,4-Trimethylbenzene	120	5.0	μg/L	5	8/28/2008 11:27:33 AM
1,3,5-Trimethylbenzene	19	1.0	µg/L	1	8/27/2008 6:01:10 PM
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1	8/27/2008 6:01:10 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
Naphthalene	150	10	μg/L	5	8/28/2008 11:27:33 AM
1-Methylnaphthalene	110	20	μg/L	5	8/28/2008 11:27:33 AM
2-Methylnaphthalene	150	20	μg/L	5	8/28/2008 11:27:33 AM
Acetone	ND	10	μg/L	1	8/27/2008 6:01:10 PM
Bromobenzene	ND	1.0	µg/L	1	8/27/2008 6:01:10 PM
Bromodichloromethane	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
Bromoform	ND	1.0	µg/L	, 1	8/27/2008 6:01:10 PM
Bromomethane	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
2-Butanone	ND	10	μg/L	1	8/27/2008 6:01:10 PM
Carbon disulfide	ND	10	μg/L	1	8/27/2008 6:01:10 PM
Carbon Tetrachloride	ND	1.0	μg/L	1 .	8/27/2008 6:01:10 PM
Chlorobenzene	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
Chloroethane	ND	2.0	µg/L	1	8/27/2008 6:01:10 PM
Chloroform	ND	1.0	µg/L	1	8/27/2008 6:01:10 PM
Chloromethane	ND	1.0	µg/L	1	8/27/2008 6:01:10 PM
2-Chlorotoluene	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
4-Chlorotoluene	ND	1.0	μg/L	1.	8/27/2008 6:01:10 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	8/27/2008 6:01:10 PM
Dibromochloromethane	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
Dibromomethane	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
1,2-Dichlorobenzene	1.4	1.0	µg/L	1	8/27/2008 6:01:10 PM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
1,4-Dichlorobenzene	ND	1.0	µg/L	1	8/27/2008 6:01:10 PM
Dichlorodifluoromethane	ND	1:0	μg/L	1	8/27/2008 6:01:10 PM
1,1-Dichloroethane	ND	1.0	μġ/L	1	8/27/2008 6:01:10 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
2,2-Dichloropropane	ND	2.0	μg/L	1	8/27/2008 6:01:10 PM
1,1-Dichloropropene	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/27/2008 6:01:10 PM
2-Hexanone	ND	10	µg/L	1	8/27/2008 6:01:10 PM
Isopropylbenzene	59	1.0	μg/L	1	8/27/2008 6:01:10 PM
4-Isopropyltoluene	3.9	1.0	μg/L	1	8/27/2008 6:01:10 PM

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

- -

**Project:** Refinery Wells Annual 2008

Lab ID:

0808316-04

Client Sample ID: MW #40

Collection Date: 8/19/2008 11:20:00 AM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES	,					Analyst: HL
4-Methyl-2-pentanone	ND	10		µg/L	1 .	8/27/2008 6:01:10 PM
Methylene Chloride	ND	3.0		µg/L	1	8/27/2008 6:01:10 PM
n-Butylbenzene	6.2	1.0		μg/L	1	8/27/2008 6:01:10 PM
n-Propylbenzene	66	1.0		μg/L	1 -	8/27/2008 6:01:10 PM
sec-Butylbenzene	11	1.0		µg/L	1	8/27/2008 6:01:10 PM
Styrene	ND	1.0		μg/L	1	8/27/2008 6:01:10 PM
tert-Butylbenzene	1.9	1.0		μg/L	1	8/27/2008 6:01:10 PM
1,1,1,2-Tetrachloroethane	ND	1.0		μg/L	1	8/27/2008 6:01:10 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	8/27/2008 6:01:10 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/27/2008 6:01:10 PM
trans-1,2-DCE	ND	1.0		µg/L	1	8/27/2008 6:01:10 PM
trans-1,3-Dichloropropene	ND	1.0		μg/L	1	8/27/2008 6:01:10 PM
1,2,3-Trichlorobenzene	ND	1.0		μg/L	1	8/27/2008 6:01:10 PM
1,2,4-Trichlorobenzene	ND	1.0		μg/L	1	8/27/2008 6:01:10 PM
1,1,1-Trichloroethane	ND	1.0		μg/L	1	8/27/2008 6:01:10 PM
1,1,2-Trichloroethane	ND	1.0		μg/L	1 .	8/27/2008 6:01:10 PM
Trichloroethene (TCE)	ND .	1.0		μg/L	1	8/27/2008 6:01:10 PM
Trichlorofluoromethane	ND	1.0		μg/L	1	8/27/2008 6:01:10 PM
1,2,3-Trichloropropane	ND	2.0		μg/L	1	8/27/2008 6:01:10 PM
Vinyl chloride	· ND	1.0		μg/L	1	8/27/2008 6:01:10 PM
Xylenes, Total	1.8	1.5		μg/L	1	8/27/2008 6:01:10 PM
Surr: 1,2-Dichloroethane-d4	97.7	68.1-123		%REC	1	8/27/2008 6:01:10 PM
Surr: 4-Bromofluorobenzene	177	53.2-145	S	%REC	1.	8/27/2008 6:01:10 PM
Surr: Dibromofluoromethane	96.8	68.5-119		%REC	1	8/27/2008 6:01:10 PM
Surr: Toluene-d8	117	64-131		%REC	1	8/27/2008 6:01:10 PM
SM 2320B: ALKALINITY						Analyst: <b>TA</b> F
Alkalinity, Total (As CaCO3)	1200	40		mg/L CaCO3	2	8/28/2008
Carbonate	ND	4.0		mg/L CaCO3	2	8/28/2008
Bicarbonate	1200	40		mg/L CaCO3	2	8/28/2008
TOTAL CARBON DIOXIDE CALCULATION	N					Analyst: TAF
Total Carbon Dioxide	1200	1.0		mg CO2/L	1	8/29/2008

Ou	al:	ific	ers

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

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Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808316

Refinery Wells Annual 2008

Project: Lab ID:

0808316-05

Client Sample ID: Field Blank

Collection Date: 8/19/2008 10:40:00 AM

**Date Received: 8/20/2008** Matrix: AQUEOUS

Analyses	Result	PQL	Qual U	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RAN	IGE					Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050	n	ng/L	1	8/29/2008 5:59:46 AM
Surr. BFB	87.1	79.2-121	9,	%REC	1	8/29/2008 5:59:46 AM
EPA METHOD 8260B: VOLATILES						Analyst: HL
Benzene	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
Toluene	ND	1.0		ıg/L	1	8/22/2008 4:58:59 PM
Ethylbenzene	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		ıg/L	1	8/22/2008 4:58:59 PM
1,2,4-Trimethylbenzene	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
1,3,5-Trimethylbenzene	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
1,2-Dichloroethane (EDC)	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
1,2-Dibromoethane (EDB)	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
Naphthalene	ND	2.0		ıg/L	1	8/22/2008 4:58:59 PM
1-Methylnaphthalene	ND	4.0		ıg/L	. 1	8/22/2008 4:58:59 PM
2-Methylnaphthalene	ND	4.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
Acetone	ND	10	μ	ıg/L	1	8/22/2008 4:58:59 PM
Bromobenzene	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
Bromodichloromethane	1.4	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
Bromoform	ND	1.0	۲	ıg/L	1	8/22/2008 4:58:59 PM
Bromomethane	ND	1.0	۲	ıg/L	1	8/22/2008 4:58:59 PM
2-Butanone	ND	10	۲	ug/L	1	8/22/2008 4:58:59 PM
Carbon disulfide	ND	10	μ	ıg/L	1	8/22/2008 4:58:59 PM
Carbon Tetrachioride	ND	1.0	μ	ıg/L	• 1	8/22/2008 4:58:59 PM
Chlorobenzene	ND	1.0	J.	ıg/L	. 1	8/22/2008 4:58:59 PM
Chloroethane	ND	2.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
Chloroform	13	1.0	Ļ	ıg/L	1	8/22/2008 4:58:59 PM
Chloromethane	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
2-Chlorotoluene	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
4-Chlorotoluene	ND	1.0	۲	ıg/L	1	8/22/2008 4:58:59 PM
cis-1,2-DCE	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
cis-1,3-Dichloropropene	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
1,2-Dibromo-3-chloropropane	ND	2.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
Dibromochloromethane	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
Dibromomethane	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
1,2-Dichlorobenzene	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM
1,3-Dichlorobenzene	ND	1.0		ıg/L	1	8/22/2008 4:58:59 PM
1,4-Dichlorobenzene	ND	1.0		ıg/L	1	8/22/2008 4:58:59 PM
Dichlorodifluoromethane	ND	1.0		ıg/L	1	8/22/2008 4:58:59 PM
1,1-Dichloroethane	ND	1.0		ıg/L	1	8/22/2008 4:58:59 PM
1,1-Dichloroethene	ND	1.0		ıg/L	1	8/22/2008 4:58:59 PM
1,2-Dichloropropane	ND	1.0		ıg/L	1	8/22/2008 4:58:59 PM
1,3-Dichloropropane	ND	1.0	μ	ıg/L	1	8/22/2008 4:58:59 PM

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits J
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

Date: 29-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808316

Refinery Wells Annual 2008

Project: Lab ID:

0808316-05

Client Sample ID: Field Blank

Collection Date: 8/19/2008 10:40:00 AM

**Date Received: 8/20/2008** 

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
2,2-Dichloropropane	ND	2.0	μg/L	1	8/22/2008 4:58:59 PM
1,1-Dichloropropene	ND	1.0	μg/L	· 1 .	8/22/2008 4:58:59 PM
Hexachlorobutadiene	ND	1.0	µg/L	1	8/22/2008 4:58:59 PM
2-Hexanone	ND	10	μg/L	. 1	8/22/2008 4:58:59 PM
Isopropylbenzene	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
4-Isopropyltoluene	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	8/22/2008 4:58:59 PM
Methylene Chloride	ND	3.0	μg/L	1	8/22/2008 4:58:59 PM
n-Butylbenzene	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
n-Propylbenzene	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
sec-Butylbenzene	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
Styrene	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
tert-Butylbenzene	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/22/2008 4:58:59 PM
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
trans-1,2-DCE	ND	1.0	µg/L	1	8/22/2008 4:58:59 PM
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1 .	8/22/2008 4:58:59 PM
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/22/2008 4:58:59 PM
Trichlorofluoromethane	ND	1.0	µg/L	1	8/22/2008 4:58:59 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	.1	8/22/2008 4:58:59 PM
Vinyl chloride	ND	1.0	μg/L	. 1	8/22/2008 4:58:59 PM
Xylenes, Total	ND	1.5	μg/L	1	8/22/2008 4:58:59 PM
Surr: 1,2-Dichloroethane-d4	92.0	68.1-123	%REC	1	8/22/2008 4:58:59 PM
Surr: 4-Bromofluorobenzene	97.3	53.2-145	%REC	1	8/22/2008 4:58:59 PM
Surr: Dibromofluoromethane	95.2	68.5-119	%REC	1	8/22/2008 4:58:59 PM
Surr: Toluene-d8	97.5	64-131	%REC	1	8/22/2008 4:58:59 PM

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 29-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808316

Refinery Wells Annual 2008

Project: Lab ID:

0808316-06

Client Sample ID: Trip Blank

**Collection Date:** 

Date Received: 8/20/2008

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RAN	GE	<del></del>			Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/29/2008 6:30:03 AM
Surr: BFB	85.9	79.2-121	%REC	1	8/29/2008 6:30:03 AM
EPA METHOD 8260B: VOLATILES					Analyst: <b>HL</b>
Benzene	. ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Toluene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Ethylbenzene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
1,3,5-Trimethylbenzene	. ND	1.0	μg/L	1 .	8/22/2008 5:27:45 PM
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Naphthalene	ND	2.0	μg/L	1	8/22/2008 5:27:45 PM
1-Methylnaphthalene	ND	4.0	μg/L	1	8/22/2008 5:27:45 PM
2-Methylnaphthalene	ND	4.0	μg/L	1	8/22/2008 5:27:45 PM
Acetone	ND	10	μg/L	1	8/22/2008 5:27:45 PM
Bromobenzene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Bromodichloromethane	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Bromoform	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Bromomethane	ND	1.0	µg/L	1	8/22/2008 5:27:45 PM
2-Butanone	ND	10	μg/L	1	8/22/2008 5:27:45 PM
Carbon disulfide	ND	10	μg/L	1	8/22/2008 5:27:45 PM
Carbon Tetrachloride	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Chlorobenzene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Chloroethane	ND	2.0	μg/L	1	8/22/2008 5:27:45 PM
Chloroform	ND	1.0	μg/L	1 .	8/22/2008 5:27:45 PM
Chloromethane	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
2-Chlorotoluene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
4-Chlorotoluene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
cis-1,2-DCE	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
cis-1,3-Dichloropropene	ND	1.0	μg/L	1 -	8/22/2008 5:27:45 PM
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1 .	8/22/2008 5:27:45 PM
Dibromochloromethane	ND	1.0	µg/L	1	8/22/2008 5:27:45 PM
Dibromomethane	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
1,4-Dichlorobenzene	ND	. 1.0	μg/L	1	8/22/2008 5:27:45 PM
Dichlorodifluoromethane	ND	1.0	µg/L	1	8/22/2008 5:27:45 PM
1,1-Dichloroethane	ND	1.0	. µg/L	1	8/22/2008 5:27:45 PM
1,1-Dichloroethene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
1,2-Dichloropropane	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
1,3-Dichloropropane	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM

Qualifiers:

ND

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Η
- MCL Maximum Contaminant Level
  - Reporting Limit

Page 23 of 24

Date: 29-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

**Lab Order:** 0808316

**Project:** 

Refinery Wells Annual 2008

Lab ID:

0808316-06

Client Sample ID: Trip Blank

**Collection Date:** 

Date Received: 8/20/2008

Matrix: TRIP BLANK

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES	······································				Analyst: <b>HL</b>
2,2-Dichloropropane	ND	2.0	μg/L	1	8/22/2008 5:27:45 PM
1,1-Dichloropropene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Hexachlorobutadiene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
2-Hexanone	ND	10	μg/L	1	8/22/2008 5:27:45 PM
Isopropylbenzene	ND	1.0	µg/L	1	8/22/2008 5:27:45 PM
4-Isopropyltoluene	ND	1.0	µg/L	1	8/22/2008 5:27:45 PM
4-Methyl-2-pentanone	ND	10	μg/L	1	8/22/2008 5:27:45 PM
Methylene Chloride	ND	3.0	µg/L	1	8/22/2008 5:27:45 PM
n-Butylbenzene	ND	1.0	μg/L	. 1	8/22/2008 5:27:45 PM
n-Propylbenzene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
sec-Butylbenzene	, ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Styrene	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
tert-Butylbenzene	ND	1.0	μg/L ·	1	8/22/2008 5:27:45 PM
1,1,1,2-Tetrachloroethane	, ND	1.0	μg/L	1 .	8/22/2008 5:27:45 PM
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/22/2008 5:27:45 PM
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
trans-1,2-DCE	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	8/22/2008 5:27:45 PM
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	8/22/2008 5:27:45 PM
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	8/22/2008 5:27:45 PM
1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Trichlorofluoromethane	ND	1.0	µg/L	1	8/22/2008 5:27:45 PM
1,2,3-Trichloropropane	ND	2.0	μg/L	· 1	8/22/2008 5:27:45 PM
Vinyl chloride	ND	1.0	μg/L	1	8/22/2008 5:27:45 PM
Xylenes, Total	ND	1.5	μg/L	1	8/22/2008 5:27:45 PM
Surr: 1,2-Dichloroethane-d4	91.9	68.1-123	%REC	1	8/22/2008 5:27:45 PM
Surr: 4-Bromofluorobenzene	99.2	53.2-145	%REC	1	8/22/2008 5:27:45 PM
Surr: Dibromofluoromethane	97.5	68.5-119	%REC	1	8/22/2008 5:27:45 PM
Surr: Toluene-d8	97.4	64-131	%REC	1	8/22/2008 5:27:45 PM

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

#### **CASE NARRATIVE**

September 3, 2008

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM

Project Tracking No.: 0808316 Anatek Batch: 080813036

**Project Summary:** Four (4) water samples were received on 8/21/2008 for metals (EPA 6020A) analysis. All samples were received in good condition and with the appropriate chain of custody Samples were received at 6.2C.

Client Sample ID	Anatek Sample ID	Method/Prep Method
0808316-01F / RW #23	080821018-001	EPA 6020A/3005A
0808316-02F / RW #44	080821018-001	EPA 6020A/3005A
0808316-03F / RW #15	080821018-001	EPA 6020A/3005A
0808316-04F / RW #40	080821018-001	EPA 6020A/3005A

#### **QA/QC Checks**

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Υ	NA
Surrogate Recoveries Valid?	Υ	NA.
QC Sample(s) Recoveries Valid?	Υ	NA
Method Blank(s) Valid?	Υ	'NA
Tune(s) Valid?	Υ	NA
Internal Standard Responses Valid?	Υ	NA
Initial Calibration Curve(s) Valid?	Y	NA
Continuing Calibration(s) Valid?	Υ	NA
Comments:	Υ	NA .

#### 1. Holding Time Requirements

No problems encountered.

#### 2. GC/MS Tune Requirements

NA

#### 3. Calibration Requirements

No problems encountered.

#### 4. Surrogate Recovery Requirements

NA

#### 5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

#### 6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

#### 7. Internal Standard(s) Response Requirements

No problems encountered.

#### 8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by:

Printed on: 3 September 2008 14:23:51

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080821018

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808316

Attn:

**ANDY FREEMAN** 

### **Analytical Results Report**

Sample Number

080821018-001

0808316-01F / RW #23

Sampling Date Sampling Time 8/19/2008 Date/Time Received 8/21/2008

10:45 AM

Client Sample ID Matrix:

Water

Sample Location

10:00 AM

8/27/2008 **Extraction Date** 

Parameter

Result

Units

PQL Analysis Date Analyst Method

Qualifier

Dissolved Uranium

ND

0.001 mg/L

8/27/2008

ETL **EPA 6020A** 

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080821018

Address:

4901 HAWKINS NE SUITE D

**Project Name:** 

0808316

ALBUQUERQUE, NM 87109

Attn: **ANDY FREEMAN** 

**Analytical Results Report** 

Sample Number

080821018-002

Sampling Date

8/19/2008

Date/Time Received

8/21/2008 10:45 AM

Client Sample ID

0808316-02F / MW #44

Sampling Time Sample Location 10:25 AM **Extraction Date** 

8/27/2008

Matrix:

Water

Result

Units

PQL

**Analysis Date Analyst** 

Method

Parameter Dissolved Uranium

0.00103

mg/L

0.001 8/27/2008 **ETL** 

**EPA 6020A** 

Qualifier

Comments:

Certifications held by Analek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Analek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080821018

Address:

4901 HAWKINS NE SUITE D

**Project Name:** 

0808316

ALBUQUERQUE, NM 87109

Attn:

**ANDY FREEMAN** 

#### **Analytical Results Report**

Sample Number

080821018-003

0808316-03F / RW #15

Sampling Date

8/19/2008 11:05 AM Date/Time Received

8/21/2008 10:45 AM

Client Sample ID Matrix:

Water

Sampling Time
Sample Location

**Extraction Date** 

8/27/2008

Par	rameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dis	solved Uranium	ND	mg/L	0.001	8/27/2008	ETL	EPA 6020A	

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080821018

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808316

Attn:

ANDY FREEMAN

#### **Analytical Results Report**

Sample Number Client Sample ID

**Parameter** 

080821018-004

0808316-04F / MW #40

Sampling Date

8/19/2008 11:20 AM

Date/Time Received

**Extraction Date** 

8/21/2008 10:45 AM

8/27/2008

Matrix:

**Sampling Time** 

Sample Location

Analysis Date Analyst

Method

Qualifier

Dissolved Uranium

Result ND

Units mg/L

**PQL** 0.001

8/27/2008

ETL

**EPA 6020A** 

**Authorized Signature** 

MCL

EPA's Maximum Contaminant Level

ND Not Detected

PQL

**Practical Quantitation Limit** 

Comments:

Certifications held by Anatek Labs ID: EPA:JD00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

Wednesday, September 03, 2008

Page 4 of 4



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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080821018

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808316

Attn:

ANDY FREEMAN

**Analytical Results Report Quality Control Data** 

Lab Control Sample									
Parameter Dissolved Uranium	LCS Res 0.0499		•		Rec 3.8	AR %Red 85-115		ep Date 27/2008	Analysis Date 8/27/2008
Matrix Spike					-			· · · · · · · · · · · · · · · · · · ·	
•		Sample	MS	Units	MS	%Rec	AR %Rec	Prep Date	Analysis Date
Sample Number Parameter 080822025-002 Dissolved Uranium	· · · · · · · · · · · · · · · · · · ·	0.00131	0.0515	mg/L	<b>Spike</b> 0.05	100.4	70-130	8/27/2008	8/27/2008
Matrix Spike Duplicate									
Parameter	MSD Result		MSD Snike	%Rec	%R		R PD F	Prep Date	Analysis Date
Dissolved Uranium	0.0502	mg/L	<b>Spike</b> 0.05	97.8	2.			3/27/2008	8/27/2008
Method Blank	<del></del>								
Parameter		Res	ult	Un	its	PQI	_	Prep Date	Analysis Date
Dissolved Uranium		ND		mg/	L	0.001		8/27/2008	8/27/2008

ND

Acceptable Range

Not Detected

PQL RPD Practical Quantitation Limit Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C1320 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C1287

DATES REPORT

# Hall Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc. Refinery Wells Annual 2008 0808316 Lab Order: Client:

Project:

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Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808316-01A	RW #23	8/19/2008 10:00:00 AM	Aqueous	EPA Method 8015B: Diesel Range	16847	8/21/2008	8/26/2008
				EPA Method 8015B: Gasoline Range	R29989		8/29/2008
				EPA Method 8260B: VOLATILES	.R29944		8/26/2008
	٠			EPA Method 8260B: VOLATILES	R29968		8/27/2008
				EPA Method 8260B: VOLATILES	R29898		8/22/2008
0808316-01B				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/25/2008
				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/25/2008
0808316-01C				Carbon Dioxide	R29985		8/29/2008
			-	EPA Method 300.0: Anions	R29875		8/20/2008
				EPA Method 300.0: Anions	R29875		8/20/2008
				SM 2320B: Alkalinity	R29984		8/28/2008
0808316-01D				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA Method 7470: Mercury	16942	8/2/2008	9/2/2008
0808316-01E				EPA Method 6010B: Dissolved Metals	R30098		9/5/2008
				EPA Method 6010B: Dissolved Metals	R30098		9/5/2008
				EPA Method 6010B: Dissolved Metals	R30124		9/8/2008
0808316-02A	MW #44	8/19/2008 10:25:00 AM		EPA Method 8015B: Diesel Range	16847	8/21/2008	8/22/2008
				EPA Method 8015B: Gasoline Range	R29989		8/29/2008
				EPA Method 8260B: VOLATILES	R29898		8/22/2008
0808316-02B				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/25/2008
0808316-02C				Carbon Dioxide	R29985		8/29/2008
				EPA Method 300.0: Anions	R29875		8/20/2008
				EPA Method 300.0: Anions	R29875		8/20/2008
				EPA Method 300.0: Anions	R29899		8/22/2008

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DATES REPORT

# Hall Environmental Analysis Laboratory, Inc.

Lab Order: 0808316
Client: Western Refining Southwest, Inc.
Project: Refinery Wells Annual 2008

Sample ID	Sample ID Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808316-02C	MW #44	8/19/2008 10:25:00 AM	Aqueous	SM 2320B: Alkalinity	R29984		8/28/2008
0808316-02D				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA Method 7470: Mercury	16942	9/2/2008	9/2/2008
0808316-02E				EPA Method 6010B: Dissolved Metals	R30098		9/5/2008
				EPA Method 6010B: Dissolved Metals	R30124		8/2008
				EPA Method 6010B: Dissolved Metals	R30098		9/5/2008
0808316-03A	RW#15	8/19/2008 11:05:00 AM		EPA Method 8015B: Diesel Range	16847	8/21/2008	8/26/2008
				EPA Method 8015B: Gasoline Range	R29989		8/29/2008
				EPA Method 8260B: VOLATILES	R29898		8/22/2008
				EPA Method 8260B: VQLATILES	R29944		8/26/2008
0808316-03B				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/25/2008
				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/25/2008
0808316-03C				Carbon Dioxide	R29985		8/29/2008
				EPA Method 300.0: Anions	R29875		8/20/2008
				EPA Method 300.0: Anions	R29875		8/20/2008
				SM 2320B: Alkalinity	R29984		8/28/2008
0808316-03D				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA Method 7470: Mercury	16942	8/2/2008	9/2/2008
0808316-03E				EPA Method 6010B: Dissolved Metals	R30098		9/5/2008
				EPA Method 6010B: Dissolved Metals	R30098	* •	9/5/2008
				EPA Method 6010B: Dissolved Metals	R30124		8/2008
0808316-04A	MW #40	8/19/2008 11:20:00 AM		EPA Method 8015B: Diesel Range	16847	8/21/2008	8/26/2008
				EPA Method 8015B: Gasoline Range	R29989		8/29/2008

8/22/2008

R29898

EPA Method 8260B: VOLATILES

DATES REPORT

# Hall Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc. 0808316 Lab Order: Client:

Refinery Wells Annual 2008

Project:

Sample ID	Client Sample ID Collection Date	14	Matrix	Test Name	OC Batch ID	Prep Date	Analysis Date
0808316-04A	MW #40	8/19/2008 11:20:00 AM	Aqueous	EPA Method 8260B: VOLATILES	R29944		8/26/2008
				EPA Method 8260B: VOLATILES	R29944		8/26/2008
				· EPA Method 8260B: VOLATILES	R29968		8/27/2008
				EPA Method 8260B: VOLATILES	R29976		8/28/2008
0808316-04B		•		EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/25/2008
				EPA Method 8270C: Semivolatiles	16839	8/21/2008	8/25/2008
0808316-04C				Carbon Dioxide	R29985		8/29/2008
			٠	EPA Method 300.0: Anions	R29875		8/20/2008
				EPA Method 300.0: Anions	R29875		8/20/2008
				SM 2320B: Alkalinity	R29984		8/28/2008
0808316-04D				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA 6010B: Total Recoverable Metals	16920	8/28/2008	9/3/2008
				EPA Method 7470: Mercury	16942	9/2/2008	9/2/2008
0808316-04E				EPA Method 6010B: Dissolved Metals	R30131		9/9/2008
				EPA Method 6010B: Dissolved Metals	R30124		9/8/2008
				EPA Method 6010B: Dissolved Metals	, R30098		9/5/2008
				EPA Method 6010B: Dissolved Metals	R30098		9/5/2008
				EPA Method 6010B: Dissolved Metals	R30098		9/5/2008
0808316-05A	Field Blank	8/19/2008 10:40:00 AM	-	EPA Method 8015B: Gasoline Range	R29989		8/29/2008
				EPA Method 8260B: VOLATILES	R29898	-	8/22/2008
0808316-06A	Trip Blank		Trip Blank	EPA Method 8015B: Gasoline Range	R29989		8/29/2008
				EPA Method 8260B: VOLATILES	R29898		8/22/2008

# **QA/QC SUMMARY REPORT**

lient:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit H	lighLimit	%RPD RF	PDLimit Qual
Method: EPA Method 300.0: Anid	ons				10.001			
Sample ID: MB		MBLK			Batch ID:	R29875	Analysis Date:	8/20/2008 10:52:01 AM
Fluoride	ND	mg/L	0.10					
Chloride	ND	mg/L	0.10					
Nitrogen, Nitrite (As N)	ND	mg/L	0.10					
Nitrogen, Nitrate (As N)	ND	mg/L	0.10				•	•
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50					
Sulfate	ND	mg/L	0.50					
Sample ID: MB		MBLK			Batch ID:	R29899	Analysis Date:	8/22/2008 9:13:34 AM
Fluoride	ND	mg/L	0.10					
Chloride	ND	mg/L	0.10					
Nitrogen, Nitrite (As N)	ND	mg/L	0.10					
Nitrogen, Nitrate (As N)	ND	mg/L	0.10					
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50					
Sulfate	ND	mg/L	0.50					
Sample ID: LCS		LCS			Batch ID:	R29875	Analysis Date:	8/20/2008 11:09:25 AM
Fluoride	0.5055	mg/L	0.10	101	90	110		
Chloride	4.788	mg/L	0.10	95.8	90 .	110		
Nitrogen, Nitrite (As N)	0.9544	mg/L	0.10	95.4	90	110		
itrogen, Nitrate (As N)	2.440	mg/L	0.10	97.6	90	110		
hosphorus, Orthophosphate (As P)	4.800	mg/L	0.50	96.0	90	110		
Sulfate	9.725	mg/L	0.50	97.2	90	110		
Sample ID: LCS		LCS			Batch ID:	R29899	Analysis Date:	8/22/2008 9:30:59 AM
Fluoride	0.5033	mg/L	0.10	101	90	110		
Chloride	4.867	mg/L	0.10	97.3	90	110		
Nitrogen, Nitrite (As N)	0.9855	mg/L	0.10	98.5	90	110		
Nitrogen, Nitrate (As N)	2.482	mg/L	0.10	99.3	90	110		
Phosphorus, Orthophosphate (As P)	4.847	mg/L	0.50	96.9	90	110		
Sulfate	9.922	mg/L	0.50	99.2	90	110		
Method: SM 2320B: Alkalinity								
Sample ID: 0808316-02CMSD		MSD			Batch ID:	R29984	Analysis Date:	8/28/2008
Alkalinity, Total (As CaCO3)	424.0	mg/L CaC	20	88.8	80	120	0.236	20
Sample ID: MB	72-1.0	MBLK	20	00.0			Analysis Date:	8/28/2008
·	MD		20		24010.	112004	. maryoto Dato.	3,23,2000
Alkalinity, Total (As CaCO3) Carbonate	ND ND	mg/L CaC mg/L CaC	20					
Bicarbonate	ND	mg/L CaC mg/L CaC	2.0					
Sample ID: LCS	NO	LCS	20		Batch ID:	R29984	Analysis Date:	8/28/2008
			•				Analysis Dale.	0/20/2000
Alkalinity, Total (As CaCO3)	83.00	mg/L CaC	20	103	80	120		
Sample ID: 0808316-02CMS		MS			Batch ID:	R29984	Analysis Date:	8/28/2008
Alkalinity, Total (As CaCO3)	424.0	mg/L CaC	20	88.8	80	120	•	

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

Page 1

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qual
Method: EPA Method 8015B: D	iesel Range					<del></del>		
Sample ID: MB-16847		MBLK			Batch	ID: 16847	Analysis Dat	te: 8/21/2008 6:58:00 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0					
Motor Oil Range Organics (MRO)	ND	mg/L	5.0					
Surr: DNOP	1.331	mg/L	0	133	58	140		
Sample ID: LCS-16847		LCS			Batch	ID: <b>16847</b>	Analysis Dat	te: 8/21/2008 7:32:04 PM
Diesel Range Organics (DRO)	5.664	mg/L	1.0	113	74	157		
Surr: DNOP	0.6554	mg/L	0	131	58	140		
Sample ID: LCSD-16847		LCSD			Batch	ID: <b>16847</b>	Analysis Dat	te: 8/21/2008 8:06:10 PM
Diesel Range Organics (DRO)	5.516	mg/L	1.0	110	74	157	2.64	23
Surr: DNOP	0.6443	mg/L	0	129	58	140	0	0
Method: EPA Method 8015B: G	asoline Rar	ige					•	
Sample ID: 5ML RB	•	MBLK			Batch	ID: <b>R29989</b>	Analysis Dat	te: 8/28/2008 9:10:51 AM
Gasoline Range Organics (GRO)	ND	mġ/L	0.050				•	
Surr: BFB	17.41	mg/L	. 0	87.0	79.2	121		•
Sample ID: LCS-GRO		LCS			Batch	ID: <b>R29989</b>	Analysis Dat	te: 8/28/2008 5:48:03 PM
Gasoline Range Organics (GRO)	0.4892	mg/L	0.050	97.8	80	115		
Surr: BFB	18.96	mg/L	. 0	94.8	79.2	121		



- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

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# **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit H	ighLimit	%RPD F	RPDLimit	Qual
Method: EPA Method 8260B:	VOLATILES								
Sample ID: 5ml rb		MBLK			Batch ID:	R29898	Analysis Date	: 8/22/2	008 9:00:38 A
Benzene	ND	μg/L	1.0						
Toluene	ND	μg/L	1.0						
Ethylbenzene	ND	μg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0						
1,2,4-Trimethylbenzene	ND	μg/L	1.0						
1,3,5-Trimethylbenzene	ND	μg/L	1.0						
1,2-Dichloroethane (EDC)	ND	μg/L	1.0						
1,2-Dibromoethane (EDB)	ND	μg/L	1.0						
Naphthalene	ND	μg/L	2.0					•	
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	μg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	μg/L	1.0						
Bromodichloromethane	ND	μg/L	1.0						
Bromoform	ND	μg/L	1.0						
Bromomethane	ND	μg/L	1.0						
2-Butanone	ND	μg/L	1.0						
Carbon disulfide	ND	μg/L μg/L	10					•	
arbon Tetrachloride	ND	μg/L μg/L	1.0					•	
Chlorobenzene	ND	μg/L μg/L	1.0						
Chloroethane	ND		2.0						
Chloroform	ND	μg/L							
		μg/L	1.0						
Chloromethane	ND	μg/L	1.0						
2-Chlorotoluene	ND	μg/L	1.0						
4-Chlorotoluene	ND	μg/L	1.0						
cis-1,2-DCE	ND	μg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	μg/L 	2.0						
Dibromochloromethane	ND	μg/L "	1.0						
Dibromomethane	ND	μg/L	1.0						
1,2-Dichlorobenzene	ND	μg/L	1.0						
1,3-Dichlorobenzene	ND	μg/L	1.0						
1,4-Dichlorobenzene	ND	μg/L	1.0						
Dichlorodifluoromethane	ND	μg/L	1.0						
1,1-Dichloroethane	ND	μg/L	1.0						
1,1-Dichloroethene	ND	μg/L "	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						
1,3-Dichloropropane	ND	μg/L	1.0						
2,2-Dichloropropane	ND	μg/L	2.0						
1,1-Dichloropropene	ND	μg/L	1.0						
Hexachlorobutadiene	ND	μg/L "	1.0						
2-Hexanone	ND	μg/L	10			•			
Isopropylbenzene	ND	μg/L 	1.0						
4-Isopropyltoluene	ND	µg/L	1.0						
Qualifiers:		· · · · · · · · · · · · · · · · · · ·							

Spike recovery outside accepted recovery limits

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Work Order:

080831*6* 

Analyte	Result	Units	PQL	%Rec	LowLimit H	ighLimit	%RPD RF	DLimit Qual
Method: EPA Method 8260B:	VOLATILES	,	<del></del>					
Sample ID: 5ml rb		MBLK			Batch ID:	R29898	Analysis Date:	8/22/2008 9:00:38 AN
4-Methyl-2-pentanone	ND	μg/L	10					
Methylene Chloride	ND	μg/L	3.0		•		•	
n-Butylbenzene	ND	μg/L	1.0			•		
n-Propylbenzene	ND	μg/L	1.0					
sec-Butylbenzene	ND	μg/L	1.0					
Styrene	ND	μg/L	1.0					
tert-Butylbenzene	ND	μg/L	1.0					
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0					
1,1,2,2-Tetrachloroethane	ND	μg/L	2.0					
Tetrachloroethene (PCE)	3.025	μg/L	1.0					•
trans-1,2-DCE	ND	μg/L	1.0					
trans-1,3-Dichloropropene	ND	μg/L	1.0					
1,2,3-Trichlorobenzene	ND	μg/L	1.0					
1,2,4-Trichlorobenzene	ND	μg/L	1.0					
1,1,1-Trichloroethane	ND	μg/L	1.0					
1,1,2-Trichloroethane	, ND	μg/L	1.0					
Trichloroethene (TCE)	ND	μg/L	1.0					•
richlorofluoromethane	ND	μg/L	1.0					
,2,3-Trichloropropane	ND	μg/L	2.0					
/inyl chloride	ND	μg/L	1.0					
Kylenes, Total	ND	μg/L	1.5					
Surr: 1,2-Dichloroethane-d4	9.408	μg/L	0	94.1	68.1	123		
Surr: 4-Bromofluorobenzene	10.28	μg/L	0	103	53.2	145		
Surr: Dibromofluoromethane	9.325	μg/L	0	93.2	68.5	119		
Surr: Toluene-d8	9.914	μg/L	0	99.1	64	131		• •
Sample ID: b3		MBLK			Batch ID:		Analysis Date:	8/22/2008 9:46:24 PM
Benzene	ND	μg/L	1.0					
Foluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
1,2,4-Trimethylbenzene	ND	μg/L	1.0					
1,3,5-Trimethylbenzene	ND	μg/L	1.0					
1,2-Dichloroethane (EDC)	ND	μg/L	1.0			•	-	
1,2-Dibromoethane (EDB)	ND	µg/L	1.0					
Naphthalene	ND .	μg/L	2.0					
i-Methylnaphthalene	ND	µg/L	4.0					
2-Methylnaphthalene	ND	µg/L	4.0					
Acetone	ND	µg/L	10					
Romobenzene	ND	μg/L	1.0					
Bromodichloromethane	ND	μg/L	1.0					
Bromoform	ND	μg/L	1.0					
Bromomethane	ND	μg/L μg/L	1.0					
2-Butanone	ND	hg/L	1.0					
Zarbon disulfide	ND	μg/L μg/L	10					
Jarbon disullide	ND.	µg/∟	10					



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Page 4

# **QA/QC SUMMARY REPORT**

lient:

Western Refining Southwest, Inc.

roject: Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit Hig	hLimit	%RPD	RPDLim	it Qual
Method: EPA Method 8260B:	VOLATILES			- "-				<u>.</u>	
Sample ID: b3		MBLK			Batch ID:	R29898	Analysis [	Date: 8/2	22/2008 9:46:24 P
Carbon Tetrachloride	ND	μg/L	1.0						
Chlorobenzene	ND	μg/L	1.0						
Chloroethane	ND	μg/L	2.0						
Chloroform	ND	μg/L	1.0						
Chloromethane	ND	μg/L	1.0						
2-Chlorotoluene	ND	μg/L	1.0						
4-Chlorotoluene	ND	μg/L	1.0						
cis-1,2-DCE	ND	μg/L	1.0						
cis-1,3-Dichloropropene	ND	μg/L	1.0		*			•	
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0						
Dibromochloromethane	ND	μg/L	1.0						
Dibromomethane	ND	μg/L	1.0						
1,2-Dichlorobenzene	ND	μg/L	1.0						
1,3-Dichlorobenzene	ND	μg/L	1.0						
1,4-Dichlorobenzene	ND	μg/L	1.0						
Dichlorodifluoromethane	ND	μg/L	1.0						
1,1-Dichloroethane	ND	μg/L	1.0			*			
1,1-Dichloroethene	ND	μg/L	1.0						
2-Dichloropropane	ND	μg/L	1.0						
1,3-Dichloropropane	ND	μg/L	1.0						
2,2-Dichloropropane	ND	μg/L	2.0						
1,1-Dichloropropene	ND	μg/L	1.0						
Hexachlorobutadiene	ND	μg/L	1.0						
2-Hexanone	ND	μg/L	10						
sopropylbenzene	ND	μg/L	1.0						
4-Isopropyltoluene	ND	μg/L	1.0						
4-Methyl-2-pentanone	ND	μg/L	10						
Methylene Chloride	ND	μg/L	3.0						
n-Butylbenzene	ND	μg/L	1.0						
n-Propylbenzene	ND	μg/L	1.0						
sec-Butylbenzene	ND -	μg/L	1.0						
Styrene	ND	µg/L	1.0						
ert-Butylbenzene	ND	μg/L	1.0						
I,1,1,2-Tetrachloroethane	ND	μg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	μg/L	2.0						
Fetrachloroethene (PCE)	ND	μg/L	1.0						
rans-1,2-DCE	ND	μg/L	1.0						
rans-1,3-Dichloropropene	ND	μg/L	1.0						
,2,3-Trichlorobenzene	ND	μg/L	1.0		,				•
,2,4-Trichlorobenzene	. ND	μg/L	1.0		, -				
,1,1-Trichloroethane	ND	μg/L	1.0						
,1,2-Trichloroethane	ND	μg/L	1.0		•				
Trichloroethene (TCE)	ND	μg/L	1.0						
richlorofluoromethane	ND	μg/L	1.0						

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

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# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

**Project:** Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit H	HighLimit	%RPD F	RPDLimit Qual
Method: EPA Method 8260B:	VOLATILES							
Sample ID: b3		MBLK			Batch ID	: R29898	Analysis Date	: 8/22/2008 9:46:24 PM
1,2,3-Trichloropropane	ND	µg/L	2.0					
Vinyl chloride	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	1.5					•
Surr: 1,2-Dichloroethane-d4	9.147	µg/L	0	91.5	68.1	123		
Surr: 4-Bromofluorobenzene	10.18	μg/L	0	102	53.2	145		
Surr: Dibromofluoromethane	9.580	μg/L	0	95.8	68.5	119		
Surr: Toluene-d8	9.652	μg/L	.0	96.5	64	131		
Sample ID: 5ml rb	•	MBLK			Batch ID	: R29944	Analysis Date	: 8/26/2008 9:10:18 AN
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					•
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
1,2,4-Trimethylbenzene	ND	μg/L	1.0					
1,3,5-Trimethylbenzene	ND	µg/L	1.0				• .	
1,2-Dichloroethane (EDC)	ND	μg/L	1.0					
1,2-Dibromoethane (EDB)	ND	μg/L	1.0					
Naphthalene	ND	μg/L	2.0					·
1-Methylnaphthalene	ND	μg/L	4.0					•
2-Methylnaphthalene	ND	µg/L	4.0					
Acetone	ND	μg/L	10					
Bromobenzene	ND	μg/L	1.0					
Bromodichloromethane	ND	μg/L	1.0					
Bromoform	ND	μg/L	1.0				•	
Bromomethane	ND	μg/L	1.0					
2-Butanone	ND	μg/L	10					
Carbon disulfide	ND	µg/L	10					
Carbon Tetrachloride	ND	µg/L	1.0					
Chlorobenzene	ND	μg/L	1.0					
Chloroethane	ND	µg/L	2.0		•			
Chloroform	ND	μg/L	1.0					
Chloromethane	ND	µg/L	1.0					
2-Chlorotoluene	ND	µg/L	1.0					
4-Chlorotoluene	. ND	µg/L	1.0					•
cis-1,2-DCE	ND	μg/L	1.0		•			•
cis-1,3-Dichloropropene	ND	µg/L	1.0					,
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0					
Dibromochloromethane	ND	µg/L	1.0					
Dibromomethane	ND	µg/L	1.0					
1,2-Dichlorobenzene	ND	µg/L	1.0					•
1,3-Dichlorobenzene	ND	μg/L	1.0					
1,4-Dichlorobenzene	ND	μg/L	1.0					
Dichlorodifluoromethane	ND	μg/L	1.0					
1,1-Dichloroethane	ND	µg/L	1.0					
1,1-Dichloroethene	ND	μg/L	1.0					

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# **QA/QC SUMMARY REPORT**

roject:

Western Refining Southwest, Inc.

Refinery Wells Annual 2008

Work Order:

0808316

Method:         EPA Method 8260B:         VOLATILES           Sample ID:         6ml rb         MBLK         Batch ID:         R29944         Analysis Date:           1,2-Dichloropropane         ND         μg/L         1.0         1.2         2.2-Dichloropropane         ND         μg/L         1.0         1.1 <th>_imit Qual</th>	_imit Qual
1,2-Dichloropropane 1,3-Dichloropropane ND μg/L 1,3-Dichloropropane ND μg/L 1,0 1,1-Dichloropropane ND μg/L 1,0 1,1-Dichloropropane ND μg/L 1,0 1+bexachiorobutadiene ND μg/L 1,0 1-bexachiorobutadiene ND μg/L 1,0 1,1,2-Tertachiorobutadiene ND μg/L 1,0 1,1,2-Tertachiorobutadiene ND μg/L 1,0 1,2-Tertachiorobutadiene ND μg/L 1,0 1,2-Tertachiorobutadiene ND μg/L 1,0 1,2-Tertachioroberacee ND μg/L 1,0 1,2-Tertachioroberacee ND μg/L 1,0 1,1,1-Trichloroberacee ND μg/L 1,0 1,1,1-Trichlorobutadiene ND μg/L 1,0 1,1,2-Tichlorobutadiene ND μg/L 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0	
1,3-Dichloropropane	8/26/2008 9:10:18 A
1,3-Dichloropropane	
2,2-Dichloropropane	
1,1-Dichloropropene	
All	
2-Hexanone ND μg/L 10 sopropylbenzene ND μg/L 1.0 H-sopropylbotulene ND μg/L 1.0 H-Methyl-2-pentanone ND μg/L 10 H-Methyl-2-pentanone ND μg/L 10 H-Methyl-2-pentanone ND μg/L 10 H-Methyl-2-pentanone ND μg/L 1.0 H-Propylbenzene ND μg/L 1.0 H-Propylbenzene ND μg/L 1.0 Sityrene ND μg/L 1.0 Sityrene ND μg/L 1.0 Sityrene ND μg/L 1.0 Ins. 1,1,1,2-Tetrachloroethane ND μg/L 1.0 Ins. 1,2-Dect ND μg/L 1.0 Ins. 1,2-Trichloroethane ND	
## Alsopropyltoluene ND μg/L 1.0 ## Althethyl-2-pentanone ND μg/L 10 ## Methyl-2-pentanone ND μg/L 1.0 ## Althethyl-2-pentanone ND μg/L 1.0 ## Althethyl-2-pen	
Hemethyl-2-pentanone   ND	
Methyl-2-pentanone   ND	
Methylene Chloride         ND         µg/L         3.0           -Bulybenzene         ND         µg/L         1.0           -Propybenzene         ND         µg/L         1.0           sec-Bulybenzene         ND         µg/L         1.0           Styrene         ND         µg/L         1.0           ert-Bulybenzene         ND         µg/L         1.0           1,1,2-Tertachloroethane         ND         µg/L         1.0           1,1,2-Tertachloroethane         ND         µg/L         1.0           Ins-1,2-DCE         ND         µg/L         1.0           Ins-1,2-DCE         ND         µg/L         1.0           Ins-1,2-DCE         ND         µg/L         1.0           Ins-1,2-DCE         ND         µg/L         1.0           Ins-1,2-Trichlorobenzene         ND         µg/L         1.0           Inj,1-Trichloroethane         ND         µg/L         1.0           Inj,2-Trichloroethane         ND         µg/L         1.0           Inj,2-Trichloroethane         ND         µg/L         1.0           Inj,2-Trichloroethane         ND         µg/L         1.0           Inj,1-Trichloroethane         ND <td></td>	
n-Butylbenzene ND μg/L 1.0 n-Propylbenzene ND μg/L 1.0 sec-Butylbenzene ND μg/L 1.0 Styrene ND μg/L 1.0 sec-Butylbenzene ND μg/L 1.0 tert-Butylbenzene ND μg/L 1.0 ins-1,2-Tetrachloroethane ND μg/L 1.0 ins-1,3-Dichloropropene ND μg/L 1.0 ins-1,3-Dichloropropene ND μg/L 1.0 ins-1,3-Dichlorobenzene ND μg/L 1.0 ins-1,3-Trichloroethane ND μg/L 1.0 ins-1,3-Trichloroethane ND μg/L 1.0 ins-1,3-Trichloroethane ND μg/L 1.0 ins-1,3-Trichloropenzene ND μg/L 1.0 ins-1,2-Dichloropenzene ND μg/L 1.0 ins-1,2-Dich	
ND	
Sec-Butylbenzene	
Styrene	
ert-Butylbenzene ND µg/L 1.0 1,1,1,2-Tetrachloroethane ND µg/L 2.0 Tetrachloroethane ND µg/L 1.0 Ins-1,2-DE ND µg/L 1.0 Ins-1,2-DE ND µg/L 1.0 Ins-1,3-Dichloropropene ND µg/L 1.0 Ins-1,3-Dichloropropene ND µg/L 1.0 Ins-1,2-Trichlorobenzene ND µg/L 1.0 I,1,1-Trichloroethane ND µg/L 1.0 I,1,1-Trichloroethane ND µg/L 1.0 I,1,1-Trichloroethane ND µg/L 1.0 I,1,2-Trichloroethane ND µg/L 1.0 I,1,2-Trichloroethane ND µg/L 1.0 I,1,2-Trichloroethane ND µg/L 1.0 I,1,2-Trichloropropane ND µg/L 1.0 I,1,2-Trichloroethane ND µg/L 1.0 I,2,3-Trichloropropane ND µg/L 1.0 I,2,3-Trichloroethane ND µg/L 1.0 I,3,5-Trinene-d8 9.905 µg/L 0 99.2 53.2 145 Issurr. Dibromofluoromethane 9.526 µg/L 0 99.0 64 131 Issurr. Toluene-d8 9.905 µg/L 0 99.0 64 131 Issurr. Toluene-d8 9.905 µg/L 1.0 Issurr. Toluene-d8 9.906 µg/L 1.0 Issurr. Toluene-d8 9.906 µg/L 1.0 Issurr. Toluene-d8	
1,1,2-Tetrachloroethane	
1,1,2,2-Tetrachloroethane	
Tetrachloroethene (PCE)	
ins-1,2-DCE ND µg/L 1.0  ans-1,3-Dichloropropene ND µg/L 1.0  ans-1,3-Dichloropropene ND µg/L 1.0  ans-1,3-Dichlorobenzene ND µg/L 1.0  ans-1,3-Trichlorobenzene ND µg/L 1.0  ans-1,3-Trichlorobenzene ND µg/L 1.0  ans-1,1-Trichlorobenzene ND µg/L 1.0  ans-1,1-Trichlorobenzene ND µg/L 1.0  ans-1,1-Trichlorobenzene ND µg/L 1.0  byg/L 1.0  brichloroftene (TCE) ND µg/L 1.0  crichloroftene (TCE) ND µg/L 1.0  crichlorofluoromethane ND µg/L 1.0  cylenes, Total ND µg/L 1.5  surr: 1,2-Dichlorobenzene 9.922 µg/L 0 99.2 53.2 145  surr: 4-Bromofluorobenzene 9.922 µg/L 0 99.2 53.2 145  surr: Toluene-d8 9.905 µg/L 0 99.0 64 131  sample ID: b8  senzene ND µg/L 1.0  coluene ND µg/L 1.0  dethyl tert-butyl ether (MTBE) ND µg/L 1.0  dethyl tert-butyl ether (MTBE) ND µg/L 1.0  ans-1,2-Dichloroethane (EDC) ND µg/L 1.0	
Ans-1,3-Dichloropropene ND µg/L 1.0 ,2,3-Trichlorobenzene ND µg/L 1.0 ,2,4-Trichlorobenzene ND µg/L 1.0 ,1,1-Trichlorothane ND µg/L 1.0 ,1,2-Trichlorothane ND µg/L 1.0 ,1,2-Trichlorothane ND µg/L 1.0 Trichlorothane ND µg/L 1.0 Trichlorothane ND µg/L 1.0 Trichlorothane ND µg/L 1.0 Trichlorothane ND µg/L 1.0 Trichloroptopane ND µg/L 1.0  Z,3-Trichloropropane ND µg/L 1.0  Zylenes, Total ND µg/L 1.5  Surr. 1,2-Dichlorothane-d4 9.465 µg/L 0 94.6 68.1 123  Surr. 2-Bromofluoromethane 9.922 µg/L 0 99.2 53.2 145  Surr. 2-Bromofluoromethane 9.526 µg/L 0 99.3 68.5 119  Surr. Toluene-d8 9.905 µg/L 0 99.0 64 131  Sample ID: b8  Senzene ND µg/L 1.0  Senzene ND µg/L 1.0  MBLK Batch ID: R29944 Analysis Date: 6  Senzene ND µg/L 1.0  Methyl tert-butyl ether (MTBE) ND µg/L 1.0  Activibenzene ND µg/L 1.0  Z,2-4-Trimethylbenzene ND µg/L 1.0  Z,2-Dichloroethane (EDC) ND µg/L 1.0	
1,2,3-Trichlorobenzene	
1,2,4-Trichlorobenzene ND µg/L 1.0 1,1,1-Trichloroethane ND µg/L 1.0 1,1,2-Trichloroethane ND µg/L 1.0 1,1,2-Trichloroethane ND µg/L 1.0 1,1,2-Trichloroethane ND µg/L 1.0 1,2,3-Trichloropropane ND µg/L 2.0 Vinyl chloride ND µg/L 1.5 Surr: 1,2-Dichloroethane-d4 9.465 µg/L 0 94.6 68.1 123 Surr: 4-Bromofluoromethane 9.526 µg/L 0 99.2 53.2 145 Surr: Dibromofluoromethane 9.526 µg/L 0 99.3 68.5 119 Surr: Toluene-d8 9.905 µg/L 0 99.0 64 131 Sample ID: b8 Sanzene ND µg/L 1.0 Foluene ND µg/L 1.0 Methyl tert-butyl ether (MTBE) ND µg/L 1.0 Methyl tert-butyl ether (MTBE) ND µg/L 1.0 1,2,3-Trimethylbenzene ND µg/L 1.0 1,2,2-Dichloroethane (EDC) ND µg/L 1.0 1,2-Dibromoethane (EDC) ND µg/L 1.0 1,2-Dibromoethane (EDC) ND µg/L 1.0 1,2-Dibromoethane (EDB) ND µg/L 1.0 1,2-Dibromoethane (EDB) ND µg/L 1.0 1,2-Dibromoethane (EDB) ND µg/L 1.0	
1,1-Trichloroethane	
1,2-Trichloroethane	
Frichloroethene (TCE)         ND         μg/L         1.0           Frichlorofluoromethane         ND         μg/L         1.0           1,2,3-Trichloropropane         ND         μg/L         2.0           Jinyl chloride         ND         μg/L         1.0           Kylenes, Total         ND         μg/L         1.5           Surr: 1,2-Dichloroethane-d4         9.465         μg/L         0         94.6         68.1         123           Surr: 4-Bromofluorobenzene         9.922         μg/L         0         99.2         53.2         145           Surr: Dibromofluoromethane         9.526         μg/L         0         95.3         68.5         119           Surr: Toluene-d8         9.905         μg/L         0         99.0         64         131           Sample ID: b8         MBLK         Batch ID: R29944         Analysis Date: 8           Benzene         ND         μg/L         1.0           Foluene         ND         μg/L         1.0           Methyl tert-butyl ether (MTBE)         ND         μg/L         1.0           μg/L         1.0         1.0         1.0           μg/L         1.0         1.0         1.0	
Trichlorofluoromethane	
1,2,3-Trichloropropane	
Vinyl chloride         ND         µg/L         1.0           Kylenes, Total         ND         µg/L         1.5           Surr: 1,2-Dichloroethane-d4         9.465         µg/L         0         94.6         68.1         123           Surr: 4-Bromofluorobenzene         9.922         µg/L         0         99.2         53.2         145           Surr: Dibromofluoromethane         9.526         µg/L         0         95.3         68.5         119           Surr: Toluene-d8         9.905         µg/L         0         99.0         64         131           Sample ID: b8         MBLK         Batch ID: R29944         Analysis Date: 8           Benzene         ND         µg/L         1.0           Foluene         ND         µg/L         1.0           Ichylbenzene         ND         µg/L         1.0           Methyl tert-butyl ether (MTBE)         ND         µg/L         1.0           I,2,4-Trimethylbenzene         ND         µg/L         1.0           I,3,5-Trimethylbenzene         ND         µg/L         1.0           I,2-Dichloroethane (EDB)         ND         µg/L         1.0	
Xylenes, Total       ND       μg/L       1.5         Surr: 1,2-Dichloroethane-d4       9.465       μg/L       0       94.6       68.1       123         Surr: 4-Bromofluorobenzene       9.922       μg/L       0       99.2       53.2       145         Surr: Dibromofluoromethane       9.526       μg/L       0       95.3       68.5       119         Surr: Toluene-d8       9.905       μg/L       0       99.0       64       131         Sample ID: b8       MBLK       Batch ID: R29944       Analysis Date: 8         Benzene       ND       μg/L       1.0         Foluene       ND       μg/L       1.0         Ethylbenzene       ND       μg/L       1.0         Methyl tert-butyl ether (MTBE)       ND       μg/L       1.0         I,2,4-Trimethylbenzene       ND       μg/L       1.0         I,3,5-Trimethylbenzene       ND       μg/L       1.0         I,2-Dichloroethane (EDC)       ND       μg/L       1.0         I,2-Dibromoethane (EDB)       ND       μg/L       1.0	
Surr: 1,2-Dichloroethane-d4       9.465       μg/L       0       94.6       68.1       123         Surr: 4-Bromofluorobenzene       9.922       μg/L       0       99.2       53.2       145         Surr: Dibromofluoromethane       9.526       μg/L       0       95.3       68.5       119         Surr: Toluene-d8       9.905       μg/L       0       99.0       64       131         Sample ID: b8       MBLK       Batch ID: R29944       Analysis Date: 8         Benzene       ND       μg/L       1.0         Foluene       ND       μg/L       1.0         Interpretation       ND       μg/L       1.0         Methyl tert-butyl ether (MTBE)       ND       μg/L       1.0         Interpretation       ND       μg/L       1.0         Interpretatio	
Surr: 4-Bromofluorobenzene         9.922         μg/L         0         99.2         53.2         145           Surr: Dibromofluoromethane         9.526         μg/L         0         95.3         68.5         119           Surr: Toluene-d8         9.905         μg/L         0         99.0         64         131           Sample ID: b8         MBLK         Batch ID: R29944         Analysis Date: 8         8           Benzene         ND         μg/L         1.0           Foluene         ND         μg/L         1.0           Methyl tert-butyl ether (MTBE)         ND         μg/L         1.0           μg/L         1.0         μg/L         1.0           μg/L	
Surr: Dibromofluoromethane         9.526         μg/L         0         95.3         68.5         119           Surr: Toluene-d8         9.905         μg/L         0         99.0         64         131           Sample ID: b8         MBLK         Batch ID: R29944         Analysis Date: 6           Benzene         ND         μg/L         1.0           Foluene         ND         μg/L         1.0           Ethylbenzene         ND         μg/L         1.0           Methyl tert-butyl ether (MTBE)         ND         μg/L         1.0           I,2,4-Trimethylbenzene         ND         μg/L         1.0           I,3,5-Trimethylbenzene         ND         μg/L         1.0           I,2-Dichloroethane (EDC)         ND         μg/L         1.0           I,2-Dibromoethane (EDB)         ND         μg/L         1.0	
Surr: Toluene-d8         9.905         μg/L         0         99.0         64         131           Sample ID: b8         MBLK         Batch ID: R29944         Analysis Date: 8           Benzene         ND         μg/L         1.0           Foluene         ND         μg/L         1.0           Ethylbenzene         ND         μg/L         1.0           Methyl tert-butyl ether (MTBE)         ND         μg/L         1.0           I,2,4-Trimethylbenzene         ND         μg/L         1.0           I,3,5-Trimethylbenzene         ND         μg/L         1.0           I,2-Dichloroethane (EDC)         ND         μg/L         1.0           I,2-Dibromoethane (EDB)         ND         μg/L         1.0	
Sample ID: b8         MBLK         Batch ID: R29944         Analysis Date: R           Benzene         ND         μg/L         1.0           Toluene         ND         μg/L         1.0           Ethylbenzene         ND         μg/L         1.0           Methyl tert-butyl ether (MTBE)         ND         μg/L         1.0           1,2,4-Trimethylbenzene         ND         μg/L         1.0           1,3,5-Trimethylbenzene         ND         μg/L         1.0           1,2-Dichloroethane (EDC)         ND         μg/L         1.0           1,2-Dibromoethane (EDB)         ND         μg/L         1.0	
Foluene       ND       μg/L       1.0         Ethylbenzene       ND       μg/L       1.0         Methyl tert-butyl ether (MTBE)       ND       μg/L       1.0         I,2,4-Trimethylbenzene       ND       μg/L       1.0         I,3,5-Trimethylbenzene       ND       μg/L       1.0         I,2-Dichloroethane (EDC)       ND       μg/L       1.0         I,2-Dibromoethane (EDB)       ND       μg/L       1.0	3/26/2008 11:56:52 P
Foluene ND $\mu g/L$ 1.0  Ethylbenzene ND $\mu g/L$ 1.0  Methyl tert-butyl ether (MTBE) ND $\mu g/L$ 1.0  1,2,4-Trimethylbenzene ND $\mu g/L$ 1.0  1,3,5-Trimethylbenzene ND $\mu g/L$ 1.0  1,2-Dichloroethane (EDC) ND $\mu g/L$ 1.0  1,2-Dibromoethane (EDB) ND $\mu g/L$ 1.0	
Ethylbenzene ND μg/L 1.0  Methyl tert-butyl ether (MTBE) ND μg/L 1.0  I,2,4-Trimethylbenzene ND μg/L 1.0  I,3,5-Trimethylbenzene ND μg/L 1.0  I,2-Dichloroethane (EDC) ND μg/L 1.0  I,2-Dibromoethane (EDB) ND μg/L 1.0	
Methyl tert-butyl ether (MTBE) ND $\mu$ g/L 1.0 ,2,4-Trimethylbenzene ND $\mu$ g/L 1.0 ,3,5-Trimethylbenzene ND $\mu$ g/L 1.0 ,2-Dichloroethane (EDC) ND $\mu$ g/L 1.0 ,2-Dibromoethane (EDB) ND $\mu$ g/L 1.0	
,2,4-Trimethylbenzene ND $\mu g/L$ 1.0 ,3,5-Trimethylbenzene ND $\mu g/L$ 1.0 ,2-Dichloroethane (EDC) ND $\mu g/L$ 1.0 ,2-Dibromoethane (EDB) ND $\mu g/L$ 1.0	
,3,5-Trimethylbenzene ND $\mu$ g/L 1.0 ,2-Dichloroethane (EDC) ND $\mu$ g/L 1.0 ,2-Dibromoethane (EDB) ND $\mu$ g/L 1.0	
,2-Dichloroethane (EDC) ND $\mu$ g/L 1.0 ,2-Dibromoethane (EDB) ND $\mu$ g/L 1.0	
,2-Dibromoethane (EDB) ND μg/L 1.0	
· · ·	
Methylnaphthalene ND µg/L 4.0	

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

Holding times for preparation or analysis exceeded Η

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit HighLim	it %RPD RF	PDLimit Qual
Method: EPA Method 8260B	: VOLATILES						
Sample ID: b8		MBLK			Batch ID: R299	944 Analysis Date:	8/26/2008 11:56:52 PM
2-Methylnaphthalene	ND	μg/L	4.0				
Acetone	ND	μg/L	10	•			
Bromobenzene	ND	μg/L	1.0	•			
Bromodichloromethane	ND	μg/L	1.0				
Bromoform	ND	μg/L	1.0				•
Bromomethane	ND	μg/L	1.0				
2-Butanone	ND	μg/L	10				
Carbon disulfide	ND	μg/L	10				
Carbon Tetrachloride	ND	μg/L	1.0				•
Chlorobenzene	ND	μg/L	1.0				
Chloroethane	ND	μg/L	2.0				•
Chloroform	ND	μg/L	1.0				
Chloromethane	ND	μg/L	1.0				
2-Chlorotoluene	ND	μg/L	1.0				•
4-Chlorotoluene	ND	μg/L	1.0				•
cis-1,2-DCE	ND	μg/L	1.0			•	
cis-1,3-Dichloropropene	ND	μg/L	1.0			•	
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0				
Dibromochloromethane	ND	μg/L	1.0			•	4
Dibromomethane	ND	μg/L	1.0			•	•
1,2-Dichlorobenzene	ND	μg/L	1.0				
1,3-Dichlorobenzene	ND	μg/L	1.0			4	
1,4-Dichlorobenzene	ND	μg/L	1.0				
Dichlorodifluoromethane	ND	μg/L	1.0			•	
1,1-Dichloroethane	ND	µg/L	1.0	•	•	•	
1,1-Dichloroethene	ND	μg/L	1.0				
1,2-Dichloropropane	ND	μg/L	1.0				
1,3-Dichloropropane	ND .	μg/L	1.0				
2,2-Dichloropropane	ND	μg/L	2.0				
1,1-Dichloropropene	ND	μg/L	1.0		•		
Hexachlorobutadiene	ND	μg/L	1.0				
2-Hexanone	ND	μg/L	10				
Isopropylbenzene	ND	µg/L	1.0				
4-Isopropyltoluene	ND	μg/L	1.0				
4-Methyl-2-pentanone	ND	µg/L	10				
Methylene Chloride	ND	μg/L	3.0				
n-Butylbenzene	ND	μg/L	1.0				
n-Propylbenzene	ND	μg/L	1.0				
sec-Butylbenzene	ND	μg/L μg/L	1.0				
Styrene Styrene	ND	μg/L μg/L	1.0		•		
tert-Butylbenzene	ND .	μg/L μg/L	1.0				
1,1,1,2-Tetrachloroethane	ND	μg/L μg/L	1.0				
1,1,2,2-Tetrachloroethane	ND	μg/L μg/L	2.0				
Tetrachloroethene (PCE)	ND		1.0				
retraction detrieffe (PCE)	NU	µg/L	1.0			•	4



- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

## **QA/QC SUMMARY REPORT**

lient:

Western Refining Southwest, Inc.

roject: Refinery Wells Annual 2008

Work Order:

0808316

A 1 1 -	D- "	11-2	<b>B</b> 01	0/ 5	1 2	I Cala I See SA	W DDD	DDD! !?	Ovel
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: Sample ID: b8	VOLATILES	MBLK			Batch I	D: <b>R29944</b>	Analysis D	) Noto: 9/26/2	008 11:56:52 P
• •	ND		4.0		Daton	D. <b>N23344</b>	Allalysis L	ate. 0/20/2	000 11.30.32 1
trans-1,2-DCE	ND	μg/L	1.0						
trans-1,3-Dichloropropene	ND	μg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0	•					
1,1,1-Trichloroethane	ND	μg/L	1.0						
1,1,2-Trichloroethane	ND	μg/L	1.0						
Trichloroethene (TCE)	ND	μg/L	1.0						
Trichlorofluoromethane	ND	μg/L	1.0						
1,2,3-Trichloropropane	ND	μg/L	2.0				*		
Vinyl chloride	ND	μg/L	1.0						
Xylenes, Total	ND	μg/L "	1.5		00.4	100	4		
Surr: 1,2-Dichloroethane-d4	9.590	μg/L 	0	95.9	68.1	123			
Surr: 4-Bromofluorobenzene	10.14	µg/L 	0	101	53.2	145			K
Surr: Dibromofluoromethane	9.294	μg/L 	0	92.9	68.5	119			
Surr: Toluene-d8	10.23	μg/L	0	102	64	131			
Sample ID: 5ml rb		MBLK			Batch I	D: <b>R29968</b>	Analysis D	ate: 8/27/	2008 1:41:36 P
Benzene •	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
thylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	μg/L	1.0						
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	µg/L	4.0						
Acetone	ND	μg/L	10						
Bromobenzene	ND	μg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	µg/L	1.0						
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	µg/L	10						
Carbon Tetrachloride	ND	µg/L	1.0						
Chlorobenzene	ND	μg/L	1.0						
Chloroethane	ND	μg/L	2.0						
Chloroform	ND	μg/L	1.0						
Chloromethane	ND	μg/L	1.0				٠		
2-Chlorotoluene	ND	μg/L	1.0						
4-Chlorotoluene	ND	μg/L	1.0						
cis-1,2-DCE	ND	μg/L	1.0						
cis-1,3-Dichloropropene	ND	μg/L	1.0						
,2-Dibromo-3-chloropropane	ND	μg/L	2.0						

#### Qualifiers

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Work Order:

1808316

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260B:	VOLATILES							
Sample ID: 5ml rb		MBLK			Batch II	D: <b>R29968</b>	Analysis Date:	8/27/2008 1:41:36 PM
Dibromochloromethane	ND	μg/L	1.0					
Dibromomethane	ND	μg/L	1.0					4
1,2-Dichlorobenzene	ND	μg/L	1.0					
1,3-Dichlorobenzene	ND	μg/L	1.0					
1,4-Dichlorobenzene	ND	μg/L	1.0					
Dichlorodifluoromethane	ND	μg/L	1.0					
1,1-Dichloroethane	ND	μg/L	1.0			•		
1,1-Dichloroethene	ND	μg/L	1.0					
1,2-Dichloropropane	ND	μg/L	1.0			•		
1,3-Dichloropropane	ND	μg/L	1.0					
2,2-Dichloropropane	ND	μg/L	2.0					
1,1-Dichloropropene	ND	μg/L	1.0					
Hexachlorobutadiene	ND	μg/L	1.0					
2-Hexanone	ND	μg/L	10					
Isopropylbenzene	ND	μg/L	1.0					
4-Isopropyltoluene	ND	μg/L	1.0					
4-Methyl-2-pentanone	ND	μg/L	10					
Methylene Chloride	ND	µg/L	3.0					
n-Butylbenzene	ND	μg/L	1.0					
n-Propylbenzene	<b>N</b> D	μg/L	1.0					•
sec-Butylbenzene	ND	μg/L	1.0					
Styrene	ND	μg/L	1.0					
tert-Butylbenzene	ND	μg/L	1.0		•			
1,1,1,2-Tetrachloroethane	ND ·	μg/L	1.0		•			
1,1,2,2-Tetrachloroethane	NĎ	μg/L	2.0					
Tetrachloroethene (PCE)	ND	μg/L	1.0					
trans-1,2-DCE	ND	μg/L	1.0					
trans-1,3-Dichloropropene	ND	μg/L	1.0					
1,2,3-Trichlorobenzene	ND	μg/L	1.0					
1,2,4-Trichlorobenzene	ND	µg/L	1.0					
1,1,1-Trichloroethane	ND	μ <b>g/L</b>	1.0					
1,1,2-Trichloroethane	ND	μg/L	1.0					
Trichloroethene (TCE)	ND	μg/L	1.0				•	
Trichlorofluoromethane	ND	μg/L	1.0					
1,2,3-Trichloropropane	ND	µg/L	2.0					
Vinyl chloride	ND	µg/L	. 1.0					
Xylenes, Total	ND	μg/L	1.5					•
Surr: 1,2-Dichloroethane-d4	9.457	µg/L	0	94.6	68.1	123		
Surr: 4-Bromofluorobenzene	10.14	µg/L	. 0	101	53.2	145		
Surr: Dibromofluoromethane	9.850	µg/L	0	98.5	68.5	119		
Surr: Toluene-d8	9.552	μg/L	0	95.5	64	131		
Sample ID: b4		MBLK,			Batch I	D: <b>R29968</b>	Analysis Date:	8/28/2008 1:47:54 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

### **QA/QC SUMMARY REPORT**

lient:

Western Refining Southwest, Inc.

Project: Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit 	%RPD	RPD	Limit Q	ual
Method: EPA Method 8260B:	VOLATILES			<del>_</del>						
Sample ID: _b4		MBLK			Batch II	D: <b>R29968</b>	Analysis D	ate:	8/28/200	8 1:47:54 AN
Ethylbenzene	ND	µg/L	1.0							
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0							
1,2,4-Trimethylbenzene	ND	µg/L	1.0							
1,3,5-Trimethylbenzene	ND	µg/L	1.0							
1,2-Dichloroethane (EDC)	ND	μg/L	1.0							
1,2-Dibromoethane (EDB)	ND	µg/L	1.0							
Naphthalene	ND	µg/L	2.0							
1-Methylnaphthalene	ND	µg/L	4.0							
2-Methylnaphthalene	ND	µg/L	4.0							
Acetone	ND	μg/L	10							
Bromobenzene	ND	μg/L	1.0							
Bromodichloromethane	ND	μg/L	1.0							
Bromoform	ND	μg/L	1.0							
Bromomethane	ND	μg/L	1.0							
2-Butanone	ND	μg/L	10		•					
Carbon disulfide	ND	μg/L	10							
Carbon Tetrachloride	ND	μg/L	1.0							
Chlorobenzene	ND	μg/L	1.0							
hloroethane	ND	µg/L	2.0							
Chloroform	ND	μg/L	1.0							
Chloromethane	ND	μg/L	1.0							
2-Chlorotoluene	ND	μg/L	1.0							
4-Chlorotoluene	ND	μg/L	1.0					•		
cis-1,2-DCE	ND	μg/L	1.0							
cis-1,3-Dichloropropene	ND	µg/L	1.0							
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0							
Dibromochloromethane	ND	μg/L	1.0							
Dibromomethane	ND	μg/L	1.0							
1,2-Dichlorobenzene	ND	µg/L	1.0							
1,3-Dichlorobenzene	ND	μg/L	1.0							
1,4-Dichlorobenzene	ND	μg/L μg/L	1.0							
Dichlorodifluoromethane	ND	µg/L	1.0							
1,1-Dichloroethane	ND	μg/L μg/L	1.0		,					
1,1-Dichloroethane	ND	µg/L µg/L	1.0							
1,1-Dichloroethene 1,2-Dichloropropane	ND	μg/L	1.0							
1,3-Dichloropropane	ND	μg/L μg/L	1.0							
2,2-Dichloropropane	ND	μg/L	2.0							
	ND	μg/L μg/L	1.0							
1,1-Dichloropropene Hexachlorobutadiene	ND	μg/L μg/L	1.0							
nexachiorobutadiene 2-Hexanone	ND		1.0							
	•	μg/L								
sopropylbenzene	ND ND	μg/L	1.0 1.0							
4-Isopropyltoluene	ND ND	μg/L								
4-Methyl-2-pentanone	ND	μg/L	10							
Methylene Chloride	ND	µg/L	3.0							

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit H	HighLimit	%RPD R	PDLimit Qual
Method: EPA Method 8260B:	VOLATILES						· · · · · · · · · · · · · · · · · · ·	
Sample ID: b4	•	MBLK			Batch ID	R29968	Analysis Date:	8/28/2008 1:47:54 AN
n-Butylbenzene	ND	μg/L	1.0					
n-Propylbenzene	ND	μg/L	1.0					
sec-Butylbenzene	ND	μg/L	1.0					· ·
Styrene	ND	μg/L	1.0		÷			
tert-Butylbenzene	ND	μg/L	1.0					
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0					
1,1,2,2-Tetrachloroethane	ND	μg/L	2.0					
Tetrachloroethene (PCE)	ND	μg/L	1.0				•	
trans-1,2-DCE	ND	µg/L	1.0					
trans-1,3-Dichloropropene	ND	μg/L	1.0					
1,2,3-Trichlorobenzene	ND	µg/L	1.0					*
1,2,4-Trichlorobenzene	ND	µg/L	1.0					
1,1,1-Trichloroethane	ND	µg/L	1.0					
1,1,2-Trichloroethane	ND	µg/L	1.0					
Trichloroethene (TCE)	ND	μg/L	1.0					
Trichlorofluoromethane	ND	μg/L	1.0					•
1,2,3-Trichloropropane	ND	μg/L μg/L	2.0		•			
Vinyl chloride	ND	µg/L µg/L	1.0		•			
Xylenes, Total	· ND	µg/L	1.5					
Surr: 1,2-Dichloroethane-d4	9.136			91.4	68.1	123		
Surr: 4-Bromofluorobenzene		μg/L	0			145		
Surr: Dibromofluoromethane	9.650 9.192	μg/L	0	96.5	·53.2	119		
		μg/L	0	91.9	68.5			
Surr: Toluene-d8	9.669	μg/L	0	96.7	64	131	A to-i- Detail	0/00/0000 0:00:05 AN
Sample ID: 5ml rb		MBLK			Batch ID	R29976	Analysis Date:	8/28/2008 9:29:05 AN
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
1,2,4-Trimethylbenzene	ND	μg/L	1.0 .					
1,3,5-Trimethylbenzene	ND	µg/L	1.0					
1,2-Dichloroethane (EDC)	·ND	μg/L	1.0					•
1,2-Dibromoethane (EDB)	ND	µg/L	1.0					
Naphthalene	ND	µg/L	2.0			*		•
1-Methylnaphthalene	ND	μg/L	4.0					
2-Methylnaphthalene	ND	µg/L	4.0					•
Acetone	ND	µg/L	10					
Bromobenzene	ND	µg/L	. 1.0					
Bromodichloromethane	ND	μg/L	1.0					
Bromoform	ND	µg/L	1.0					
Bromomethane	ND	μg/L	1.0					
2-Butanone	ND	μg/L	10			* •	A <sub>2</sub>	·
Carbon disulfide	ND	μg/L	10					
Carbon Tetrachloride	ND	μg/L	1.0					
Chlorobenzene	ND	µg/L	1.0					

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

### **QA/QC SUMMARY REPORT**

lient: roject: Western Refining Southwest, Inc.

Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit High	Limit	%RPD	RPD	Limit	Qual
Method: EPA Method 8260B:	VOLATILES	<del></del>								
Sample ID: 5ml rb		MBLK			Batch ID: F	R29976	Analysis D	ate:	8/28/2	008 9:29:05 AM
Chloroethane	ND	μg/L	2.0							
Chloroform	ND	μg/L	1.0							
Chloromethane	ND	μg/L	1.0							
2-Chlorotoluene	ND	μg/L	1.0							
4-Chlorotoluene	ND	μg/L	1.0							
cis-1,2-DCE	ND	μg/L	1.0							
cis-1,3-Dichloropropene	ND	μg/L	1.0							
1,2-Dibromo-3-chloropropane	ND	μg/L	2.0							
Dibromochloromethane	ND	μg/L	1.0							
Dibromomethane	ND	μg/L	1.0							
1,2-Dichlorobenzene	ND	μg/L	1.0					•		
1,3-Dichlorobenzene	ND	μg/L	1.0							
1,4-Dichlorobenzene	ND	μg/L	1.0							
Dichlorodifluoromethane	ND	μg/L	1.0							
1,1-Dichloroethane	ND	μg/L	1.0				•			
1,1-Dichloroethene	ND	μg/L	1.0							
1,2-Dichloropropane	ND	μg/L	1.0							
1,3-Dichloropropane	ND	μg/L	1.0							
2-Dichloropropane	ND	μg/L	2.0							
1,1-Dichloropropene	ND	μg/L	1.0							
Hexachlorobutadiene	ND	μg/L	1.0							
2-Hexanone	ND	μg/L	10							
Isopropylbenzene	ND	μg/L	1.0							
4-Isopropyltoluene	ND	μg/L	1.0							
4-Methyl-2-pentanone	ND	μg/L	10							
Methylene Chloride	ND	μg/L	3.0							
n-Butylbenzene	ND	μg/L	1.0							
n-Propylbenzene	ND	μg/L	1.0							
sec-Butylbenzene	ND	μg/L	1.0							
Styrene	ND	μg/L	1.0							
tert-Butylbenzene	ND	µg/L	1.0							
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0							
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0							
Tetrachloroethene (PCE)	ND	µg/L	1.0							
trans-1,2-DCE	ND	μg/L	1.0							
trans-1,3-Dichloropropene	ND	µg/L	1.0							
1,2,3-Trichlorobenzene	ND	μg/L	1.0							
1,2,4-Trichlorobenzene	ND	µg/L	1.0							
1,1,1-Trichloroethane	ND	µg/L	1.0							
1,1,2-Trichloroethane	ND	μg/L	1.0				•			
Trichloroethene (TCE)	ND	μg/L	1.0							
Trichlorofluoromethane	ND	μg/L	1.0							
1,2,3-Trichloropropane	ND	μg/L	2.0							
Vinyl chloride	ND	µg/L	1.0							
Qualifiers:			<del></del>							

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

### QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Work Order:

080831

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260B:	VOLATILES						,	-
Sample ID: 5ml rb		MBLK			Batch	ID: <b>R29976</b>	Analysis Date:	8/28/2008 9:29:05 AM
Xylenes, Total	ND	µg/L	1.5					
Surr: 1,2-Dichloroethane-d4	9.204	μg/L	0	92.0	68.1	123		
Surr: 4-Bromofluorobenzene	10.19	μg/L	. 0	102	53.2	145		
Surr: Dibromofluoromethane	9.641	μg/L	0	96.4	68.5	119		
Surr: Toluene-d8	9.724	µg/L	0	97.2	64	131		
Sample ID: b3		MBLK			Batch	ID: <b>R29976</b>	Analysis Date:	8/28/2008 5:23:41 PM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					* •
Ethylbenzene	ND	μg/L	1.0				4	
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
1,2,4-Trimethylbenzene	ND	μg/L μg/L	1.0					
1,3,5-Trimethylbenzene	ND	μg/L μg/L	1.0					
1,2-Dichloroethane (EDC)	ND	μg/L μg/L	1.0					•
1,2-Dibromoethane (EDB)	ND	μg/L μg/L	1.0					
Naphthalene	ND		2.0					
•		μg/L	4.0					
1-Methylnaphthalene	ND	μg/L						•
2-Methylnaphthalene	ND	μg/L	4.0					
Acetone	ND	μg/L	10					
Bromobenzene	ND	μg/L	1.0					
Bromodichloromethane	ND	µg/L	1.0					
Bromoform	ND	μg/L	1.0					
Bromomethane	ND	μg/L	1.0					
2-Butanone	ND	.µg/L	10					
Carbon disulfide	ND	µg/L	10		•			
Carbon Tetrachloride	ND	hã/ŗ	1.0					
Chlorobenzene	ND	μg/L "	1.0		4			
Chloroethane	ND	μg/L 	2.0					
Chloroform	ND	μg/L	1.0					
Chloromethane	ND	µg/L	1.0					
2-Chlorotoluene	ND	µg/L	1.0					
4-Chlorotoluene	ND	μg/L	1.0			•		
cis-1,2-DCE	ND	μg/L 	1.0					
cis-1,3-Dichloropropene	ND	μg/L	1.0					
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0					
Dibromochloromethane	ND	µg/L	1.0			•		
Dibromomethane	ND	µg/L	1.0					
1,2-Dichlorobenzene	ND	μg/L	1.0					
1,3-Dichlorobenzene	ND	μg/L	1.0					
1,4-Dichlorobenzene	ND	μg/L	1.0					
Dichlorodifluoromethane	ND	μg/L	1.0				•	
1,1-Dichloroethane	ND	µg/L	1.0				•	
1,1-Dichloroethene	ND .	µg/L	1.0					
1,2-Dichloropropane	ND	µg/L	1.0					
1,3-Dichloropropane	ND	μg/L	1.0					



- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

### QA/QC SUMMARY REPORT

lient: roject: Western Refining Southwest, Inc.

Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit H	HighLimit	%RPD	RPDLimit Qual
Method: EPA Method 8260B:	VOLATILES							
Sample ID: b3		MBLK			Batch ID	R29976	Analysis Dat	e: 8/28/2008 5:23:41 Pf
2,2-Dichloropropane	ND	μg/L	2.0					
1,1-Dichloropropene	ND	μg/L	1.0					
Hexachlorobutadiene	ND	μg/L	1.0					
2-Hexanone	ND	μg/L	10					
sopropylbenzene	ND	μg/L	1.0		•			
4-Isopropyitoluene	ND	µg/L	1.0					
4-Methyl-2-pentanone	ND	µg/L	10					
Methylene Chloride	ND	μg/L	3.0					
n-Butylbenzene	ND	μg/L	1.0					
n-Propylbenzene	ND	μg/L	1.0					
sec-Butylbenzene	ND	μg/L	1.0					
Styrene	ND	μg/L	1.0					
tert-Butylbenzene	ND	μg/L	1.0					
1,1,1,2-Tetrachloroethane	ND	μg/L	1.0					
1,1,2,2-Tetrachloroethane	ND	μg/L	2.0					•
Fetrachloroethene (PCE)	ND	μg/L	1.0					
rans-1,2-DCE	ND	µg/L	1.0					
rans-1,3-Dichloropropene	ND	μg/L	1.0					
2,3-Trichlorobenzene	ND	µg/L	1.0					
,2,4-Trichlorobenzene	ND	µg/L	1.0					
I,1,1-Trichloroethane	ND	μg/L	1.0					
1,1,2-Trichloroethane	ND	μg/L	1.0					
Frichloroethene (TCE)	ND	μg/L	1.0					
Trichlorofluoromethane	ND	μg/L	1.0					•
1,2,3-Trichloropropane	ND	μg/L	2.0					
√inyl chloride	ND	μg/L	1.0					•
(ylenes, Total	ND	μg/L	1.5					
Surr: 1,2-Dichloroethane-d4	9.311	μg/L	0	93.1	68.1	123		
Surr: 4-Bromofluorobenzene	9.973	μg/L	0	99.7	53.2	145		
Surr: Dibromofluoromethane	10.02	μg/L	0	100	68.5	119		
Surr: Toluene-d8	9.734	µg/L	0	97.3	64	131		
Sample ID: 100ng lcs		LCS			Batch ID	: R29898	Analysis Dat	e: 8/22/2008 10:07:58 A
Benzene	21.36	μg/L	1.0	107	86.8	120		
Toluene	20.15	μg/L	1.0	101	64.1	127		*
Chlorobenzene	22.26	μg/L	1.0	111	82.4	113		
,1-Dichloroethene	24.50	μg/L	1.0	122	86.5	132		
Trichloroethene (TCE)	20.02	μg/L	1.0	100	77.3	123		
Surr: 1,2-Dichloroethane-d4	9.332	μg/L	0	93.3	. 68.1	123		
Surr: 4-Bromofluorobenzene	10.14	μg/L	0	101	53.2	145		
Surr: Dibromofluoromethane	9.572	μg/L	0	95.7	68.5	119		,
Surr: Toluene-d8	9.539	μg/L	0	95.4	64	131		
Sample ID: 100ng ics		LCS	-		Batch ID		Analysis Dat	e: 8/22/2008 10:43:56 P
	21 80		1.0	100			, ***	÷
Benzene	21.89	μg/L	1.0	109	86.8	120		
pluene	20.01	µg/L	1.0	100	64.1	127		

S Spike recovery outside accepted recovery limits

E Value above quantitation range

Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Work Order:

080831

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260B:	VOLATILES							
Sample ID: 100ng Ics		LCS			Batch	ID: <b>R29898</b>	Analysis Date:	8/22/2008 10:43:56 PM
Chlorobenzene	21.91	µg/L	1.0	110	82.4	113		
,1-Dichloroethene	25.21	μg/L	1.0	126	86.5	132	•	•
richloroethene (TCE)	20.05	μg/L	1.0	100	77.3	123		
Surr: 1,2-Dichloroethane-d4	9.240	μg/L	0	92.4	68.1	123		
Surr: 4-Bromofluorobenzene	10.03	μg/L	0	100	53.2	145		
Surr: Dibromofluoromethane	10.21	μg/L	. 0	102	68.5	119		•
Surr: Toluene-d8	9.395	μg/L	0	94.0	64	131	•	•
Sample ID: 100ng Ics		LCS			Batch		Analysis Date:	8/26/2008 10:22:08 AN
Benzene	19.59	µg/L	1.0	97.9	86.8	120		
oluene	20.66	µg/L	1.0	103	64.1	127		
Chlorobenzene	22.08	µg/L	1.0	110	82.4	113		
,1-Dichloroethene	24.66	μg/L	1.0	123	86.5	132		
richloroethene (TCE)	19.33	μg/L	1.0	96.7	77.3	123		
Surr: 1,2-Dichloroethane-d4	9.429	μg/L	0	94.3	68.1	123		
Surr: 4-Bromofluorobenzene	9.765	µg/L	0	97.6	53.2	145		
Surr: Dibromofluoromethane	8.807	μg/L	0	88.1	68.5	119		
Surr: Toluene-d8	10.04	μg/L	0	100	64	131		
ample ID: 100ng lcs		LCS			Batch		Analysis Date:	8/27/2008 1:08:33 AN
Senzene	20.49	μg/L	1.0	102	86.8	120	•	
oluene	20.66	μg/L	1.0	103	64.1	127		
Chlorobenzene	23.33	μg/L	1.0	117	82.4	113		S
,1-Dichloroethene	25.11	µg/L	1.0	126	86.5	132		Ü
richloroethene (TCE)	21.06	µg/L	1.0	105	77.3	123		
Surr: 1,2-Dichloroethane-d4	9.499	μg/L	. 0	95.0	68.1	123		
Surr: 4-Bromofluorobenzene	10.15	μg/L	0	101	53.2	145		
Surr: Dibromofluoromethane	9.799	µg/L	. 0	98.0	68.5	119		
Surr: Toluene-d8	9.590	μg/L	0	95.9	64	131		
Sample ID: 100ng Ics		LCS			Batch		Analysis Date:	8/27/2008 2:38:58 PM
Benzene	21.89	µg/L	1.0	109	86.8	120	•	
oluene	20.00	μg/L	1.0	100	64.1	127		
Chlorobenzene	22.59	μg/L	1.0	113	82.4	113		
,1-Dichloroethene	24.83	µg/L	1.0	124	86.5	132		
richloroethene (TCE)	21.09	μg/L	1.0	105	77.3	123	•	
Surr: 1,2-Dichloroethane-d4	9.313	μg/L μg/L	0	93.1	68.1	123		
Surr: 4-Bromofluorobenzene	10.33	μg/L	0	103	53.2	145	•	
Surr: Dibromofluoromethane	10.25	μg/L	0	102	68.5	119		•
Surr: Toluene-d8	9.503	µg/L	0	95.0	64	131		
Sample ID: 100ng ics	5.000	LCS	v	30.0	Batch		Analysis Date:	8/28/2008 2:45:23 AM
•	21 80		1.0	100		120		
Senzene Selvene	21.80	µg/L	1.0 1.0	109	86.8 64.1			
oluene Chlorobenzene	20.36 22.04	μg/L	1.0	102	64.1 82.4	127		
		µg/L	1.0	110		113		
,1-Dichloroethene	24.09 19.55	µg/L µg/L	1.0	120 97.8	86.5 77.3	132 123		



- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RI	PDLimit Qual
Method: EPA Method 8260B:	VOLATILES							•
Sample ID: 100ng Ics		LCS			Batch l	ID: <b>R29968</b>	Analysis Date:	8/28/2008 2:45:23 AM
Surr: 1,2-Dichloroethane-d4	9.349	μg/L	0	93.5	68.1	123		
Surr: 4-Bromofluorobenzene	9.847	μg/L	0	98.5	53.2	145		
Surr: Dibromofluoromethane	9.739	μg/L	0	97.4	68.5	119		
Surr: Toluene-d8	9.497	μg/L	0	95.0	64	131		•
Sample ID: 100ng lcs		LCS			Batch i	D: <b>R29976</b>	Analysis Date:	8/28/2008 10:26:23 AM
Benzene	20.29	µg/L	1.0	101	86.8	120		
Toluene	20.43	μg/L	1.0	102	64.1	127		
Chlorobenzene	22.79	μg/L	1.0	114	82.4	113		S
1,1-Dichloroethene	22.69	μg/L	1.0	113	86.5	132		
Trichloroethene (TCE)	20.03	µg/L	1.0	100	77.3	123		
Surr: 1,2-Dichloroethane-d4	9.327	µg/L	0	93.3	68.1	123		
Surr: 4-Bromofluorobenzene	9.506	µg/L	O	95.1	53.2	145		
Surr: Dibromofluoromethane	9.661	μg/L	0	96.6	68.5	119		
Surr: Toluene-d8	9.745	µg/L	0	97.5	64	131		
Sample ID: 100ng lcs		LCS			Batch I	ID: <b>R29976</b>	Analysis Date:	8/28/2008 6:20:53 PM
Benzene	21.54	µg/L	1.0	108	86.8	120		
Toluene	20.76	µg/L	1.0	104	64.1	127		
Chlorobenzene	23.38	µg/L	1.0	117	82.4	113	·	S
,1-Dichloroethene	25.68	µg/L	1.0	128	86.5	132		
Trichloroethene (TCE)	19.97	µg/L	1.0	99.8	77.3	123		
Surr: 1,2-Dichloroethane-d4	9.245	μg/L	0	92.4	68.1	123		
Surr: 4-Bromofluorobenzene	10.07	µg/L	0	101	53.2	145		
Surr: Dibromofluoromethane	10.15	μg/L	0	101	68.5	119		
Surr: Toluene-d8	9.952	μg/L	0	99.5	- 64	131		



- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit	High	Limit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C:	Semivolatiles									
Sample ID: mb-16839		MBLK			Batch	ID:	16839	Analysis I	Date:	8/24/200
Acenaphthene	ND	μg/L	10							•
Acenaphthylene	ND	μg/L	10							
Aniline	ND	μg/L	10							
Anthracene	ND	μg/L	10							
Azobenzene	ND	µg/L	10							
Benz(a)anthracene	ND	μg/L	10							
Benzo(a)pyrene	ND	μg/L	10							
Benzo(b)fluoranthene	ND	μg/L	10							
Benzo(g,h,i)perylene	ND	μg/L	10							
Benzo(k)fluoranthene	ND .	μg/L	10							
Benzoic acid	ND	μg/L	20							
Benzyl alcohol	ND ·	μg/L	10							
Bis(2-chloroethoxy)methane	ND	μg/L	10							
Bis(2-chloroethyl)ether	ND	μg/L	10							
Bis(2-chloroisopropyl)ether	ND	μg/L	10							
Bis(2-ethylhexyl)phthalate	ND	μg/L	10							
4-Bromophenyl phenyl ether	ND	µg/L	10							
Butyl benzyl phthalate	ND	μg/L	. 10							
Carbazole	ND	μg/L	10		•					4
4-Chioro-3-methylphenol	ND	µg/L	10							•
4-Chloroaniline	ND	μg/L	10							
2-Chloronaphthalene	ND	μg/L	10							
2-Chlorophenol	ND	μg/L	10							
4-Chlorophenyl phenyl ether	ND "	µg/L	10							
Chrysene	ND	μg/L	10							
Di-n-butyl phthalate	ND	μg/L	10						•	
Di-n-octyl phthalate	ND	μg/L	10							
Dibenz(a,h)anthracene	ND	μg/L	10							
Dibenzofuran	ND	μg/L	10							
1,2-Dichlorobenzene	ND	μg/L	10							
1,3-Dichlorobenzene	ND	μg/L	10							
1,4-Dichlorobenzene	ND	μg/L	10							
3,3'-Dichlorobenzidine	ND	μg/L	10							
Diethyl phthalate	ND	μg/L	10							
Dimethyl phthalate	ND	μg/L	10					,		
2,4-Dichlorophenol	ND	μg/L	20							
2,4-Dimethylphenol	ND	μg/L	10							
4,6-Dinitro-2-methylphenol	ND	μg/L	20							•
2,4-Dinitrophenol	ND	μg/L	20							
2,4-Dinitrotoluene	ND	μg/L	10							
2,6-Dinitrotoluene	ND	μg/L	10							
Fluoranthene	ND	μg/L	10							
Fluorene	ND	μg/L	10							
Hexachlorobenzene	ND	μg/L	10							
I TEXACITIOTODENZETTE	NU	µg/L	10							



- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Refinery Wells Annual 2008

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C:	Semivolatiles	· · · · · · · · · · · · · · · · · · ·		-			· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·
Sample ID: mb-16839		MBLK			Batch	ID: <b>1683</b> 9	Analysis D	Date:	8/24/200
Hexachlorobutadiene	ND	μg/L	10						
Hexachlorocyclopentadiene	ND	μg/L	10						
Hexachloroethane	ND	μg/L	10						
Indeno(1,2,3-cd)pyrene	ND	μg/L	10						
Isophorone	ND	µg/L	10,						•
2-Methylnaphthalene	ND	μg/L	10						
2-Methylphenol	ND	µg/L	10						
3+4-Methylphenol	ND	µg/L	10						
N-Nitrosodi-n-propylamine	ND	μg/L	10						
N-Nitrosodimethylamine	ND	μg/L	10						
N-Nitrosodiphenylamine	ND	μg/L	10						
Naphthalene	ND	μg/L	10						
2-Nitroaniline	ND	μg/L	10						
3-Nitroaniline	ND	μg/L	. 10						
4-Nitroaniline	ND	μg/L	10						
Nitrobenzene	ND	μg/L	10						
2-Nitrophenol	ND	μg/L	10						
4-Nitrophenol	ND	μg/L	10						
Pentachlorophenol	ND	μg/L	40						
Phenanthrene	ND	μg/L	10						
Phenol	ND	μg/L	10	•					
Pyrene	ND	μg/L	10						
Pyridine	ND	μg/L	10						•
1,2,4-Trichlorobenzene	ND	μg/L	10						
2,4,5-Trichlorophenol	ND	μg/L	10	·					
2,4,6-Trichlorophenol	ND	μg/L	10						
Surr: 2,4,6-Tribromophenol	163.4	μg/L	0	81.7	16.6	150			
Surr: 2-Fluorobiphenyl	94.46	μg/L μg/L	0	94.5	19.6	134			
Surr: 2-Fluorophenol	137.3	μg/L μg/L	0	68.7	9.54	113			
Surr: 4-Terphenyl-d14	70.80	μg/L μg/L	0	70.8	9.5 <del>4</del> 22.7	145		•	
Surr: Nitrobenzene-d5	91.26	μg/L	0	91.3	14.6	134		•	
Surr: Phenol-d5	116.0		0	58.0	10.7	80.3			
Sample ID: Ics-16839	110.0	μg/L <i>LC</i> S	U	30.0	Batch		Analysis E	)ata:	8/24/200
•							Allalysis L	ale.	6/24/200
Acenaphthene	58.44	μg/L 	10	58.4	11	123			
4-Chloro-3-methylphenol	114.2	μg/L	10	56.2	15.4	119			
2-Chlorophenol	101.3	μg/L 	10	49.7	12.2	122			
1,4-Dichlorobenzene	46.86	μg/L 	10	46.9	16.9	100			
2,4-Dinitrotoluene	58.54	μg/L	10	58.5	13	138			
N-Nitrosodi-n-propylamine	61.86	μg/L	10	61.9	9.93	122			
4-Nitrophenol	72.66	μg/L	10	36.3	12.5	87.4			
Pentachlorophenol	126.3	μg/L	40	63.2	3.55	114			
Phenol	57.74	μg/L	10	28.9	7.53	73.1			
Pyrene	64.38	μg/L	10	64.4	12.6	140			
,2,4-Trichlorobenzene	50.96	μg/L	10	51.0	17.4	98.7			

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: Refinery Wells Annual 2008

Work Order:

080831

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLir	nit Qual
Method: EPA Method 8270C:	Semivolatiles								
Sample ID: lcs-16839	*	LCS			Batch	ID: <b>16839</b>	Analysis [	Date:	8/24/2008
Surr: 2,4,6-Tribromophenol	127.0	µg/L	0	63.5	16.6	150	. *		
Surr: 2-Fluorobiphenyl	61.74	μg/L	0	61.7	19.6	134			
Surr: 2-Fluorophenol	74.52	μg/L	0	37.3	9.54	113			
Surr: 4-Terphenyl-d14	54.04	μg/L	0	54.0	22.7	145			
Surr: Nitrobenzene-d5	58.02	μg/L	0	58.0	14.6	134			
Surr: Phenol-d5	58.46	μg/L	0	29.2	10.7	80.3			
Sample ID: Icsd-16839		LCSD			Batch	ID: 16839	Analysis [	Date:	8/24/2008
Acenaphthene	64.70	μg/L	10	64.7	11	123	10.2	30.5	
4-Chloro-3-methylphenol	142.0	μg/L	10	70.1	15.4	119	21.7	28.6	
2-Chlorophenol	129.7	µg/L	10	63.9	12.2	122	24.6	107	
1,4-Dichlorobenzene	55.12	μg/L	10	55.1	16.9	100	16.2	62.1	
2,4-Dinitrotoluene	63.90	μg/L	10	63.9	13	138	8.76	14.7	
N-Nitrosodi-n-propylamine	71.76	μg/Ľ	10	71.8	9.93	122	14.8	30.3	
4-Nitrophenol	83.46	µg/L	10	41.7	12.5	87.4	. 13.8	36.3	
Pentachlorophenol	143.3	μg/L	40	71.7	3.55	114	12.6	49	
Phenol	78.56	µg/L	10	39.3	7.53	73.1	30.6	52.4	
Pyrene	74.56	μg/L	. 10	74.6	12.6	140	14.7	16.3	
1,2,4-Trichlorobenzene	57.44	μg/L	10	57.4	17.4	98.7	12.0	36.4	A
Surr: 2,4,6-Tribromophenol	143.2	µg/L	0	71.6	16.6	150	0	0	€
Surr: 2-Fluorobiphenyl	71.06	μg/L	0	71.1	19.6	134	0	0	
Surr: 2-Fluorophenol	103.4	μg/L	0	51.7	9.54	113	0	0	
Surr: 4-Terphenyl-d14	66.58	μg/L	0	66.6	22.7	145	0	0	
Surr: Nitrobenzene-d5	69.64	μg/L	0	69.6	14.6	134	0	0	
Surr: Phenol-d5	79.14	μg/L	0	39.6	10.7	80.3	0	. 0	
Method: EPA Method 7470: M	ercury								
Sample ID: 0808316-02DMSD		MSD			Batch	ID: 16942	Analysis [	Date:	9/2/2008 2:24:09 PM
Mercury	0.004949	mg/L	0.00020	99.0	75	125	0.565	20	
Sample ID: MB-16942		MBLK			Batch	ID: 16942	Analysis [	Date:	9/2/2008 1:57:14 PM
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-16942		LCS			Batch	ID: 16942	Analysis I	Date:	9/2/2008 1:58:59 PM
Mercury	0.004755	mg/L	0.00020	95.1	80	120			
Sample ID: 0808316-02DMS		MS			Batch	ID: 16942	Analysis [	Date:	9/2/2008 2:22:20 PM
Mercury	0.004921	mg/L	0.00020	98.4	75	125		•	
William,	0.00-10E1	9/1	0.00020	JU. <del>4</del>	, 0	120			



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



## QA/QC SUMMARY REPORT

lient:

Western Refining Southwest, Inc.

Refinery Wells Annual 2008

Analyte		Result	Units	PQL	%Rec	Lowl imit	HighLimit	%RPD	BBDI	imit C	ual
Allalyte		Nesuit	Office	FQL	7011.00	LOWEITH	- IIGHEHIM	701(1 15	IN DE		
	EPA Method 6010B: E	issolved Me				Detak	ID: 200000	Amakasia F	<b>\_</b> 4	0/5/00/	00 4:07:04 D
	0808316-04EMSD		MSD			Batch		Analysis D		9/5/200	08 4:37:34 Pt
Arsenic		0.5475	mg/L	0.020	110	75	125	5.42	20		
Cadmium		0.5008	mg/L	0.0020	100	75	125	1.65	20		
Chromium		0.5017	mg/L	0.0060	100	75	125	2.02	20		
Copper		0.5287	mg/L	0.0060	106	75 	125	1.76	20		
Lead		0.4849	mg/L	0.0050	96.2	75	125	1.72	20		
Magnesium		90.89	mg/L	1.0	97.7	75 	125	0.553	20		
Potassium		58.47	mg/L	1.0	99.9	75	125	0.602	. 20		
Silver 		0.5036	mg/L	0.0050	101	75	125	3.03	20		•
Zinc		0.5652	mg/L	0.050	101	75	125	2.21	20		
	0808316-04EMSD		MSD			Batch		Analysis D		9/5/200	08 6:28:24 Pt
Barium		4.130	mg/L	0.10	94.7	75 	125	12.7	20		
Calcium		335.8	mg/L	5.0	96.5	75	125	3.02	20		<u>-</u> .
Sample ID:	0808316-04EMSD		MSD			Batch		Analysis E		9/9/200	08 2:28:11 PI
Selenium		2.743	mg/L	0.25	110	75	125	1.39	20		
Sample ID:	MB		MBLK			Batch	D: <b>R30098</b>	Analysis D	Date:	9/5/200	08 4:06:46 P
Arsenic	• .	ND	mg/L	0.020							
Barium		ND	mg/L	0.020							
admium		ND	mg/L	0.0020							
calcium		ND	mg/L	1.0							
Chromium		ND	mg/L	0.0060							
Copper		ND	mg/L	0.0060							
ron	•	ND	mg/L	0.020							
Lead		ND	mg/L	0.0050							
Magnesium		ND	mg/L	1.0							
Manganese		ND	mg/L	0.0020							
Potassium		ND	mg/L	1.0							
Selenium		ND	mg/L	0.050							
Silver		ND	mg/L	0.0050							
Sodium		ND	mg/L	1.0		*					
Zinc .		ND	mg/L	0.050							
Sample ID:	MB		MBLK			Batch	D: <b>R30124</b>	Analysis [	Date:	9/8/200	08 9:44:53 P
Selenium		ND	mg/L	0.050							
Sample ID:	MB		MBLK			Batch	D: <b>R30131</b>	Analysis [	Date:	9/9/200	08 1:59:49 P
Selenium		ND	mg/L	0.050							
Sample ID:	LCS		LCS			Batch	D: <b>R30098</b>	Analysis E	Date:	9/5/200	08 4:14:33 PI
Arsenic		0.4911	mg/L	0.020	98.2	80	120				
Barium		0.4755	mg/L	0.020	95.1	80	120				
Cadmium		0.4901	mg/L	0.0020	98.0	80	120				
Calcium	· ·	49.13	mg/L	1.0	97.3	80	120				
Chromium		0.4843	mg/L	0.0060	96.9	80	120				
Copper		0.4789	mg/L	0.0060	95.8	80	120				
ron		0.4718	mg/L	0.020	94.4	80	120				
ead		0.4768	mg/L	0.0050	95.4	80	120				

#### Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

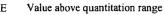
Project: Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit F	HighLimit	%RPD RPE	Limit Qual
Method: EPA Method 6010B:	Dissolved Me	etals						
Sample ID: LCS		LCS			Batch ID	R30098	Analysis Date:	9/5/2008 4:14:33 PM
Magnesium	49.69	mg/L	1.0	98.4	80	120		
Manganese	0.4725	mg/L	0.0020	94.5	80	120		
Potassium	53.05	mg/L	1.0	96.4	80	120		
Selenium	0.4884	mg/L	0.050	97.7	80	120		•
Silver	0.4927	mg/L	0.0050	98.5	80	120		
Sodium	49.00	mg/L	1.0	97.0	80	120		
Zinc	0.4822	mg/L	0.050	96.4	80	120		
Sample ID: LCS		LCS			Batch ID	R30124	Analysis Date:	9/8/2008 9:47:18 PM
Selenium	0.5051	mg/L	0.050	101	80	120		
Sample ID: LCS		LCS			Batch ID	R30131	Analysis Date:	9/9/2008 2:02:14 PM
Selenium	0.5386	mg/L	0.050	108	80	120		
Sample ID: 0808316-04EMS	•	MS			Batch ID	: R30098	Analysis Date:	9/5/2008 4:31:58 PM
Arsenic	0.5186	mg/L	0.020	104	75	125	•	
Cadmium	0.4926	mg/L	0.0020	98.5	75	125		
Chromium	0.4916	mg/L	0.0060	98.3	75	125		
Copper	0.5195	mg/L	0.0060	104	75	125		
Lead	0.4766	mg/L	0.0050	94.6	75	125		
Magnesium	91.39	mg/L	1.0	98.7	75	125		
Potassium	58.82	mg/L	1.0	101	75	125		4
Silver	0.4885	mg/L	0.0050	97.7	75	125	•	•
Zinc	0.5528	mg/L	0.050	98.1	75	125	•	
Sample ID: 0808316-04EMS		MS			Batch ID	R30098	Analysis Date:	9/5/2008 6:15:26 PM
Barium	4.690	mg/L	0.10	117	. 75	125	•	
Calcium	325.8	mg/L	5.0	92.6	75	125		
Sample ID: 0808316-04EMS		MS			Batch ID	R30131	Analysis Date:	9/9/2008 2:25:42 PM
Selenium	2.782	mg/L	0.25	111	75	125		





J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Refinery Wells Annual 2008

Work Order:

0808316

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDL	imit Qual
Method: EPA 6010B: Total Red	coverable Me	tals							
Sample ID: 0808316-02DMSD		MSD			Batch	D: <b>16920</b>	Analysis D	oate:	9/3/2008 3:23:18 PM
Arsenic	0.5345	mg/L	0.020	107	75	125	7.94	20	
Barium	0.4971	mg/L	0.010	96.6	75	125	2.78	20	
Cadmium	0.5127	mg/L	0.0020	103	75	125	3.17	20	
Chromium	0.4917	mg/L	0.0060	98.3	75	125	2.47	20	
Lead	0.4734	mg/L	0.0050	93.5	75	125	3.39	20	
Selenium	0.4970	mg/L	0.050	99.4	75	125	3.10	20	
Silver	0.5264	mg/L	0.0050	105	75	125	3.90	20	
Sample ID: MB-16920		MBLK			Batch I	D: <b>16920</b>	Analysis D	ate:	9/3/2008 2:05:00 PM
Arsenic	ND	mg/L	0.020			•			
Barium	ND	mg/L	0.010						
Cadmium	ND	mg/L	0.0020						
Chromium	ND	mg/L	0:0060						
Lead	ND	mg/L	0.0050						
Selenium	ND ND	mg/L	0.050						
Silver	ND	mg/L	0.0050						
Sample ID: LCS-16920		LCS			Batch I	D: <b>16920</b>	Analysis D	ate:	9/3/2008 2:07:22 PM
Arsenic	0.5251	mg/L	0.020	105	80	120			
Rarium	0.4887	mg/L	0.010	97.7	80	120			
admium	0.4999	mg/L	0.0020	100	80	120			
Chromium	0.5075	mg/L	0.0060	102	80	120			
Lead	0.4964	mg/L	0.0050	99.3	80	120			
Selenium	0.4892	mg/L	0.050	97.8	80	120			
Silver	0.5013	mg/L	0.0050	100	80	120			
Sample ID: 0808316-02DMS		MS			Batch I	D: <b>16920</b>	Analysis D	ate:	9/3/2008 3:19:22 PM
Arsenic	0.5787	mg/L	0.020	116	75	125			
Barium	0.5111	mg/L	0.010	99.4	75	125			
Cadmium	0.5292	mg/L	0.0020	106	75	125			
Chromium	0.5040	mg/L	0.0060	101	75	125			
Lead	0.4898	mg/L	0.0050	96.8	75	125			
Selenium	0.4818	mg/L	0.050	96.4	75	125			
Silver	0.5474	mg/L	0.0050	109	75	125			



- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D · Spokane WA 99202 · (509) 838-3999 · Fax (509) 838-4433 · email spokane@anateklabs.com

#### Login Report

Customer Name: HALL ENVIRONMENTAL ANALYSIS LAB

Order ID:

080821018

**Purchase Order:** 

**Order Date:** 

8/21/2008

Project ID:

Project Name: 0808316

Comment:

Sample #: 080821018-001

Customer Sample #: 0808316-01F / RW #23

Recv'd:

V

Collector:

8/19/2008

Site:

Site:

Quantity:

Matrix: Water **Date Collected: Date Received:** 

8/21/2008 10:45:00 A

Comment:

**DISSOLVED URANIUM BY 6** 

**Test Group** 

Method

**Due Date** 

**Priority** 

**EPA 6020A** 9/3/2008 Normal (6-10 Days)

080821018-002 Sample #:

Water

0808316-02F / MW #44

Recv'd:

Customer Sample #:

Quantity:

Collector: Matrix:

**Date Collected:** Date Received:

8/19/2008

8/21/2008 10:45:00 A

Comment:

Test

**Test Group** 

Method

**Due Date** 

**Priority** 

DISSOLVED URANIUM BY 6

**EPA 6020A** 

9/3/2008

Normal (6-10 Days)

080821018-003

Customer Sample #:

Water

Sample #:

0808316-03F / RW #15

Site:

Recv'd:

Collector:

**Date Collected:** 

8/19/2008

Quantity:

Matrix:

Date Received:

8/21/2008 10:45:00 A

Comment:

Test

**Test Group** 

Method

**Priority** 

**DISSOLVED URANIUM BY 6** 

Customer Sample #:

**Due Date** 

080821018-004

**EPA 6020A** 0808316-04F / MVV #40

9/3/2008

Normal (6-10 Days)

Sample #:

Recv'd:

Collector:

**Date Collected:** 

8/19/2008

Matrix: Water

Date Received:

8/21/2008 10:45:00 A

Quantity: Comment:

Test

**Test Group** 

Method

**Due Date** 

**Priority** 

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 

9/3/2008

Normal (6-10 Days)

Customer Name: HALL ENVIRONMENTAL ANALYSIS LAB

Order ID:

080821018

Purchase Order:

Order Date:

8/21/2008

Project ID:

Project Name: 0808316

Comment:

#### **SAMPLE CONDITION RECORD**

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	6.2
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

1si SAMP

Subcontractor:

TEL: 5053453975

FAX: 5053454107

Albuquerque, New Mexico 87109-4372

4901 Hawkins NE, Suite D

Hall Environmental Analysis Laboratory, Inc.

Anatek Labs, Inc. 1282 Alturas Dr Moscow, ID 83843

> FACE. (208) 882-9246

Acct #:

(208) 883-2839

Project Name: 0808316

20-Aug-08

SEE BELOW	125HDPHNO3	8/19/2008 11:20:00 AM	Aqueous	WW #40	0808316-04F
SEE BELOW	125HDPHNO3	8/19/2008 11:05:00 AM	Aqueous	RW#15	0808316-03F
SEE BELOW	125HDPHNO3	8/19/2008 10:25:00 AM	Aqueous	MW #44 2	0808316-02F
SEE BELOW	125HDPHNO3	8/19/2008 10:00:00 AM	Aqueous	RW #23	0808316-01F
Requested Tests	<b>Bottle Type</b>	Collection Date	Matrix	Client Sample ID	Lab ID

ANALYTICAL COMMENTS:

\*\*\*LEVEL 4 QA/QC, DISSOLVED U BY 6020, PLEASE REPORT @ 0.001 mg/L

Standard TAT. Please fax (505) 345-4107 results when completed, or email to lab@hallenvironmental.com. Thank you.

ANATEK LABS RECEIVING LIST  Date/Time-Do  Rec:  Rec:  Number of Containers:  Date & time: \$21.08 inspected by: MA  Number of Containers:  Rec:  Date & time: \$21.08 inspected by: MA  Number of Containers:  Date & time: \$21.08 inspected by: MA  Number of Containers:  Date & time: \$21.08 inspected by: MA  Number of Containers:  Date & time: \$21.08 inspected by: MA  Number of Containers:  Date & time: \$21.08 inspected by: MA  Number of Containers:  Date & time: \$21.08 inspected by: MA  Number of Containers:  Date & time: \$21.08 inspected by: MA  Number of Containers:  Date & time: \$21.08 inspected by: MA  Number of Containers:  Date & time: \$21.08 inspected by: MA  Date & time: MA  Date & tim	Relinquished by:	Relinquished by:	
AGREE  AG		Date/Times00	
	SUS ENSP	AGREE	

#### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT		Date Received:	8/20/2008
Work Order Number 0808316		Received by: A	T
Checklist completed by:  Signature  Checklist completed by:	Date	Sample ID labels chec	ked by:
Matrix: Carrier nat	me <u>UPS</u>		
Shipping container/cooler in good condition?	Yes 🗹	No Not Pre	sent
Custody seals intact on shipping container/cooler?	Yes 🗹	No Not Pre	sent Not Shipped
Custody seals intact on sample bottles?	Yes 🗌	No 🗌 N/A	
Chain of custody present?	Yes 🗸	No 🗀	
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗆	
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌	•
Samples in proper container/bottle?	Yes 🗹	No 🗌	
Sample containers intact?	Yes 🗹	No 🗌	
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌	
All samples received within holding time?	Yes 🗹	No 🗔	
Water - VOA vials have zero headspace? No VOA vials	submitted 🗀	Yes 🗹 N	o 🗆
Water - Preservation labels on bottle and cap match?	Yes 🗹	No □ N/A	
Water - pH acceptable upon receipt?	Yes 🗹	No 🗌 N/A	
Container/Temp Blank temperature?	3°	<6° C Acceptable	
COMMENTS:		If given sufficient time to o	cool.
		=======	
Client contacted Date contacted:	<del></del>	Person conta	cted
Contacted by: Regarding:			
Comments:			
	**		
Corrective Action			
			,

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	(leseil) (leseil) (leseil) (leseil/seil) (leseil/seil) (leseil/seil/seil/seil/seil/seil/seil/sei	01 80158 (6 10 8021) 10 8021) 10 90 PAH) 11 NO <sub>3</sub> , NO <sub>2</sub> ; 12 NO <sub>3</sub> , NO <sub>2</sub> ;	BTEX + M TPH Metho TPH (Metho EDB (Metho B310 (PN) RCRA 8 Me	X X	×	X	X	X	X	X	X	<i>χ</i>	X	X	X	Remarks:	
OA/OC Package: Std Level 4 Std	Project Manager:	Sampler: Bh (Incl) Sample Temperature: 3	Number/Yolume HgCl <sub>2</sub> HNO <sub>3</sub> HRAL No.	\$	(La Amby)	1- X Cust 1	1- X Juags 1	1-50mm)	1-250ml Hesty - 1	6.10A- Ha -2	1-fite Ank	2- X Jm252/	150mp X -2	1-50ml -2	18294	1 820/03 L 1030	Received By: (Signature)
CHAIN-OF-CUSTODY RECORD  Client: 1886 1 Strung - Bloomfield  Address: 45 0 1090		Phone #: 505-432-416 / Fax #: 505-433-39 //	Date Time Matrix Sample I.D. No.	81900 BAM 420 RW4,23						879.08 1025AL 120 MW# 44						Date: Time: Relinquished By, (9)gnaturel 8/1008 (36a. word Studyacto	Time: Relinquished By

	HALL ENVIRONMENTAL	ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	and the second s	ANALYSIS REQUEST		(58 2 Ja 2 Ja 3 Ja 4 Ja 1 Ja 1 Ja 1 Ja 1 Ja 1 Ja 1 Ja 1 Ja 1	08) s'	1) / PCB	08 bor 04 70 6 20 21 slastes 20 7 (ACC) 20 6 20 10 10 10 10 10 10 10 10 10 10 10 10 10	EDB (Meth 8310 (PNJ 8310 (PNJ RCRA 8 Me 8081 Pest 8250 (Sen MCC 7	X	X	X	X	X	X	*	X	X	X	X			
				- P		Įλ}	nO əni	loseð	1PH (6	+ 381 108 bo	BTEX + M BTEX + M TPH Metho TPH (Meth	X						X						Remarks:	<del></del>
	900 F	Std L Level 4 K	Project Name: Wells -	٠, ٠	Project #:		Project Manager:		Sampler: Bob / m.l.w	Sample Temperature:	Number/Volume HgCl <sub>2</sub> HNO <sub>3</sub> HEAL No.	6-10-A-1	1. Ulb. 166	E- X Tues2-1	1-5and X Just -3	E- (2005-1	1-250mg H3dy -3	6-10A- Her -4	1. Cte Anko	1-250-C X X Just 1-4	h- X ~0051	h- Junes-1	1 Hespay	Received By:   Signature     1/20/08	Received By: (Signature)
		Chain-of-custody record	Rhing-Dontiel		120/4990	Bloomfeld, NM 87413			Phone #: 505-632-4161	505-632-3911	Matrix Sample I.D. No.	4 100 RW#15						a HO MW#40						Relinduished By: (Signature)	Relinquished By: (Signature)
***		CHAIN-G	Olient: Western		Address: 452	8/00.			Phone #: 505_	Fax #: 505	Date Time	8-19-08 1105A					-3	8-19-08 1120A						Jate: Time:	<del> </del>

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Alburging New Mexico 87109	Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	AVALYSIS REQUEST			)8) s,	/ bcB. '' NO <sup>5</sup> '	alsts 21, NO, IC 20, ON, IC 20, IC 2	(Meth A 8 Me ns (F, C 1 Pest OB (VC 0 (Sem	0168 ADA noinA 808 686 0358	×	X							
	<b></b>		11/7)	nO ənilo	osegj	TPH ( 5 <b>)</b>	+ 381 108 bo	( + M Metho (Metho (Meth	HGT TPH		ノ						Remarks:	
QA/ QC Package: Std ☐ Level 4 📉 Other:	Project Name: Nells -			Project Manager:		Sampler: Feb (Cincly	Sample Temperature:	Preservative UEALING	HgCl <sub>2</sub> HNO <sub>3</sub>	1742	9-						By (Signature) 82008	Received By: (Signature)
	Client: Western Tatining - Blownield	\\	Bloom Feld, NM	874/3		Phone #: 505-632 -416/		Doto Ima Matrix Sample ID No	XLIDEIAI	8-19-08 10404 NZU FIELD Blank	TroBlank						Jate: Time: Rafinguished By: (Signature)	Date: Time: Relinquished By: (Signature)



#### **COVER LETTER**

Monday, September 08, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: San Juan River Semi-Annual Aug 5 2008

Dear Cindy Hurtado:

Order No.: 0808072

Hall Environmental Analysis Laboratory, Inc. received 5 sample(s) on 8/6/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001



**Date:** 08-Sep-08

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

**Project:** San Juan River Semi-Annual Aug 5 2008

**Lab Order:** 0808072

#### **Work Order Sample Summary**

1			<del></del>	
Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808072-01A	North of #45	16727	EPA Method 8015B: Diesel Range	8/5/2008 9:30:00 AM
0808072-01A	North of #45	R29757	EPA Method 8260: Volatiles Short List	8/5/2008 9:30:00 AM
0808072-01A	North of #45	R29664	EPA Method 8015B: Gasoline Range	8/5/2008 9:30:00 AM
0808072-01C	North of #45	16766	EPA 6010B: Total Recoverable Metals	8/5/2008 9:30:00 AM
0808072-01C	North of #45	16832	EPA Method 7470: Mercury	8/5/2008 9:30:00 AM
0808072-01D	North of #45	R29657	EPA Method 300.0: Anions	8/5/2008 9:30:00 AM
0808072-01D	North of #45	R29657	EPA Method 300.0: Anions	8/5/2008 9:30:00 AM
0808072-01D	North of #45	16698	SM 2540C Total Dissolved Solids	8/5/2008 9:30:00 AM
0808072-01D	North of #45	R29684	SM4500-H+B: pH	8/5/2008 9:30:00 AM
0808072-01D	North of #45	R29685	EPA 120.1: Specific Conductance	8/5/2008 9:30:00 AM
0808072-01D	North of #45	R29775	SM 2320B: Alkalinity	8/5/2008 9:30:00 AM
0808072-01D	North of #45	R29831	Carbon Dioxide	8/5/2008 9:30:00 AM
0808072-01E	North of #45	R	EPA Method 6010B: Dissolved Metals	8/5/2008 9:30:00 AM
0808072-01E	North of #45	R29902	EPA Method 6010B: Dissolved Metals	8/5/2008 9:30:00 AM
0808072-02A	Upstream	R29757	EPA Method 8260: Volatiles Short List	8/5/2008 10:20:00 AM
0808072-02A	Upstream	R29664	EPA Method 8015B: Gasoline Range	8/5/2008 10:20:00 AM
0808072-02A	Upstream	16727	EPA Method 8015B: Diesel Range	8/5/2008 10:20:00 AM
0808072-02C	Upstream	16766	EPA 6010B: Total Recoverable Metals	8/5/2008 10:20:00 AM
0808072-02C	Upstream	16832	EPA Method 7470: Mercury	8/5/2008 10:20:00 AM
0808072-02D	Upstream	R29657	EPA Method 300.0: Anions	8/5/2008 10:20:00 AM
0808072-02D	Upstream	R29657	EPA Method 300.0: Anions	8/5/2008 10:20:00 AM
0808072-02D	Upstream	16698	SM 2540C Total Dissolved Solids	8/5/2008 10:20:00 AM
0808072-02D	Upstream	R29684	SM4500-H+B: pH	8/5/2008 10:20:00 AM
0808072-02D	Upstream	R29685	EPA 120.1: Specific Conductance	8/5/2008 10:20:00 AM
0808072-02D	Upstream	R29775	SM 2320B: Alkalinity	8/5/2008 10:20:00 AM
0808072-02D	Upstream	R29831	Carbon Dioxide	8/5/2008 10:20:00 AM
0808072-02E	Upstream	R29902	EPA Method 6010B: Dissolved Metals	8/5/2008 10:20:00 AM
0808072-02E	Upstream	R	EPA Method 6010B: Dissolved Metals	8/5/2008 10:20:00 AM
0808072-03A	Downstream	R29757	EPA Method 8260: Volatiles Short List	8/5/2008 11:00:00 AM
0808072-03A	Downstream	R29664	EPA Method 8015B: Gasoline Range	8/5/2008 11:00:00 AM
0808072-03A	Downstream	16727	EPA Method 8015B: Diesel Range	8/5/2008 11:00:00 AM
0808072-03C	Downstream	16766	EPA 6010B: Total Recoverable Metals	8/5/2008 11:00:00 AM
0808072-03C	Downstream	16832	EPA Method 7470: Mercury	8/5/2008 11:00:00 AM
0808072-03D	Downstream	R29657	EPA Method 300.0: Anions	8/5/2008 11:00:00 AM
0808072-03D	Downstream	R29657	EPA Method 300.0: Anions	8/5/2008 11:00:00 AM
0808072-03D	Downstream	16708	SM 2540C Total Dissolved Solids	8/5/2008 11:00:00 AM
0808072-03D	Downstream	R29684	SM4500-H+B: pH	8/5/2008 11:00:00 AM
0808072-03D	Downstream	R29685	EPA 120.1: Specific Conductance	8/5/2008 11:00:00 AM

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

San Juan River Semi-Annual Aug 5 2008

Lab Order:

0808072

## Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	<b>Collection Date</b>
0808072-03D	Downstream	R29795	SM 2320B: Alkalinity	8/5/2008 11:00:00 AM
0808072-03D	Downstream	R29831	Carbon Dioxide	8/5/2008 11:00:00 AM
0808072-03E	Downstream	R29902	EPA Method 6010B: Dissolved Metals	8/5/2008 11:00:00 AM
0808072-03E	Downstream	R	EPA Method 6010B: Dissolved Metals	8/5/2008 11:00:00 AM
0808072-04A	North of #46	16727	EPA Method 8015B: Diesel Range	8/5/2008 9:45:00 AM
0808072-04A	North of #46	R29757	EPA Method 8260: Volatiles Short List	8/5/2008 9:45:00 AM
0808072-04A	North of #46	R29664	EPA Method 8015B: Gasoline Range	8/5/2008 9:45:00 AM
0808072-04C	North of #46	16832	EPA Method 7470: Mercury	8/5/2008 9:45:00 AM
0808072-04C	North of #46	16766	EPA 6010B: Total Recoverable Metals	8/5/2008 9:45:00 AM
0808072-04D	North of #46	R29657	EPA Method 300.0: Anions	8/5/2008 9:45:00 AM
0808072-04D	North of #46	R29657	EPA Method 300.0: Anions	8/5/2008 9:45:00 AM
0808072-04D	North of #46	R29684	SM4500-H+B: pH	8/5/2008 9:45:00 AM
.0808072-04D	North of #46	R29685	EPA 120.1: Specific Conductance	8/5/2008 9:45:00 AM
0808072-04D	North of #46	16733	SM 2540C Total Dissolved Solids	8/5/2008 9:45:00 AM
0808072-04D	North of #46	R29795	SM 2320B: Alkalinity	8/5/2008 9:45:00 AM
0808072 <b>-</b> 04D	North of #46	R29831	Carbon Dioxide	8/5/2008 9:45:00 AM
0808072-04E	North of #46	R29902	EPA Method 6010B: Dissolved Metals	8/5/2008 9:45:00 AM
0808072-04E	North of #46	R	EPA Method 6010B: Dissolved Metals	8/5/2008 9:45:00 AM
0808072-05A	Downstream Dup	R29757	EPA Method 8260: Volatiles Short List	8/5/2008 11:00:00 AM
0808072-05A	Downstream Dup	R29664	EPA Method 8015B: Gasoline Range	8/5/2008 11:00:00 AM
0808072-05A	Downstream Dup	16727	EPA Method 8015B: Diesel Range	8/5/2008 11:00:00 AM

**Date:** 08-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808072

San Juan River Semi-Annual Aug 5 2008

Project: Lab ID:

0808072-01

Client Sample ID: North of #45

Collection Date: 8/5/2008 9:30:00 AM

Date Received: 8/6/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG			<del></del>		Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/11/2008 5:06:10 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/11/2008 5:06:10 PM
Surr: DNOP	112	58-140	%REC	1	8/11/2008 5:06:10 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/7/2008 6:51:51 PM
Surr: BFB	93.7	79.2-121	%REC	1	8/7/2008 6:51:51 PM
EPA METHOD 300.0: ANIONS					Analyst: IC
Fluoride	0.20	0.10	mg/L	1	8/7/2008 12:24:33 AM
Chloride	2.9	0.10	mg/L	1	8/7/2008 12:24:33 AM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/7/2008 12:24:33 AM
Bromide	ND	0.10	mg/L	. 1	8/7/2008 12:24:33 AM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/7/2008 12:24:33 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/7/2008 12:24:33 AM
Sulfate	59	0.50	mg/L	1	8/7/2008 12:24:33 AM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	8/20/2008 5:49:51 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: <b>NMO</b>
Arsenic	ND	0.020	mg/L	1	8/25/2008 9:48:44 AM
Barium	0.081	0.020	mg/L	1 .	8/25/2008 9:48:44 AM
Cadmium	ND	0.0020	mg/L	1	8/25/2008 9:48:44 AM
Calcium	24	1.0	mg/L	1	
	34				8/25/2008 9:48:44 AM
Chromium	ND	0.0060	mg/L	1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Chromium Copper			mg/L mg/L		
	ND	0.0060	<del>-</del>	1	8/25/2008 9:48:44 AM
Copper	ND ND	0.0060 0.0060	mg/L	1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Copper Iron	ND ND 0.068	0.0060 0.0060 0.020	mg/L mg/L	1 1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Copper Iron Lead	ND ND 0.068 ND	0.0060 0.0060 0.020 0.0050	mg/L mg/L mg/L	1 1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Copper Iron Lead Magnesium	ND ND 0.068 ND 5.7	0.0060 0.0060 0.020 0.0050 1.0	mg/L mg/L mg/L mg/L	1 1 1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Copper Iron Lead Magnesium Manganese	ND ND 0.068 ND 5.7 0.012	0.0060 0.0060 0.020 0.0050 1.0 0.0020	mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Copper Iron Lead Magnesium Manganese Potassium	ND ND 0.068 ND 5.7 0.012	0.0060 0.0060 0.020 0.0050 1.0 0.0020	mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Copper Iron Lead Magnesium Manganese Potassium Selenium	ND ND 0.068 ND 5.7 0.012 1.8 ND	0.0060 0.0060 0.020 0.0050 1.0 0.0020 1.0	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1 1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Copper Iron Lead Magnesium Manganese Potassium Selenium Silver	ND ND 0.068 ND 5.7 0.012 1.8 ND ND	0.0060 0.0060 0.020 0.0050 1.0 0.0020 1.0 0.050	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1 1 1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Copper Iron Lead Magnesium Manganese Potassium Selenium Silver Sodium Zinc	ND ND 0.068 ND 5.7 0.012 1.8 ND ND 19	0.0060 0.0060 0.020 0.0050 1.0 0.0020 1.0 0.050 0.0050	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1 1 1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Copper Iron Lead Magnesium Manganese Potassium Selenium Silver Sodium Zinc	ND ND 0.068 ND 5.7 0.012 1.8 ND ND 19	0.0060 0.0060 0.020 0.0050 1.0 0.0020 1.0 0.050 0.0050	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1 1 1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Copper Iron Lead Magnesium Manganese Potassium Selenium Silver Sodium Zinc  EPA 6010B: TOTAL RECOVERABLE	ND ND 0.068 ND 5.7 0.012 1.8 ND ND ND ND	0.0060 0.0060 0.020 0.0050 1.0 0.0020 1.0 0.050 0.0050	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1 1 1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM
Copper Iron Lead Magnesium Manganese Potassium Selenium Silver Sodium Zinc  EPA 6010B: TOTAL RECOVERABLE Arsenic	ND ND 0.068 ND 5.7 0.012 1.8 ND ND 19 ND	0.0060 0.0060 0.020 0.0050 1.0 0.0020 1.0 0.050 0.0050	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1 1 1 1 1	8/25/2008 9:48:44 AM 8/25/2008 9:48:44 AM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 9

**Date:** 08-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808072

San Juan River Semi-Annual Aug 5 2008

Project: Lab ID:

0808072-01

Client Sample ID: North of #45

Collection Date: 8/5/2008 9:30:00 AM

Date Received: 8/6/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA 6010B: TOTAL RECOVERABLE	METALS				Analyst: TES
Lead	ND	0.0050	mg/L	1	8/15/2008 4:32:35 PM
Selenium	ND	0.050	mg/L	1	8/15/2008 4:32:35 PM
Silver	ND	0.0050	mg/L	1	8/15/2008 4:32:35 PM
EPA METHOD 8260: VOLATILES SHO	RT LIST				Analyst: <b>HL</b>
Benzene	ND	1.0	μg/L	1	8/13/2008 8:54:03 PM
Toluene	ND	1.0	μg/L	1	8/13/2008 8:54:03 PM
Ethylbenzene	ND	1.0	μg/L	1	8/13/2008 8:54:03 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	μg/L	1	8/13/2008 8:54:03 PM
Xylenes, Total	ND	3.0	μg/L	1	8/13/2008 8:54:03 PM
Surr: 4-Bromofluorobenzene	98.3	80.4-119	%REC	1	8/13/2008 8:54:03 PM
SM 2320B: ALKALINITY					Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	91	20	mg/L CaCO3	1	8/14/2008
Carbonate	ND	2.0	mg/L CaCO3	1	8/14/2008
Bicarbonate	91	20	mg/L CaCO3	1	8/14/2008
TOTAL CARBON DIOXIDE CALCULAT	TION				Analyst: <b>TAF</b>
Total Carbon Dioxide	81	1.0	mg CO2/L	1	8/19/2008
EPA 120.1: SPECIFIC CONDUCTANCE	<u> </u>				Analyst: <b>KMS</b>
Specific Conductance	290	0.010	µmhos/cm	1	8/8/2008
SM4500-H+B: PH					Analyst: <b>KMS</b>
рН	8.01	0.1	pH units	1	8/8/2008
SM 2540C TOTAL DISSOLVED SOLID	S				Analyst: <b>KMS</b>
Total Dissolved Solids	200	. 20	mg/L	1	8/6/2008

Qualifiers:			
	Λ	. 1:6:	

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 08-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808072

San Juan River Semi-Annual Aug 5 2008

Project: Lab ID:

0808072-02

Client Sample ID: Upstream

Collection Date: 8/5/2008 10:20:00 AM

Date Received: 8/6/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual 1	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	r	mg/L	1	8/11/2008 5:40:51 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/11/2008 5:40:51 PM
Surr: DNOP	117	58-140	Q	%REC	1	8/11/2008 5:40:51 PM
EPA METHOD 8015B: GASOLINE RA	NGE					Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	ND	0.050	· r	mg/L	1	8/7/2008 7:21:51 PM
Surr: BFB	98.3	79.2-121	Ç	%REC	1	8/7/2008 7:21:51 PM
EPA METHOD 300.0: ANIONS						Analyst: IC
Fluoride	0.24	0.10	ŗ	mg/L	1	8/7/2008 12:59:23 AM
Chloride	5.5	0.10	r	mg/L	1	8/7/2008 12:59:23 AM
Nitrogen, Nitrite (As N)	ND	0.10	r	mg/L	1	8/7/2008 12:59:23 AM
Bromide	ND .	0.10	r	mg/L	1	8/7/2008 12:59:23 AM
Nitrogen, Nitrate (As N)	ND	0.10	r	mg/L	1	8/7/2008 12:59:23 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	r	mg/L	1	8/7/2008 12:59:23 AM
Sulfate	130	5.0	r	mg/L	10	8/7/2008 1:16:47 AM
EPA METHOD 7470: MERCURY						Analyst: SNV
Mercury	ND	0.00020	r	mg/L	1	8/20/2008 5:51:34 PM
EPA METHOD 6010B: DISSOLVED M	ETALS					Analyst: <b>NMO</b>
Arsenic	ND	0.020	F	mg/L	1	8/25/2008 9:51:46 AM
Barium	0.081	0.020	r	mg/L	1	8/25/2008 9:51:46 AM
Cadmium	ND	0.0020	r	mg/L	1	8/25/2008 9:51:46 AM
Calcium	39	1.0	r	mg/L	1	8/25/2008 9:51:46 AM
Chromium	ND	0.0060	1	mg/L	1	8/25/2008 9:51:46 AM
Copper	415			/I		0/25/2000 3.51.40 AW
	ND	0.0060	ı	mg/L	1	8/25/2008 9:51:46 AM
Iron	ND 0.074	0.0060 0.020		mg/L mg/L	1 1	
Iron Lead			1	-		8/25/2008 9:51:46 AM
	0.074	0.020	; ;	mg/L	1	8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM
Lead	0.074 ND	0.020 0.0050	1 1	mg/L mg/L	1 1	8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM
Lead Magnesium	0.074 ND 7.0	0.020 0.0050 1.0	; ; ;	mg/L mg/L mg/L	1 1 1	8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM
Lead Magnesium Manganese	0.074 ND 7.0 0.073	0.020 0.0050 1.0 0.0020	; ; ;	mg/L mg/L mg/L mg/L	1 1 1	8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM
Lead Magnesium Manganese Potassium	0.074 ND 7.0 0.073 2.0	0.020 0.0050 1.0 0.0020 1.0	; ; ; ;	mg/L mg/L mg/L mg/L mg/L	1 1 1 1	8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM
Lead Magnesium Manganese Potassium Selenium	0.074 ND 7.0 0.073 2.0 ND	0.020 0.0050 1.0 0.0020 1.0 0.050	; ; ;	mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1	8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM
Lead Magnesium Manganese Potassium Selenium Silver	0.074 ND 7.0 0.073 2.0 ND	0.020 0.0050 1.0 0.0020 1.0 0.050	; ; ;	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1	8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM
Lead Magnesium Manganese Potassium Selenium Silver Sodium Zinc	0.074 ND 7.0 0.073 2.0 ND ND 49 ND	0.020 0.0050 1.0 0.0020 1.0 0.050 0.0050	; ; ;	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1 1	8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM
Lead Magnesium Manganese Potassium Selenium Silver Sodium Zinc	0.074 ND 7.0 0.073 2.0 ND ND 49 ND	0.020 0.0050 1.0 0.0020 1.0 0.050 0.0050	, , , , , , , , , , , , , , , , , , ,	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1 1	8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM
Lead Magnesium Manganese Potassium Selenium Silver Sodium Zinc  EPA 6010B: TOTAL RECOVERABLE	0.074 ND 7.0 0.073 2.0 ND ND 49 ND	0.020 0.0050 1.0 0.0020 1.0 0.050 0.0050 1.0	; ; ; ;	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1 1 1	8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM
Lead Magnesium Manganese Potassium Selenium Silver Sodium Zinc  EPA 6010B: TOTAL RECOVERABLE Arsenic	0.074 ND 7.0 0.073 2.0 ND ND 49 ND	0.020 0.0050 1.0 0.0020 1.0 0.050 0.0050 1.0 0.050		mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	1 1 1 1 1 1 1	8/25/2008 9:51:46 AM 8/25/2008 9:51:46 AM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 08-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808072

Collection Date: 8/5/2008 10:20:00 AM

Project:

San Juan River Semi-Annual Aug 5 2008

Date Received: 8/6/2008

Client Sample ID: Upstream

Lab ID:

0808072-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA 6010B: TOTAL RECOVERABL	E METALS				Analyst: TES
Lead	0.0065	0.0050	mg/L	1	8/15/2008 4:35:31 PM
Selenium	, ND	0.050	mg/L	1	8/15/2008 4:35:31 PM
Silver	ND	0.0050	mg/L	1	8/15/2008 4:35:31 PM
EPA METHOD 8260: VOLATILES S	HORT LIST				Analyst: <b>HL</b>
Benzene	ND	1.0	μg/L	1	8/13/2008 9:22:46 PM
Toluene	ND	1.0	μg/L	1	8/13/2008 9:22:46 PM
Ethylbenzene	ND	1.0	μg/L	1	8/13/2008 9:22:46 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	μg/L	1	8/13/2008 9:22:46 PM
Xylenes, Total	ND	3.0	μg/L	1	8/13/2008 9:22:46 PM
Surr: 4-Bromofluorobenzene	104	80.4-119	%REC	1	8/13/2008 9:22:46 PM
SM 2320B: ALKALINITY					Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	95	20	mg/L CaCO3	3 1	8/14/2008
Carbonate	ND	2.0	mg/L CaCO3	3 . 1	8/14/2008
Bicarbonate	95	. 20	mg/L CaCO3	1	8/14/2008
TOTAL CARBON DIOXIDE CALCUL	ATION				Analyst: <b>TAF</b>
Total Carbon Dioxide	. 85	1.0	mg CO2/L	1	8/19/2008
EPA 120.1: SPECIFIC CONDUCTAN	ICE				Analyst: <b>KMS</b>
Specific Conductance	450	0.010	µmhos/cm	1	8/8/2008
SM4500-H+B: PH					Analyst: <b>KMS</b>
рН	8.01	0.1	pH units	1	8/8/2008
SM 2540C TOTAL DISSOLVED SOL	.IDS				Analyst: <b>KMS</b>
Total Dissolved Solids	360	40	mg/L	1	8/6/2008

Qua	lifi	ers	

Value exceeds Maximum Contaminant Level

Ε Value above quantitation range

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 08-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

Client Sample ID: Downstream

0808072

Collection Date: 8/5/2008 11:00:00 AM

Project:

San Juan River Semi-Annual Aug 5 2008

Date Received: 8/6/2008

Lab ID:

0808072-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	<u> </u>				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/11/2008 6:15:33 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/11/2008 6:15:33 PM
Surr: DNOP	110	58-140	%REC	· 1	8/11/2008 6:15:33 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>DAM</b>
. Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/7/2008 7:51:53 PM
Surr: BFB	92.5	79.2-121	%REC	1	8/7/2008 7:51:53 PM
EPA METHOD 300.0: ANIONS					Analyst: <b>IC</b>
Fluoride	0.19	0.10	mg/L	1	8/7/2008 1:34:12 AM
Chloride	3.1	0.10	mg/L	1	8/7/2008 1:34:12 AM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/7/2008 1:34:12 AM
Bromide	ND	0.10	mg/L	1	8/7/2008 1:34:12 AM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/7/2008 1:34:12 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/7/2008 1:34:12 AM
Sulfate	62	0.50	mg/L	1	8/7/2008 1:34:12 AM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	8/20/2008 6:00:34 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: <b>NMO</b>
Arsenic	ND	0.020	mg/L	1	8/25/2008 9:54:51 AM
Barium	0.080	0.020	mg/L	1	8/25/2008 9:54:51 AM
Cadmium	ND	0.0020	mg/L	1	8/25/2008 9:54:51 AM
Calcium	34	1.0	mg/L	1	8/25/2008 9:54:51 AM
Chromium	ND	0.0060	mg/L	1	8/25/2008 9:54:51 AM
Copper	ND	0.0060	mg/L	1	8/25/2008 9:54:51 AM
Iron '	0.090	0.020	mg/L	1	8/25/2008 9:54:51 AM
Lead	ND	0.0050	mg/L	1	8/25/2008 9:54:51 AM
Magnesium	5.5	1.0	mg/L	1	8/25/2008 9:54:51 AM
Manganese	0.012	0.0020	mg/L	1	8/25/2008 9:54:51 AM
Potassium	1.9	1.0	mg/L	1	8/25/2008 9:54:51 AM
Selenium	ND	0.050	mg/L	1	8/25/2008 9:54:51 AM
Silver	ND	0.0050	mg/L	1	8/25/2008 9:54:51 AM
Sodium	20	1.0	mg/L	1	8/26/2008 5:03:33 PM
Zinc	ND	0.050	mg/L	1	8/25/2008 9:54:51 AM
EPA 6010B: TOTAL RECOVERABLE	METALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	8/15/2008 4:38:23 PM
Barium	0.16	0.020	mg/L	1	8/15/2008 4:38:23 PM
Cadmium	ND	0.0020	mg/L	1.,	8/15/2008 4:38:23 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 5 of 9

**Date:** 08-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

San Juan River Semi-Annual Aug 5 2008

Lab Order:

0808072

Client Sample ID: Downstream

Collection Date: 8/5/2008 11:00:00 AM

Project:

Date Received: 8/6/2008

Lab ID:

0808072-03

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA 6010B: TOTAL RECOVERABLE M	ETALS		·	<del></del>	Analyst: TES
Lead	ND	0.0050	mg/L	1	8/15/2008 4:38:23 PM
Selenium	ND	0.050	mg/L	1	8/15/2008 4:38:23 PM
Silver	ND	0.0050	mg/L	1	8/15/2008 4:38:23 PM
EPA METHOD 8260: VOLATILES SHOP	RT LIST				Analyst: <b>HL</b>
Benzene	ND	1.0	μg/L	1	8/13/2008 9:51:30 PM
Toluene	ND.	1.0	μg/L	1	8/13/2008 9:51:30 PM
Ethylbenzene	ND	1.0	μg/L	1	8/13/2008 9:51:30 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	µg/L	1	8/13/2008 9:51:30 PM
Xylenes, Total	ND	3.0	μg/L	1	8/13/2008 9:51:30 PM
Surr: 4-Bromofluorobenzene	99.8	80.4-119	%REC	1	8/13/2008 9:51:30 PM
SM 2320B: ALKALINITY					Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	90	20	mg/L CaCO3	1	8/15/2008
Carbonate	ND	2.0	mg/L CaCO3	1	8/15/2008
Bicarbonate	90	20	mg/L CaCO3	1	8/15/2008
TOTAL CARBON DIOXIDE CALCULATI	ON				Analyst: <b>TAF</b>
Total Carbon Dioxide	80	1.0	mg CO2/L	1	8/19/2008
EPA 120.1: SPECIFIC CONDUCTANCE					Analyst: <b>KMS</b>
Specific Conductance	300	0.010	µmhos/cm	1	8/8/2008
SM4500-H+B: PH					Analyst: <b>KMS</b>
рН	8.09	0.1	pH units	1	8/8/2008
SM 2540C TOTAL DISSOLVED SOLIDS	i				Analyst: <b>KMS</b>
Total Dissolved Solids	200	20	mg/L	1	8/7/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Date: 08-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808072

San Juan River Semi-Annual Aug 5 2008

Project: Lab ID:

0808072-04

Client Sample ID: North of #46

Collection Date: 8/5/2008 9:45:00 AM

Date Received: 8/6/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGI	=	· · · · · · · · · · · · · · · · · · ·		-	Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/11/2008 6:50:12 PM
Motor Oil Range Organics (MRO)	· ND	5.0	mg/L	1	8/11/2008 6:50:12 PM
Surr: DNOP	114	58-140	%REC	1	8/11/2008 6:50:12 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/7/2008 8:21:44 PM
Surr: BFB	91.3	79.2-121	%REC	1	8/7/2008 8:21:44 PM
EPA METHOD 300.0: ANIONS					Analyst: IC
Fluoride	0.20	0.10	mg/L	1	8/7/2008 2:09:01 AM
Chloride	3.0	0.10	mg/L	.1	8/7/2008 2:09:01 AM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	8/7/2008 2:09:01 AM
Bromide	ND	0.10	mg/L	1	8/7/2008 2:09:01 AM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	. 1	8/7/2008 2:09:01 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/7/2008 2:09:01 AM
Sulfate	60	0.50	mg/L	1	8/7/2008 2:09:01 AM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	8/20/2008 6:02:20 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: NMO
Arsenic	ND	0.020	mg/L	1	8/25/2008 9:57:53 AM
Barium	0.077	0.020	mg/L	1	8/25/2008 9:57:53 AM
Cadmium	ND	0.0020	mg/L	1	8/25/2008 9:57:53 AM
Calcium	33	1.0	mg/L	1	8/25/2008 9:57:53 AM
Chromium	ND	0.0060	mg/L	1	8/25/2008 9:57:53 AM
Copper	ND	0.0060	mg/L	1	8/25/2008 9:57:53 AM
Iron	0.059	0.020	mg/L	. 1	8/25/2008 9:57:53 AM
Lead	ND	0.0050	mg/L	. 1	8/25/2008 9:57:53 AM
Magnesium	5.5	1.0	mg/L	1	8/25/2008 9:57:53 AM
Manganese	0.0084	0.0020	mg/L	1.	8/25/2008 9:57:53 AM
Potassium	1.8	1.0	mg/L	1	8/25/2008 9:57:53 AM
Selenium	ND	0.050	mg/L	1	8/25/2008 9:57:53 AM
Silver	ND	0.0050	mg/L	1	8/25/2008 9:57:53 AM
Sodium	19	1.0	mg/L	1	8/26/2008 5:05:47 PM
Zinc	ND	0.050	mg/L	1	8/25/2008 9:57:53 AM
EPA 6010B: TOTAL RECOVERABLE	WETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	8/15/2008 4:41:14 PM
Barium	0.16	0.020	mg/L	. 1	8/15/2008 4:41:14 PM
Cadmium	<b>N</b> D	0.0020	mg/L	1	8/15/2008 4:41:14 PM
Chromium	ND	0.0060	mg/L	1	8/15/2008 4:41:14 PM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 08-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

0808072

Client Sample ID: North of #46

Lab Order:

Collection Date: 8/5/2008 9:45:00 AM

Project:

San Juan River Semi-Annual Aug 5 2008

Date Received: 8/6/2008

Lab ID:

0808072-04

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA 6010B: TOTAL RECOVERABLE M	ETALS					Analyst: TES
Lead	0.0057	0.0050		mg/L	1	8/15/2008 4:41:14 PM
Selenium	ND	0.050		mg/L	1	8/15/2008 4:41:14 PM
Silver	ND	0.0050		mg/L	1	8/15/2008 4:41:14 PM
EPA METHOD 8260: VOLATILES SHOP	RT LIST					Analyst: <b>HL</b>
Benzene	ND	1.0		μg/L.	1	8/13/2008 10:20:12 PM
Toluene	ND	1.0		μg/L	1	8/13/2008 10:20:12 PM
Ethylbenzene	ND	1.0		µg/L	1	8/13/2008 10:20:12 PM
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	8/13/2008 10:20:12 PM
Xylenes, Total	, ND	3.0		µg/L	1	8/13/2008 10:20:12 PM
Surr: 4-Bromofluorobenzene	101	80.4-119		%REC	1	8/13/2008 10:20:12 PM
SM 2320B: ALKALINITY						Analyst: <b>TAF</b>
Alkalinity, Total (As CaCO3)	89	20		mg/L CaCO3	1	8/15/2008
Carbonate	ND	2.0		mg/L CaCO3	1	8/15/2008
Bicarbonate	89	20		mg/L CaCO3	1	8/15/2008
TOTAL CARBON DIOXIDE CALCULAT	ON					Analyst: TAF
Total Carbon Dioxide	80	1.0		mg CO2/L	1	8/19/2008
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: <b>KMS</b>
Specific Conductance	300	0.010		µmhos/cm	1	8/8/2008
SM4500-H+B: PH						Analyst: <b>KMS</b>
рН	8.05	0.1		pH units	1	8/8/2008
SM 2540C TOTAL DISSOLVED SOLIDS	i					Analyst: <b>KMS</b>
Total Dissolved Solids	190	20		mg/L	1	8/11/2008

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- Value exceeds Maximum Contaminant Level
- Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Date: 08-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Client Sample ID: Downstream Dup

Lab Order:

0808072

Collection Date: 8/5/2008 11:00:00 AM

Project:

San Juan River Semi-Annual Aug 5 2008

Date Received: 8/6/2008

Lab ID:

0808072-05

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/11/2008 7:24:50 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/11/2008 7:24:50 PM
Surr: DNOP	115	58-140	%REC	1	8/11/2008 7:24:50 PM
EPA METHOD 8015B: GASOLINE R.	ANGE				Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/7/2008 8:51:49 PM
Surr: BFB	90.0	79.2-121	%REC	.1	8/7/2008 8:51:49 PM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: HL
Benzene	· ND	1.0	μg/L	1	8/13/2008 10:49:01 PM
Toluene	ND	1.0	μg/L	. 1	8/13/2008 10:49:01 PM
Ethylbenzene	· ND	1.0	μg/L	1	8/13/2008 10:49:01 PM
Methyl tert-butyl ether (MTBE)	ND	1.5	μg/L	. 1	8/13/2008 10:49:01 PM
Xylenes, Total	ND	3.0	μg/L	1	8/13/2008 10:49:01 PM
Surr: 4-Bromofluorobenzene	98.1	80.4-119	%REC	1	8/13/2008 10:49:01 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Holding times for preparation or analysis exceeded Н
- MCL Maximum Contaminant Level
- Reporting Limit

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Analysis Date 8/15/2008 8/20/2008 8/26/2008 8/11/2008 8/13/2008 8/15/2008 8/19/2008 8/14/2008 8/11/2008 8/1/2008 8/13/2008 3/19/2008 8/8/2008 8/25/2008 8/1/2008 3/20/2008 8/8/2008 8/7/2008 8/7/2008 8/7/2008 8/6/2008 8/8/2008 DATES REPORT Prep Date 8/13/2008 8/20/2008 8/11/2008 8/11/2008 3/13/2008 8/20/2008 8/6/2008 QC Batch ID R29685 R29757 R29685 R29775 R29684 R29902 R29657 R29664 R29657 R29657 R29664 R29757 16727 16766 16832 R29831 16698 16727 16766 16832 R29831 2 EPA Method 8260: Volatiles Short List EPA 6010B: Total Recoverable Metals EPA Method 6010B: Dissolved Metals EPA Method 6010B: Dissolved Metals EPA Method 8260: Volatiles Short List EPA 6010B: Total Recoverable Metals EPA Method 8015B: Gasoline Range EPA Method 8015B: Gasoline Range EPA Method 8015B: Diesel Range EPA Method 8015B: Diesel Range EPA 120.1: Specific Conductance SM 2540C Total Dissolved Solids EPA 120.1: Specific Conductance EPA Method 7470: Mercury EPA Method 7470: Mercury EPA Method 300.0: Anions EPA Method 300.0: Anions EPA Method 300.0: Anions SM 2320B: Alkalinity SM4500-H+B: pH Carbon Dioxide Carbon Dioxide Test Name Aqueous Matrix 8/5/2008 10:20:00 AM 8/5/2008 9:30:00 AM Collection Date San Juan River Semi-Annual Aug 5 Western Refining Southwest, Inc. Client Sample ID 0808072 North of #45 Upstream Lab Order: 0808072-01D 0808072-01C 0808072-02D 0808072-01E 0808072-02A 0808072-02C 0808072-01A Sample ID Project: Client:

12

8/14/2008

R29775

R29657

EPA Method 300.0: Anions

SM 2320B: Alkalinity

8/6/2008

8/6/2008

16698

SM 2540C Total Dissolved Solids

8/7/2008

Project   Sun Juliur River Script Arminal Aug 2   Au	Lab Order:	0808072	77.7					·
Citient Sample ID         Collection Date         Matrix         Test Name         OC Batch ID         Prep Date           Upstream         8/5/2008   0.20 00 AM         Aquasous         SM/5/00-14-B, pil         R29962         R           Downstream         8/5/2008   1.00 00 AM         EPA Method 6010B Dissolved Metals         R         R           EPA Method 6010B Dissolved Metals         R         R         R         R           EPA Method 8013B Dissolved Metals         R         R         R         R           EPA Method 8013B Dissolved Metals         R<	Chent: Project:	western Kerming San Juan River Ser	Southwest, Inc. mi-Annual Aug 5			DALES		
Upstream   85/2008 1020 0 AM   Aqueous   SMA500-it-lB. pil   EPA Method 6010B: Dissolved Metals   R R   R PA Method 6010B: Dissolved Metals   R PA Method 6010B: Dissolved Metals   R PA PA Method 6260: Volutiles Short List   R PA PA Method 7470: Metroury   R PA PA Method 7470: Metroury   R PA PA Method 7470: Metroury   R PA PA PA Method 7470: Metroury   R PA PA PA PA Method 7470: Metroury   R PA PA PA PA PA Method 7470: Metroury   R PA	Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
EPA Method 6010B: Dissolved Metals R  EPA Method 6010B: Dissolved Metals R  EPA Method 8015B: Dissel Range 16727 8 11,2008  EPA Method 8015B: Dissel Range 16727 8 11,2008  EPA Method 8015B: Dissel Range 16720 8 11,2008  EPA Method 8015B: Dissel Range 16727 1676 8 11,2008  EPA Method 8015B: Dissel Range 16720 8 11,2008  EPA Method 3000: Anions R  EPA Method 3018: Dissolved Metals R  EPA Method 3018: Dissolved Metals R  EPA Method 8018B: Dissolved Metals R  EPA Method 3000: Anions R  EPA Method 30	0808072-02D	Upstream	8/5/2008 10:20:00 AM	Aqueous	SM4500-H+B: pH	R29684		-8/8/2008
Downstream         8/5/2008 11,00.00 AM         EPA Method 601/08: Dissal Range         16727         8/11/2008           PA Method 801/5B: Clasalite Range         R.29664         8/11/2008         8/11/2008         8/11/2008           EPA Method 801/5B: Clasalite Short List         R.29757         8/11/2008         8/13/2008         8/13/2008           EPA Method 801/5B: Clasalite Short List         R.29664         8/13/2008         8/13/2008         8/13/2008           EPA Method 801/5B: Clasalite Short List         R.29675         R.29683         8/20/2008         8/20/2008           EPA Method 3000 Anions         R.29683         R.29683         R.29683         R.29683         R.29683           EPA Method 3000 Anions         R.29683         R.29683         R.29683         R.29683         R.29684           EPA Method 6010B: Dissolved Metals         R.29684         R.29684         R.29684         R.29684         R.29684           EPA Method 8010B: Dissolved Metals         R.29684         R.2	0808072-02E				EPA Method 6010B: Dissolved Metals	R29902		8/25/2008
Downstream         85/2008   11,000 OAM         EPA Method 8 01 SB. Clasoline Range         16726         87/11/2008           EPA Method 8 02 ISB. Classoline Range         R29644         R79644         R79657         87/11/2008           EPA Method 8 02 ISB. Classoline Range         R29645         87/13/2008         87/13/2008           EPA Method 74/70. Mercury         R29657         87/13/2008         87/13/2008           EPA Method 74/70. Mercury         R29657         87/13/2008         87/13/2008           EPA Method 14/00. Anions         R29657         87/13/2008         87/13/2008           EPA Method 30/00. Anions         R29657         87/13/2008         87/13/2008           SMA320B. Alkalinity         R29657         87/13/2008         87/13/2008           SMA350G.H.H.B. PH         R29667         R29667         R29667           EPA Method 6010B. Dissolved Metals         R29664         R29664           EPA Method 8013B. Diesel Range         R29664         R29664           EPA Method 8010B. Total Recoverable Metals         R29					EPA Method 6010B: Dissolved Metals	R		8/26/2008
EPA Method 8015B. Casoline Range R2957  EPA Method 8260: Volatifies Short List R29757  EPA Method 8260: Volatifies Short List R29757  EPA Method 7470: Mercury 16832 8.702008  Carbon Dioxide EPA Method 7470: Mercury 16832 8.702008  Carbon Dioxide EPA Method 300.0. Anions R29657  SM 2320B: Alkalinity R29657  SM 2340C Total Dissolved Solids 16708 8772008  SM 2340C Total Dissolved Solids 16708 8772008  SM 2340C Total Dissolved Metals R29657  EPA Method 6010B: Dissolved Metals R29692  EPA Method 8015B: Carbon Dioxide Range R29693  EPA Method 120 1: Specific Conductance R29681  EPA Method 300: 0. Anions R29681	0808072-03A	Downstream	8/5/2008 11:00:00 AM		EPA Method 8015B: Diesel Range	16727	8/11/2008	8/11/2008
EPA Method 8260. Volatiles Short List R29757  EPA Method 7470. Mercury 16832 81202008  EPA Method 7470. Mercury 16832 8202008  Carbon Dioxide EPA Method 7470. Mercury 16832 8202008  Carbon Dioxide EPA Method 300.0 Anions R29657  EPA Method 300.0 Anions R29657  EPA Method 300.0 Anions R29657  SM 2340C Total Dissolved Metals R29657  SM 2340C Total Dissolved Metals R29684  EPA Method 6010B. Dissolved Metals R29902  EPA Method 6010B. Total Recoverable Metals R29973  EPA Method 8015B. Total R29664  EPA Method 8015B. Total R29684  EPA Method 8010B. Total R29687  EPA Method 8010B. Total R29881  EPA Method 7470. Mercury 16832  EPA Method 7470. Mercury R29881  EPA Method 7470. Mercury R29881  EPA Method 300.0 Anions R29687					EPA Method 8015B: Gasoline Range	R29664		8/7/2008
EPA Method 7470. Mercury 1632 87.32008  EPA Method 7470. Mercury 1632 82.02008  Carbon Dioxide EPA L1201. Specific Conductance 162963 1					EPA Method 8260: Volatiles Short List	R29757		8/13/2008
EPA Method 7470. Mercury 16822 8202008  Carbon Dioxide EPA 120.1: Specific Conductance R29685 EPA Method 300.0: Anions R29657 EPA Method 300.0: Anions R29657 SM 2320B. Alkalinity R29795 SM 2320B. Alkalinity R29795 SM 2340C Total Dissolved Metals R29667 SM 244C Total Dissolved Metals R29684 SM450O+HB: pH EPA Method 6010B: Dissolved Metals R29684 EPA Method 6010B: Dissolved Metals R29684 EPA Method 8015B: Oissolved Metals R29684 EPA Method 8015B: Oissolved Metals R29684 EPA Method 8010B: Total Recoverable Metals R29684 EPA Method 8010B: Total Recoverable Metals R29684 EPA Method 1470: Metroury 16832 EPA Method 1470: Metal R2969 Volatiles Short List EPA Method 1470: Metal R29684 EPA Method 1470: Metal R2969 Volatiles Short List EPA Method 1470: Metal R29684 EPA Method 1470: Metal R296 Volatiles Short List EPA Method 1470: Metal R29684 EPA Method 1470: Anions R29681	0808072-03C				EPA 6010B: Total Recoverable Metals	16766	8/13/2008	8/15/2008
Carbon Dioxide         R29831           EPA 120 1: Specific Conductance         R29685           EPA Method 300 0: Anions         R29657           EPA Method 300 0: Anions         R29657           SM 2320B: Alkalinity         R29673           SM 2320B: Alkalinity         R29673           SM 2320B: Alkalinity         R29795           SM 2320B: Alkalinity         R29795           SM 2320B: Alkalinity         R29797           SM 452008 SW 500-Hr.B: PH         EPA Method 6010B: Dissolved Metals         R           EPA Method 6010B: Dissolved Metals         R         R           EPA Method 8015B: Dissolred Metals         R         R           EPA Method 8015B: Dissolred Metals         R         R           EPA Method 8015B: Dissolred Metals         R29644         R           EPA Method 8015B: Total Recoverable Metals         R29644         R           EPA Method 3260: Volatiles Short List         R29644         R           EPA Method 7470: Mercury         R832         R/172008           EPA Method 3000: Anions         R29831         R           EPA Method 3000: Anions         R29657         R					EPA Method 7470: Mercury	16832	8/20/2008	8/20/2008
EPA 120.1: Specific Conductance       R29687         EPA Method 300.0: Anions       R29657         EPA Method 300.0: Anions       R29657         SM 2320B: Alkalinity       R29795         SM 2320B: Alkalinity       R29795         SM 2340C Total Dissolved Solids       16708         SM 2540C Total Dissolved Metals       R29684         EPA Method 6010B: Dissolved Metals       R         EPA Method 6010B: Dissolved Metals       R         EPA Method 8019B: Dissolved Metals       R         EPA Method 8019B: Dissolved Metals       R         EPA Method 8019B: Dissolved Metals       R29964         EPA Method 8019B: Casoline Range       R29664         EPA Method 8019B: Casoline Range       R29664         EPA Method 4700: Mercury       R29831         Carbon Dioxide       R29831         EPA Method 300: Ox Anions       R29685	0808072-03D				Carbon Dioxide	R29831		8/19/2008
EPA Method 300 0. Anions       R29657         EPA Method 300 0. Anions       R29657         SM 2320B - Alkalinity       R29795         SM 2320B - Alkalinity       R29795         SM 2320B - Alkalinity       R29795         SM 2340C - Ha B. PH       R29684         EPA Method 6010B: Dissolved Metals       R29684         EPA Method 6010B: Dissolved Metals       R         EPA Method 6010B: Dissolved Metals       R         EPA Method 8018B: Object Range       16727         EPA Method 8018B: Casoline Range       R29664         EPA Method 8260: Volatiles Short List       R29664         EPA Method 8260: Volatiles Short List       R29654         EPA Method 7470: Mercury       16766         EPA Method 7470: Mercury       16832         EPA Method 300.0: Anions       R29831					EPA 120.1: Specific Conductance	R29685		8/8/2008
EPA Method 300.0: Anions       R29657         SM 2320B: Alkalinity       R29795         SM 2340C Total Dissolved Solids       16708         SM 2540C Total Dissolved Metals       R29624         EPA Method 6010B: Dissolved Metals       R29902         EPA Method 6010B: Dissolved Metals       R         BPA Method 6010B: Dissolved Metals       R         BPA Method 8015B: Diesel Range       R29664         EPA Method 8015B: Gasoline Range       R29664         EPA Method 8015B: Oxidatiles Short List       R29677         EPA Method 3260: Volatiles Short List       R29757         EPA Method 1470: Mercury       16766       8/13/2008         EPA Method 1201: Specific Conductance       R29831       R29683         EPA Method 300: Anions       R29687       R29687					EPA Method 300.0: Anions	R29657		8/7/2008
SM 2320B: Alkalinity       R29795         SM 2540C Total Dissolved Solids       16708       8/7/2008         SM4500-H+B: pH       R2962       R2962       8/7/2008         EPA Method 6010B: Dissolved Metals       R       R       8/11/2008         EPA Method 6010B: Dissolved Metals       R       8/11/2008       8/11/2008         EPA Method 8015B: Dissol Range       16727       8/11/2008         EPA Method 8015B: Gasoline Range       R2964       8/13/2008         EPA Method 8016B: Total Recoverable Metals       R2964       8/13/2008         EPA Method 7470: Mercury       16832       8/20/2008         Carbon Dioxide       R29831       8/20/2008         EPA Method 300.0: Anions       R29657       R29657					EPA Method 300.0: Anions	R29657		8/1/2008
SM 2540C Total Dissolved Solids       16708       8/7/2008         SM4500-IH-B: pH       R29684       R29602         EPA Method 6010B: Dissolved Metals       R       R         PA Method 6010B: Dissolved Metals       R       R         PA Method 8015B: Dissel Range       R       R29664         EPA Method 8015B: Dissel Range       R29664       8/11/2008         EPA Method 8260: Volatiles Short List       R29757       R/13/2008         EPA 6010B: Total Recoverable Metals       16766       8/13/2008         EPA Method 7470: Mercury       16832       8/20/2008         Carbon Dioxide       R29831       R29685         EPA 120.1: Specific Conductance       R29685					SM 2320B: Alkalinity	R29795		8/15/2008
SM4500-H+B: pH         R29684           EPA Method 6010B: Dissolved Metals         R29902           EPA Method 6010B: Dissolved Metals         R           North of #46         8/5/2008 9:45:00 AM         EPA Method 8015B: Diesel Range         16727         8/11/2008           EPA Method 8015B: Gasoline Range         R2964         R2964         8/13/2008           EPA Method 8015B: Gasoline Range         R2964         R29757         R13/2008           EPA Method 8010B: Total Recoverable Metals         R2964         8/13/2008           EPA Method 7470: Mercury         L6832         8/20/2008           Carbon Dioxide         R29831         R29685           EPA Method 300.0: Anions         R29687					SM 2540C Total Dissolved Solids	16708	8/1/2008	8/1/2008
EPA Method 6010B: Dissolved Metals         R29902           BA Method 6010B: Dissolved Metals         R           North of #46         8/5/2008 9-45:00 AM         EPA Method 8015B: Diesel Range         16727         8/11/2008           EPA Method 8015B: Gasoline Range         R2964         R2964         R29757         R29757 <th< td=""><td></td><td></td><td></td><td></td><td>SM4500-H+B: pH</td><td>R29684</td><td></td><td>8/8/2008</td></th<>					SM4500-H+B: pH	R29684		8/8/2008
North of #46         8/5/2008 9:45:00 AM         EPA Method 8015B: Diesel Range         16727         8/11/2008           PA Method 8015B: Diesel Range         16726         8/11/2008           EPA Method 8015B: Gasoline Range         R2964         8/11/2008           EPA Method 8015B: Gasoline Range         R29757         R29757           EPA 6010B: Total Recoverable Metals         16766         8/13/2008           EPA Method 7470: Mercury         16832         8/20/2008           EPA 120.1: Specific Conductance         R29831         R29685           EPA Method 300.0: Anions         R29667	0808072-03E				EPA Method 6010B: Dissolved Metals	R29902		8/25/2008
North of #46         8/5/2008 9:45:00 AM         EPA Method 8015B: Diesel Range         16727         8/11/2008           EPA Method 8015B: Gasoline Range         R2964         R2967         R29757         R29757         R29757         R29757         R29757         R29757         R29750					EPA Method 6010B: Dissolved Metals	æ		8/26/2008
EPA Method 8015B: Gasoline Range       R29664         EPA Method 8260: Volatiles Short List       R29757         EPA 6010B: Total Recoverable Metals       16766       8/13/2008         EPA Method 7470: Mercury       16832       8/20/2008         Carbon Dioxide       R29831         EPA 120.1: Specific Conductance       R29685         EPA Method 300.0: Anions       R296657	. 0808072-04A	North of #46	8/5/2008 9:45:00 AM		EPA Method 8015B: Diesel Range	16727	8/11/2008	8/11/2008
EPA Method 8260: Volatiles Short List       R29757         EPA 6010B: Total Recoverable Metals       16766       8/13/2008         EPA Method 7470: Mercury       16832       8/20/2008         Carbon Dioxide       R29831         EPA 120.1: Specific Conductance       R29685         EPA Method 300.0: Anions       R29657				٠.	EPA Method 8015B: Gasoline Range	R29664		8/7/2008
EPA 6010B: Total Recoverable Metals       16766       8/13/2008         EPA Method 7470: Mercury       16832       8/20/2008         Carbon Dioxide       R29831         EPA 120.1: Specific Conductance       R29685         EPA Method 300.0: Anions       R29657					EPA Method 8260: Volatiles Short List	R29757		8/13/2008
EPA Method 7470: Mercury       16832       8/20/2008         Carbon Dioxide       R29831         EPA 120.1: Specific Conductance       R29685         EPA Method 300.0: Anions       R29657	0808072-04C				EPA 6010B: Total Recoverable Metals	16766	8/13/2008	8/15/2008
Carbon Dioxide         R29831           EPA 120.1: Specific Conductance         R29685           EPA Method 300.0: Anions         R29657					EPA Method 7470: Mercury	16832	8/20/2008	8/20/2008
R29685 R29657	0808072-04D	·			Carbon Dioxide	R29831		8/19/2008
R29657					EPA 120.1: Specific Conductance	R29685		8/8/2008
					EPA Method 300.0: Anions	R29657		8/1/2008

Lab Order:	. 0808072				\(\frac{1}{2}\)	; ; ;	
Client: Project:	Western Refining Southwest, Inc. San Juan River Semi-Annual Aug 5	ithwest, Inc. Annual Aug 5			DATES REPORT	EPORT	
Sample ID	Client Sample ID Collection D	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808072-04D	North of #46	8/5/2008 9:45:00 AM	Aqueous	EPA Method 300.0: Anions	R29657		8/1/2008
				SM 2320B: Alkalinity	R29795		8/15/2008
				SM 2540C Total Dissolved Solids	16733	8/11/2008	8/11/2008
				SM4500-H+B: pH	R29684		8/8/2008
0808072-04E				EPA Method 6010B: Dissolved Metals	R29902		8/25/2008
				EPA Method 6010B: Dissolved Metals	м		8/26/2008
0808072-05A	Downstream Dup	8/5/2008 11:00:00 AM		EPA Method 8015B. Diesel Range	16727	8/11/2008	8/11/2008
				EPA Method 8015B: Gasoline Range	R29664		8/7/2008
				EPA Method 8260: Volatiles Short List	R29757		8/13/2008

Page 3 of 3

**Date:** 08-Sep-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

San Juan River Semi-Annual Aug 5 2008

Work Order:

0808077

									000007.
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDL	
Method: EPA Method 300.0: Anic	ns								-
Sample ID: 0808072-04DMSD		MSD			Batch	ID: <b>R29657</b>	Analysis D	Date:	8/7/2008 3:36:04 AM
Fluoride	0.7226	mg/L	0.10	104	65.1	121	3.14	20	
Chloride	8.008	. mg/L	0.10	101	70.5	114	1.21	20	
Nitrogen, Nitrite (As N)	1.010	mg/L	0.10	101	52.9	·128	2.03	20	
Bromide	2.616	mg/L	0.10	105	75.6	132	2.31	20	
Nitrogen, Nitrate (As N)	2.511	mg/L	0.10	99.2	83.8	112	1.11	20	
Phosphorus, Orthophosphate (As P)	4.796	. mg/L	0.50	95.9	77.6	118	2.26	20	
Sample ID: MB		MBLK			Batch	ID: <b>R29657</b>	Analysis D	Date:	8/6/2008 9:19:11 AM
Fluoride	NĐ	mg/L	0.10			•			
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Bromide	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS		LCS			Batch	ID: <b>R29657</b>	Analysis [	Date:	8/6/2008 9:36:35 AM
Fluoride	0.5338	mg/L	0.10	107	90	110			•
Chloride	4.875	mg/L	0.10	97.5	90	110			
Nitrogen, Nitrite (As N)	1.008	mg/L	0.10	101	90	110			
Bromide	2.559	mg/L	0.10	102	90	110			
Nitrogen, Nitrate (As N)	2.458	mg/L	0.10	98.3	90	110			
Phosphorus, Orthophosphate (As P)	4.897	mg/L	0.50	97.9	90	110			`
Sulfate	10.21	mg/L	0.50	102	90	110			
Sample ID: 0808072-04DMS		MS			Batch	ID: <b>R29657</b>	Analysis [	Date:	8/7/2008 3:18:39 AM
Fluoride	0.7003	mg/L	0.10	99.8	65.1	121			
Chloride	7.912	mg/L	0.10	99.2	70.5	114			
Nitrogen, Nitrite (As N)	0.9894	mg/L	0.10	98.9	52.9	128			
Bromide	2.557	mg/L	0.10	102	75.6	132			
Nitrogen, Nitrate (As N)	2.484	mg/L	0.10	98.1	83.8	112			
Phosphorus, Orthophosphate (As P)	4.689	mg/L	0.50	93.8	77.6	118			

Oua	lifier	c
Qua	mucr	>

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

**Date:** 08-Sep-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

???roject:

San Juan River Semi-Annual Aug 5 2008

Work Order:

0808072

Project: San Juan Riv	er semi-Ai	illual Aug 5 2	.008					ork Order:	0808072
Analyte	Result	Units	PQL	%Rec	LowLimit H	lighLimit	%RPD	RPDLimit	Qual
Method: SM 2320B: Alkalinity Sample ID: 0808072-03DMSD		MSD		_	Batch ID:	R29795	Analysis Dat	e:	8/15/2008
Alkalinity, Total (As CaCO3) Sample ID: MB	171.0	mg/L CaC <i>MBLK</i>	20	101	80 Batch ID:	120 <b>R29775</b>	1.77 Analysis Dat	20 te:	8/14/2008
Alkalinity, Total (As CaCO3) Carbonate Bicarbonate	ND ND ND	mg/L CaC mg/L CaC mg/L CaC	20 2.0 20						
Sample ID: MB  Alkalinity, Total (As CaCO3)  Carbonate	ND ND	MBLK mg/L CaC mg/L CaC	20		Batch ID:	R29795	Analysis Dat	e:	8/15/2008
Sample ID: LCS	ND	mg/L CaC	20		Batch ID:		Analysis Dat	e:	8/14/2008
Alkalinity, Total (As CaCO3) Sample ID: LCS	81.00	mg/L CaC LCS	20	98.8	80 Batch ID:		Analysis Dat	te:	8/15/2008
Alkalinity, Total (As CaCO3)  Sample ID: 0808072-03DMS	81.00	mg/L CaC <i>MS</i> mg/L CaC	20	100 97.5	80 Batch ID: 80	120 <b>R29795</b> 120	Analysis Dat	ie:	8/15/2008
Alkalinity, Total (As CaCO3)  Method: EPA Method 8015B: D  Sample ID: MB-16727	168.0 iesel Range		20	97.5	Batch ID:		Analysis Dat	e: 8/11/2	2008 3:21:20 PM
liesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP Sample ID: LCS-16727	ND ND 1.048	mg/L mg/L mg/L <i>LCS</i>	1.0 5.0 0	105	58 Batch ID:	140 <b>1672</b> 7	Analysis Dal	te: 8/11/2	2008 3:56:17 PN
Diesel Range Organics (DRO) Surr: DNOP Sample ID: LCSD-16727	5.997 0.5053	mg/L mg/L <i>LCSD</i>	1.0	120 101	74 58 Batch ID:	157 140 <b>1672</b> 7	Analysis Dat	e: 8/11/2	2008 4:31:13 PM
Diesel Range Organics (DRO) Surr: DNOP	5.243 0.5074	mg/L mg/L	1.0 0	105 101	74 58	157 140	13.4 0	23 0	
Method: EPA Method 8015B: G Sample ID: 0808072-01A MSD	asoline Ran	ge MSD			Batch ID:	R29664	Analysis Dat	te: 8/7/2	2008 6:21:47 PN
Gasoline Range Organics (GRO) Surr: BFB Sample ID: 5ML RB	0.5310 21.00	mg/L mg/L <i>MBLK</i>	0.050 0	100 105	80 79.2 Batch ID:	115 121 <b>R29664</b>	0.638 0 Analysis Dat	8.39 0 te: 8/7/20	008 11:03:01 AM
Gasoline Range Organics (GRO) Surr: BFB Sample ID: LCS GRO 2.5	<b>ND</b> 19.19	mg/L mg/L <i>LCS</i>	0.050 0	96.0	79.2 Batch ID:	121 <b>R29664</b>	Analysis Da	te: 8/7/2	2008 5:21:42 PN
Gasoline Range Organics (GRO)	0.5214 20.63	mg/L mg/L	0.050 0	104 103	80 79.2	115 121			
Surr: BFB Sample ID: 0808072-01A MS	20.03	MS			Batch ID:	R29664	Analysis Dat	te: 8/7/2	2008 5:51:43 PM

Dualifiers

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 2

Date: 08-Sep-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

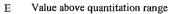
San Juan River Semi-Annual Aug 5 2008

Work Order:

080807

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
=	latiles Short	List				·		
Sample ID: 5ml rb		MBLK			Batch II	): <b>R29757</b>	Analysis Date:	8/13/2008 12:36:05 PM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0				•	•
Nethyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
ylenes, Total	ND	μg/L	2.0					
Surr: 4-Bromofluorobenzene	9.956	μg/L	0	99.6	80.4	119		
ample ID: b6		MBL.K			Batch II	D: <b>R29757</b>	Analysis Date:	8/14/2008 12:44:10 AM
Benzene	ND	μg/L	1.0					
oluene ·	ND	μg/L	1.0					
thylbenzene	ND	μg/L	1.0					
lethyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
ylenes, Total	ND	μg/L	2.0					
Surr: 4-Bromofluorobenzene	10.42	μg/L	0	104	80.4	119		
ample ID: 100ng ics		LCS			Batch II	D: <b>R29757</b>	Analysis Date:	8/13/2008 2:03:00 PM
enzene	19.87	μg/L	1.0	99.3	86.8	120		
oluene	18.94	μg/L	1.0	94.7	64.1	127		
Surr: 4-Bromofluorobenzene	10.22	μg/L	0	102	80.4	119		
ample ID: 100ng Ics		LCS .			Batch II	D: <b>R29757</b>	Analysis Date:	8/14/2008 1:41:39 AM
enzene	19.70	μg/L	1.0	98.5	86.8	120		
oluene	19.35	μg/L	1.0	96.8	64.1	127		•
Surr: 4-Bromofluorobenzene	10.39	μg/L	0	104	80.4	119		
lethod: EPA 120.1: Specific C	onductance							
ample ID: 0808095-01ADUP		DUP			Batch II	): <b>R29685</b>	Analysis Date:	8/8/2008
pecific Conductance	998.0	µmhos/cm	0.010				0.200 2	20
ample ID: 0808131-03CDUP	330.0	DUP	0.010		Batch II	): <b>R29685</b>	Analysis Date:	8/8/2008
•	0440		0.040		Datonit	). IN25005	-	
pecific Conductance	2110	µmhos/cm	0.010				0.475 2	20
ethod: EPA Method 7470: Me	rcury					,		
ample ID: 0808072-02CMSD		MSD			Batch II	D: 16832	Analysis Date:	8/20/2008 5:58:47 PM
lercury	0.005205	mg/L	0.00020	103	75	125	0.309 2	20
ample ID: MB-16832		MBLK			Batch II	D: <b>16832</b>	Analysis Date:	8/20/2008 5:46:23 PM
lercury	ND .	mg/L	0.00020					
ample ID: LCS-16832	•	LCS			Batch II	D: <b>16832</b>	Analysis Date:	8/20/2008 5:48:06 PM
•	0.005056			100		120	, = = =	
lercury	0.005056	mg/L	0.00020	100	80 Potob II		Analysis Date	9/20/2009 E-E2-40 DB
ample ID: 0808072-02CMS		MS			Batch II		Analysis Date:	8/20/2008 5:53:19 PM
lercury	0.005222	mg/L	0.00020	104	75	125		

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J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



**Date:** 09-Sep-08

# **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

roject:

San Juan River Semi-Annual Aug 5 2008

Work Order:

0808072

Analyte	Result	Units	PQL	%Rec	LowLimit I	HighLimit	%RPD RPI	DLimit Qual
Method: EPA Method 6010	B: Dissolved Me	tals						
Sample ID: MB		MBLK			Batch IE	R29902	Analysis Date:	8/25/2008 8:49:37 AI
Arsenic	ND	mg/L	0.020					
Barium	ND	mg/L	0.020					
Cadmium	ND	mg/L	0.0020					
Calcium	ND	mg/L	1.0					
Chromium	ND	mg/L	0.0060					
Copper	ND	mg/L	0.0060					
Iron	ND	mg/L	0.020					
Lead	ND	mg/L	0.0050					
Magnesium	ND	mg/L	1.0					
Manganese	ND	mg/L	0.0020					
Potassium	ND	mg/L	1.0					
Selenium	ND	mg/L	0.050					
Silver	ND	mg/L	0.0050					
Zinc	ND	mg/L	0.050					
Sample ID: MB		MBLK			Batch IE	: R29935	Analysis Date:	8/26/2008 2:28:11 PM
Calcium	ND	mg/L	1.0				•	
Iron	ND	mg/L	0.020					
Lead	ND	mg/L	0.0050					
Magnesium	ND	mg/L	1.0					
anganese	ND	mg/L	0.0020					
Potassium	ND	mg/L	1.0					
Sodium	ND	mg/L	1.0					
Sample ID: LCS	ND	LCS	1.0		Batch ID	: R29902	Analysis Date:	8/25/2008 8:54:16 AM
Arsenic	0.4504		0.000	00.5			randiyolo Bato.	0,20,2000 0.0 1.10 / 1.
Barium	0.4524 0.4744	mg/L	0.020	90.5 94.9	80 80	120		
Cadmium	0.4744	mg/L	0.020 0.0020	94.9 95.5	80	120		
Calcium		mg/L				120		
Chromium	51.23 0.5054	mg/L	1.0 0.0060	101	80 80	120		•
	0.5054	mg/L	0.0060	101		120		
Copper		mg/L		95.5 445	80	120		
Iron Lead	0.5727	mg/L	0.020	115	80 80	120		
	0.4640	mg/L	0.0050	92.8		120		
Magnesium Manganese	50.46 0.4710	mg/L	1.0 0.0020	99.9 94.2	80 80	120		
Potassium	52.48	mg/L	1.0	94.2 95.4	80	120 120		
Selenium	0.4668	mg/L mg/L	0.050	93.4	80	120		
Silver	0.4817	mg/L	0.0050	96.3	80	120		•
Zinc	0.4789	mg/L	0.050	95.8	80	120		
Sample ID: LCS	0.4703	LCS	0.030	33.0	Batch ID		Analysis Date:	8/26/2008 4:03:19 PM
	40.04		ند ر	00.0			Analysis Date.	0/20/2000 4.03.19 PI
Calcium	49.91	mg/L	1.0	98.8	80	120		
Iron	0.5060	mg/L	0.020	101	80	120		
Lead	0.5090	mg/L	0.0050	102	80	120		
Magnesium	49.69	mg/L	1.0	98.4	80	120		•
Manganese	0.4983	mg/L	0.0020	99.7	80	120		

Value above quantitation range

Page 4

Analyte detected below quantitation limits

RPD outside accepted recovery limits

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: San Juan River Semi-Annual Aug 5 2008

Work Order:

Date: 09-Sep-08

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RPI	DLimit Qual
Wethod: EPA Method 6010B: [	Dissolved Me	etals						
Sample ID: LCS	•	LCS			Batch I	D: <b>R29935</b>	Analysis Date:	8/26/2008 4:03:19 PM
Potassium	53.30	mg/L	1.0	96.9	80	120		
Sodium	48.92	mg/L	1.0	96.9	80	120		
Method: EPA 6010B: Total Red	coverable Me							
Sample ID: 0808072-04CMSD		MSD			Batch I	ID: <b>16766</b>	Analysis Date:	8/15/2008 4:48:49 PM
Arsenic	0.5011	mg/L	0.020	100	75	125	0.673 2	0
Barium	0.6557	mg/L	0.010	98.2	75	125	3.14 2	0
admium	0.4990	mg/L	0.0020	99.8	75	125	2.03 2	0
Chromium	0.4913	mg/L	0.0060	98.3	75	125	1.82 2	0
ead	0.4962	mg/L	0.0050	98.1	75	125	1.55 2	0
Selenium	0.5033	mg/L	0.050	101	75	125	4.54 2	0
Silver	0.5075	mg/L	0.0050	102	75	125	2.77 2	0
ample ID: MB-16766		MBLK :			Batch I	ID: <b>16766</b>	Analysis Date:	8/15/2008 4:20:24 PM
rsenic	ND	mg/L	0.020					
arium	ND	mg/L	0.010					
admium	ND	mg/L	0.0020			-		
hromium	ND	mg/L	0.0060		•			
ead <sup>* .</sup>	ND	mg/L	0.0050					
Selenium	ND	mg/L	0.050					
ilver	ND	mg/L	0.0050					
ample ID: LCS-16766	•	LCS			Batch I	ID: 16766	Analysis Date:	8/15/2008 4:23:28 PM
rsenic	0.5087	mg/L	0.020	102	80	120		
arium	0.4837	mg/L	0.010	96.7	80	120		
admium	0.4976	mg/L	0.0020	99.5	80	120		
hromium	0.4936	mg/L	0.0060	98.7	80	120		
ead	0.4876	mg/L	0.0050	97.5	80	120	•	
elenium	0.5020	mg/L	0.050	100	80	120		
ilver	0.4940	mg/L	0.0050	98.8	80	120		
ample ID: 0808072-04CMS		MS			Batch I	ID: 16766	Analysis Date:	8/15/2008 4:45:46 PM
rsenic	0.4978	mg/L	0.020	99.6	75	125		
arium ·	0.6766	mg/L	0.010	102	75	125		
admium	0.5093	mg/L	0.0020	102	75	125		
hromium	0.5003	mg/L	0.0060	100	75	125	•	
ead .	0.5039	mg/L	0.0050	99.7	75	125	4	
elenium	0.5266	mg/L	0.050	105	75	125		
ilver	0.5218	mg/L	0.0050	104	75	125		
lethod: SM4500-H+B: pH	<del></del>							
ample ID: 0808122-01ADUP		DUP			Batch	ID: <b>R29684</b>	Analysis Date:	8/8/2008
н .	9.250	pH units	0.1				•	

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E Value above quantitation range

Analyte detected below quantitation limits

R RPD outside accepted recovery limits Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Page 5

**Date:** 09-Sep-08

# QA/QC SUMMARY REPORT

Client: roject: Western Refining Southwest, Inc.

San Juan River Semi-Annual Aug 5 2008

Work Order:

0808072

Analyte	Result	Units	PQL	%Rec	LowLimit Hig	JhLimit	%RPD RPDLimi	t Qual
Method: SM 2540C Total Dis	solved Solids		**************************************	· · · · ·				
Sample ID: MB-16698		MBLK			Batch ID:	16698	Analysis Date:	8/6/2008
Total Dissolved Solids Sample ID: MB-16708	ND	mg/L <i>MBLK</i>	20		Batch ID:	16708	Analysis Date:	8/7/2008
Total Dissolved Solids Sample ID: MB-16733	ND	mg/L <i>MBLK</i>	20		Batch ID:	16733	Analysis Date:	8/11/2008
Total Dissolved Solids Sample ID: LCS-16698	ND	mg/L LCS	20		Batch ID:	16698	Analysis Date:	8/6/2008
Total Dissolved Solids Sample ID: LCS-16708	1015	mg/L LCS	20	101	80 1: Batch ID:	20 <b>16708</b>	Analysis Date:	8/7/2008
Total Dissolved Solids Sample ID: LCS-16733	1014	mg/L <i>LCS</i>	20	101	80 1: Batch ID:	20 <b>16733</b>	Analysis Date:	8/11/2008
Total Dissolved Solids	1013	mg/L	20	101	80 1:	20		•



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 6

### **CASE NARRATIVE**

### September 4, 2008

Lab Name: Anatek Labs, Inc. 1282 Alturas Drive, Moscow, ID 83843 www.anateklabs.com FL NELAP E87893, NV ID13-2004-31, WA DOE C126, OR ELAP ID200001, MT 0028, ID, CO, NM

Project Tracking No.: 0808072 Anatek Batch: 080813036

**Project Summary:** Four (4) water samples were received on 8/13/2008 for metals (EPA 6020A) analysis. All samples were received in good condition and with the appropriate chain of custody. Samples were received at 0.8C.

Client Sample ID	Anatek Sample ID	Method/Prep Method
0808072-01F / North of #45	080813036-001	EPA 6020A/3005A
0808072-02F / Upstream	080813036-002	EPA 6020A/3005A
0808072-03F / Downstream	080813036-003	EPA 6020A/3005A
0808072-04F / North #46	080813036-004	EPA 6020A/3005A

### QA/QC Checks

Parameters	Yes / No	Exceptions / Deviations
Sample Holding Time Valid?	Υ	NA
Surrogate Recoveries Valid?	Y.	NA
QC Sample(s) Recoveries Valid?	Υ	NA ·
Method Blank(s) Valid?	Y	NA
Tune(s) Valid?	Υ	NÁ
Internal Standard Responses Valid?	Υ	ΝA
Initial Calibration Curve(s) Valid?	Υ	NA
Continuing Calibration(s) Valid?	Υ	NA ·
Comments:	Υ	NA

### 1. Holding Time Requirements

No problems encountered.

### 2. GC/MS Tune Requirements

NA

### 3. Calibration Requirements

No problems encountered.

### 4. Surrogate Recovery Requirements

NA

### 5. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

### 6. Method Blank Requirements

The method blanks were non-detect (<MDL) for all analytes. No problems encountered.

### 7. Internal Standard(s) Response Requirements

No problems encountered.

### 8. Comments

No problems encountered.

I certify that this data package is in compliance with the terms and conditions of the contract. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee.

Approved by:

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080813036

Address:

4901 HAWKINS NE SUITE D

0808072

ALBUQUERQUE, NM 87109

Project Name:

Attn:

ANDY FREEMAN

### **Analytical Results Report**

Sample Number

Parameter

080813036-001

Sampling Date

8/5/2008 9:30 AM

**Date/Time Received** 

8/13/2008

10:30 AM

**Client Sample ID** 

0808072-01F / NORTH OF #45

Sampling Time

**Extraction Date** 

8/27/2008

Matrix:

Water

Sample Location

Analysis Date Analyst Method

Dissolved Uranium

Result ND

Units mg/L

Qualifier

0.001 8/27/2008

PQL

ETL

EPA 6020A

Comments:

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080813036

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

Project Name:

0808072

Attn:

ANDY FREEMAN

### **Analytical Results Report**

Sample Number

080813036-002

0808072-02F / UPSTREAM

Sampling Date

8/5/2008 10:20 AM Date/Time Received

8/13/2008

10:30 AM

Client Sample ID Matrix:

Water

Sampling Time Sample Location **Extraction Date** 

8/27/2008

**Parameter** 

Result

Units

8/27/2008

Analysis Date Analyst

Method

Qualifier

Dissolved Uranium

0.00103

mg/L

0.001

PQL

ETL

EPA 6020A

Comments:

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs:com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080813036

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

**Project Name:** 

0808072

Attn:

ANDY FREEMAN

### **Analytical Results Report**

Sample Number

080813036-003

Sampling Date

**Date/Time Received** 

8/13/2008 10:30 AM

Client Sample ID

0808072-03F / DOWNSTREAM

Sampling Time

**Extraction Date** 

8/27/2008

Matrix:

Water

Sample Location

**Analysis Date** Analyst

Method

Dissolved Uranium

ND

Units

8/5/2008

11:00 AM

**PQL** 

ETL

**EPA 6020A** 

Qualifier

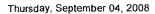
Parameter

Result

mg/L

0.001 8/27/2008

### Comments:



1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080813036

Address:

4901 HAWKINS NE SUITE D

0808072-04F / NORTH OF #46

Project Name:

0808072

Attn:

ALBUQUERQUE, NM 87109 ANDY FREEMAN

### **Analytical Results Report**

Sample Number

080813036-004

Sampling Date

8/5/2008 9:45 AM Date/Time Received

**Extraction Date** 

8/13/2008 8/27/2008

10:30 AM

Client Sample ID Matrix:

Water

Sampling Time

Sample Location

Analysis Date Analyst

Method

Qualifier

Parameter

Dissolved Uranium

Result ND

John. Could

Units mg/L

0.001

PQL

8/27/2008

ETL

EPA 6020A

Authorized Signature

MCŁ

EPA's Maximum Contaminant Level

ND

Not Detected

PQL

Practical Quantitation Limit

Comments:

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

080813036

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109 **Project Name:** 

0808072

Attn:

ANDY FREEMAN

Analytical Results Report

Quality Control Data

Parameter Dissolved Uranium	1	LCS Res 0.0503				<b>Rec A</b> 0.6	85-115		ep Date 27/2008	Analysis Date 8/27/2008
Matrix Spike			Sample	MS		MS		AR		
Sample Number 080820024-002	Parameter Dissolved Uranium		<b>Result</b> 0.00165	<b>Result</b> 0.0552	Units mg/L	Spike 0.05	%Rec 107.1	<b>%Rec</b> 75-125	Prep Date 8/27/2008	Analysis Date 8/27/2008
Matrix Spike Dı	uplicate	<del></del>		<u></u> .						
Parameter		MSD Result	Units	MSD Spike	%Rec	%RF		R PD F	Prep Date	Analysis Date
Dissolved Uranium	1	0.0578	mg/L	0.05	112.3	4.6	, , , ,		8/27/2008	8/27/2008

Result

ND

Units

mg/L

PQL

0.001

**Prep Date** 

8/27/2008

**Analysis Date** 

8/27/2008

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

### Comments:

Parameter

Dissolved Uranium

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

### Login Report

Customer Name: HALL ENVIRONMENTAL ANALYSIS LAB

Order ID:

080813036

**Purchase Order:** 

Order Date:

8/13/2008

Project ID:

Project Name: 0808072

Comment:

080813036-001 Sample #:

Customer Sample #:

Water

0808072-01F / NORTH O

Site:

**Date Collected:** 

8/5/2008

Date Received:

8/13/2008 10:30:00 A

Quantity: Comment:

Test

Recv'd:

**Test Group** 

Method

**Due Date** 

**Priority** 

DISSOLVED URANIUM BY 6

**V** 

1

**EPA 6020A** 

8/25/2008

Normal (6-10 Days)

Sample #: Recv'd:

080813036-002

Customer Sample #:

0808072-02F / UPSTREA

8/5/2008

Quantity:

Collector:

Matrix:

Collector:

Matrix:

Date Collected:

Comment:

Water

Customer Sample #:

Water

Date Received:

8/13/2008 10:30:00 A

Test

**Test Group** 

Method

**Due Date** 

**Priority** 

**DISSOLVED URANIUM BY 6** 

**EPA 6020A** 0808072-03F / DOWNST 8/25/2008

Normal (6-10 Days)

Sample #:

080813036-003

Recv'd: Quantity:

**V** 

Collector: Matrix:

**Date Collected:** Date Received: 8/5/2008

Comment:

Test

Method

8/13/2008 10:30:00 A

Site:

**DISSOLVED URANIUM BY 6** 

**Test Group** 

**Due Date** 

Priority

Customer Sample #:

EPA 6020A

8/25/2008

Normal (6-10 Days)

Sample #:

080813036-004

0808072-04F / NORTH O

Recv'd:

Date Collected:

8/5/2008

Quantity:

Collector: Matrix:

Water

Date Received:

8/13/2008 10:30:00 A

Comment:

Test **DISSOLVED URANIUM BY 6**  **Test Group** 

Method EPA 6020A **Due Date** 8/25/2008

Normal (6-10 Days)

**Priority** 

Customer Name: HALL ENVIRONMENTAL ANALYSIS LAB

Order ID:

080813036

Purchase Order:

Order Date:

8/13/2008

Project ID:

Project Name: 0808072

Comment:

## **SAMPLE CONDITION RECORD**

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature inside the cooler?	.8
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes

8/13/2008

Hall Environmental Analysis Laboratory, Inc.

Albuquerque New Mexico 87109-4372 4901 Hawkins NE, Suite D

TEL 5053453975

FAX: \$053454107

Subcontractor:

Anatek Labs, Inc. 1282 Alturas Dr Moscow, ID 83843

> FA E (208) 883-2839 (208) 882-9246

Acct #

Project Name: 0808072

12-Aug-08

SEE BELOW	125HDPHNO3	8/5/2008 9:45:00 AM	Aqueous	North of #46	0808072-04F
SEE BELOW	125HDPHNO3	8/5/2008 11:00:00 AM	Aqueous	Downstream	0808072-03F
SEE BELOW	125HDPHNO3	8/5/2008 10:20:00 AM	Aqueous	Upstream 🧳	0808072-02F
SEE BELOW	125HDPHNO3	8/5/2008 9:30:00 AM	Agueous	North of #45	0808072-01F
Requested Tests	Bottle Type	Collection Date	Matrix	Client Sample ID	Lab ID

SSAME.

COMMENTS:

\*\*\*\*LEVEL 4 QC, DISSOLVED U BY 6020, PLEASE REPORT @ 0.001 mg/L

Standard TAT. Please fax (505) 345-4107 results when completed, or email to lab@hallenvironmental.com. Thank you.

	Relinquished by:	Relinquished by: Lunch 2 12	Date/Time:	
DATE & TIME STA 26 023 INSPECTED BY	Reci NUMBER OF CONTAINERS SHIPPED VIA		RECEIVED IN	ANATEK LABS RECEIVING LIST

## Sample Receipt Checklist

Client Name WESTERN REFINING SOUT			Date Receive	ed:	8/6/2008
Work Order Number 0808072			Received b	y: TLS	
Checklist completed by: Signature		8 L	Sample ID	labels checked by -	Initials
Matrix: Carrier name	UPS	<u>}</u>			
Shipping container/cooler in good condition?	Yes	<b>✓</b>	No 🗆	Not Present	· J
Custody seals intact on shipping container/cooler?	Yes	<b>✓</b>	No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes		No 🗌	N/A	
Chain of custody present?	Yes	<b>✓</b>	No 🗌		
Chain of custody signed when relinquished and received?	Yes	<b>✓</b>	No 🗌		
Chain of custody agrees with sample labels?	Yes	<b>✓</b>	No 🗌		
Samples in proper container/bottle?	Yes	<b>✓</b>	No 🗌		
Sample containers intact?	Yes	<b>V</b>	No 🗌		
Sufficient sample volume for indicated test?	Yes	<b>✓</b>	No 🗌	·	
All samples received within holding time?	Yes	<b>✓</b>	No 🗌	•	
Water - VOA vials have zero headspace? No VOA vials subm	nitted		Yes 🗹	No 🗌	
Water - Preservation labels on bottle and cap match?	Yes	<b>Y</b>	No 🗌	N/A	
Water - pH acceptable upon receipt?	Yes	<b>Y</b>	No 🗌	N/A	
Container/Temp Blank temperature?		3°	<6° C Accepta	ble	
COMMENTS:			If given sufficie	nt time to cool.	
		•			
Client contacted Date contacted:			Per	rson contacted	
Contacted by: Regarding:					
comments: Udded TDS, GRO/DR	<u></u>		t ala	. 1	0.00
as per C.H. As 8/6	U;	EL	. 16 cm	ain fo	mayson
Corrective Action					
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	HALL ENVIRONMENT ANALYSIS LABORATO		60			, ,	·	डाच्	JSM	1029			$\overline{\checkmark}$	$\stackrel{\wedge}{\dashv}$				$ \overline{\chi} $	$\widehat{}$				ᅱ	70421 RCAA 8	
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<u>[</u>		w	erque	505-345-4107	Redi	,	bcB <sub>i</sub>	3808	3 / səbi	oiteaq	1808					1								-17	ب <u>َ</u> <u>آ</u>
		ironr	Albuquerque, NM 87109	Еах	ysis R	(þC	S;₄Oq,								X					$\times$				,	-
Ī	RALL ENVI Analysis	www.hallenvironmental.com			Anal																			4/hum Bal	7
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			5 2008							- N	1808072		7				2	Ч	7	2	2			5/6/03 ( 934	
Time:	Rush	ie: B C Rive	annual Aug.	/		ager:		inde Box	. Ç <b>Ö</b> Y <b>és</b> ri Ng Igerature: 3∵	Preservative	Type	HC(	1400-7				HCI	H ND3	HNO3	H2SC4	}			S	Redeived by!
Turn-Around Time:	⊈-Standard	Project Name:	í i	Project #:		Project Manager:		Sampler:	On Ice: 🐶 66 Sample Temperature:	Container	Type and #	6-10A	250 M	500 m	250 M	500M	6-10A	250 M	500 m	450 W	500 m			7	
Chain-of-Custody Record	Client: Western Refining (Blafild)		Address: #50 CR 4990	12, NM 87413	632-4161	505-633-3911	匣				Sample Request ID	NORTH OF#45					up Strea M							Relinquished by:	Relinquished by:
ann-of-	STern R		#50	Bloomfield			ckage: ird		(ype)	F	9	930A	ſ				1020,4					1		Time: $ec{oldsymbol{arphi}}:\mathcal{O}$	Time:
S	Client: W.		Address:	-B10,	Phone #:	email or Fax#:	QA/QC Package:	□ Other _	□ EDD (Type)		Cate	80500				_	80508							80	

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.

I STANDOLIVIA I I I		www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	O <sup>†</sup> )	's (802- 'pO <sub>4</sub> ,S 2 PCB's 2 PCB's 2 PCB's 2 PCB's 3 A S S S S S S S S S S S S S S S S S S	3083 3083 3093 1) 1) 1) 1) 1) 1)	HE + T H 8015 H 418. H 6418. H 6418. H 6418. H 7 1003. H 8 1003. H 7	Methory Methor	ВТЕХ ТРН ( ЕDB ( ВЗ10 В250 В250 В250 В250 В250 В250 В250 В25	>	×	×	×	Х Х	×	×	<b>X</b>	×	X X		Remarks:		his serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analysis report.
Turn-Apound Time:	Z Standard 🗆 Rush	Project Name:	Seri-ANNUAL ANG, 5 2008	Project #:		Project Manager:	•	Sampler: Puby Bob	On Ice: <b>b√e</b> s ⊡'No Sample∏émperature: 3:	Container Preservative	* Type 08	6-VGA HC1 3	HNO3		H3564	\	VOB HCI	250ml HNO2 H	500 MI HNO3 4	250ml 4504 4		_	Received by: $8/\omega/\omega$ 8	Received by:	accredited laboratorig
Chain-of-Custody Record	Client: Western Refluing (Blufld)		Address: #50 CR 4990	12 NN 87413	7-4	//	QA/QC Package:   Standard  Full Validation)		Туре)		Date I'me Sample Request ID	-5-08 11:00 Down Stream					5-05-08 945A NOTTO OF # 46						Bate: Time: Relinquished by: 8-5-08 3:00 (2064 Krelden)	Relinc	If not samples submitted to Hall Environmental may be subcontracted to other

- -	TORY								(N	10 Y	() Se	Air Bubble								
FINE PRINCE TANK	ANALYSIS LABORATOR	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	🤆 🐫 📑 🦠 Ánal	(þ()	s,B);	Gass	(r. (r. (r. (o) (h) 808	8018 814 828 1A9 1A9 68 \	bod hod hod o A o A o I,(IO,	BTEX + Meth TPH (Meth EDB (Met 8310 (PN, 8310 (PN, 8081 Pest 8250 (Vo	×						arks:	
				Γ		(	(80S1	s,e	LWE	. + 3	IBTI	N + X3T8			-				Remarks:	
Turn-Around Time:	© Standard □ Rush	Project Name:	Sens- ANDUR AUGS 2008	1		Project Manager:		, ,	Sampler: Sob / Condu		ogripiesteriperature:	Container Preservative HEAL No. Type ANG ANG Type	6-10A HC1 5						Received by: 8 6 08	Received by:
	Client: Western Refining (Blufld) INS			t/3	1914-68	//		(Level 4 (Full Validation)	Sam	Juo	South	Sample Request ID Co	Down Strain Dyg le-						Rollinguished by:	Relinquished by:
Charn-of-(	Clignt: UesterN		Address: 井50 (R 4990	Bloomfield	Phone #: 505-6	ax#: 505	QA/QC Package:	☐ Standard	□ Other	□ EDD (Type)		Date Time	8-5-08 11:00						80	Date: Time:



### **COVER LETTER**

Tuesday, April 01, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: San Juan River 1st QTR 2008

Dear Cindy Hurtado:

Order No.: 0803110

Hall Environmental Analysis Laboratory, Inc. received 5 sample(s) on 3/13/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



Date: 01-Apr-08

CLIENT:

San Juan Refining

Project:

San Juan River 1st QTR 2008

Lab Order:

0803110

CASE NARRATIVE

### Analytical Notes for TDS:

Samples North of MW46 and North of MW45 were diluted on the first analysis for TDS because of the sample matrix. The results for both of these samples was <400 ppm of TDS. The samples were then reanalyzed, 1.7 days past the 7 day holding time, yielding the following values:

North of MW46 - 240 mg/L North of MW45 - 260 mg/L



Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-01

Client Sample ID: Down Stream

Collection Date: 3/12/2008 1:30:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANG</b>	E				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	3/17/2008 3:32:37 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	3/17/2008 3:32:37 PM
Surr: DNOP	109	58-140	%REC	1	3/17/2008 3:32:37 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	3/19/2008 12:19:19 AM
Surr: BFB	106	79.2-121	%REC	1	3/19/2008 12:19:19 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5	μg/L	1	3/19/2008 12:19:19 AM
Benzene	ND	1.0	· μg/L	1	3/19/2008 12:19:19 AM
Toluene	ND	1.0	μg/L	1	3/19/2008 12:19:19 AM
Ethylbenzene	ND	1.0	μg/L	1	3/19/2008 12:19:19 AM
Xylenes, Total	ND	2.0	μg/L	1	3/19/2008 12:19:19 AM
Surr: 4-Bromofluorobenzene	91.3	68.9-122	%REC	1	3/19/2008 12:19:19 AM
EPA'METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.21	0.10	mg/L	1	3/13/2008 12:58:34 PM
Chloride	2.8	0.10	mg/L	1	3/13/2008 12:58:34 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	3/13/2008 12:58:34 PM
Bromide	ND	0.10	mg/L	1	3/13/2008 12:58:34 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	3/13/2008 12:58:34 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	3/13/2008 12:58:34 PM
Sulfate	59	0.50	mg/L	1	3/13/2008 12:58:34 PM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	3/14/2008 5:02:08 PM
EPA METHOD 6010B: DISSOLVED MI	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	3/27/2008 4:24:34 PM
Barium	0.081	0.020	mg/L	1	3/27/2008 4:24:34 PM
Cadmium	ND	0.0020	mg/L	1	3/27/2008 4:24:34 PM
Calcium	28	1.0	mg/L	1	3/27/2008 4:24:34 PM
Chromium	ND	0.0060	mg/L	1	3/27/2008 4:24:34 PM
Copper	ND	0.0060	mg/L	1	3/27/2008 4:24:34 PM
iron	0.33	0.020	mg/L	1	3/27/2008 4:24:34 PM
Lead	ND	0.0050	mg/L	1	3/27/2008 4:24:34 PM
Magnesium	4.5	1.0	mg/L	1	3/27/2008 4:24:34 PM
Manganese	0.035	0.0020	mg/L	1	3/27/2008 4:24:34 PM
Potassium	1.7	1.0	mg/L	1	3/27/2008 4:24:34 PM
Selenium	ND	0.050	mg/L	1	3/27/2008 4:24:34 PM
Silver	ND	0.0050	mg/L	1	3/27/2008 4:24:34 PM



- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- 3 Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 01-Apr-08

CLIENT:

San Juan Refining

0803110

Client Sample ID: Down Stream

Lab Order:

San Juan River 1st QTR 2008

Collection Date: 3/12/2008 1:30:00 PM Date Received: 3/13/2008

Project: Lab ID:

0803110-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: DISSOLVE	) METALS					Analyst: TES
Sodium	21	1.0		mg/L	1	3/27/2008 4:24:34 PM
Uranium	ND	0.10		mg/L	1	3/27/2008 4:24:34 PM
Zinc	ND	0.050		mg/L	1	3/27/2008 4:24:34 PM
EPA 6010B: TOTAL RECOVERAB	LE METALS					Analyst: TES
Arsenic	ND	0.020		mg/L	1	3/15/2008 9:58:44 AM
Barium	0.46	0.020		mg/L	1	3/26/2008 3:07:55 PM
Cadmium	ND	0.0020		mg/L	1	3/15/2008 9:58:44 AM
Chromium	ND	0.0060		mg/L	1	3/15/2008 9:58:44 AM
Lead	0.0056	0.0050		mg/L	1	3/15/2008 9:58:44 AM
Selenium	П	0.050		mg/L	1	3/15/2008 9:58:44 AM
Silver	ND	0.0050		mg/L	1	3/15/2008 9:58:44 AM
EPA METHOD 8270C: SEMIVOLA	TILES					Analyst: JDC
Acenaphthene	ND	50		μg/L	1	3/17/2008
Acenaphthylene	ND	50		μg/L	1	3/17/2008
Aniline	ND	50		μg/L	1	3/17/2008
Anthracene	ND	50		μg/L	1	3/17/2008
Azobenzene	ND	50		μg/L	1	3/17/2008
Benz(a)anthracene	ND	50		μg/L	1	3/17/2008
Benzo(a)pyrene	ND	50		μg/L	1	3/17/2008
Benzo(b)fluoranthene	ND	50		µg/L	1	3/17/2008
Benzo(g,h,i)perylene	ND	50		μg/L	1	3/17/2008
Benzo(k)fluoranthene	NĎ	50		μg/L	1	3/17/2008
Benzoic acid	ND	100		μg/L	1	3/17/2008
Benzyl alcohol	ND	50		μg/L	1	3/17/2008
Bis(2-chloroethoxy)methane	ND	50		μ <b>g/L</b>	1	3/17/2008
Bis(2-chloroethyl)ether	ND	50		μg/L	1	3/17/2008
Bis(2-chloroisopropyl)ether	ND	50		μg/L	1	3/17/2008
Bis(2-ethylhexyl)phthalate	ND	50		μg/L	1	3/17/2008
4-Bromophenyl phenyl ether	ND	50		μg/L	1	3/17/2008
Butyl benzyl phthalate	ND	50		μg/L	1	3/17/2008
Carbazole	ND	50		μg/L	1	3/17/2008
4-Chioro-3-methylphenol	ND	50		μg/L	1	3/17/2008
4-Chloroaniline	· ND	50		µg/L	1	3/17/2008
2-Chloronaphthalene	ND	50		μg/L	1	3/17/2008
2-Chlorophenol	ND	50		µg/L	1	3/17/2008
4-Chlorophenyl phenyl ether	ND	50		μg/L	. 1	3/17/2008
Chrysene	ND	50		μg/L	1	3/17/2008
Di-n-butyl phthalate	ND	50		µg/L	1	3/17/2008
Di-n-octyl phthalate	ND	50		µg/L	1	3/17/2008
Dibenz(a,h)anthracene	ND	50		μg/L	1	3/17/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Value above quantitation range E
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit



Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

San Juan River 1st QTR 2008

Project: Lab ID:

0803110-01

Client Sample ID: Down Stream

Collection Date: 3/12/2008 1:30:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ıal Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLAT	TILES				Analyst: JD0
Dibenzofuran	ND	50	μg/L	1	3/17/2008
1,2-Dichlorobenzene	ND	50	μg/L	1	3/17/2008
1,3-Dichlorobenzene	ND	50	μg/L	1	3/17/2008
1,4-Dichlorobenzene	ND	50	µg/L	1	3/17/2008
3,3'-Dichlorobenzidine	ND	50	μg/Ľ	1	3/17/2008
Diethyl phthalate	ND	50	μg/L	1	3/17/2008
Dimethyl phthalate	ND	50	µg/L	1	3/17/2008
2,4-Dichlorophenol	ND	50	µg/L	1	3/17/2008
2,4-Dimethylphenol	ND	50	µg/L	1	3/17/2008
4,6-Dinitro-2-methylphenol	ND	50	μg/L	1	3/17/2008
2,4-Dinitrophenol	ND	100	μg/L	1	3/17/2008
2,4-Dinitrotoluene	ND	50	μg/L	1	3/17/2008
2,6-Dinitrotoluene	ND	50	μg/L	1	3/17/2008
Fluoranthene	ND	50	μg/L	1	3/17/2008
Fluorene	ND	50	µg/L	1	3/17/2008
Hexachlorobenzene	ND	50	µg/L	1	3/17/2008
Hexachlorobutadiene	ND	50	μg/L	1	3/17/2008
Hexachlorocyclopentadiene	ND	50	µg/L	1	3/17/2008
Hexachloroethane	ND	50	µg/L	1	3/17/2008
Indeno(1,2,3-cd)pyrene	ND	50	μg/L	1	3/17/2008
Isophorone	ND	50	μg/L	1	3/17/2008
2-Methylnaphthalene	ND	50	μg/L	1	3/17/2008
2-Methylphenol	ND	50	μg/L	1	3/17/2008
3+4-Methylphenol	ND	50	μg/L	1	3/17/2008
N-Nitrosodi-n-propylamine	ND	50	μg/L	1	3/17/2008
N-Nitrosodimethylamine	ND	50	µg/L	1	3/17/2008
N-Nitrosodiphenylamine	ND	50	μg/L	1	3/17/2008
Naphthalene	ND	50	μg/L	1	3/17/2008
2-Nitroaniline	ND	50	μg/L	1	3/17/2008
3-Nitroaniline	ND	50	µg/L	1	3/17/2008
4-Nitroaniline	ND	50	μg/L	1	3/17/2008
Nitrobenzene	ND	50	μg/L	1	3/17/2008
2-Nitrophenol	ND	50	μg/L	1	3/17/2008
4-Nitrophenol	ND	50	μg/L	1	3/17/2008
Pentachlorophenol	ND	100	µg/L	1	3/17/2008
Phenanthrene	ND	50	μg/L	1	3/17/2008
Phenol	ND	50	μg/L	1	3/17/2008
Pyrene	ND	50	μg/L	1	3/17/2008
Pyridine	ND	50	μg/L.	1	3/17/2008
1,2,4-Trichlorobenzene	ND	50	μg/L	1	3/17/2008
2,4,5-Trichlorophenol	ND	50	μg/L	1	3/17/2008
2,4,6-Trichlorophenol	ND	50	µg/L	1	3/17/2008



- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-01

Client Sample ID: Down Stream Collection Date: 3/12/2008 1:30:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qua	l Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES	M	<del>, , , , , , , , , , , , , , , , , , , </del>			Analyst: JDC
Surr: 2,4,6-Tribromophenol	72.2	16.6-150	%REC	1	3/17/2008
Surr: 2-Fluorobiphenyl	88.7	19.6-134	%REC	1	3/17/2008
Surr: 2-Fluorophenol	61.4	9.54-113	%REC	1	3/17/2008
Surr: 4-Terphenyl-d14	65.3	22.7-145	%REC	1	3/17/2008
Surr: Nitrobenzene-d5	84.0	14.6-134	%REC	1	3/17/2008
Surr: Phenol-d5	55.6	10.7-80.3	%REC	1	3/17/2008
SM 2320B: ALKALINITY					Analyst: BDH
Alkalinity, Total (As CaCO3)	86	20	mg/L CaCO3	1	3/13/2008
Carbonate	ND	2.0	mg/L CaCO3	1	3/13/2008
Bicarbonate	86	20	mg/L CaCO3	1	3/13/2008
EPA 120.1: SPECIFIC CONDUCTANCE		•			Analyst: NSB
Specific Conductance	300	0.010	μmhos/cm	. 1	3/13/2008
SM4500-H+B: PH					Analyst: BDH
рН	8.01	0.1	pH units	1	3/13 <i>[</i> 2008
SM 2540C: TDS					Analyst: TAF
Total Dissolved Solids	260	200	mg/L	1	3/17/2008

### Qualifiers:

Value exceeds Maximum Contaminant Level

Value above quantitation range

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded Н

MCL Maximum Contaminant Level

Reporting Limit



Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-02

Client Sample ID: Downstream-FD

Collection Date: 3/12/2008 1:35:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE			بغيرها بالعائب هوالكوم في وسيده وسيدو ويورون ويسيد		Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	3/17/2008 4:07:17 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	3/17/2008 4:07:17 PM
Surr: DNOP	101	58-140	%REC	1	3/17/2008 4:07:17 PM
EPA METHOD 8015B: GASOLINE RAN	IGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	3/19/2008 12:49:29 AM
Surr: BFB	107	79.2-121	%REC	1	3/19/2008 12:49:29 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5	μg/L	1	3/19/2008 12:49:29 AM
Benzene	ND	1.0	μg/L	1	3/19/2008 12:49:29 AM
Toluene	ND	. 1.0	μg/L	1 .	3/19/2008 12:49:29 AM
Ethylbenzene	ND	1.0	µg/L	1	3/19/2008 12:49:29 AM
Xylenes, Total	ND	- 2.0	μg/L	1	3/19/2008 12:49:29 AM
Surr: 4-Bromofluorobenzene	93.4	68.9-122	%REC	1	3/19/2008 12:49:29 AM



- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

000311

San Juan River 1st QTR 2008

Project: Lab ID:

0803110-03

Client Sample ID: Upstream

Collection Date: 3/12/2008 1:45:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	3/17/2008 4:41:57 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	3/17/2008 4:41:57 PM
Surr: DNOP	109	58-140	%REC	1	3/17/2008 4:41:57 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	3/19/2008 1:19:44 AM
Surr: BFB	109	79.2-121	%REC	1	3/19/2008 1:19:44 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5	μg/L	1	3/19/2008 1:19:44 AM
Benzene	ND	1.0	μg/L	1	3/19/2008 1:19:44 AM
Toluene	ND	1.0	μg/L	1	3/19/2008 1:19:44 AM
Ethylbenzene	ND	1.0	μg/L	1	3/19/2008 1:19:44 AM
Xylenes, Total	ND	2.0	μg/L	1 '	3/19/2008 1:19:44 AM
Surr: 4-Bromofluorobenzene	95.3	68.9-122	%REC	1	3/19/2008 1:19:44 AM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.20	0.10	mg/L	1	3/13/2008 2:08:13 PM
Chloride	2.8	0.10	mg/L	1	3/13/2008 2:08:13 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	3/13/2008 2:08:13 PM
Bromide	ND	0.10	mg/L	1	3/13/2008 2:08:13 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	3/13/2008 2:08:13 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	3/13/2008 2:08:13 PM
Sulfate	53	0.50	mg/L	1	3/13/2008 2:08:13 PM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	3/14/2008 5:03:57 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	3/27/2008 4:27:27 PM
Barium	0.085	0.020	mg/L	1	3/27/2008 4:27:27 PM
Cadmium	ND	0.0020	mg/L	1	3/27/2008 4:27:27 PM
Calcium	29	1.0	mg/L	1	3/27/2008 4:27:27 PM
Chromium	0.0070	0.0060	mg/L	1	3/27/2008 4:27:27 PM
Copper	ND	0.0060	mg/L	1	3/27/2008 4:27:27 PM
Iron	0.49	0.020	mg/L	1	3/27/2008 4:27:27 PM
Lead	. ND	0.0050	mg/L	1	3/27/2008 4:27:27 PM
Magnesium	4.7	1.0	mg/L	1	3/27/2008 4:27:27 PM
Manganese	0.038	0.0020	mg/L	1	3/27/2008 4:27:27 PM
Potassium	1.8	1.0	mg/L	1	3/27/2008 4:27:27 PM
Selenium	ND	0.050	mg/L	1	3/27/2008 4:27:27 PM
Silver	ND	0.0050	mg/L	1	3/27/2008 4:27:27 PM

### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit



Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-03

Client Sample ID: Upstream

Collection Date: 3/12/2008 1:45:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 6010B: DISSOLVE	D METALS			<del>,, , , , , , , , , , , , , , , , , , ,</del>	Analyst: TES
Sodium	20	1.0	mg/L	1	3/27/2008 4:27:27 PM
Uranium	ND	0.10	mg/L	1	3/27/2008 4:27:27 PM
Zinc	ND	0.050	mg/L	1	3/27/2008 4:27:27 PM
EPA 6010B: TOTAL RECOVERAB	LE METALS				Analyst: TES
Arsenic	· ND	0.020	mg/L	1	3/15/2008 10:03:26 AM
Barium	0.39	0.020	mg/L	1	3/26/2008 3:11:01 PM
Cadmium	ND	0.0020	mg/L	1	3/15/2008 10:03:26 AM
Chromium	ND	0.0060	mg/L	1	3/15/2008 10:03:26 AM
Lead	0.0064	0.0050	mg/L	1	3/15/2008 10:03:26 AM
Selenium	ND	0.050	mg/L	1	3/15/2008 10:03:26 AM
Silver	ND	0.0050	mg/L	1	3/15/2008 10:03:26 AM
EPA METHOD 8270C: SEMIVOLA	TILES				Analyst: JDC
Acenaphthene	ND	50	μg/L	1	3/17/2008
Acenaphthylene	ND	50	μg/L	1	3/17/2008
Aniline	ND	50	μg/L	1	3/17/2008
Anthracene	ND	50	μg/L	1	3/17/2008
Azobenzene	ND	50	μg/L	1	3/17/2008
Benz(a)anthracene	ND	50	μg/L	1	3/17/2008
Benzo(a)pyrene	ND	50	μg/L	1	3/17/2008
Benzo(b)fluoranthene	ND	50	μg/L	1	3/17/2008
Benzo(g,h,i)perylene	ND	- 50	μg/L	1	3/17/2008
Benzo(k)fluoranthene	ND	50	μg/L	1	3/17/2008
Benzoic acid	ND	100	μg/L	1	3/17/2008
Benzyl alcohol	ND	50	μg/L	1	3/17/2008
Bis(2-chloroethoxy)methane	ND .	50	μg/L	1	3/17/2008
Bis(2-chloroethyl)ether	ND	50	μg/L	1	3/17/2008
Bis(2-chloroisopropyl)ether	ND	50	μg/L	1	3/17/2008
Bis(2-ethylhexyl)phthalate	ND	50	μg/L	1	3/17/2008
4-Bromophenyl phenyl ether	ND	50	μg/L	1	3/17/2008
Butyl benzyl phthalate	ND	50	μg/L	1	3/17/2008
Carbazole	ND	50	μg/L	1	3/17/2008
4-Chloro-3-methylphenol	ND	50	μg/L	1 .	3/17/2008
4-Chloroaniline	ND	50	μg/L	1	3/17/2008
2-Chloronaphthalene	ND	50	μg/L	1	3/17/2008
2-Chlorophenol	ND	50	μ <b>g/L</b>	1	3/17/2008
4-Chlorophenyl phenyl ether	ND	50	μg/L	. 1	3/17/2008
Chrysene	ND	50	μg/L	1	3/17/2008
Di-n-butyl phthalate	ND	50	μg/L	1	3/17/2008
Di-n-octyl phthalate	ND	50	µg/L	1	3/17/2008
Dibenz(a,h)anthracene	ND	50	μg/L	1	3/17/2008



- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 7 of 17

Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-03

Client Sample ID: Upstream

Collection Date: 3/12/2008 1:45:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATII	LES				Analyst: JDC
Dibenzofuran	ND	50	μg/L	1	3/17/2008
1,2-Dichlorobenzene	ND	50	µg/L	, <b>1</b>	3/17/2008
1,3-Dichlorobenzene	ND	50	μg/L	1	3/17/2008
1,4-Dichlorobenzene	ND	50	μg/L	1	3/17/2008
3,3'-Dichlorobenzidine	ND	50	μg/L	1	3/17/2008
Diethyl phthalate	ND	50	μg/L	1	3/17/2008
Dimethyl phthalate	ND	50	µg/L	1	3/17/2008
2,4-Dichlorophenol	ND	50	μg/ <b>L</b>	1	3/17/2008
2,4-Dimethylphenol	ND	50	µg/L	1	3/17/2008
4,6-Dinitro-2-methylphenol	ND	50	μg/L	1	3/17/2008
2,4-Dinitrophenol	ND	100	μg/L	1	3/17/2008
2,4-Dinitrotoluene	ND	50	μg/L	1	3/17/2008
2,6-Dinitrotoluene	ND	50	μg/L	1	3/17/2008
Fluoranthene	. ND	50	μg/L	1	3/17/2008
Fluorene	ND	50	μg/L	1	3/17/2008
Hexachlorobenzene	ND	50	μg/L	1	3/17/2008
Hexachlorobutadiene	ND	50	μg/L	1	3/17/2008
Hexachlorocyclopentadiene	ND	50	µg/L	1	3/17/2008
Hexachioroethane	ND	50	μg/L	1	3/17/2008
Indeno(1,2,3-cd)pyrene	ND	50	µg/L	1	3/17/2008
Isophorone	ND	50	μg/L	1	3/17/2008
2-Methylnaphthalene	ND	50	μg/L	1	3/17/2008
2-Methylphenol	, ND	50	μg/L	1	3/17/2008
3+4-Methylphenol	ND	50	μg/L	1	3/17/2008
N-Nitrosodi-n-propylamine	ND	50	μg/L	1	3/17/2008
N-Nitrosodimethylamine	ND	50	μg/L	1	3/17/2008
N-Nitrosodiphenylamine	ND	50	μg/L	1	3/17/2008
Naphthalene	ND	50	μg/L	1	3/17/2008
2-Nitroaniline	ND	50	μg/L	- 1	3/17/2008
3-Nitroaniline	DИ	50	µg/L	1	3/17/2008
4-Nitroaniline	ND	. 50	μg/L	1	3/17/2008
Nitrobenzene	ND .	50	μg/L	1	3/17/2008
2-Nitrophenol	ND	50	µg/L	· 1	3/17/2008
4-Nitrophenol	ND	50	μg/ <b>L</b>	1	3/17/2008
Pentachlorophenol	ND	100	μg/L	1	3/17/2008
Phenanthrene	ND	50	μg/L	1	3/17/2008
Phenol	ND	50	µg/L	1	3/17/2008
Pyrene .	ND -	50	μg/L	1	3/17/2008
Pyridine	ND	50	μg/L	1	3/17/2008
1,2,4-Trichlorobenzene	ND	50	μg/L	1	3/17/2008
2,4,5-Trichtorophenol	ND	50	µg/L `	1	3/17/2008
2,4,6-Trichlorophenol	ND	50	μg/ <b>L</b>	1	3/17/2008

### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit



Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

San Juan River 1st QTR 2008

Project: Lab ID:

0803110-03

Client Sample ID: Upstream

Collection Date: 3/12/2008 1:45:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC
Surr: 2,4,6-Tribromophenol	23.4	16.6-150	%REC	1	3/17/2008
Surr: 2-Fluorobiphenyl	71.9	19.6-134	%REC	1	3/17/2008
Surr: 2-Fluorophenol	24.6	9.54-113	%REC	1	3/17/2008
Surr: 4-Terphenyl-d14	51.8	22.7-145	%REC	1	3/17/2008
Surr: Nitrobenzene-d5	72.1	14.6-134	%REC	1	3/17/2008
Surr: Phenol-d5	34.9	10.7-80.3	%REC	1	3/17/2008
SM 2320B: ALKALINITY					Analyst: BDH
Alkalinity, Total (As CaCO3)	84	20	mg/L CaCO3	1	3/13/2008
Carbonate	ND	2.0	mg/L CaCO3	1	3/13/2008
Bicarbonate	84	20	mg/L CaCO3	1	3/13/2008
EPA 120.1: SPECIFIC CONDUCTANCE					Analyst: NSB
Specific Conductance	280	0.010	µmhos/cm	1	3/13/2008
SM4500-H+B: PH					Analyst: BDH
рН	8.03	0.1	pH units	1	3/13/2008
SM 2540C: TDS					Analyst: TAF
Total Dissolved Solids	480	400	mg/L	1	3/17/2008



Value exceeds Maximum Contaminant Level

Value above quantitation range E

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-04

Client Sample ID: North of MW46

Collection Date: 3/12/2008 2:00:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Uni	its DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGI	<b>3</b>	<del></del>			Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/	L 1	3/17/2008 5:16:39 PM
Motor Oil Range Organics (MRO)	ND	5.0	· mg/	L 1	3/17/2008 5:16:39 PM
Surr: DNOP	99.4	58-140	%RI	EC 1	3/17/2008 5:16:39 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/	L 1	3/19/2008 1:49:55 AM
Surr: BFB	111	79.2-121	%RI	EC 1	3/19/2008 1:49:55 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5	μg/L	1 .	3/19/2008 1:49:55 AM
Benzene	ND	1.0	μg/L	. 1	3/19/2008 1:49:55 AM
Toluene	ND	1.0	μg/L	. 1	3/19/2008 1:49:55 AM
Ethylbenzene	ND	1.0	μg/L	. 1	3/19/2008 1:49:55 AM
Xylenes, Total	ND	2.0	μg/L	. 1	3/19/2008 1:49:55 AM
Surr: 4-Bromofluorobenzene	97.3	68.9-122	%Ri	EC 1	3/19/2008 1:49:55 AM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.19	0.10	mg/i	L 1	3/13/2008 2:43:02 PM
Chloride	2.7	0.10	mg/l	L 1	3/13/2008 2:43:02 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/l	_ 1	3/13/2008 2:43:02 PM
Bromide	ND	0.10	mg/l	. 1	3/13/2008 2:43:02 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/l	L 1	3/13/2008 2:43:02 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/l	L 1	3/13/2008 2:43:02 PM
Sulfate	52	0.50	mg/l	_ 1	3/13/2008 2:43:02 PM
EPA METHOD 7470: MERCURY			•		Analyst: SNV
Mercury	ND	0.00020	mg/l	L 1	3/14/2008 5:22:03 PM
EPA METHOD 6010B: DISSOLVED ME	TALS				Analyst: TES
Arsenic	ND	0.020	mg/l	_ 1	3/27/2008 4:30:19 PM
Barium	0.086	0.020	mg/l	_ 1	3/27/2008 4:30:19 PM
Cadmium	ND -	0.0020	mg/l	1	3/27/2008 4:30:19 PM
Calcium	28	1.0	mg/l	_ 1	3/27/2008 4:30:19 PM
Chromium	0.0068	0.0060	mg/l	_ 1	3/27/2008 4:30:19 PM
Copper	ND	0.0060	mg/l	_ 1	3/27/2008 4:30:19 PM
Iron	0.36	0.020	mg/t	_ 1	3/27/2008 4:30:19 PM
Lead	ND	0.0050	mg/l	_ 1	3/27/2008 4:30:19 PM
Magnesium	4.5	1.0	mg/l	_ 1	3/27/2008 4:30:19 PM
Manganese	0.040	0.0020	mg/l	<b>.</b>	3/27/2008 4:30:19 PM
Potassium	1.7	1.0	mg/l	_ 1	3/27/2008 4:30:19 PM
Selenium	ND	0.050	mg/l	_ 1	3/27/2008 4:30:19 PM
Silver	ND	0.0050	mg/l	_	3/27/2008 4:30:19 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-04

Client Sample ID: North of MW46

Collection Date: 3/12/2008 2:00:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 6010B: DISSOLVE	D METALS	<del>-,,</del>	·	<u> </u>	Analyst: TES
Sodium	19	1.0	mg/L	1	3/27/2008 4:30:19 PM
Uranium	ND	0.10	mg/L	1	3/27/2008 4:30:19 PM
Zinc	ND	0.050	mg/L	1	3/27/2008 4:30:19 PM
EPA 6010B: TOTAL RECOVERAB	LE METALS				Analyst: TES
Arsenic	ND	0.020	mg/L	1	3/15/2008 10:06:27 AM
Barium	0.40	0.020	mg/L	1	3/26/2008 3:14:03 PM
Cadmium	ND	0.0020	mg/L	1	3/15/2008 10:06:27 AM
Chromium	ND	0.0060	mg/L	1	3/15/2008 10:06:27 AM
Lead	0.0051	0.0050	mg/L	1	3/15/2008 10:06:27 AM
Selenium	ND	0.050	mg/L	1	3/15/2008 10:06:27 AM
Silver	ND	0.0050	mg/L	1	3/15/2008 10:06:27 AM
EPA METHOD 8270C: SEMIVOLA	TILES		·		Analyst: JDC
Acenaphthene	ND	50	μg/L	1	3/17/2008
Acenaphthylene	ND	50	µg/L	1	3/17/2008
Aniline	ND	50	μg/L	1	3/17/2008
Anthracene	ND	50	μg/L	1 ,	3/17/2008
Azobenzene	ND	50	μ <b>g/L</b>	1	3/17/2008
Benz(a)anthracene	ND	50	μg/L	1	3/17/2008
Benzo(a)pyrene	ND	50	μg/L	1	3/17/2008
Benzo(b)fluoranthene	ND	50	μg/L	1	3/17/2008
Benzo(g,h,i)perylene	ND	50	μg/L	1	3/17/2008
Benzo(k)fluoranthene	ND	50	μg/L	1	3/17/2008
Benzoic acid	230	100	μg/L	1	3/17/2008
Benzyl alcohol	ND	50	µg/L	1	3/17/2008
Bis(2-chloroethoxy)methane	ND	50	μg/L	1	3/17/2008
Bis(2-chloroethyl)ether	ND	50	μg/L	1	3/17/2008
Bis(2-chloroisopropyl)ether	ND	50	μg/L	1	3/17/2008
Bis(2-ethylhexyl)phthalate	ND	50	μg/L	1	3/17/2008
4-Bromophenyl phanyl ether	ND	50	μg/L	1	3/17/2008
Butyl benzyl phthalate	ND	50	μg/ <b>L</b>	1	3/17/2008
Carbazole	ND	50	μg/L	1	3/17/2008
4-Chloro-3-methylphenol	ND	50	μg/L	1	3/17/2008
4-Chloroaniline	ND	50	μg/L	1	3/17/2008
2-Chloronaphthalene	ND	50	μg/L	1	3/17/2008
2-Chlorophenol	ND	50	μg/L	1	3/17/2008
4-Chlorophenyl phenyl ether	ND	50	μg/L	1 .	3/17/2008
Chrysene	ND	50	μg/L	1 .	3/17/2008
Di-n-butyl phthalate	ND	50	μg/L	1	3/17/2008
Di-n-octyl phthalate	ND	50	μg/L	1	3/17/2008
Dibenz(a,h)anthracene	ND	50	μg/L	1	3/17/2008



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Page 11 of 17

Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-04

Client Sample ID: North of MW46

Collection Date: 3/12/2008 2:00:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
PA METHOD 8270C: SEMIVOLA	TILES				Analyst: JDC
Dibenzofuran	. ND	50	μg/L	1	3/17/2008
1,2-Dichlorobenzene	ND	50	μg/L	1	3/17/2008
1,3-Dichlorobenzene	ND	50	μg/L	1	3/17/2008
1,4-Dichlorobenzene	ND	50	µg/L	1	3/17/2008
3,3'-Dichlorobenzidine	ND	50	µg/L	1	3/17/2008
Diethyl phthalate	ND	50	µg/L	1	3/17/2008
Dimethyl phthalate	· ND	50	μg/L	1	3/17/2008
2,4-Dichlorophenol	ND	50	µg/L	1	3/17/2008
2,4-Dimethylphenol	ND	50	μg/L	1	3/17/2008
4,6-Dinitro-2-methylphenol	ND	50	μg/L	1	3/17/2008
2,4-Dinitrophenol	ND	100	µg/L	1	3/17/2008
2,4-Dinitrotoluene	ND	50	µg/L	1	3/17/2008
2,6-Dinitrotoluene	ND	50	µg/L	1	3/17/2008
Fluoranthene	ND	50	µg/L	1	3/17/2008
Fluorene	ND	50	μg/L	1	3/17/2008
Hexachlorobenzene	ND	50	µg/L	1	3/17/2008
Hexachlorobutadiene	ND	50	μg/L	1	3/17/2008
Hexachlorocyclopentadiene	ND	50	μg/L	1	3/17/2008
Hexachloroethane	ND	50	μg/L	1	3/17/2008
Indeno(1,2,3-cd)pyrene	ND	50	μg/L	1	3/17/2008
Isophorone	ND	50	μg/L	1	3/17/2008
2-Methylnaphthalene	ND	50	μg/L	1	3/17/2008
2-Methylphenol	ND	50	μg/L	1	3/17/2008
3+4-Methylphenol	ND	50	μg/L	1	3/17/2008
N-Nitrosodi-n-propylamine	ND	50	μg/L	1	3/17/2008
N-Nitrosodimethylamine	ND	50	μg/L	1	3/17/2008
N-Nitrosodiphenylamine	ND	50	μg/L	1	3/17/2008
Naphthalene	ND	50	μg/L	1	3/17/2008
2-Nitroaniline	ND	50	µg/L	1	3/17/2008
3-Nitroaniline	ND	50	μg/L	1	3/17/2008
4-Nitroaniline	ND	50	µg/L	1 .	3/17/2008
Nitrobenzene	ND	50	μg/L	1	3/17/2008
2-Nitrophenol	ND	50	µg/L	1	3/17/2008
4-Nitrophenol	ND	50	µg/L	1	3/17/2008
Pentachlorophenol	ND	100	μg/L	·1	3/17/2008
Phenanthrene	ND.	50	μg/L	1	3/17/2008
Phenol	ND	50	μg/L	1	3/17/2008
Pyrene	ND	50	μg/L	1	3/17/2008
Pyridine	ND	50	µg/L	1	3/17/2008
1,2,4-Trichlorobenzene	ND	50	μg/L	i	3/17/2008
2,4,5-Trichlorophenol	ND	50	μg/L	1	3/17/2008
2,4,6-Trichlorophenol	ND	50	µg/L	1	3/17/2008

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Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-04

Client Sample ID: North of MW46

Collection Date: 3/12/2008 2:00:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES		TO THE PERSON NAMED IN COLUMN	· ·			Analyst: JDC
Surr: 2,4,6-Tribromophenol	5.63	16.6-150	S	%REC	1	3/17/2008
Surr: 2-Fluorobiphenyl	69.0	19.6-134		%REC	1	3/17/2008
Surr: 2-Fluorophenol	11.7	9.54-113		%REC	1	3/17/2008
Surr: 4-Terphenyl-d14	46.8	22.7-145		%REC	1	3/17/2008
Surr: Nitrobenzene-d5	73.4	14.6-134		%REC	1	3/17/2008
Surr: Phenol-d5	31.6	10.7-80.3		%REC	1	3/17/2008
SM 2320B: ALKALINITY						Analyst: BDH
Alkalinity, Total (As CaCO3)	85	20		mg/L CaCO3	1	3/13/2008
Carbonate	ND	2.0		mg/L CaCO3	1	3/13/2008
Bicarbonate	85	20		mg/L CaCO3	1	3/13/2008
EPA 120.1: SPECIFIC CONDUCTANCE				•		Analyst: NSB
Specific Conductance	280	0.010		µmhos/cm	1	3/13/2008
SM4500-H+B: PH				•		Analyst: BDH
рН	8.07	0.1		pH units	1	3/13/2008
SM 2540C: TDS						Analyst: TAF
Total Dissolved Solids	ND	400		mg/L	1	3/17/2008





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Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-05

Client Sample ID: North of MW45

Collection Date: 3/12/2008 2:15:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	3/17/2008 5:51:23 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1 `	3/17/2008 5:51:23 PM
Surr: DNOP	106	58-140	%REC	1	3/17/2008 5:51:23 PM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	3/19/2008 2:20:03 AM
Surr: BFB	106	79.2-121	%REC	1	3/19/2008 2:20:03 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5	µg/L	1	3/19/2008 2:20:03 AM
Benzene	ND	1.0	μg/L	1	3/19/2008 2:20:03 AM
Toluene	ND	1.0	μg/L	1	3/19/2008 2:20:03 AM
Ethylbenzene	ND	1.0	μg/L .	1	3/19/2008 2:20:03 AM
Xylenes, Total	ND	2.0	μg/L	1	3/19/2008 2:20:03 AM
Surr: 4-Bromofluorobenzene	91.2	68.9-122	%REC	1	3/19/2008 2:20:03 AM
EPA METHOD 300.0: ANIONS					Analyst: SLB
Fluoride	0.20	0.10	mg/L	1	3/13/2008 3:17:50 PM
Chloride	2.7	0.10	mg/L	1	3/13/2008 3:17:50 PM
Nitrogen, Nitrite (As N)	ND	0.10	mg/L	1	3/13/2008 3:17:50 PM
Bromide	ND	0.10	mg/l₋	1	3/13/2008 3:17:50 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	3/13/2008 3:17:50 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	3/13/2008 3:17:50 PM
Sulfate	53	0.50	mg/L	1	3/13/2008 3:17:50 PM
EPA METHOD 7470: MERCURY					Analyst: SNV
Mercury	ND	0.00020	mg/L	1	3/14/2008 5:05:46 PM
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst: <b>TES</b>
Arsenic	ND	0.020	mg/L	1	3/27/2008 4:45:21 PM
Barium	0.080	0.020	mg/L	1	3/27/2008 4:45:21 PM
Cadmium	ND	0.0020	mg/L	1	3/27/2008 4:45:21 PM
Calcium .	28	1.0	mg/L	1	3/27/2008 4:45:21 PM
Chromium	ND	0.0060	mg/L	. 1	3/27/2008 4:45:21 PM
Copper	ND	0.0060	mg/L	1	3/27/2008 4:45:21 PM
Iron	3.8	0.10	mg/L	5	3/28/2008 11:05:34 AM
Lead	ND	0.0050	mg/L	1	3/27/2008 4:45:21 PM
Magnesium	4.9	1.0	mg/L	1	3/27/2008 4:45:21 PM
Manganese	0.037	0.0020	mg/L	1	3/27/2008 4:45:21 PM
Potassium	2.3	1.0	mg/L	1	3/27/2008 4:45:21 PM
Selenium	ND	0.050	mg/L	1	3/27/2008 4:45:21 PM
Silver	ND	0.0050	mg/L	1	3/27/2008 4:45:21 PM

Qualifiers:

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- RL Reporting Limit

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Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-05

Client Sample ID: North of MW45

Collection Date: 3/12/2008 2:15:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual U	nits	DF	Date Analyzed
EPA METHOD 6010B: DISSOLVE	D METALS					Analyst: TES
Sodium	21	1.0	m	g/L	1	3/27/2008 4:45:21 PM
Uranium	ND	0.10	m <sub>2</sub>	g/L	1	3/27/2008 4:45:21 PM
Zinc	ND	0.050	, m	g/L	1	3/27/2008 4:45:21 PM
EPA 6010B: TOTAL RECOVERAB	LE METALS					Analyst: TES
Arsenic	ND	0.020	· m	g/L	1	3/15/2008 10:09:55 AM
Barium	0.38	0.020	m	g/L	1	3/26/2008 3:17:07 PM
Cadmium	ND	0.0020	, m	g/L	1	3/15/2008 10:09:55 AM
Chromium	ND	0.0060	m	g/L	1	3/15/2008 10:09:55 AM
Lead	0.0066	0.0050	m	g/L	1	3/15/2008 10:09:55 AM
Selenium	ND	0.050	m	g/L	1	3/15/2008 10:09:55 AM
Silver	ND	0.0050	m	g/L	1	3/15/2008 10:09:55 AM
EPA METHOD 8270C: SEMIVOLA	TILES					Analyst: JDC
Acenaphthene	ND	50	μg	/L	1	3/17/2008
Acenaphthylene	ND	50	μg		1	3/17/2008
Aniline	ND	50	hã		1	3/17/2008
Anthracene	ND	50	μg		1	3/17/2008
Azobenzene	ND	50	μg		1	3/17/2008
Benz(a)anthracene	ND	50	μg		1	3/17/2008
Benzo(a)pyrene	ND	50	μg		1	3/17/2008
Benzo(b)fluoranthene	ND	50	μg		1	3/17/2008
Benzo(g,h,i)perylene	ND	50	μg	/L	1	3/17/2008
Benzo(k)fluoranthene	ND	50	μg	/L	1	3/17/2008
Benzoic acld	ND	100	μg		1	3/17/2008
Benzyl alcohol	ND	50	μg		1	3/17/2008
Bis(2-chloroethoxy)methane	ND	50	μg	/L	1	3/17/2008
Bis(2-chloroethyl)ether	ND	50	μg		1	3/17/2008
Bis(2-chloroisopropyl)ether	ND	50	μg	/L	1	3/17/2008
Bis(2-ethylhexyl)phthalate	ND	50	μg	/L	1	3/17/2008
4-Bromophenyl phenyl ether	ND	50	μg	/L	1	3/17/2008
Butyl benzyl phthalate	ND	50	μg	/L	1	3/17/2008
Carbazole	ND	50	μg	/L	1	3/17/2008
4-Chloro-3-methylphenol	ND	50	рц	/L	1	3/17/2008
4-Chloroaniline	ND	50	μg	/L	1	3/17/2008
2-Chloronaphthaiene	ND	50	μg	/L	1	3/17/2008
2-Chlorophenol	ND	50	μg		1	3/17/2008
4-Chlorophenyl phenyl ether	'ND	50	μg	/L	1	3/17/2008
Chrysene	ND	50	μg		1	3/17/2008
Di-n-butyl phthalate	ND	50	μg	/L	1	3/17/2008
Di-n-octyl phthalate	ND	50	μg	/L	1	3/17/2008
Dibenz(a,h)anthracene	ND	50	μg		1	3/17/2008



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- RL Reporting Limit

Date: 01-Apr-08

**CLIENT:** 

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-05

Client Sample ID: North of MW45

Collection Date: 3/12/2008 2:15:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES		·			Analyst: JDC
Dibenzofuran	ND	50	μg/L	1	3/17/2008
1,2-Dichlorobenzene	ND	50	μg/L	1	3/17/2008
1,3-Dichlorobenzene	ND	50	μg/L	1	3/17/2008
1,4-Dichlorobenzene	ND	50	μg/L	1	3/17/2008
3,3"-Dichlorobenzidine	ND	50	µg/L	1	3/17/2008
Diethyl phthalate	ND	50	μg/L	1	3/17/2008
Dimethyl phthalate	ND	50	μg/L	1	3/17/2008
2,4-Dichlorophenol	ND	50	μg/L	1	3/17/2008
2,4-Dimethylphenol	ND	50	μg/L	1	3/17/2008
4,6-Dinitro-2-methylphenol	ND	50	μg/L	1	3/17/2008
2,4-Dinitrophenol	ND	100	μg/L	. 1	3/17/2008
2,4-Dinitrotoluene	ND	50	μg/L	1	3/17/2008
2,6-Dinitrotoluene	ND	50	μg/L	1	3/17/2008
Fluoranthene	ND	50	µg/L	1	3/17/2008
Fluorene	ND	50	µg/L	1	3/17/2008
Hexachlorobenzene	ND	50	μg/L	1	3/17/2008
Hexachlorobutadiene	NĐ	50	μg/L	1	3/17/2008
Hexachlorocyclopentadiene	ND	50	μg/L	1	3/17/2008
Hexachloroethane	ND	50	μg/L	1	3/17/2008
Indeno(1,2,3-cd)pyrene	ND	50	μg/L	1	3/17/2008
Isophorone	ND	50	μg/L	1	3/17/2008
2-Methylnaphthalene	ND	50	µg/L.	1	3/17/2008
2-Methylphenol	ND	50	μg/L	1	3/17/2008
3+4-Methylphenol	ND	50	μg/L	1	3/17/2008
N-Nitrosodi-n-propylamine	ND	50	μg/L	1	3/17/2008
N-Nitrosodimethylamine	ND	50	μg/L	1	3/17/2008
N-Nitrosodiphenylamine	ND	50	µg/L	1	3/17/2008
Naphthalene	ND	50	μg/L	1	3/17/2008
2-Nitroaniline	ND	50	μg/L	1	3/17/2008
3-Nitroaniline	ND	50	μg/L	1	3/17/2008
4-Nitroaniline	ND	50	μg/L	1	3/17/2008
Nitrobenzene	ND	50	μg/L	1	3/17/2008
2-Nitrophenol	ND	50	μg/L	1	3/17/2008
4-Nitrophenol	ND	50	µg/L	1	3/17/2008
Pentachlorophenol	ND	100	μg/L	1	3/17/2008
Phenanthrene	ND	50	µg/L	1	3/17/2008
Phenol	ND	50	μg/L	1	3/17/2008
Pyrene	ND	50	μg/L	1	3/17/2008
Pyridine	ND	50	μg/L	1	3/17/2008
1,2,4-Trichlorobenzene	ND	50	μg/L	1	3/17/2008
2,4,5-Trichlorophenol	ND	50	μg/L	1	3/17/2008
2,4,6-Trichlorophenol	ND	50	μg/L	1	3/17/2008

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
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- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit



Date: 01-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803110

Project:

San Juan River 1st QTR 2008

Lab ID:

0803110-05

Client Sample ID: North of MW45

Collection Date: 3/12/2008 2:15:00 PM

Date Received: 3/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ıal Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC
Surr: 2,4,6-Tribromophenol	59.8	16.6-150	%REC	1	3/17/2008
Surr: 2-Fluorobiphenyl	70.6	19.6-134	%REC	1	3/17/2008
Surr: 2-Fluorophenol	44.2	9.54-113	%REC	1	3/17/2008
Surr: 4-Terphenyl-d14	52.5	22.7-145	%REC	1	3/17/2008
Surr: Nitrobenzene-d5	68.3	14.6-134	%REC	1	3/17/2008
Surr: Phenol-d5	38.8	10.7-80.3	%REC	1	3/17/2008
SM 2320B: ALKALINITY					Analyst: BDH
Alkalinity, Total (As CaCO3)	84	20	mg/L CaCO3	1	3/13/2008
Carbonate	ND	2.0	mg/L CaCO3	1	3/13/2008
Bicarbonate	84	20	mg/L CaCO3	1	3/13/2008
PA 120.1: SPECIFIC CONDUCTANCE		٠			Analyst: NSB
Specific Conductance	280	0.010	µmhos/cm	1	3/13/2008
M4500-H+B: PH		•			Analyst: BDH
рН	8.07	0.1	pH units	1	3/13/2008
SM 2540C: TDS					Analyst: TAF
Total Dissolved Solids	ND	400	mg/L	1	3/17/2008





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- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

San Juan River 1st QTR 2008

Work Order:

0803110

Project: San Juan Rive	er 1st QTR	2008					Work	Order:	0803110
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RPD	Limit Q	ual
Method: EPA Method 300.0: Anic	ons							· · · · · · · · · · · · · · · · · · ·	
Sample ID: MB		MBLK			Batch II	D: <b>R27723</b>	Analysis Date:	3/13/2008	10:39:17 AN
Fluoride	ND	mg/L	, 0.10	0	0	0			
Chloride	ND	mg/L	0.10	0	0	0			
Nitrogen, Nitrite (As N)	ND	mg/L	0.10	0	0	0			
Bromide	ND.	· mg/L	0.10	0	0	0			
Nitrogen, Nitrate (As N)	ND	mg/L	0.10	0	0	0			
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50	0	0	0			
Sulfate	ND	mg/L	0.50	0	0	0			
Sample ID: LCS		LCS			Batch II	D: R27723	Analysis Date:	3/13/2008	10:56:41 AN
Fluoride	0.5122	mg/L	0.10	102	90	110			
Chloride	5.243	mg/L	0.10	105	90	110			
Nitrogen, Nitrite (As N)	0.9856	mg/L	0.10	98.6	90	110			
Bromide	2.665	mg/L	0.10	107	90	110			
Nitrogen, Nitrate (As N)	2.633	mg/L	0.10	105	90	110			
Phosphorus, Orthophosphate (As P)	5.273	mg/L	0.50	105	90	110			
Sulfate	10.65	mg/L	0.50	107	90	110			
Method: SM 2320B: Alkalinity									
aple ID: 0803110-01DMSD		MSD			Batch II	D: R27733	Analysis Date:		3/13/2008
Aikalinity, Total (As CaCO3)	166.0	mg/L CaC	20	100	80	120	0.604 20		
Sample ID: MB	,,,,,,,	MBLK			Batch II		Analysis Date:		3/13/2008
Alkalinity, Total (As CaCO3)	ND	mg/L CaC	20				-		
Carbonate	ND	mg/L CaC	2.0						
Bicarbonate	ND	mg/L CaC	20						
Sample ID: LCS	ND	LCS	20		Batch II	D: <b>R27733</b>	Analysis Date:		3/13/2008
•	04.00		00	400			, manyono Dato.		
Alkalinity, Total (As CaCO3)	81.00	mg/L CaC	20	100	80 Botob 11	120	Analysis Data		2/42/2001
Sample ID: 0803110-01DMS		MS			Batch II		Analysis Date:		3/13/2008
Alkalinity, Total (As CaCO3)	165.0	mg/L CaC	20	98.8	80	120			
Method: EPA Method 8015B: Die	sel Range								
Sample ID: MB-15387		MBLK			Batch II	D: <b>15387</b>	Analysis Date:	3/17/200	8 1:48:26 PN
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-16387		LCS			Batch II	D: <b>15387</b>	Analysis Date:	3/17/200	8 2:23:07 PN
Diesel Range Organics (DRO)	5.118	mg/L	1.0	102	74	157			
Sample ID: LCSD-15387		LCSD			Batch II	D: 15387	Analysis Date:	3/17/200	8 2:57:56 PN
Diesel Range Organics (DRO)	5.623	mg/L	1.0	112	74	157	9.39 23		
Method:    EPA Method 8015B; Ga Sample ID:  5ML RB	soline Kan	ge MBLK			Batch II	D: R27765	Analysis Date:	3/18/200	8 9:00:31 AÑ
•	4.00		0.050		20,011		. aranyono banon	J J. Z. O. O.	5,55.0 1 1 114
Gasoline Range Organics (GRO)	ND	mg/L	0.050		D-1-6 15	). DATE:	Amaliania Mata	214 01000	0.40.00.00
Sample ID: 2.5UG GRO LCS		LCS			Batch II		Analysis Date:	3/18/200	8 8:48:09 PN
Gasoline Range Organics (GRO)	0.4530	mg/L	0.050	90.6	80	115			
<del>`)</del>		4							
Qualifiers:									

Page I

E Value above quantitation range

Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# **QA/QC SUMMARY REPORT**

ient:

San Juan Refining

roject:

San Juan River 1st QTR 2008

Work Order:

0803110

Analyte	Result	Units	PQL	%Rec	LowLimit F	lighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8021B: \ Sample ID: 5ML RB	Volatiles	MBLK			Batch ID	: R27765	Analysis Date:	3/18/2008 9:00:31 AN
Methyl tert-butyl ether (MTBE)	ND	μg/L	2.5				•	
Benzene	ND	µg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Sample ID: 100NG BTEX LCS		LCS			Batch ID	: R27765	Analysis Date:	3/18/2008 10:48:50 PM
Methyl tert-butyl ether (MTBE)	19.58	μg/L	2.5	97.9	51.2	138		
Benzene	21.01	μg/L	1.0	105	85.9	113		
Toluene	21.55	μg/L	1.0	108	86.4	113		
Ethylbenzene	21.70	µg/L	1.0	108	83.5	118		
Xylenes, Total	64.57	μg/L	2.0	~ 107	83.4	122		



E Value above quantitation range

Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

San Juan River 1st QTR 2008

Work Order:

0803110

Analyte	Result	Units	PQL	%Rec	LowLimit	Hig	hLimit	%RPD	RPDLim	t Qual
Method: EPA Method 8270C:	Semivolatiles									
Sample ID: mb-15376		MBLK			Batch	ID:	16376	Analysis	Date:	3/17/2008
Acenaphthene	ND	μg/L	10							
Acenaphthylene	ND	µg/L	10							
Aniline	ND	μg/L	10							
Anthracene	ND	μg/L	10		*					
Azobenzene	ND	µg/L	10							
Benz(a)anthracene	ND	μg/L	10	•					•	
Benzo(a)pyrene	ND	μg/L	10							
Benzo(b)fluoranthene	ND	µg/L	10		•					
Benzo(g,h,i)perylene	ND	μg/L	10							•
Benzo(k)fluoranthene	ND	μg/L	10							
Benzoic acid	ND	μg/L	20							
Benzyl alcohol	ND	μg/L	10							
Bis(2-chloroethoxy)methane	ND	μg/L	10							
Bis(2-chloroethyl)ether	ND	μg/L	10							
Bis(2-chloroisopropyl)ether	ND	µg/L	10							
Bis(2-ethylhexyl)phthalate	ND	µg/L	10							
4-Bromophenyl phenyl ether	ND	μg/L	10							
yl benzyl phthalate	ND	μg/L	10							•
Sarbazole	ND	μg/L	10							
4-Chloro-3-methylphenol	ND	µg/L	10							
4-Chloroaniline	ND	µg/L	10							
2-Chloronaphthalene	ND	μg/L	10							
2-Chlorophenol	ND	µg/L	10							
4-Chlorophenyl phenyl ether	ND	µg/L	10							
Chrysene	ND.	µg/L	10							
Di-n-butyl phthalate	ND	µg/L	10				•			
Di-n-octyl phthalate	ND	μg/L	10							
Dibenz(a,h)anthracene	ND	μg/L	10							
Dibenzofuran	ND	μg/L	10							
1,2-Dichlorobenzene	ND	µg/L	10							
1,3-Dichlorobenzene	ND	μg/L	10						•	
1,4-Dichlorobenzene	ND	μg/L	10							
3,3'-Dichlorobenzidine	ND	μg/L	10							
Diethyl phthalate	ND	μg/L	10							
Dimethyl phthalate	ND	μg/L	10							
2,4-Dichlorophenol	ND	µg/L	10							
2,4-Dimethylphenol	ND	μg/L	10							
4,6-Dinitro-2-methylphenol	ND	μg/L	10							
2,4-Dinitrophenol	ND	μg/L	20							
2,4-Dinitrotoluene	ND	μg/L	10							
2,6-Dinitrotoluene	ND	µg/L	10							
Fluoranthene	ND	μg/L	10							
Fluorene	ND	µg/L	10							•
xachlorobenzene	ND	μg/L	10							

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

# **QA/QC SUMMARY REPORT**

llient:

San Juan Refining

Project: San Juan River 1st QTR 2008

Work Order:

0803110

Project: San Juan I	River 1st QTR	2008						Work Order	0803110
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C	: Semivolatiles	3							
Sample ID: mb-15376		MBLK			Batch	D: <b>1537</b> 6	6 Analysis	Date:	3/17/200
Hexachlorobutadiene	ND	μg/L	10						
Hexachlorocyclopentadiene	ND	μg/L	10						
Hexachloroethane	ND	µg/L	10						
Indeno(1,2,3-cd)pyrene	ND	μg/L	10						
Isophorone	ND	μg/L	10						
2-Methylnaphthalene	ND	µg/L	10						
2-Methylphenol	ND	µg/L	10						
3+4-Methylphenol	ND	µg/L	10						
N-Nitrosodi-n-propylamine	ND	µg/L	10						
N-Nitrosodimethylamine	ND	µg/L	10						
N-Nitrosodiphenylamine	ND	μg/L	10						
Naphthalene	ND	μg/L	10						
2-Nitroanifine	ND	μg/L	10						
3-Nitroaniline	ND	μg/L	10						
4-Nitroaniline	ND	μg/L	10						
Nitrobenzene	ND	μg/L	10						
2-Nitrophenol	ND	μg/L	10						
litrophenól	ND	μg/L	10						
ntachlorophenol	ND	μg/L	20						
nenanthrene	ND	μg/L	10						
Phenol	ND	μg/L	10						
Pyrene	ND	μg/L	10						
Pyridine	ND	μg/L	10						
1,2,4-Trichlorobenzene	ND	μg/L	10						
2,4,5-Trichlorophenol	ND	μg/L	10						
2,4,6-Trichlorophenol	ND	µg/L	10						
Sample ID: lcs-15376		LCS	, -		Batch I	D: <b>1537</b> 6	Analysis [	Date:	3/17/2008
Acenaphthene	58.40		10	58.4	11	123			
•		μg/L				119			
4-Chloro-3-methylphenol 2-Chlorophenol	125.1 108.7	μg/L	10 10	62.6 54.3	15.4 12.2	122			
1,4-Dichlorobenzene	50.28	µg/L	10	50.3	16.9	100			
2,4-Dinitrotoluene	63.36	µg/L	10	63.4	13	138			
· ·		μg/L							
N-Nitrosodi-n-propylamine 4-Nitrophenol	62.58 57.14	μg/L	10 10	62.6 28.6	9.93 12.5	122 87.4			
Pentachlorophenol	83.84	µg/L µg/L	20	41.9	3.55	114			
Phenol	65.40	μg/L μg/L	10	32.7	7.53	73.1			
	52.42	μg/L	10	52.4	12.6	140			
Pyrene 1,2,4-Trichlorobenzene	54.58	μg/L μg/L	10	54.6	17.4	98.7			
Sample ID: lcsd-15376	54.56	μg/L LCSD	10	34.0	Batch I		Analysis [	)ate:	3/17/2008
•				<b></b> -			•		3/17/2000
Acenaphthene	61.48	μg/L 	10	61.5	11	123	5.14	30.5	
4-Chloro-3-methylphenol	136.4	μg/L 	10	68.2	15.4	119	8.66	28.6	
2-Chlorophenol	114.8	μg/L 	10	57.4	12.2	122	5.48	107	
1-4-Dichlorobenzene	55.56	μg/L	10	55.6	16.9	100	9.98	62.1	
Dinitrotoluene	65.70	<b>µg/</b> ∟	10	65.7	13	138	3.63	14.7	

S Spike recovery outside accepted recovery limits

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

San Juan River 1st QTR 2008

Work Order:

0803110

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimi	t Qual
Method: EPA Method 82700	: Semivolatiles								
Sample ID: Icsd-15376		LCSD			Batch	ID: 15376	Analysis D	ate:	3/17/2008
N-Nitrosodi-n-propylamine	68.10	μg/L	10	68.1	9.93	122	8.45	30.3	
4-Nitrophenol	51.70	μg/L	10	25.9	12.5	87.4	10.0	36.3	
Pentachiorophenol	82.60	µg/L	20	41.3	3.55	114	1.49	49	
Phenol	68.52	μg/L	10	34.3	7.53	73.1	4.66	52.4	
Pyrene	56.36	μg/L	10	56.4	12.6	140	7.24	16.3	
1,2,4-Trichlorobenzene	62.18	μg/L	10	62.2	17.4	98.7	13.0	36.4	<del></del>
Method: EPA Method 7470:	Mercury								
Sample ID: MB-15374	-	MBLK			Batch	ID: 15374	Analysis D	ate: 3/14	1/2008 4:58:33 PM
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-15374		LCS	·		Batch	ID: 15374	Analysis D	ate: 3/14	1/2008 5:00:21 PM
Mercury	0.005085	mg/L	0.00020	99.8	80	120			



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

San Juan River 1st QTR 2008

Work Order:

0803110

Analyte	Result	Units	PQL	%Rec	LowLimit F	lighLimit	%RPD RF	DLimit Qual
Method: EPA Method 601	0B: Dissolved Me	tals						
Sample ID: MB		MBLK			Batch ID	R27894	Analysis Date:	3/27/2008 4:02:59 PM
Arsenic	ND	mg/L	0.020					•
Barium	ND	mg/L	0.020					
Cadmium	ND	mg/L	0.0020					
Calcium	ND	mg/L	1.0					
Chromium	ND	mg/L	0.0060					
Copper	ND	mg/L	0.0060					
ron	ND	mg/L	0.020					
_ead	ND	mg/L	0.0050					
Vlagnesium	ND	mg/L	1.0					
- Manganese	ND	mg/L	0.0020					
Potassium	ND	mg/L	1.0					
Selenium	ND	mg/L	0.050					
Silver	ND	mg/L	0.0050					
Sodium	ND	mg/L	1.0					
Jranium	ND	mg/L	0.10					
linc	ND	mg/L	0.050					
Sample ID: MB		MBLK			Batch ID:	R27900	Analysis Date:	3/28/2008 10:40:04 AM
lcium	ND	mg/L	1.0				·	
on	ND	mg/L	0.020					
ead	ND	mg/L	0.0050					
/lagnesium	ND	mg/L	1.0					
//anganese	ND	mg/L	0.0020					
otassium	ND	mg/L	1.0					
elenium	ND	mg/L	0.050					
odium	ND .	mg/L	1.0					•
ample ID: LCS		LCS			Batch ID:	R27894	Analysis Date:	3/27/2008 4:05:51 PN
rsenic	0.5096	mg/L	0.020	102	80	120		
arium	0,4916	mg/L	0.020	98.3	80	120		
admium	0.5190	mg/L	0.0020	104		120		
alcium	51.09	mg/L	1.0	101		120		
hromium	0.5013	mg/L	0.0060	100		120		
opper	0.4941	mg/L	0.0060	98.8	80	120		
on	0.4902	mg/L	0.020	98.0	80	120		
ead	0.5070	mg/L	0.0050	101	80	120		*
lagnesium	52.13	mg/L	1.0	103	80	120		
langanese	0.4883	mg/L	0.0020	97.7		120		
otassium	55.28	mg/L	1.0	101		120		
elenium	0.5142	mg/L	0.050	103		120		
ilver	0.5051	mg/L	0.0050	101		120		•
odium	55.72	mg/L	1.0	110		120		
ranium	0.4455	mg/L	0.10	89.1		120		
inc	0.5041	mg/L	0.050	101		120		
ample ID: LCS	•	LCS		•	Batch ID:	R27900	Analysis Date:	3/28/2008 10:42:57 AM

ualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

San Juan River 1st QTR 2008

Work Order:

0803110

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Resthad: EDA Mathad 2011	IP: Dispoland 55	tale						
Method: EPA Method 6010 Sample ID: LCS	B: Dissolved Mie	LCS			Batch	ID: <b>R27900</b>	Analysis Date:	3/28/2008 10:42:57 AM
Calcium	50.31	mg/L	1.0	99.6	80	120		
Iron	0.5069	mg/L	0.020	101	80	120		
Lead	0.4969	mg/L	0.0050	99.4	80	120		
Magnesium	50.51	mg/L	1.0	100	80	120		
Manganese	0.4958	mg/L	0.0020	99.2	. 80	120		
Potassium	53.46	mg/L	1.0	97.2	80	120		
Selenium	0.4926	mg/L	0.050	98.5	80	120		
Sodium	52.84	mg/L	1.0	105	80	120		
Method: EPA 6010B: Total	Recoverable Me	tals						
Sample ID: MB-15367		MBLK			Batch	ID: 15367	Analysis Date:	3/15/2008 9:39:42 AM
Arsenic	ND	mg/L	0.020					
Cadmium	ND	mg/L	0.0020					
Chromium	ND	mg/L	0.0060					
_ead	ND	mg/L	0.0050					
Selenium	ND	mg/L	0.050					
Silver	ND	mg/L	0.0050					
nple ID: MB-15403		MBLK			Batch	ID: 15403	Analysis Date:	3/26/2008 3:01:26 PI
Arsenic '	ND	mg/L	0.020					
3arium	ND	mg/L	0.010					
Cadmium	ND	mg/L	0.0020					
Chromium	ND	mg/L	0.0060					
_ead	ND	mg/L	0.0050					
Selenium	ND	mg/L	0.050					
Silver	ND	mg/L	0.0050				•	
Sample ID: LCS-15367		LCS			Batch	ID: 15367	Analysis Date:	3/15/2008 9:42:54 Al
Arsenic	0.4752	mg/L	0.020	95.0	80	120		
Cadmium	0.4868	mg/L	0.0020	97.4	80	120		
Chromium	0.4863	mg/L	0.0060	97.3	80	120		
.ead	0.4691	mg/L	0.0050	93.8	80	120		
Selenium	0.4660	mg/L	0.050	93.2	80	120		
Silver	0.4862	mg/L	0.0050	97.0	80	120		
Sample ID: LCS-15403		LCS			Batch	ID: 15403	Analysis Date:	3/26/2008 3:04:41 P
Arsenic	0.4651	mg/L	0.020	93.0	80	120		
Barium	0.4634	mg/L	0.010	92.7	80	120		
Cadmium	0.4709	mg/L	0.0020	94.2	80	120		
Chromium	0.4689	mg/L	0.0060	93.8	80	120		
_ead	0.4594	mg/L	0.0050	91.9	80	120		
Selenium	0.4714	mg/L	0.050	94.3	80	120		
Silver	0.4791	mg/L	0.0050	95.8	80	120		



E Value above quantitation range

R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

J Analyte detected below quantitation limits

H Holding times for preparation or analysis exceeded

# QA/QC SUMMARY REPORT

lient:

San Juan Refining

Project:

San Juan River 1st QTR 2008

Work Order:

0803110

Analyte	Result	Units	PQL	%Rec	LowLimit HighLir	mit	%RPD RPDLimit	Qual
Method: SM 2540C: TDS Sample ID: MB-15384		MBLK			Batch ID: 1	5384	Analysis Date:	3/17/2008
Total Dissolved Solids Sample ID: MB-15436	ND	mg/L <i>MBLK</i>	20		Batch ID: 1	5436	Analysis Date:	3/21/2008
Total Dissolved Solids Sample ID: LCS-15384	ND	mg/L <i>LCS</i>	20		Batch ID: 1	5384	Analysis Date:	3/17/2008
Total Dissolved Solids Sample ID: LCS-15436	1020	mg/L LCS	20	102	80 120 Batch ID: <b>1</b> 8	5436	Analysis Date:	3/21/2008
Total Dissolved Solids	1018	mg/L	20	101	80 120			

lifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

)	Sample	Rec	eipt Ch	ecklist			
Client Name SJR	·			Date, Receive	ed:	3/13/2008	
Work Order Number 0803110				Received b	y: ARS	K	
Checklist completed by: Signature  Matrix:	Carrier name	Grey	13/0°	Sample ID	abels checked by	/: Initials	-
Chinning containantecolor in good condition?		Yes	<b>.</b> ⊋)	No 🗀	Not Present	7	
Shipping container/cooler in good condition?  Custody seals intact on shipping container/cool	er?	Yes		No 🗆	Not Present	□ Not Shipped	П
Custody seals intact on sample bottles?	GII	Yes	_	No 🗆		Z Not Simpled	لسا
Chain of custody present?	•	Yes		No □			
Chain of custody signed when relinquished and	received?	Yes	_	No □			
Chain of custody agrees with sample labels?	Tocowea	Yes	_	No 🗆			
Samples in proper container/bottle?		Yes		No 🗆			
Sample containers intact?		Yes		No □			-
Sufficient sample volume for indicated test?		Yes	,,,,,,	No 🗆			
All samples received within holding time?	•	Yes		No 🗆			
/ater - VOA vials have zero headspace?	No VOA vials subr			Yes 🗹	No 🗆		
Water - Preservation labels on bottle and cap n		Yes		No 🗆	N/A		
Water - pH acceptable upon receipt?		Yes	V	No 🗆	N/A □		
Container/Temp Blank temperature?			6°	<6° C Accepta	ble		
COMMENTS:				If given sufficier	nt time to cool.		
·	•						
Client contacted	Date contacted:			Per	son contacted		
Contacted by:	Regarding:		•••				
Comments:						,	
					***		
Corrective Action	. = 0.7						
				· 			

	HALL ENVIRONMENTAL	www hallonvironmental com	4901 Hawkins NE - Albuquerque, NM 87109	ın	Analysis	(*(	OS <sup>(†</sup> )		085 ()	. 40; HA9 A, <sub>E</sub> C	A bo	FACE SOME	EDB (EDB (EDB (EDB (EDB (EDB (EDB (EDB (		×	<u>У</u>	<b>X</b>	Х -	X					
			4901	Tel.		(չի	IO ST	(Gs	Нс	I <u>T</u> +	38.	LM + :	ХЭТВ							 ×			Remarks:	
Tum-Around Time:	□ Standard □ Rush	1	AN JUN RIVER	Project #:		Project Manager.			Sampler: Bab + 0 - 1		Sample sequences for the set	Container Preservative	Type OSO3110	1	1-500 M HNO3 1	1-250 m HW3 6,14, pol 1	1-860 m1 H2504	1-500M	1-liter Amber 1	6-VOA HCL 2			V 8.25 3/13/05	Heceived by:
tody Record	Client: SAN JUAN REFINING	(Refining)	CR 4990	NN 87413	632-1	505-632-3911	Ge:	dard   Level 4 (Full Validation)		□ EDD (Type)		Time Sample Reguest ID	2	3 1:30 DOWN Stream						135pm Downstream-FD			John States	inte. nemquisted by:
つ	Client:	3	Addres		Phone,	email or Fax#;	OA/OC	☐ Standard	□ Other			Date		3-12-08	+		-			3-12-08		.	3-12-08	Dale:

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.

Air Bubbles (Y or N)

HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107	Analysis Regiest	(leseiQ\si	5B (GE 8.1) 4.1) 60) 3,NO <sub>2,</sub> F ( 8082 ( )	14 bo 02 bo 03 bo 03 bo 04 ro 28 bo 00, k 00, k 00, k	BTEX + MT TPH (Methor TPH (Methor EDB (Methor 8310 (PNA 8210 (PNA 8250 (Sem 8270 (Sem Pestic		X	X	X	X	X				arks:	
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Cha. Fof-Custody Record Client SAN JUAN REFINING (Western Refining) Address: #50 (R 4990 Room Cield N.M. 87413	M	#: 505 ige:	Other     Con Track		Date Time Sample Request ID	3-0-08 (145 UR Stream									3-12-08 3pm Rephalushed by:	1

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

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Cha of-Custody Record	Client SAN THAN REFINING	Western RefiniNg	Address: #50	Bloomfield.	Phone #: 505 - 632-	email or Fax#;	QA/QC Package:	ard		□ EDD (Type)			10	5	_	$\downarrow$		_								Jen .	
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HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107	8260) BAH) O3,NO2,PO4,SO4) O3,NO2,PO4,SO4) OA) OA) OA) OA) OA) OA) OA) OA) OA) OA	borleh Method EDB (Method EDC (Method B310 (PNA or ILO, T) anoinA ILO, T) anoinA ILO, T) anoinA ILO, T) anoinA ILO, T) anoinA	× ×	X	X	×	× -			arks:		. Any sub-contracted data will be clearly notated on the analytical report.
Turn-Around Time:  Standard □ Rush Project Name: (57. 女下 2 女子 2 女み ブルルン パルト 2を8 Project #:	Project Manager:  Sampler: Cinny + Bib  On ce	Preservative HEAL No.  Type  DSO3 110	6-vea HCl S X	Filtered	-+	1-500 5	1-liter Amber 5			Hermanks:	Hecelved by:	contracted to other accredited laboratories. This serves as notice of this possibility.
Cha. For Custody Record Client: SAN TWAN REFININGS (WESTERN REFININGS) Address: #50 CR 4990  **Elbourfield NM 87413	Phone #: 5a5 - 633 - 4/6 / email or Fax#: 5a5 - 632 - 37/  0A/QC Package:  □ Standard  □ Other  □ EDD (Type)	Date Time Sample Request ID	312-08 2:06 North of Mw 45							31208 3pm Relinquished by Hurladio		If necessary, samples submitted to Hall Environmental may be subcontracted to other



#### **COVER LETTER**

Tuesday, December 09, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: Tank #33 Dec 2, 08

Dear Cindy Hurtado:

Order No.: 0812052

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 12/3/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 09-Dec-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

Tank #33 Dec 2, 08

Lab Order:

0812052

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0812052-01A	TK #33	R31483	EPA Method 8260: Volatiles Short List	12/2/2008 9:00:00 AM
0812052-01A	TK #33	R31483	EPA Method 8260B: VOLATILES	12/2/2008 9:00:00 AM

**Date:** 09-Dec-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0812052

Project:

Tank #33 Dec 2, 08

Lab ID:

0812052-01

Client Sample ID: TK #33

**F** -- ----

**Collection Date:** 12/2/2008 9:00:00 AM

Date Received: 12/3/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analyst: HL
Benzene	1.7	1.0	μg/Ļ	1	12/4/2008 4:23:50 PM
Toluene	ND	1.0	μg/L	· 1	12/4/2008 4:23:50 PM
Ethylbenzene	ND	1.0	μg/L	1	12/4/2008 4:23:50 PM
Methyl tert-butyl ether (MTBE)	2.6	1.0	μg/L	1	12/4/2008 4:23:50 PM
Xylenes, Total	ND	2.0	µg/L	1	12/4/2008 4:23:50 PM
Surr: 1,2-Dichloroethane-d4	78.6	59.3-133	%REC	1	12/4/2008 4:23:50 PM
Surr: 4-Bromofluorobenzene	87.4	80.4-119	%REC	-1	12/4/2008 4:23:50 PM
Surr: Dibromofluoromethane	80.8	59.5-134	%REC	1	12/4/2008 4:23:50 PM
Surr: Toluene-d8	84.7	53.5-136	%REC	· 1	12/4/2008 4:23:50 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 1

Date: 09-Dec-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Tank #33 Dec 2, 08

Work Order:

081205

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260: Vo	latiles Short	List						
Sample ID: 5ml rb		MBLK			Batch ID	R31483	Analysis Date:	12/4/2008 10:27:19 AM
Benzene ·	ND	μg/L	1.0					
Toluene	ND	µg/L	1.0				•	•
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	2.0					
Sample ID: 100ng lcs		LCS			Batch ID	): R31483	Analysis Date:	12/4/2008 12:28:59 PM
Benzene	18.65	μg/L	1.0	93.3	86.8	120		•
Toluene	17.26	µg/L	1.0	86.3	64.1	127		•

Qualifiers	
------------	--

E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT		Date Received:		12/3/2008	
Work Order Number 0812052		Received by:	TLS	,	
Checklist completed by: Signature	123	Sample ID labels o	hecked by:	Initials	
Matrix: C	Carrier name <u>UPS</u>				
Shipping container/cooler in good condition?	Yes 🗹	No Not I	Present 🗌		
Custody seals intact on shipping container/cooler?	Yes 🗌	No 🗌 Not I	Present 🗌	Not Shipped	<b>✓</b>
Custody seals intact on sample bottles?	Yes	No 🗌 N/A	V		
Chain of custody present?	Yes 🗹	No 🗆			
Chain of custody signed when relinquished and received	d? Yes ✔	No 🗌			
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌			
Samples in proper container/bottle?	Yes 🗸	No 🗌			
Sample containers intact?	Yes 🗸	No 🗌			
Sufficient sample volume for indicated test?	Yes 🗹	No 🗆			
All samples received within holding time?	Yes 🗹	No 🗌			
	OA vials submitted	Yes 🗹	No 🗌		
Water - Preservation labels on bottle and cap match?	Yes	No 🗆 I	N/A 🗹		
Water - pH acceptable upon receipt?	Yes	No 🗆 I	N/A 🗹		
Container/Temp Blank temperature?	<b>4°</b>	<6° C Acceptable			
COMMENTS:		If given sufficient time t	o cool.		
			====	=====	
Client contacted Date co	ontacted:	Person cor	ntacted		
Contacted by: Regard	ing:			-	
Comments:					
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Corrective Action					

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Albuquerque, New Mexico 87109	lel. 505.345.3975 Fax 505.345.4107	ANANSISBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB	/ (Aju	online Ori	Od (1)	158 ((8.1) (1.8) (	'08 bc '4 bor )2 bor )8 bor '9 no A	M + Methalmeth (Methalmeth) (Me	######################################	X							Remarks:		
QA/QC Package: Std 🔲 Level 4 🗹	Other:	TOPULNAMIE.  TANK # 33 Dec. 2, 08			Project Manager:		Sampler: 32 B	Sample Temperature:	Preservative	NUMBER/VOUME HECL NO FEAL NO. HEAL NO. HEAL NO.	3-vof							Received By: (Signature)	Recorded Bly (Signatulre)	ı
		Western Kefining (BM+10)	Address: #50 CR 4990	Bloomfield, UM 874/3			505-635-4161	505-639-38//		Ime Viatrix Sample I. D. No.	9:00 HO TK# 33							Time: Rélinglished By: Bignaturely  1.45 Abert Kalan	Ime: Relinquished By: (Signature)	
· ·			Address: +	(X/88)			Phone #:	Fax #: (4)		Date	12-2-08			-				\$	Date: T	



#### COVER LETTER

Thursday, November 06, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 Nov 4, 2008

Dear Cindy Hurtado:

Order No.: 0811041

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 11/5/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Breeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



**Date:** 06-Nov-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

TK #33 Nov 4, 2008

Lab Order:

0811041

**Work Order Sample Summary** 

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

**Collection Date** 

0811041-01A

TK #33

R31026

EPA Method 8260: Volatiles Short List

11/4/2008 8:55:00 AM

**Date:** 06-Nov-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: TK #33

Lab Order:

0811041

Collection Date: 11/4/2008 8:55:00 AM

Project:

TK #33 Nov 4, 2008

Date Received: 11/5/2008

Lab ID:

0811041-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analyst: <b>HL</b>
Benzene	1.5	1.0	µg/L	1	11/5/2008 2:18:06 PM
Toluene	ND	1.0	μg/L	. 1	11/5/2008 2:18:06 PM
Ethylbenzene	ND	1.0	μg/L	1	11/5/2008 2:18:06 PM
Methyl tert-butyl ether (MTBE)	2.4	1.0	μg/L	1	11/5/2008 2:18:06 PM
Xylenes, Total	ND	2.0	μg/L	1	11/5/2008 2:18:06 PM
Surr: 1,2-Dichloroethane-d4	85.7	59.3-133	%REC	1	11/5/2008 2:18:06 PM
Surr: 4-Bromofluorobenzene	91.4	80.4-119	%REC	1	11/5/2008 2:18:06 PM
Surr: Dibromofluoromethane	85.6	59.5-134	%REC	1	11/5/2008 2:18:06 PM
Surr: Toluene-d8	86.4	53.5-136	%REC	1	11/5/2008 2:18:06 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J. Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Page 1 of 1

**Date:** 06-Nov-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 Nov 4, 2008

Work Order:

081104

Analyte	Result	Units `	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLin	nit Qual
Method: EPA Method 8260: Vo	olatiles Short	t List						<u> </u>	
Sample ID: 0811041-01a MSD		MSD			Batch	ID: R31026	Analysis D	ate: 1	1/5/2008 3:15:42 PM
Benzene	21.73	μg/L	1.0	101	72.4	126	0.214	20	
Toluene	17.68	μg/L	1.0	88.4	79.2	115	6.70	20	
Surr: 1,2-Dichloroethane-d4	8.899	μg/L	0	89.0	59.3	133	0	0	1
Surr: 4-Bromofluorobenzene	9.843	μg/L	0	98.4	80.4	119	0	0	
Surr: Dibromofluoromethane	9.114	µg/L	0	91.1	59.5	134	0	. 0	•
Surr: Toluene-d8	8.051	µg/L	0 .	80.5	53.5	136	0	0	
Sample ID: 5ml rb		MBLK			Batch	ID: <b>R31026</b>	Analysis D	ate: 11/	5/2008 10:06:14 AM
Benzene	ND	μg/L	1.0						
Toluene	ND	μg/L	1.0			*			
Ethylbenzene	ND	μg/L	1.0	•					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Surr: 1,2-Dichloroethane-d4	8.744	μg/L	0	87.4	59.3	133			
Surr: 4-Bromofluorobenzene	9.684	µg/L	0	96.8	80.4	119			
Surr: Dibromofluoromethane	9.015	μg/L	0	90.2	59.5	134			
Surr: Toluene-d8	8.930	·µg/L	0 .	89.3	53.5	136			
Sample ID: 100ng ics		LCS			Batch	ID: <b>R31026</b>	Analysis D	ate: 11/	5/2008 11:53:03 AM
Benzene	20.65	μg/L	1.0	103	86.8	120			
Toluene	18.46	μg/L	1.0	92.3	64.1	127			
Surr: 1,2-Dichloroethane-d4	9.032	μg/L	0	90.3	59.3	133			4
Surr. 4-Bromofluorobenzene	10.17	μg/L	0	102	80.4	119			•
Surr: Dibromofluoromethane	9.245	. μg/L	0	92.5	59.5	134			
Surr: Toluene-d8	8.591	μg/L	0	85.9	53.5	136			•
Sample ID: 0811041-01a MS	•	MS			Batch	ID: <b>R31026</b>	Analysis D	ate: 1	1/5/2008 2:46:54 PM
Benzene	21.77	μg/L	1.0	101	72.4	126			
Toluene	18.91	µg/L	1.0	94.5	79.2	115			
Surr: 1,2-Dichloroethane-d4	8.618	μg/L	0	86.2	59.3	133			
Surr: 4-Bromofluorobenzene	9.208	µg/L	0	92.1	80.4	119			
Surr: Dibromofluoromethane	8.931	µg/L	0	89.3	59.5	134			
Surr: Toluene-d8	8.527	μg/L	0	85.3	53.5	136			

Qualifiers		Qu	al	iſ	īе	rs	;:
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E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



### Sample Receipt Checklist

	Cample Receipt Of	COMIST		
Client Name WESTERN REFINING SOUT		Date Received	<b>i</b> :	11/5/2008
Work Order Number 0811041		Received by:	ARS	<u> </u>
Checklist completed by:	11/5	Sample ID la	bels checked b	oy: Initials
Signature	Date			
Matrix: Ca	arrier name <u>UPS</u>			
Shipping container/cooler in good condition?	Yes 🔽	No 🗀	Not Present	
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌	Not Present	☐ Not Shipped ☐
Custody seals intact on sample bottles?	Yes	No 🗌	· N/A	<b>✓</b>
Chain of custody present?	Yes 🗹	No 🗌		
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌		
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌		
Samples in proper container/bottle?	Yes 🗹	No 🗌		
Sample containers intact?	Yes 🗹	No 🗌		
Sufficient sample volume for indicated test?	Yes 🗹	No 🗆		
All samples received within holding time?	Yes 🗹	No 🗌		•
Water - VOA vials have zero headspace? No VO	A vials submitted	Yes 🗹	No 🗌	
Water - Preservation labels on bottle and cap match?	Yes $\square$	No 🗌	N/A 🗹	
Water - pH acceptable upon receipt?	Yes 🗌	No 🗌	N/A 🗹	
Container/Temp Blank temperature?	<b>4°</b>	<6° C Acceptable		
COMMENTS:		If given sufficient	time to cool.	
•				
		:		
		•		
Client contacted Date con	ntacted:	Pers	on contacted	
Contacted by: Regardin	ng:			
Comments:				
				· · · · · · · · · · · · · · · · · ·
Corrective Action				

	ORY							(1	/ 10 /	() s	Air Bubble				-			- "-				] 
ENVIOONMENTAL	S LABORATORY	www.hallenvironmental.com	Albuquerque, NM 87109	505-345-4107	Anallysis/Request.	Jage "	bcB.	280	8 \ ee	cide (A	8081 Pesti 8260B (VC 8270 (Sem	X										The second second second to other second sec
		.hallenviron	1	75 Fax	Analysis	( <sup>†</sup> O	Sʻ <sup>⊅</sup> Oc		S	eta	AN9) 0168 M 8 ARDA Anions (F,0									·		data will be clea
		www	4901 Hawkins NE	505-345-3975		/		()	.814	ро	TPH (Meth											patracted t
類			4901	Tel. &		(ʎju	Gas o	) Hd	IT + 3	181	BTEX + MT BTEX + MT TPH Metho		-							Remarks:		noceibility Any
			.4,2008						No.		HEAL NO.	-								Date Time	Date Time	e in the second
<u>.</u>	l □ Rush_	e:	33 NOV.4		.	ager:		Rok	∑ Yes , i	iperature: ्र्यूड	Preservative Type	Hc/								11:00		Calley .
pilipolik-ilipii	© Standard	Project Name:	TK#33	Project #:		Project Manager:		Sampler: T	On Ice:	Sample Temperature:	Container Type and #	3-10A							6	Received by	Received by:	
Chain-of-Custody Record	Client: Western Refining (BlufU)		CR 4890	Bloomfield NM 8443	19/4-889	1 1	Marion Validation	E Level 4 (Fuil Validation)			Sample Request ID	TK#33								ed by: enthralian	pt pix:	
-of-Cu	ern R		Mailing Address: # 50	De la	505-6	1 1	is:				Matrix	5 1/20								Relinquished by	Relinquished by	
Shain	West		y Addres	Sloam	# 5	ă,	QA/QC Package:	ndaru Pr	□ EDD (Type)		Time	8:55			ļ					Time:	Time:	
	Client:		Mailing		Phone #:	email	QA/QC	☐ Standard			Date	80-h-1)						ļ		Date: Time: F	Date:	

, samples submitted to Hall Environmental may be subcontracted to other accredited laborate



#### **COVER LETTER**

Monday, November 03, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161

FAX (505) 632-3911

RE: TK #33 10/27/08

Dear Cindy Hurtado:

Order No.: 0810585

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 10/29/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Meeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 03-Nov-08

CLIENT:

Western Refining Southwest, Inc.

Project:

TK #33 10/27/08

Lab Order:

0810585

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

**Collection Date** 

0810585-01A

TK #33

R30936

EPA Method 8260: Volatiles Short List

10/27/2008 8:40:00 AM

**Date:** 03-Nov-08

CLIENT:
Lab Order:

Western Refining Southwest, Inc.

0810585

TK #33 10/27/08

Project: Lab ID:

0810585-01

Client Sample ID: TK #33

**Collection Date:** 10/27/2008 8:40:00 AM

**Date Received:** 10/29/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	IORT LIST			· · · · · · · · · · · · · · · · · · ·	Analyst: HL
Benzene	2.3	1.0	μg/L	1	10/29/2008 5:41:17 PM
Toluene	ND	1.0	μg/L	1	10/29/2008 5:41:17 PM
Ethylbenzene	ND	1.0	µg/L	1	10/29/2008 5:41:17 PM
Methyl tert-butyl ether (MTBE)	2.4	1.0	µg/L	. 1	10/29/2008 5:41:17 PM
Xylenes, Total	ND	2.0	μg/L	1	10/29/2008 5:41:17 PM
Surr: 1,2-Dichloroethane-d4	96.6	59.3-133	%REC	1	10/29/2008 5:41:17 PM
Surr: 4-Bromofluorobenzene	95,7	80.4-119	%REC	. 1	10/29/2008 5:41:17 PM
Surr: Dibromofluoromethane	98.8	59.5-134	%REC	1	10/29/2008 5:41:17 PM
Surr: Toluene-d8	102	53.5-136	%REC	1	10/29/2008 5:41:17 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 03-Nov-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 10/27/08

Work Order:

በደ1በ5ደ

Analyte	Result	· Units	PQL	%Rec	LowLimit H	lighLimit	%RPD R	PDLimit Qual
Method: EPA Method 8260: Vo	olatiles Shor	t List						
Sample ID: 5ml rb		MBLK	:·		Batch ID	R30936	Analysis Date:	10/29/2008 10:34:01 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0		•			
Ethylbenzene	ND	μg/L	1.0					•
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	10.35	μg/L	0	104	59.3	133		•
Surr: 4-Bromofluorobenzene	9.144	µg/L	0	91.4	80.4	119		
Surr: Dibromofluoromethane	9.840	μg/L	0	98.4	59.5	134		
Surr: Toluene-d8	10.36	μg/L	0	104	53.5	136		
Sample ID: 100ng Ics		LCS			Batch ID	R30936	Analysis Date:	10/29/2008 11:31:48 AM
Benzene	23.44	μg/L	1.0	117	86.8	120		
Toluene	19.95	μg/L	1.0	99.8	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.736	µg/L	0	97.4	59.3	133		
Surr: 4-Bromofluorobenzene	9.828	µg/L	0	98.3	80.4	119		
Surr: Dibromofluoromethane	10.11	µg/L	. 0	101	59.5	134		
Surr: Toluene-d8	10.20	μg/L	0	102	53.5	136		



E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



#### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT	, .	Date Received:	10/29/2008
Work Order Number 0810585  Checklist completed by:  Signature	10 <u>29</u>	Received by: ARS  Sample ID labels checked by	y: Initals
Matrix:	Carrier name <u>UPS</u>		
Shipping container/cooler in good condition?	Yes 🗹	No Not Present	
Custody seals intact on shipping container/cooler?	Yes 🗸	No Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes	No 🗆 N/A	✓
Chain of custody present?	Yes 🗸	No 🗆	
Chain of custody signed when relinquished and reco	eived? Yes	No 🗌	
Chain of custody agrees with sample labels?	Yes 🗸	No 🗆	
Samples in proper container/bottle?	Yes 🗹	No 🗌	
Sample containers intact?	Yes 🗹	No 🗆	
Sufficient sample volume for indicated test?	Yes 🗹	No 🗔	
All samples received within holding time?	Yes 🗹	No 🗌	•
Water - VOA vials have zero headspace?	lo VOA vials submitted	Yes ✓ No 🗆	
Water - Preservation labels on bottle and cap match	n? Yes 🗌	No ☐ N/A 🗹	
Water - pH acceptable upon receipt?	Yes	No ☐ N/A 🗹	
Container/Temp Blank temperature?	<b>4°</b>	<6° C Acceptable	
COMMENTS:		If given sufficient time to cool.	
			·
Olivert assets of the	to appropriate di	Donon control	·
Client contacted Da	te contacted:	Person contacted	
Contacted by:	garding:		and the state of t
Comments:			
Corrective Action			
,			

HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com kins NE - Albuquerque, NM 87109	4107	, (AO)	/-imə2) 0\\\28									
IALL ENVIRON INALYSIS LAB( www.hallenvironmental.com)	505-345-4107 Reduest	es / 8082 PCB's	(AOV) 80608	X							,	
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HALL ENVI ANALYSIS www.hallenvironm kins NE - Albuquer	45-39		EDB (Method									
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4		E + TMB's (8021) E + TPH (Gas only)			_	+			-	ļ	Remarks	
		(1508) 3/8MT + 3	8TM + Y3T8			-		++		+	K K	
Turn-Around Time:  ■ Standard □ Rush  Project Name:  Tk # 33 10 - 27 - 08		Project Manager: Sampler: T&b On Ice: Z Yes	Container Preservative HEAL No. Type and # Type	Hc/ 1							9:30 16/29 0	y: Date ' Time
Turn-Around Tir Ex Standard Project Name:	Project #:	Project M Sampler: On Ice:	Container Type and #	3-WA						<i>ب</i> ت	Received	Received by:
ustody Record		email or Fax#: 505-632-39// QA/QC Package:   Standard  Other  EDD (Type)	Date Time Matrix Sample Request ID	1-27-08 8140 HaO TK#33							Time:	Date: Time: Relinquished by: Received by:



Monday, October 27, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 Oct 2008

Dear Cindy Hurtado:

Order No.: 0810501

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 10/24/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



**Date:** 27-Oct-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

TK #33 Oct 2008

**Lab Order:** 0810501

**Work Order Sample Summary** 

Lab Sample ID

Client Sample ID

Batch ID Test Name

**Collection Date** 

0810501-01A

TK #33

R30865

EPA Method 8260: Volatiles Short List

10/22/2008 9:35:00 AM

Date: 27-Oct-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0810501

Project:

TK #33 Oct 2008

Lab ID:

0810501-01

Client Sample ID: TK #33

Collection Date: 10/22/2008 9:35:00 AM

**Date Received:** 10/24/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: HL
Benzene	2.2	1.0	µg/L	1	10/25/2008 3:14:16 AM
Toluene	ND	1.0	µg/L	1	10/25/2008 3:14:16 AM
Ethylbenzene	ND	1.0	μg/L	1	10/25/2008 3:14:16 AM
Methyl tert-butyl ether (MTBE)	2.2	1.0	μg/L	1	10/25/2008 3:14:16 AM
Xylenes, Total	ND	2.0	μg/L	1 .	10/25/2008 3:14:16 AM
Surr: 1,2-Dichloroethane-d4	88.6	59.3-133	%REC	1	10/25/2008 3:14:16 AM
Surr: 4-Bromofluorobenzene	105	80.4-119	%REC	1	10/25/2008 3:14:16 AM
Surr: Dibromofluoromethane	93.0	59.5-134	%REC	1	10/25/2008 3:14:16 AM
Surr: Toluene-d8	96.7	53.5-136	%REC	1	10/25/2008 3:14:16 AM



Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

**Date:** 27-Oct-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 Oct 2008

Work Order:

0810501

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	PDLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List			,			
Sample ID: b7		MBLK			Batch	ID: R30865	Analysis Date:	10/24/2008 10:28:55 PM
Benzene	ND	μg/L	1.0		٠			
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0	•				
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L⊹	2.0					
Surr: 1,2-Dichloroethane-d4	8.903	μg/L	0	89.0	59.3	133		,
Surr: 4-Bromofluorobenzene	9.203	μg/L	.0	92.0	80.4	119		
Surr: Dibromofluoromethane	8.289	μg/L	0	82.9	59.5	134		
Surr: Toluene-d8	10.38	μg/L	0	104	53.5	136		
Sample ID: 100ng lcs		LCS	2		Batch	ID: <b>R30865</b>	Analysis Date:	10/24/2008 11:26:06 PM
Benzene	23.24	μg/L	1.0	116	86.8	120		
Toluene	21.49	µg/L	1.0	107	64.1	127		*
Surr: 1,2-Dichloroethane-d4	8.989	μg/L	0	89.9	59.3	133		•
Surr: 4-Bromofluorobenzene	9.815	µg/L	0	98.2	80.4	119		•
Surr: Dibromofluoromethane	9.585	µg/L	0	95.9	59.5	134		
Surr: Toluene-d8	9.344	μg/L	0	93.4	53.5	136		
• •			è					



E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT	·		•	Date Receive	ed:	10/24/2008	
Work Order Number 0810501				Received by	y: TLS	AN	
Checklist completed by:	<u> </u>		Date	Sample ID I	abels checked by:	Initials	
Matrix:	Carrier name	UPS	<u>.</u>				
Shipping container/cooler in good condition?		Yes	<b>✓</b>	No 🗌	Not Present	]	
Custody seals intact on shipping container/cool	er?	Yes	✓	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗌	N/A ▼		
Chain of custody present?		Yes	✓	No 🗌			•
Chain of custody signed when relinquished and	received?	Yes	<b>✓</b>	No 🗌	•		•
Chain of custody agrees with sample labels?		Yes	V	No 🗌			
Samples in proper container/bottle?		Yes	✓ .	No 🗌			
Sample containers intact?		Yes	V	No 🗌			
Sufficient sample volume for indicated test?		Yes	$\checkmark$	No 🗌	•		
All samples received within holding time?		Yes	<b>V</b>	No 🗌			
Water - VOA vials have zero headspace?	No VOA vials sub	mitted		Yes 🗹	No 🗌		
Water - Preservation labels on bottle and cap n	natch?	Yes		No 🗌	N/A 🗹		
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹		
Container/Temp Blank temperature?			4°	<6° C Accepta			
COMMENTS:	•		÷	If given sufficier	nt time to cool.		
			===				· 
Client contacted	Date contacted:			Per	son contacted _		
Contacted by:	Regarding:						
Comments:	10.1					111	
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Corrective Action							
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INTERNACED IN THE	LABORATORY		109					(N	OL	٧)	Air Bubbles															The property
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Turn-Around Time:	☑ Standard	Project Name	一一一一一一	Project #:		Project Manager:		Sampler:	On Ice:	Sample Temp	Container Type and #	3-10A											Received by:		Kecelved by:	I structed to other a
Chain-of-Custody Record	Client: Western Refining (Blufld)		Mailing Address: #50 CR 4990	Bloomflald, NM 894/3	-632-4161	email or Fax#: 505-639-39//	☑ Level 4 (Full Validation)				Matrix Sample Request ID	1150 TK#33											Remanished by:	und my tado	Relinquished by:	
J-0-L	1 kg		\$3: #	10	505	50	.; •					<u> </u>			_		┼	-	-	_	-	_			<u>ж</u>	
haii	Wes		Addre	NO W	3	Fax#	ackag		EDD (Type)		Time	9:3											Time:	Pola	Time.	1
Ö	Client:		Mailing,	Blo	Phone #:	email or	QA/QC Package:	□ Other			Date	10-22-cg 9:35												0	Date:	1



Thursday, October 23, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 10/15/08

Dear Cindy Hurtado:

Order No.: 0810328

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 10/16/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 23-Oct-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

TK #33 10/15/08

Lab Order:

0810328

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

Collection Date

0810328-01A

TK #33

R30747

EPA Method 8260: Volatiles Short List

10/15/2008 8:40:00 AM

Date: 23-Oct-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0810328

Project:

TK #33 10/15/08

Lab ID:

0810328-01

Client Sample ID: TK #33

Collection Date: 10/15/2008 8:40:00 AM

Date Received: 10/16/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST		······································		Analyst: <b>HL</b>
Benzene	2.2	1.0	μg/L	1 .	10/17/2008 7:33:39 PM
Toluene	ND	1.0	μg/L	1	10/17/2008 7:33:39 PM
Ethylbenzene	ND	1.0	μg/L	1	10/17/2008 7:33:39 PM
Methyl tert-butyl ether (MTBE)	1.6	1.0	μg/L	1	10/17/2008 7:33:39 PM
Xylenes, Total	ND	2.0	µg/L	1	10/17/2008 7:33:39 PM
Surr: 1,2-Dichloroethane-d4	95.3	59.3-133	%REC	1	10/17/2008 7:33:39 PM
Surr: 4-Bromofluorobenzene	101	80.4-119	%REC	1	- 10/17/2008 7:33:39 PM
Surr: Dibromofluoromethane	96.9	59.5-134	%REC	1	10/17/2008 7:33:39 PM
Surr: Toluene-d8	109	53.5-136	%REC	1	10/17/2008 7:33:39 PM



- Value exceeds Maximum Contaminant Level
- Ε Estimated value
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

**Date:** 23-Oct-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 10/15/08

Work Order:

0810328

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260: Vo	platiles Short	List				•		
Sample ID: 5ml rb	4	MBLK			Batch II	D: <b>R30747</b>	Analysis Date:	10/17/2008 1:56:17 PM
Benzene	ND ·	μg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					•
Surr: 1,2-Dichloroethane-d4	9.658	μg/L	0 -	96.6	59.3	133	*	
Surr: 4-Bromofluorobenzene	9.802	μg/L	0 .	98.0	80.4	119		
Surr: Dibromofluoromethane	9.726	μg/L	0	97.3	59.5	134		•
Surr: Toluene-d8	10.82	μg/L	0	108	53.5	136		
Sample ID: 100ng lcs		LCS			Batch II	D: R30747	Analysis Date:	10/17/2008 3:04:08 PM
Benzene	22.04	μg/L	1.0	110	86.8	120		
Toluene	20.89	μg/L	1.0	104	64.1	127		•
Surr: 1,2-Dichloroethane-d4	9.524	μg/L	0	95.2	59.3	133		
Surr: 4-Bromofluorobenzene	9.768	μg/L	0	97.7	- 80.4	119		·
Surr: Dibromofluoromethane	10.34	μg/L	0	103	59.5	134		
Surr: Toluene-d8	10.71	μg/L	0	107	53.5	136		



E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

#### Sample Receipt Checklist Client Name WESTERN REFINING SOUT Date Received: 10/16/2008 Work Order Number 0810328 Received by: ΑT Sample ID labels checked by: Checklist completed by: Matrix: Carrier name <u>UPS</u> No 🗌 Yes 🗸 Shipping container/cooler in good condition? Not Present $\square$ No 🗌 Yes 🗸 Not Shipped Custody seals intact on shipping container/cooler? Not Present Yes 🗌 No $\square$ Y N/A Custody seals intact on sample bottles? No 🗆 Yes 🗹 Chain of custody present? No 🗌 Yes 🗹 Chain of custody signed when relinquished and received? Yes 🗸 No 🗌 Chain of custody agrees with sample labels? Yes 🗸 No 🗔 Samples in proper container/bottle? Yes 🗸 No 🗀 Sample containers intact? Sufficient sample volume for indicated test? Yes 🔽 No 🗌 All samples received within holding time? Yes 🗸 No 🗆 No 🗌 No VOA vials submitted Yes 🗸 Water - VOA vials have zero headspace? N/A No 🗔 Water - Preservation labels on bottle and cap match? Yes No 🗌 N/A Water - pH acceptable upon receipt? Container/Temp Blank temperature? <6° C Acceptable 2° If given sufficient time to cool. COMMENTS: Client contacted Date contacted: Person contacted Contacted by: Regarding: Comments: Corrective Action

ORATORY	e .	87109	107																						al report.
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Standard 🗆 Rush	roject Name:	TK# 33 CCT, 15, 2008	roject #:		roject Manager:		amnlar ( )	n Ice: V Yes.	ample Temperature: 🧷 💆	Preservative Type	3-10A HCI1												New Date Time 1622	eceived by: Date Time	acted to other accredited laborator is serves as notice of this possibility. Any sub-contracted data will be clearly notated on the
		Aailing Address: 井ららCR	UM 87413		//	AA/QC Package:				Date Time Matrix Sample Request ID T	81,40 H20 TK 33												Relinquished by:	Relinquished by:	If ner samples submitted to Hall Environmental may be subcontracted to other a
	The Standard Rush ANALYSIS	□ Rush ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	Project Name:    ANALYSIS   Analy	Project Name:   Rush	Type Standard         Rush         ANALYSIS           Project Name:         www.hallenvironme           The standard of the standard of	Type Standard         □ Rush         ■ NALYSIS           Project Name:         www.hallenvironme           Tk # 33 cct, 15, 2006         4901 Hawkins NE - Albuquerq           Project #:         Tel. 505-345-3975         Fax 50!           Project Manager:         □ □ □ □ □ □ □ □         □ □ □ □ □ □	Project Manager:  Project Manager:  Project Manager:  Project Manager:  Project Manager:  Project Manager:  Project Manager:  ANALYSIS  ANALYS  AN	Project Nane:    Www.hallenvironmental.com   Froject Manager:   Sampler Call   Sa	Project Name:	Project Name:	Project Name:    Project Name   Container   Container   Type and # Type   d # Type and	ANALYSIS LABORATORY   ANALYSIS LABORATORY   ANALYSIS LABORATORY	# Standard	ANALYSIS LABORATORY   ANALYSIS LABORATORY   ANALYSIS LABORATORY   ANALYSIS LABORATORY   Analysis Laboratory   Analysis Laborator	AMALYSIS LABORATORY   MeStern)   Rekinking (Bluft)   Westernamen   Project Name:   Aww.hallenvironmental.com   ANALYSIS LABORATORY   Average   Project Name   Project Name   Project Name   Project Name   Analysis   Analy	August   August	AMALEST   Re Link   Black   Black   Broket   Project Name:   Wave hallenvironmental com	AMALEST   Re-Riv   We Standard   Ruen   Ru	ANALYSIS LABORATORY   ANALYSIS LABORATORY   Project Name:   ANALYSIS LABORATORY   Project Name:	ANALYSIS LABORATORY   Western New   Project Name   AMALYSIS LABORATORY   A Sandard   D Rush   AMALYSIS LABORATORY   AMALYSIS LABORATORY   AMALYSIS LABORATORY   AMALYSIS LABORATORY   A Sandard   D Project Names   T   X #	Marix   Sampler   Project Manager.	## 50 CK?  ## 53 CL 15 244    Project Name   Projec	A		



Saturday, October 18, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 10/8/08

Dear Cindy Hurtado:

Order No.: 0810255

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 10/10/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



Date: 18-Oct-08

CLIENT:

Western Refining Southwest, Inc.

Project:

TK #33 10/8/08

Lab Order:

0810255

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

**Collection Date** 

0810255-01A

TK #33

R30668

EPA Method 8260: Volatiles Short List

10/8/2008 11:10:00 AM

Date: 18-Oct-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0810255

Project:

TK #33 10/8/08

Lab ID:

0810255-01

Client Sample ID: TK #33

Collection Date: 10/8/2008 11:10:00 AM

cetion Date: 10/6/2000 11

Date Received: 10/10/2008

Matrix: AQUEOUS

Analyses	Result	PQL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: HL
Benzene	2.5	1.0	μg/L	1	10/13/2008 1:45:45 PM
Toluene	ND	1.0	µg/L	1	10/13/2008 1:45:45 PM
Ethylbenzene	ND	1.0	µg/L	1 ·	10/13/2008 1:45:45 PM
Methyl tert-butyl ether (MTBE)	1.5	1.0	µg/L	1	10/13/2008 1:45:45 PM
Xylenes, Total	ND	. 2.0	µg/L	1	10/13/2008 1:45:45 PM
Surr: 1,2-Dichloroethane-d4	79.9	59.3-133	%REC	1	10/13/2008 1:45:45 PM
Surr: 4-Bromofluorobenzene	86.6	80.4-119	%REC	1	10/13/2008 1:45:45 PM
Surr: Dibromofluoromethane	89.1	59.5-134	%REC	1	10/13/2008 1:45:45 PM
Surr: Toluene-d8	88.0	53.5-136	%REC	1.1	10/13/2008 1:45:45 PM



<sup>\*</sup> Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 18-Oct-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 10/8/08

Work Order:

081024

Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List					
Sample ID: 5ml rb		MBLK			Batch ID: R30668	Analysis Date:	10/13/2008 8:31:14 AM
Benzene	ND	μg/L	1.0		•		
Toluene	ND	μg/L	1.0				•
Ethylbenzene	ND	µg/L	. 1.0		•	* 4	•
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0				
Xylenes, Total	ND	μg/L	2.0		•		· ·
Sample ID: 100ng Ics		LCS			Batch ID: R30668	Analysis Date:	10/13/2008 9:28:03 AM
Benzene	21.10	μg/L	1.0	106	86.8 120		
Toluene	20.19	μg/L	1.0	101	64.1 127		

Qua	lifi	iers

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1





### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT		Date Received:		10/10/2008	
Work Order Number 0810255	•	Received by:	ΓLS	<i>(</i> )	
Checklist completed by:  Signature  Matrix:  Carrier	name <u>UPS</u>	Sample ID labels che	ecked by:	Initials	
	<u></u>				
Shipping container/cooler in good condition?	Yes 🗹	No 🗌 Not Pro	esent 🗌		
Custody seals intact on shipping container/cooler?	Yes 🗹	No Not Pro	esent 🗌	Not Shipped	
Custody seals intact on sample bottles?	Yes 🗌	No N/A	V		
Chain of custody present?	Yes 🗹	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌			
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌			
Samples in proper container/bottle?	Yes 🗹	No 🗌			
Sample containers intact?	Yes 🗹	No 🗌			
Sufficient sample volume for indicated test?	Yes 🗸	No 🗀			
All samples received within holding time?	Yes 🗹	No 🗀			
Water - VOA vials have zero headspace? No VOA via	als submitted	Yes 🗹	10 🗌		
Nater - Preservation labels on bottle and cap match?	Yes 🗌	No ☐ N//	<b>A</b>		
Water - pH acceptable upon receipt?	Yes 🗌	No 🗌 N/A	4 🗹		
Container/Temp Blank temperature?		6° C Acceptable			
COMMENTS:	If	given sufficient time to	cool.		
			===		=====
Client contacted Date contact	ed:	Person conta	cted		
Contacted by: Regarding:					
Comments:				·	
·		<del></del>			
Corrective Action					
	·				

Turn-Around Time:	E Standard   Rush   ANALYSIS LABORATORY	www.hallenvironment	下井 33 /0-8-08 4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975	Analysis	) <sup>†</sup> )	s (8021 cas on sejű\se	TPH (C), (1), (1), (1), (1), (1), (1), (1), (1	(Des	Container Preservative  Type and # Type  Type and # Type  Mir Bubbles  Air Bubbles  Air Bubbles  Air Bubbles	100A HC1 -/						ved by:  Date Time Remarks:    O   O   O   O   O   O   O   O   O	ved by: Date Time
round Time:		Name:	£33 1	#:		Manager:	ı	or. 526	Ç⊘es □ Nô sTemperature:ろ	ative	H							b/r: Date
Chain-of-Custody Record Turn-An	Client: Western Refining (BlintU) I sta		Mailing Address: #50 CR 4990	0 N M Q74/3 Project #:		3911	el 4 (Full Validation)			Sample Request ID	5 TK 33 3-10A						Relinguished by: Received by Received by	Relinquished by:
Chain-of-(	Client: Western		Mailing Address: #	Rloya Dio 1	Phone # 556 1	email or Fax#: 500		Other	☐ EDD (Type)	Date Time Matrix	04 01.11 go-8-						Date: Time: Reling.	



Monday, October 13, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 4th QTR Oct 1, 2008

Dear Cindy Hurtado:

Order No.: 0810027

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 10/2/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 13-Oct-08

CLIENT:

Western Refining Southwest, Inc.

Project:

TK #33 4th QTR Oct 1, 2008

Lab Order:

0810027

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

**Collection Date** 

0810027-01A

TK #33

R30544

EPA Method 8260: Volatiles Short List

10/1/2008 10:10:00 AM

Date: 13-Oct-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0810027

Project:

TK #33 4th QTR Oct 1, 2008

Lab ID:

0810027-01

Client Sample ID: TK #33

Collection Date: 10/1/2008 10:10:00 AM

Date Received: 10/2/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	IORT LIST	-			Analyst: HL
Benzene	3.2	1.0	μg/L	1	10/7/2008 6:57:08 AM
Toluene	ND	1.0	μg/L	1	10/7/2008 6:57:08 AM
Ethylbenzene	ND	1.0	μg/L	1	10/7/2008 6:57:08 AM
Methyl tert-butyl ether (MTBE)	1.5	1.0	μg/L	1	10/7/2008 6:57:08 AM
Xylenes, Total	ND	2.0	μg/L	1	10/7/2008 6:57:08 AM
Surr: 1,2-Dichloroethane-d4	. 91.1	59.3-133	%REC	1	10/7/2008 6:57:08 AM
Surr: 4-Bromofluorobenzene	91.8	80.4-119	%REC	1	10/7/2008 6:57:08 AM
Surr: Dibromofluoromethane	101	59.5-134	%REC	1	10/7/2008 6:57:08 AM
Surr: Toluene-d8	101	53.5-136	%REC	1	10/7/2008 6:57:08 AM

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- Maximum Contaminant Level MCL
- Reporting Limit

Date: 13-Oct-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 4th QTR Oct 1, 2008

Work Order:

081002

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 0810027-01a msd		MSD			Batch	D: <b>R30544</b>	Analysis Dat	te: 10/7/2008 7:54:38 AM
Benzene	23.58	μg/L	1.0	102	72.4	126	5.59	20
Toluene	21.47	μg/L	1.0	107	79.2	115	10.9	20
Surr: 1,2-Dichloroethane-d4	9.068	μg/L	0	90.7	59.3	133	0	0
Surr: 4-Bromofluorobenzene	9.978	µg/L	0	99.8	80.4	119	0	0
Surr: Dibromofluoromethane	9.100	μg/L	0	91.0	59.5	134	0	0
Surr: Toluene-d8	9.934	μg/L	0	99.3	53.5	136	0	0
Sample ID: b3	*	MBLK			Batch I	D: <b>R30544</b>	Analysis Dat	te: 10/7/2008 12:07:31 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	. 1.0					
Ethylbenzene	ND	μg/L	1.0		•			,
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Kylenes, Total	ND	μg/L	2.0					. *
Surr: 1,2-Dichloroethane-d4	8.956	μg/L	. 0	89.6	59.3	133		
Surr: 4-Bromofluorobenzene	9.140	μg/L	0	91.4	80.4	119		
Surr: Dibromofluoromethane	8.856	μg/L	. 0	88.6	59.5	134		
Surr: Toluene-d8	9.644	μg/L	0	96.4	53.5	136		
Sample ID: 100ng Ics	•	LCS			Batch I	D: <b>R30544</b>	Analysis Dat	e: 10/7/2008 1:05:20 AM
Benzene	22.74	µg/L	1.0	114	86.8	120		•
Toluene	18.89	μg/L	1.0	94.5	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.084	μg/L	. 0	90.8	59.3	133		
Surr: 4-Bromofluorobenzene	10.36	μg/L	0	104	80.4	119		
Surr: Dibromofluoromethane	9.796	μg/L	0	98.0	59.5	134		
Surr: Toluene-d8	8.952	μg/L	0	89.5	53.5	136		
Sample ID: 0810027-01a ms		MS			Batch I	D: <b>R30544</b>	Analysis Dat	e: 10/7/2008 7:26:01 AM
Benzene	24.94	μg/L	1.0	<sup></sup> 109	72.4	126		
Toluene	19.26	μg/L	1.0	96.3	79.2	115		
Surr: 1,2-Dichloroethane-d4	8.898	µg/L	0	89.0	59.3	133		
Surr: 4-Bromofluorobenzene	9.072	μg/L	0	90.7	80.4	119		
Surr: Dibromofluoromethane	9.052	μg/L	0	90.5	59.5	134		
Surr; Toluene-d8	8.782	μg/L	0	87.8	53.5	136		

<b>Oualifiers</b>	:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

Page 1

#### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT	•		•	Date Rec	eived:	10/2/2008	
Work Order Number 0810027				Receive	d by: ARS	and the same of th	
Checklist completed by:		10	Dale	Sample	ID labels checked by:	Initials	-
Matrix:	Carrier name	<u>UPS</u>	<u>.</u>	·			
Shipping container/cooler in good condition?		Yes	<b>✓</b>	No 🗌	Not Present		
Custody seals intact on shipping container/cook	er?	Yes	<b>✓</b>	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗌	N/A		
Chain of custody present?		Yes	$\checkmark$	No 🗌			
Chain of custody signed when relinquished and	received?	Yes	$\checkmark$	No 🗌		•	
Chain of custody agrees with sample labels?		Yes	$\checkmark$	No 🗌			
Samples in proper container/bottle?		Yes	V	No 🗌			
Sample containers intact?		Yes	<b>✓</b>	No 🗌			
Sufficient sample volume for indicated test?		Yes	<b>✓</b>	No 🗌			
All samples received within holding time?		Yes	✓	No 🗌			
Water - VOA vials have zero headspace?	No VOA vials subr	mitted		Yes 🗹	No 🗆		
Water - Preservation labels on bottle and cap m	atch?	Yes		No 🗆	N/A 🗹		
Water - pH acceptable upon receipt?	·	Yes		No 🗔	N/A 🗹		
Container/Temp Blank temperature?			2°	<6° C Acce			
COMMENTS:				If given suffic	cient time to cool.		
					•		
							=
						•	
Client contacted	Date contacted:				Person contacted		
Cheff Contacted					erson contacted		
Contacted by:	Regarding:				·		
Comments:						18111	· · · ·
Corrective Action							
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Turn-Around Time:	D-Standard	Project Name:	一下并	Project #:		Project Manager:		Sampler: 🔀	On Ice Sample Temi	Container Type and #	3-18A							Ę	Recilived by:	Received by:	ontracted to other ac
Chain-of-Custody Record	Clienting Eschibe (Blaff)		Mailing Address: #50 CR 4990	Bloom Pield NM 87413	Phone #: 505-632-4/6/	505-632-3811	Level 4 (Full Validation)			Matrix Sample Request ID	1/2 TK 33								Relinquished by:	Relinquished by:	samples submitted to Hall Environmental may be subcontracted to other accredited laborato.
hain-	10ster		\ddress:	700M	505	Fax#:	ackage: ard		(Type)	Time											If ned
ひ	Client:	\$	Mailing A	7	Phone #	email or Fax#:	QA/QC Package:  Standard	□ Other	□ EDD (Type)	Date	01:01 30-1-8								Date: Time: 0-1-08 3:00	Date:	



Monday, October 06, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: Tank 33

Dear Cindy Hurtado:

Order No.: 0809554

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 9/26/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



**Date:** 06-Oct-08

CLIENT:

Western Refining Southwest, Inc.

Project:

Tank 33

Lab Order:

0809554

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

**Collection Date** 

0809554-01A

TK #33

R30502

EPA Method 8260: Volatiles Short List

9/25/2008 7:30:00 AM

Date: 06-Oct-08

**CLIENT:** 

Western Refining Southwest, Inc.

Client Sample ID: TK #33

Lab Order:

0809554

Collection Date: 9/25/2008 7:30:00 AM

Project:

Tank 33

Lab ID:

0809554-01

Date Received: 9/26/2008

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	IORT LIST		· · · · · · · · · · · · · · · · · · ·		Analyst: HL
Benzene	4.6	1.0	μg/L	1	10/2/2008 3:59:45 PM
Toluene	ND	1.0	μg/L	1	10/2/2008 3:59:45 PM
Ethylbenzene	ND	1.0	μg/L	1	10/2/2008 3:59:45 PM
Methyl tert-butyl ether (MTBE)	1.7	1.0	μg/L	1	10/2/2008 3:59:45 PM
Xylenes, Total	ND	2.0	μg/L	1	10/2/2008 3:59:45 PM
Surr: 1,2-Dichloroethane-d4	82.6	59.3-133	%REC	1	10/2/2008 3:59:45 PM
Surr: 4-Bromofluorobenzene	89.4	80.4-119	%REC	1	10/2/2008 3:59:45 PM
Surr: Dibromofluoromethane	89.2	59.5-134	%REC	1 .	10/2/2008 3:59:45 PM
Surr: Toluene-d8	86.1	53.5-136	%REC	1	10/2/2008 3:59:45 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 06-Oct-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

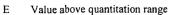
Tank 33

Work Order:

080955

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD R	RPDLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5ml rb		MBLK			Batch I	ID: <b>R30502</b>	Analysis Date	e: 10/2/2008 9:34:44 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					•
Xylenes, Total	ND	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	8.328	µg/L	0	83.3	59.3	133		
Surr: 4-Bromofluorobenzene	8.942	μg/L	0	89.4	80.4	119		•
Surr: Dibromofluoromethane	8.918	μg/L	0	89.2	59.5	134		
Surr: Toluene-d8	8.854	μg/L	0	88.5	53.5	136		•
Sample ID: 100ng lcs		LCS			Batch i	ID: <b>R30502</b>	Analysis Date	e: 10/2/2008 10:31:58 AN
Benzene	21.36	μg/L	1.0	107	86.8	120		
Toluene	19.60	μg/L	1.0	98.0	64.1	127	a.	
Surr: 1,2-Dichloroethane-d4	8.222	μg/L	0	82.2	59.3	133		
Surr: 4-Bromofluorobenzene	9.033	μg/L	Ō	90.3	80.4	119		•
Surr: Dibromofluoromethane	9.032	μg/L	0	90.3	59.5	134		·
Surr: Toluene-d8	8.676	μg/L	0	86.8	53.5	136		





J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



#### Sample Receipt Checklist

	Carri	bic ireceit	or Oricolaist					
Client Name WESTERN REFINING SOUT			Date F	Received:			9/26/2008	
Vork Order Number 0809554			/ Rece	eived by:	AMF			•
Checklist completed by:		9/	Sam Date	ple ID labels o	checked b	-	nitials	-
Aatrix:	Carrier nar	me <u>UPS</u>						
Shipping container/cooler in good condition?		Yes 🛂	No [	☐ Not	Present			
Custody seals intact on shipping container/coole	г? .	Yes 🕨	No [	Not	Present		Not Shipped	
Custody seals intact on sample bottles?		Yes [	] No [	□ N/A		✓		
Chain of custody present?		Yes 🛂	No [	]				
Chain of custody signed when relinquished and i	received?	Yes 🛂	No [					
Chain of custody agrees with sample labels?		Yes 🖳	No 🗆					
amples in proper container/bottle?		Yes 🔻	No [					
Sample containers intact?		Yes 💆	No [					
Sufficient sample volume for indicated test?		Yes 🗹	no [					
All samples received within holding time?		Yes 🗹	No [					
Vater - VOA vials have zero headspace?	No VOA vials s	submitted [	Yes 🖢	Z	No 🗌			
Vater - Preservation labels on bottle and cap ma	atch?	Yes 🛂	No [		N/A 🗌			
Vater - pH acceptable upon receipt?		Yes 🗆	No [	]	N/A 🔽			
Container/Temp Blank temperature?		6°		cceptable				
COMMENTS:		•	If given s	ufficient time	to cool.			
					,			
lient contacted	Date contacted:		,	Person co	ntacted			
Contacted by:	Regarding:			· .				
comments:	•		_					
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Corrective Action								

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	.10g	Fax 505.345.4107					-													
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A.F.	4901 Hawkins NE, Suite D	Tel. 505.345.3975 Fax 50 www.hallenvironmental.com		<b>1</b>						M 8 4				 <del></del>	<u> </u>		ļ			
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							)8) s'8												 Remarks:	
QA/QC Package: Std 🗀 Level 4 🕡	Other:	Project Name:	エフチ	Project #:		Project Manager:		Sampler: $756$	Sample Temperature: $\mathcal{E}^{\mathscr{L}}$	Preservative	Numbery Volume HgCl <sub>2</sub> HNQ <sub>3</sub> HEAL No.	-3-100 HC/ UN09581-1							Received By: (Signapdre) 4/26/68 F	Received By: (Signature)
	Chain-Uf-Custody record	Client: Western Refinery (Blufle)		Address: # 50 CR 4980	Bloomfield NM 87413			Phone #: 505-631-4161	Fax#. 505-632-3911	-	Date lime Matrix Sample I. D. No.	7.25-68 7:30 H20 TK 33							Date: Time: Relinquished By: (Signature)	Date: Time: Relinquished By: (Signature)



Thursday, September 25, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0809400

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 9/19/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 25-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Project: Lab Order: TK #33

0809400

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

**Collection Date** 

0809400-01A

TK #33

R30327

EPA Method 8260: Volatiles Short List

9/18/2008 1:45:00 PM

Date: 25-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0809400

Project:

TK #33

Lab ID:

0809400-01

Client Sample ID: TK #33

Collection Date: 9/18/2008 1:45:00 PM

**Date Received: 9/19/2008** 

Matrix: AQUEOUS

Analyses	Result	PQL	Qual 1	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	ORT LIST					Analyst: HL
Benzene	8.2	1.0	1	ıg/L	1	9/22/2008 10:44:43 AM
Toluene	ND	1.0	Į.	ıg/L	1	9/22/2008 10:44:43 AM
Ethylbenzene	ND	1.0	Ļ	ıg/L	1	9/22/2008 10:44:43 AM
Methyl tert-butyl ether (MTBE)	1.7	1.0	Ļ	ıg/L	1	9/22/2008 10:44:43 AM
Xylenes, Total	6.7	2.0	j.	ıg/L	1	9/22/2008 10:44:43 AM
Surr: 1,2-Dichloroethane-d4	84.2	59.3-133		%REC	1	9/22/2008 10:44:43 AM
Surr: 4-Bromofluorobenzene	92.4	80.4-119	9	%REC	1	9/22/2008 10:44:43 AM
Surr: Dibromofluoromethane	91.2	59.5-134	9	%REC	1	9/22/2008 10:44:43 AM
Surr: Toluene-d8	86.6	53.5-136	9	%REC	1	9/22/2008 10:44:43 AM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
  - S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 25-Sep-08

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

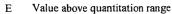
TK #33

Work Order:

0809400

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD R	PDLimit Qual
Method: EPA Method 8260: Vo	latiles Shor	t List						
Sample ID: 0809400-01a MSD		MSD			Batch	ID: <b>R30327</b>	Analysis Date:	9/22/2008 11:42:03 AN
Benzene	27.17	μg/L	1.0	94.6	72.4	126	2.44	20
Toluene	18.78	μg/L į	1.0	89.8	79.2	115	2.74	20
Surr: 1,2-Dichloroethane-d4	8.468	μg/L	. 0	84.7	59.3	133	0	0
Surr: 4-Bromofluorobenzene	9.243	μg/L	0 .	92.4	80.4	119	0 -	0
Surr: Dibromofluoromethane	8.904	μg/L	0	89.0	59.5	134	0	0
Surr: Toluene-d8	8.713	μg/L .	0	87.1	53.5	136	0	0
Sample ID: 5ml rb		MBLK			Batch ID: R30327		Analysis Date: 9/22/2008 8:39:57 AM	
Benzene	ND	μg/L	1.0				4.1	
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0		•		•	
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	8.177	μg/L	0	81.8	59.3	133		
Surr: 4-Bromofluorobenzene	9.093	μg/L	0	90.9	80.4	119		
Surr: Dibromofluoromethane	8.404	µg/L	0	84.0	59.5	134	•	
Surr: Toluene-d8	8.834	μg/L	0	88.3	53.5	136		
Sample ID: 100ng Ics	·	LCS			Batch	ID: <b>R30327</b>	Analysis Date	9/22/2008 9:47:31 AN
Benzene	19.02	μg/L	1.0	95.1	86.8	120		
Toluene	17.88	μg/L	1.0	89.4	64.1	127		
Surr: 1,2-Dichloroethane-d4	8.393	µg/L	0	83.9	59.3	133		(
Surr: 4-Bromofluorobenzene	9.491	μg/L	0	94.9	80.4	119		`
Surr: Dibromofluoromethane	8.760	μg/L	0	87.6	59.5	134	•	•
Surr: Toluene-d8	8.356	µg/L	0 -	83.6	53.5	136		•
Sample ID: 0809400-01a MS		MS -			Batch	ID: <b>R30327</b>	Analysis Date:	9/22/2008 11:13:21 AN
Benzene	27.83	μg/L	1.0	98.0	72.4	126		
Toluene	19.30	μg/L	1.0	92.4	79.2	115	•	
Surr: 1,2-Dichloroethane-d4	8.586	μg/L	0	85.9	59.3	133		
Surr: 4-Bromofluorobenzene	9.213	μg/L	0	92.1	80.4	119		
Surr: Dibromofluoromethane	9.149	µg/L	0	91.5	59.5	134		
Surr: Toluene-d8	8.841	μg/L	0	88.4	53.5	136		

Qual	lifiers



J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



Page 1

#### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT		Date Rec	eived:	9/19/2008	
Work Order Number 0809400	i	Receive	d by: ARS	$\wedge$	
Checklist completed by:	9	Sample	ID labels checked by:	Initials	
Signature	) 'a	ate		•	
Matrix: Carrier	r name <u>UPS</u>				
Shipping container/cooler in good condition?	Yes 🔽	No 🗌	Not Present		•
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗀	Not Present	Not Shipped	
Custody seals intact on sample bottles?	Yes 🗌	No 🗀	N/A ✓		
Chain of custody present?	Yes 🗹	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗀		•	
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌			
Samples in proper container/bottle?	Yes 🗹	No 🗌			
Sample containers intact?	Yes 🗹	No 🗌			•
Sufficient sample volume for indicated test?	Yes 🗸	No 🗌		÷	
All samples received within holding time?	Yes 🗹	No 🗌			
Water - VOA vials have zero headspace? No VOA vi	als submitted	Yes 🗹	No 🗆		
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗌	N/A		
Water - pH acceptable upon receipt?	Yes 🗌	No $\square$	N/A 🗹		
Container/Temp Blank temperature?	6°	<6° C Acce	ptable		
COMMENTS:		If given suffi	cient time to cool.		
=======================================					====
				,	
Client contacted Date contact	ted:		Person contacted		
Contacted by: Regarding:					
Comments:					
Comments.					
		× <u></u>			
Corrective Action				· · · · · · · · · · · · · · · · · · ·	

HALL ENVIRONMENTAL ANALYSIS LABORATORY	4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107			ank	(SS) (SS) (SS)	[W /	(HY)  }, NO <sub>2</sub>  }, NO <sub>2</sub>  }, NO <sub>2</sub>	CI, NO	(Met) 0 (PM) A 8 M ns (F, 1 Pes 1 Pes V) B (V)	8311 BCB 808 826 826	*								
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				uly)	O əuilo	) විසිපිට්		+ 38TI	M + )	BTEX					_		-	Remarks:	
QA / QC Package: Std 🔲 Level 4 🗗	Other: Project Name:	(大# 33)	Project #:		Project Manager:	81 3,8	Sampler: C C	Sample Temperature: 6	Preservative	8	3-12A   14							8: (Signature)	Received By: (Signature)
	Client: Vestery Reflord		Address: 450 CR 4890	Bloom Peld, NIM 87413			Phone #: 505-632-4161	Fax#: 505-632-3911	- V	Date Natury Sample I.D. No.	9-18-08 1:45 Ha TK#33							Date: Time: Relipquished By: (Signature)	Date: Time: Relinquished By: (Signature)



#### COVER LETTER

Monday, September 15, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990

TEL: (505) 632-4161 FAX (505) 632-3911

Bloomfield, NM 87413

RE: TK #33 9-9-08

Dear Cindy Hurtado:

Order No.: 0809183

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 9/10/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 15-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

TK #33 9-9-08

Lab Order:

0809183

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

**Collection Date** 

0809183-01A

TK #33

R30169

EPA Method 8260: Volatiles Short List

9/9/2008 9:00:00 AM

Date: 15-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0809183

Project:

TK #33 9-9-08

Lab ID:

0809183-01

Client Sample ID: TK #33

Collection Date: 9/9/2008 9:00:00 AM

Date Received: 9/10/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST		· · · · · · · · · · · · · · · · · · ·		Analyst: HL
Benzene	10	1.0	μg/L	1	9/10/2008 4:59:39 PM
Toluene	2.3	1.0	µg/L	1	9/10/2008 4:59:39 PM
Ethylbenzene	ND	1.0	μg/L	1	9/10/2008 4:59:39 PM
Methyl tert-butyl ether (MTBE)	1.8	1.0	µg/L	1	9/10/2008 4:59:39 PM
Xylenes, Total	16	2.0	µg/L	1	9/10/2008 4:59:39 PM
Surr: 1,2-Dichloroethane-d4	93.3	59.3-133	%REC	1	9/10/2008 4:59:39 PM
Surr: 4-Bromofluorobenzene	96.0	80.4-119	%REC	1	9/10/2008 4:59:39 PM
Surr: Dibromofluoromethane	93.5	59.5-134	%REC	1	9/10/2008 4:59:39 PM
Surr: Toluene-d8	93.8	53.5-136	%REC	1	9/10/2008 4:59:39 PM

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

DATES REPORT

0809183 Lab Order:

Western Refining Southwest, Inc. Client:

TK #33 9-9-08

	Date	/10/2008
	Analysis Date	9/10/2008
	Prep Date	
	QC Batch ID	R30169
		t List
	Matrix Test Name Analysis Date Analysis Date	ous EPA Method 8260: Volatiles Short List
	x Tes	
	Matrix	Aqueous
	Collection Date	9/9/2008 9:00:00 AM
TK #33 9-9-08	ample ID Client Sample ID Collection Date	0809183-01A TK#33
Project:	Sample ID	0809183-01A

Date: 15-Sep-08

# QA/QC SUMMARY REPORT

lient:

Western Refining Southwest, Inc.

roject:

TK #33 9-9-08

Work Order:

0809183

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260: Vo	olatiles Short	List							
Sample ID: 0809183-01a MSD		MSD			Batch	ID: <b>R30169</b>	Analysis Da	te: 9/10/	/2008 5:57:31 PN
Benzene	29.09	μg/L	1.0	95.2	. 72.4	126	3.05	20	
Toluene	20.41	µg/L	1.0	90.7	79.2	115	7.89	20	
Surr: 1,2-Dichloroethane-d4	9.486	μg/L	0	94.9	59.3	133	0	0	
Surr: 4-Bromofluorobenzene	9.400	μg/L	0	94.0	80.4	119	0	0	
Surr: Dibromofluoromethane	9.142	μg/L	0	91.4	59.5	134	0	0	
Surr: Toluene-d8	8.582	μg/L	0	85.8	53.5	136	0	0	
Sample ID: b3		MBLK			Batch	ID: <b>R30169</b>	Analysis Da	te: 9/10/2	008 12:20:40 PN
Benzene	ND	μg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Surr: 1,2-Dichloroethane-d4	9.470	µg/L	0	94.7	59.3	133			
Şurr: 4-Bromofluorobenzene	9.626	µg/L	0	96.3	80.4	119			
Surr: Dibromofluoromethane	8.934	μg/L	0	89.3	59.5	134			
Surr: Toluene-d8	9.850	µg/L	0	98.5	53.5	136			
Sample ID: ,100ng lcs_d		LCS			Batch I	D: <b>R30169</b>	Analysis Da	te: 9/10/	2008 2:30:29 PM
Benzene	22.83	μg/L	1.0	114	86.8	120			
luene	19.80	µg/L	1.0	99.0	64.1	127			
Surr: 1,2-Dichloroethane-d4	9.070	μg/L	0	90.7	59.3	133			
Surr: 4-Bromofluorobenzene	9.852	µg/L	0	98.5	80.4	119			
Surr: Dibromofluoromethane	9.442	μg/L	0	94.4	59.5	134			
Surr: Toluene-d8	8.914	μg/L	0	89.1	53.5	136			
Sample ID: 0809183-01a MS		MS			Batch I	D: <b>R30169</b>	Analysis Da	te: 9/10/	2008 5:28:31 PM
Benzene	30.00	μg/L	1.0	99.7	72.4	126			
Toluene	22.08	μg/L	1.0	99.1	79.2	115			
Surr: 1,2-Dichloroethane-d4	9.076	μg/L	0	90.8	59.3	133			
Surr: 4-Bromofluorobenzene	9.088	μg/L	0 -	90.9	80.4	119			
Surr: Dibromofluoromethane	9.594	μg/L	0	95.9	59.5	134			
Surr: Toluene-d8	8.632	µg/L	0	86.3	53.5	136			

.367	<b>-</b>	
	O 1:C	
	Oualifi	ers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

Page 1

#### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT			Date Receive	ed:	9/10/2008	
Work Order Number 0809183			Received by	y: ARS abels checked b	y: (1)	
Checklist completed by: Signature	<u> </u>	9	1008 Date		Initials	=
Matrix:	Carrier name <u>U</u>	<u>IPS</u>				
Shipping container/cooler in good condition?	Y	es 🗹	No 🗌	Not Present		
Custody seals intact on shipping container/cooler?	Y	es 🗸	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?	Y	es 🗌	No 🗌	N/A	<b>✓</b>	
Chain of custody present?	Y	es 🗹	No 🗌			
Chain of custody signed when relinquished and recei	ived? Y	es 🗹	No 🗌			
Chain of custody agrees with sample labels?	Υ .	es 🔽	No 🗌	•		
Samples in proper container/bottle?	Y	es 🗸	No 🗌			
Sample containers intact?	· Y	es 🗹	No 🗌			
Sufficient sample volume for indicated test?	· Y	es 🗹	No 🗌			
All samples received within holding time?	Y	'es 🔽	No 🗌			
Water - VOA vials have zero headspace?	o VOA vials submitt	ed $\square$	Yes 🗹	No 🗌		
Water - Preservation labels on bottle and cap match	? Y	es 🗌	No 🗌	N/A		
Water - pH acceptable upon receipt?	Y	es 🗌	No 🗆	N/A 🗹		
Container/Temp Blank temperature?		3°	<6° C Acceptal			
COMMENTS:			If given sufficier	nt time to cool.		
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Client contacted Date	e contacted:		Per	son contacted		<del></del>
Contacted by: Reg	arding:					
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			Chain-of-Custody record	Client Western Refinery (Blufly)		Address: #50 CR 4990	Bloomfield			Phone #:	]	1	Uate	7-9-08												3
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#### **COVER LETTER**

Thursday, September 04, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0808412

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 8/26/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



Date: 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

TK #33

Lab Order:

0808412

Work Order Sample Summary

Lab Sample IDClient Sample IDBatch IDTest NameCollection Date0808412-01ATK #33R30028EPA Method 8260: Volatiles Short List8/25/2008 8:27:0

0808412-01A

TK #33

R30028 R30028

EPA Method 8260: Volatiles Short List EPA Method 8260: Volatiles Short List

8/25/2008 8:27:00 AM 8/25/2008 8:27:00 AM

**Date:** 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808412

Project:

TK #33

Lab ID:

0808412-01

Client Sample ID: TK #33

Collection Date: 8/25/2008 8:27:00 AM

Date Received: 8/26/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES S	HORT LIST					Analyst: HL
Benzene	25	1.0		μg/L	1	9/2/2008 1:57:53 PM
Toluene	10	1.0		µg/L	1	9/2/2008 1:57:53 PM
Ethylbenzene	ND	1.0		µg/L	1	9/2/2008 1:57:53 PM
Methyl tert-butyl ether (MTBE)	· 1.7	.1.0		μg/L	1	9/2/2008 1:57:53 PM
Xylenes, Total	790	20		µg/L	10	9/2/2008 3:27:39 PM
Surr: 1,2-Dichloroethane-d4	98.3	59.3-133		%REC	1	9/2/2008 1:57:53 PM
Surr: 4-Bromofluorobenzene	56.0	80.4-119	S	%REC	1	9/2/2008 1:57:53 PM
Surr: Dibromofluoromethane	104	59.5-134		%REC	1	9/2/2008 1:57:53 PM
Surr: Toluene-d8	80.7	53.5-136		%REC	1	9/2/2008 1:57:53 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
  - Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

**Date:** 04-Sep-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33

Work Order:

**೧**೩೧೩41

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	t List						
Sample ID: 5ml rb		MBLK			Batch I	D: <b>R30028</b>	. Analysis Da	ate: 9/2/2008 9:31:51 AM
Benzene	ND	μg/L	1.0	•				
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	9.596	μg/L	0	96.0	59.3	133		
Surr: 4-Bromofluorobenzene	8.716	μg/L	0	87.2	80.4	119		
Surr: Dibromofluoromethane	9.414	μg/L	0	94.1	59.5	134		
Surr: Toluene-d8	8.514	μg/L	0	85.1	53.5	136	. •	•
Sample ID: 100ng lcs		LCS			Batch I	D: <b>R30028</b>	Analysis Da	ate: 9/2/2008 10:29:28 AM
Benzene	23.04	μg/L	1.0	115	86.8	120		
Toluene	20.66	μg/L	1.0	103	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.466	μg/L	o	94.7	59.3	133		
Surr: 4-Bromofluorobenzene	9.184	μg/L	0	91.8	80:4	119.		
Surr: Dibromofluoromethane	10.05	μg/L	0	101	59.5	134		
Surr: Toluene-d8	9.374	µg/L	. 0	93.7	53.5	136		•
	•							



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



Clert Name WESTERN REFINING SOUT  Work Order Number 0808412  Checklist completed by: Signature  Mation: Carrier name UES  Shipping container/cooler in good condition?  Custody seals intact on shipping container/cooler?  Yes W No Not Present Not Shipped Custody seals intact on shipping container/cooler?  Chain of custody seals intact on sample bottles?  Chain of custody signed when relinquished and received?  Yes W No No Not Present  Chain of custody agrees with sample labele?  Yes W No Samples in proper container/bottle?  Yes W No Samples in proper container/bottle?  Yes W No Sample soft sinded?  Yes W No Sample soft sample within holding time?  Yes W No Sample soft sample within holding time?  Yes W No No Sample volume for indicated test?  Yes W No No Sample volume for indicated test?  Yes W No No Sample volume for indicated test?  Yes W No No Sample volume for indicated test?  Yes W No No Sample volume for indicated test?  Yes W No No No Sample volume for indicated test?  Yes W No No No No No Sample volume for indicated test?  Yes W No No No No No No No No No No No No No	Samp	le Receipt Ch	ecklist	
Checklist completed by:    Sample ID labels checked by:	Client Name WESTERN REFINING SOUT		Date Received:	8/26/2008
Checklist completed by:	Work Order Number 0808412		Received by: AT	ı
Matrix  Carrier name    PS   No   Not Present			Sample ID labels checke	<u> </u>
Shipping container/cooler in good condition?  Ves  No  Not Present  Not Shipping container/cooler?  Ves  No  Not Present  Not Shipping container/cooler?  Ves  No  Not Present  Not Shipping container/cooler?  Ves  No  No  Not Present  Not Shipping  Not Shipped  Not		Date	24/08	Initials .
Shipping container/cooler in good condition?  Ves  No  Not Present  Not Shipping container/cooler?  Ves  No  Not Present  Not Shipping container/cooler?  Ves  No  Not Present  Not Shipping container/cooler?  Ves  No  No  Not Present  Not Shipping  Not Shipped  Not		1		
Custody seals intact on shipping container/cooler?  Yes No No Not Present Not Shipped  Custody seals intact on sample bottlies?  Yes No No No Not Present Not Shipped  Chain of custody present?  Yes No No Chain of custody signed when relinquished and received?  Yes No No Samples in proper container/bottle?  Samples in proper container/bottle?  Yes No No Samples ontainers intact?  Yes No No Samples ontainers intact?  Yes No No Sufficient sample volume for indicated test?  Yes No No No No No No No No No No No No No	Matrix: Carrier name	e <u>UPS</u>		
Custody seals intact on sample bottles?  Chain of custody present?  Chain of custody signed when relinquished and received?  Yes No Chain of custody agrees with sample labels?  Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  No Chain of custody agrees with sample labels?  No Chain of custody agrees with sample labels?  Yes No Chain of custody agrees with sample labels?  No Chain of custody agrees with sample label	Shipping container/cooler in good condition?	Yes 🗹	No ☐ Not Prese	nt 🗀
Chain of custody present?  Chain of custody signed when relinquished and received?  Yes  No  No  No  No  No  No  No  No  No  N	Custody seals intact on shipping container/cooler?	Yes 🗹	No Not Prese	nt Not Shipped
Chain of custody signed when relinquished and received?  Chain of custody agrees with sample labels?  Samples in proper container/bottle?  Samples in proper container/bottle?  Samples on trainers infact?  Yes No No Sufficient sample volume for indicated test?  All samples received within holding time?  Water - VOA vials have zero headspace?  No VOA vials submitted Yes No No No No No No No No No No No No No	Custody seals intact on sample bottles?	Yes 🗌	No 🗌 N/A	$\checkmark$
Chain of custody agrees with sample labels?  Samples in proper container/bottle?  Sample containers intact?  Sufficient sample volume for indicated test?  All samples received within holding time?  Water - VOA vials have zero headspace?  No VOA vials submitted   Yes   No    Water - Preservation labels on bottle and cap match?  Water - Preservation labels on bottle and cap match?  Yes   No   NIA    Water - Preservation labels on bottle and cap match?  Yes   No   NIA    Water - Preservation labels on bottle and cap match?  Yes   No   NIA    Water - Ph acceptable upon receipt?  Yes   No   NIA    Container/Temp Blank temperature?  Condiner/Temp Blank temperature?  Condiner/Temp Blank temperature?  Condiner/Temp Blank temperature?  Container/Temp	Chain of custody present?	Yes 🗹	No 🗌	
Samples in proper container/bottle?  Sample containers intact?  Yes  No  No  No  No  No  No  No  No  No  N	Chain of custody signed when relinquished and received?	Yes 🗹	No 🗆	
Sample containers intact?  Yes No    Sufficient sample volume for indicated test?  All samples received within holding time?  Water - VOA vials have zero headspace?  No VOA vials submitted   Yes No    Water - Preservation labels on bottle and cap match?  Water - Preservation labels on bottle and cap match?  Yes   No   N/A    Water - PH acceptable upon receipt?  Yes   No   N/A    Container/Temp Blank temperature?  20° <6° C Acceptable  If given sufficient time to cool.  Client contacted   User Blank    Client contacted   User Blank    Contacted by:   AT   Regarding:   Cocley Temp    Contacted by:   AT   Regarding:   Sample    Comments:   Sew CH   Qualifier    Comments:   Sew CH   Qualifier    Comments:   Sew CH   Qualifier    Comments:   Sample    Comments:   Sew CH   Qualifier    Comments:   Sample    C	Chain of custody agrees with sample labels?	Yes 🗹	No 🗌	
Sufficient sample volume for indicated test?  All samples received within holding time?  Water - VOA vials have zero headspace?  No VOA vials submitted	Samples in proper container/bottle?	Yes 🗹	No 🗀	
All samples received within holding time?  Water - VOA vials have zero headspace?  No VOA vials submitted  Yes  No  No  No  No  Water - Preservation labels on bottle and cap match?  Water - PH acceptable upon receipt?  Yes  No  No  NiA  Water - PH acceptable upon receipt?  Container/Temp Blank temperature?  COMMENTS:  Client contacted  Lister Black Date contacted: \$\frac{2}{1}\text{V[65}}\$ Person contacted  H  Contacted by: At Regarding:  Cocker Temp (Sample Jemp) 20° Comments: Acc CH Canalyze Shen Jest Jet S/21/67	Sample containers intact?	Yes 🗹	No 🗌	
Water - VOA vials have zero headspace? No VOA vials submitted  Yes No No No Water - Preservation labels on bottle and cap match? Yes No No No No No Water - Preservation labels on bottle and cap match? Yes No No No No No Water - Preservation labels on bottle and cap match? Yes No No No No Water - Preservation labels on bottle and cap match? Yes No No No No Water - Preservation labels on bottle and cap match? Yes No No No No Water - Preservation labels on bottle and cap match? Yes No No No No Water - Preservation labels on bottle and cap match? Yes No No No No Water - Preservation labels on bottle and cap match? Yes No No No No Water - Preservation labels on bottle and cap match? Yes No No No No Water - Preservation labels on bottle and cap match? Yes No No No No No No No No No No No No No	Sufficient sample volume for indicated test?	Yes 🗹	No 🗌	
Water - Preservation labels on bottle and cap match?  Water - PH acceptable upon receipt?  Yes No No N/A   Container/Temp Blank temperature?  20° <6° C Acceptable If given sufficient time to cool.  Client contacted (Liester Blank) Date contacted: \$\frac{2\lambda{l}}{2\lambda{l}}\$ Person contacted (H  Contacted by: At Regarding: (Coller Temp (Sample temp)) 20° (Comments: Acc CH Qualyze Sum Acs flet \$\frac{2\lambda{l}}{2\lambda{l}}\$ Size Acs flet \$2\lamb	All samples received within holding time?	Yes 🗹	No 🗆 ·	
Water - pH acceptable upon receipt?  Container/Temp Blank temperature?  20° <6° C Acceptable If given sufficient time to cool.  Client contacted Lister Blank Date contacted: \$\frac{2}{2}\trib\triangle \triangle	Water - VOA vials have zero headspace? No VOA vials su	ıbmitted	Yes 🗹 No	
Container/Temp Blank temperature?  20° <6° C Acceptable If given sufficient time to cool.  Client contacted User-Black Date contacted: S/2665 Person contacted CH  Contacted by: At Regarding: Cocker Temp (Sample temp) 20° Comments: See CH analyze Samples At \$/2669	Water - Preservation labels on bottle and cap match?	Yes	No N/A	<b>✓</b>
Client contacted Lister Block Date contacted: \$\lambda 2\lambda   \lambda 5 \rangle   \lambda 5 \rangle   \lambda 5 \rangle   \lambda 5 \rangle   \lambda 5 \rangle   \lambda 5 \rangle   \lambda 5 \rangle   \lambda 5 \rangle   \lambda 5 \rangle   \lambda 5 \rangle   \lambda 5 \rangle   \lambda 5 \rangle   \lambda 5 \rangle 5	Water - pH acceptable upon receipt?	Yes 🗌	No 🗌 N/A	<b>✓</b>
Client contacted <u>liester-Bladd</u> Date contacted: <u>B 24 65</u> Person contacted <u>CH</u> Contacted by: <u>AT Regarding: Coclev Temp (Sample Jemp) 20° C</u> Comments: few CH analyze Samples   AT \$/24/68	Container/Temp Blank temperature?	20°	<6° C Acceptable	
Contacted by: At Regarding: Cocler Temp (Sample temp) 2006  Comments: Per CH analyze Sumples /AT 8/24/08	COMMENTS:		If given sufficient time to coo	ol.
Contacted by: At Regarding: Cocler Temp (Sample temp) 2006  Comments: Per CH analyze Sumples /AT 8/24/08				
Contacted by: At Regarding: Cocler Temp (Sample temp) 2006  Comments: Per CH analyze Sumples /AT 8/24/08				
Contacted by: At Regarding: Cocler Temp (Sample temp) 2006  Comments: Per CH analyze Sumples /AT 8/24/08				=======================================
Contacted by: At Regarding: Cocler Temp (Sample temp) 2006  Comments: Per CH analyze Sumples /AT 8/24/08				
Contacted by: At Regarding: Cocler Temp (Sample temp) 2006  Comments: Per CH analyze Sumples /AT 8/24/08	Client contested (sight 21 // Bets contested)	Stateles	Darnen centeste	4 14
	Client contacted William Date contacted.	3/24/10	) Person contacte	, ) 0;
	Contacted by: Regarding:	Cooler	Temp Sample	fema) 20
	Comments: Dev CH analyze Sam	- des /AT	8/24/00	
Corrective Action			,	
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Corrective Action				
Corrective Action				
	Corrective Action			
·	Corrective Action			

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	(AOV-imas) O7S8  (AOV-imas) O7S8		· · · · · · · · · · · · · · · · · · ·
HALL ENVIRONMER ANALYSIS LABORA 4901 Hawkins NE, Suite D Albuquerque, New Mexico 8' Tel. 505.345.3975 Fax 5C www.hallenvironmental.com	8081 Pesticides / PCB's (8082)		
HALL ENVIRON ANALYSIS LAB 4901 Hawkins NE, Su Albuquerque, New Me Tel. 505. 345. 3975 www.hallenvironments	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )		
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14L  1NA 901  901  901  ww.h	(HA9 no AV9) O1'88		
AR ABC 49C Albu Tel.			
	EDB (Method 504.1)		
	TPH Method 418.1)		
	(vinO eniloseO) H9T + 38TM + X3T8	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
	(1508) s'8MT + 38TM + X3T8	Remarks:	
QA/QC Package: Std ☐ Level 4 ☑ Other: Project Name:  ## 33	Project #:  Project Manager:  Sampler:	3-1074   Hel - 1   Received By (Signature)   \$   20, 108	
CHAIN-OF-CUSTOOV RECORD	Address: #50 CR 4990 [3/2022 Phone #: 505-632-4/6] Fax #: 505-632-4/6/ Date Time Matrix Sample 1.D. No.	Pate: Time: Relinguished By: (Signature)  Stack 9064	



#### **COVER LETTER**

Wednesday, August 27, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990

TEL: (505) 632-4161 FAX (505) 632-3911

Bloomfield, NM 87413

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0808319

Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 8/20/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425

AZ license # AZ0682

ORELAP Lab # NM100001



Date: 27-Aug-08

CLIENT: Western Refining Southwest, Inc.

**Project:** TK #33

**Lab Order:** 0808319

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	<b>Collection Date</b>
0808319-01A	TK #33	R29853	EPA Method 8260: Volatiles Short List	8/19/2008 12:15:00 PM
0808319-01A	TK #33	R29853	EPA Method 8260: Volatiles Short List	8/19/2008 12:15:00 PM
0808319-02A	Trip Blank	R29853	EPA Method 8260: Volatiles Short List	

**Date:** 27-Aug-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808319

Project:

TK #33

Lab ID:

0808319-01

Client Sample ID: TK #33

Collection Date: 8/19/2008 12:15:00 PM

Date Received: 8/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	ĎF	Date Analyzed
EPA METHOD 8260: VOLATILES S	HORT LIST			· · · -	Analyst: HL
Benzene	3.6	1.0	μg/L	1	8/20/2008 3:37:19 PM
Toluene	2.2	1.0	μg/L	1	8/20/2008 3:37:19 PM
Ethylbenzene	ND	1.0	μg/L	1	8/20/2008 3:37:19 PM
Methyl tert-butyl ether (MTBE)	2.0	1.0	μg/L	1	8/20/2008 3:37:19 PM
Xylenes, Total	24	2.0	μg/L	1	8/20/2008 3:37:19 PM
Surr: 1,2-Dichloroethane-d4	104	59.3-133	%REC	1	8/20/2008 3:37:19 PM
Surr: 4-Bromofluorobenzene	101	80.4-119	%REC	1	8/20/2008 3:37:19 PM
Surr: Dibromofluoromethane	103	59.5-134	%REC	1	8/20/2008 3:37:19 PM
Surr: Toluene-d8	96.2	53.5-136	%REC	1	8/20/2008 3:37:19 PM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 27-Aug-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808319

Project:

TK:#33

Lab ID:

0808319-02

Client Sample ID: Trip Blank

**Collection Date:** 

Date Received: 8/20/2008

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	.DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	IORT LIST					Analyst: HL
Benzene	ND.	1.0		μg/L	1	8/20/2008 4:34:49 PM
Toluene	ND	1.0		μg/L	1	8/20/2008 4:34:49 PM
Ethylbenzene	ND	- 1.0		μg/L	. 1	8/20/2008 4:34:49 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/20/2008 4:34:49 PM
Xylenes, Total	ND	2.0		μg/L	1	8/20/2008 4:34:49 PM
Surr: 1,2-Dichloroethane-d4	94.2	59.3-133		%REC	1	8/20/2008 4:34:49 PM
Surr: 4-Bromofluorobenzene	101	80.4-119		%REC	1	8/20/2008 4:34:49 PM
Surr: Dibromofluoromethane	97.1	59.5-134		%REC	1	8/20/2008 4:34:49 PM
Surr: Toluene-d8	99.2	53.5-136		%REC	·1	8/20/2008 4:34:49 PM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- Maximum Contaminant Level MCL
- Reporting Limit

Date: 27-Aug-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

roject:

TK #33

Work Order:

0808319

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	PDLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5ml rb		MBLK			Batch I	D: <b>R29853</b>	Analysis Date:	8/20/2008 8:38:39 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND .	µg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	9.278	µg/L	0	92.8	59.3	133		
Surr: 4-Bromofluorobenzene	9.966	µg/L	0	99.7	80.4	119		
Surr: Dibromofluoromethane	9.116	µg/L	0	91.2	59.5	134		
Surr: Toluene-d8	9.667	µg/L	0	96.7	53.5	136		
Sample ID: 100ng lcs_b		LCS			Batch I	D: <b>R29853</b>	Analysis Date:	8/20/2008 10:46:14 AM
Benzene	20.50	μg/L	1.0	102	86.8	120		
Toluene	19.92	μg/L	1.0	99.6	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.346	µg/L	0	93.5	59.3	133		
Surr: 4-Bromofluorobenzene	10.35	μg/L	0	104	80.4	119	•	
Surr: Dibromofluoromethane	9.976	μg/L	0	99.8	59.5	134		÷
Surr: Toluene-d8	9.834	μg/L	0	98.3	53.5	136		

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

#### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT		Date Recei	ved:	8/20/2008	
Work Order Number 0808319		Received	by: AT	£	
			D labels checked b	y: KT	
Checklist completed by:	. D.	*\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Initials	
Matrix.	- LIDO				
Matrix: Carrier name	e <u>UPS</u>				
Shipping container/cooler in good condition?	Yes 🗸	No 🗌	Not Present		
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌	Not Present	☐ Not Shipped	
Custody seals intact on sample bottles?	Yes	No 🗌	N/A	$ \mathbf{Z} $	
Chain of custody present?	Yes 🗹	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌			
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌	•		
Samples in proper container/bottle?	Yes 🗹	No 🗌			
Sample containers intact?	Yes 🗸	No 🗌			
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌			
All samples received within holding time?	Yes 🗹	No 🗆			
Water - VOA vials have zero headspace? No VOA vials su	bmitted	Yes 🗹	No 🗆		
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗌	N/A		
Water - pH acceptable upon receipt?	Yes $\square$	No 🗌	N/A	•	
Container/Temp Blank temperature?	1°	<6° C Accept	table		·
COMMENTS:		If given suffici	ient time to cool.		
				·	
		· _			•
Client contacted Date contacted:		Р	erson contacted		· · · · · · · · · · · · · · · · · · ·
Contacted by: Regarding:		<del></del>			
Comments:					
				·	,
	-				
Corrective Action					
			<del></del>		

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	vew ivie 3975 onment	ANALYSIS REDUEST	hpo	, 90 <sub>4</sub> , 50 (8082) مخ <b>آ</b> بخد ر	/) \ bCB 3' NO <sup>5</sup>	alese ON , IC esebioi (AOV-iri	1 Pest 08 (V( neS)	0168 ADA 10inA 808 926 928	<b>&gt;</b> <						
			(vlnO	.rs08) 2' anilosa0) llaeai0\ze	1PH (6	18E +	M + )	BTEX HQT							Remarks:
QA / QC Package: Std 🔲 Level 4 🗗 Other:	Project Name:	)	Project Manager.		Sampler: Bab	Sample Temperature:	Preservative Preservative	HgCI2 HNO3 HCI 298		-2					Received By: (Signature) / 8/22/08  White Management of the series of th
CHAIN-OF-CUSTODY RECORD	Client: Western Refining (Blufld)	Address: #50 Cip 499	Part		Phone #: 565-633 - 4/6/	Fax#: 505-632-37/	Motoric	IIIIE	8-19-08 12:15 Hao TK#33	Try Benk					Date: Time: Refinguished By; (Signature)  8/19-06 130a Long Long Long Long Long Long Long Long



#### **COVER LETTER**

Wednesday, August 27, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990

TEL: (505) 632-4161 FAX (505) 632-3911

Bloomfield, NM 87413

RE: TK #33 8/14/08

Dear Cindy Hurtado:

Order No.: 0808261

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 8/15/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



**Date:** 27-Aug-08

CLIENT:

Western Refining Southwest, Inc.

Project:

TK #33 8/14/08

Lab Order: 0808261

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808261-01A	TK #33	R29845	EPA Method 8260: Volatiles Short List	8/14/2008 8:35:00 AM
0808261-01A	TK #33	R29845	EPA Method 8260: Volatiles Short List	8/14/2008 8:35:00 AM

Date: 27-Aug-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808261

Project:

TK #33 8/14/08

Lab ID:

0808261-01

Client Sample ID: TK #33

Collection Date: 8/14/2008 8:35:00 AM

Date Received: 8/15/2008

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	ORT LIST				Analyst: HL
Benzene	110	5.0	μg/L	5	8/19/2008 3:49:04 PM
Toluene	120	5.0	μg/L	5	8/19/2008 3:49:04 PM
Ethylbenzene	6.6	1.0	μg/L	1	8/19/2008 2:50:17 PM
Methyl tert-butyl ether (MTBE)	1.9	1.0	μg/L	1	8/19/2008 2:50:17 PM
Xylenes, Total	540	10	µg/L	5	8/19/2008 3:49:04 PM
Surr: 1,2-Dichloroethane-d4	112	59.3-133	%REC	1	8/19/2008 2:50:17 PM
Surr: 4-Bromofluorobenzene	106	80.4-119	%REC	1	8/19/2008 2:50:17 PM
Surr: Dibromofluoromethane	97.2	59.5-134	%REC	1	8/19/2008 2:50:17 PM
Surr: Toluene-d8	115	53.5-136	%REC	1	8/19/2008 2:50:17 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
  - S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 27-Aug-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 8/14/08

Work Order:

0808261

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5ml rb		MBLK			Batch	ID: <b>R29845</b>	Analysis Date:	8/19/2008 9:01:51 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					•
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	9.489	μg/L	0	94.9	59.3	133		
Surr: 4-Bromofluorobenzene	9.884	µg/L	0	98.8	80.4	119		
Surr: Dibromofluoromethane	9.353	μg/L	0	93.5	59.5	134		
Surr: Toluene-d8	9.731	μg/L	0	97.3	53.5	136		
Sample ID: 100ng Ics		LCS			Batch	ID: <b>R29845</b>	Analysis Date:	8/19/2008 9:59:13 AM
Benzene	20.63	μg/L	1.0	103	86.8	120		
Toluene	19.97	μg/L	1.0	99.8	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.511	μg/L	0	95.1	59.3	133		
Surr: 4-Bromofluorobenzene	9.883	µg/L	0	98.8	80.4	119		
Surr: Dibromofluoromethane	9.703	μg/L	0	97.0	59.5	134		•
Surr: Toluene-d8	9.651	µg/L	. 0	96.5	53.5	136 .		



E Value above quantitation range

Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

#### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT		Date Received:	•	8/15/2008	
Work Order Number 0808261		Received by:	TLS		
	0/15	Sample ID lab	els checked by:	Initials	
Checklist completed by: Signature	Date	00		midals	
Matrix: Carri	ier name <u>UPS</u>				
Shipping container/cooler in good condition?	Yes 🗹	No 🗔	Not Present		
Custody seals intact on shipping container/cooler?	Yes <b>⊻</b>		Not Present	Not Shipped	
Custody seals intact on sample bottles?	Yes 🗌		N/A 🔽	riot empped	
Chain of custody present?	Yes <b>⊻</b>	No 🗆			
Chain of custody signed when relinquished and received?	Yes <b>⊻</b>	No 🗆			
Chain of custody agrees with sample labels?	Yes <b>⊻</b>	No 🗆			
Samples in proper container/bottle?	Yes <b>⊻</b>	No 🗌			
Sample containers intact?	Yes 🗹	No 🗆	,		
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌			
All samples received within holding time?	Yes 🗹	No 🗌			
	vials submitted	Yes 🗹	No 🗌		
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗆	N/A 🗹		
Water - pH acceptable upon receipt?	Yes 🗌	No 🗌	N/A		
Container/Temp Blank temperature?	13°	<6° C Acceptable	•		
COMMENTS:		If given sufficient t	time to cool.		
	=======				
	•				
Client contacted Date conta	cted:	Perso	n contacted		
Contacted by: Regarding:					
Comments:					
Comments.		1			
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S	Client: Western Rotining (Blufld)		Address: #50	M	Phone #:	email or Fax#: 505-632-	QA/QC Package:	□ Other	□ EDD (Type)		Date	3-11-08												Date:	.e.	
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#### **COVER LETTER**

Friday, August 15, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 8/5/08

Dear Cindy Hurtado:

Order No.: 0808080

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 8/6/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425

AZ license # AZ0682

ORELAP Lab # NM100001



Date: 15-Aug-08

CLIENT:

Western Refining Southwest, Inc.

Project:

TK #33 8/5/08

Lab Order:

0808080

**Work Order Sample Summary** 

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808080-01A	TK #33	R29757	EPA Method 8260: Volatiles Short List	8/5/2008 8:10:00 AM
0808080-01A	TK #33	R29757	EPA Method 8260: Volatiles Short List	8/5/2008 8:10:00 AM

**Date:** 15-Aug-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808080

Project:

TK #33 8/5/08

Lab ID:

0808080-01

Client Sample ID: TK #33

Collection Date: 8/5/2008 8:10:00 AM

Date Received: 8/6/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analyst: <b>HL</b>
Benzene	25	1.0	µg/L	1	8/13/2008 6:28:26 PM
Toluene	19	1.0	µg/L	. 1	8/13/2008 6:28:26 PM
Ethylbenzene	ND	1.0	µg/L	1	8/13/2008 6:28:26 PM
Methyl tert-butyl ether (MTBE)	1.6	1.0	μg/L	1	8/13/2008 6:28:26 PM
Xylenes, Total	210	2.0	µg/L	1	8/13/2008 6:28:26 PM
Surr: 1,2-Dichloroethane-d4	99.4	59.3-133	%REC	1 -	8/13/2008 6:28:26 PM
Surr: 4-Bromofluorobenzene	97.7	80.4-119	%REC	1	8/13/2008 6:28:26 PM
Surr: Dibromofluoromethane	103	59.5-134	%REC	1	8/13/2008 6:28:26 PM
Surr: Toluene-d8	89.5	53.5-136	%REC	1	8/13/2008 6:28:26 PM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
  - S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 15-Aug-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 8/5/08

Work Order:

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Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	PDLimit Qual
Method: EPA Method 8260: Vo	latiles Short							
Sample ID: 5ml rb		MBLK			Batch	ID: <b>R29757</b>	Analysis Date:	8/13/2008 12:36:05 PM
Benzene	ND	µg/L	1.0				•	
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	. 2.0					
Surr: 1,2-Dichloroethane-d4	9.708	µg/L	0	97.1	59.3	133		
Surr: 4-Bromofluorobenzene	9.956	µg/L	0	99.6	80.4	119		
Surr: Dibromofluoromethane	9.076	µg/L	0	90.8	59.5	134		
Surr: Toluene-d8	10.07	µg/L	0	101	53.5	136		
Sample ID: b6		MBLK			Batch	ID: <b>R29757</b>	Analysis Date:	8/14/2008 12:44:10 AM
Benzene	ND	μg/L	1.0			•		
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0			•		
Xylenes, Total	ND	µg/L	2.0					
Surr: 1,2-Dichloroethane-d4	9.412	µg/L	0	94.1	59.3	133		
Surr: 4-Bromofluorobenzene	10.42	μg/L	0	104	80.4	119		
Surr: Dibromofluoromethane	9.600	µg/L	0	96.0	59.5	134		
Surr: Toluene-d8	9.830	µg/L	0 .	98.3	53.5	136		<u> </u>
Sample ID: 100ng Ics		LCS			Batch	ID: <b>R29757</b>	Analysis Date:	8/13/2008 2:03:00 P
Benzene	19.87	µg/L	1.0	99.3	86.8	120		•
Coluene	18.94	µg/L	1.0	94.7	64,1	127		
Surr: 1,2-Dichloroethane-d4	9.822	µg/L	0	98.2	59.3	133		
Surr: 4-Bromofluorobenzene	10.22	μg/L	. 0	102	80.4	119		
Surr: Dibromofluoromethane	10.06	µg/L	0	101	59.5	134	•	
Surr: Toluene-d8	9.856	μg/L	0	98.6	53.5	136		
Sample ID: 100ng Ics		LCS			Batch	ID: <b>R29757</b>	Analysis Date:	8/14/2008 1:41:39 AM
Benzene	19.70	μg/L	1.0	98.5	86.8	120	•	
Toluene	19.35	μg/L	1.0	96.8	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.168	µg/L	0	91.7	59.3	133		
Surr: 4-Bromofluorobenzene	10.39	µg/L	. 0	104	80.4	119		
Surr: Dibromofluoromethane	9.286	μg/L	0	92.9	59.5	134		
Surr: Toluene-d8	9.678	μg/L	0	96.8	53.5	136	•	

	-		
Oug	Hil	liers	2

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



#### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT		Date Received:		8/6/2008	
Work Order Number 0808080  Checklist completed by:	S 8/4/	Received by: Sample ID label	TLS s checked by:	Initials	
Signature	Date	20			
Matrix:	Carrier name <u>UPS</u>				
Shipping container/cooler in good condition?	Yes 🔽	No 🗆 N	ot Present		
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌 N	ot Present	Not Shipped	
Custody seals intact on sample bottles?	Yes 🗌	No 🗌 N	/A 🔽		
Chain of custody present?	Yes 🗹	No 🗀			
Chain of custody signed when relinquished and received	ived? Yes 🗹	No 🗆			
Chain of custody agrees with sample labels?	Yes 🗸	No 🗌			
Samples in proper container/bottle?	Yes 🗹	No 🗔	·		
Sample containers intact?	Yes 🗸	No 🗀			
Sufficient sample volume for indicated test?	Yes 🗹	No 🗀			
All samples received within holding time?	Yes 🗹	No 🗌			
Water - VOA vials have zero headspace?	o VOA vials submitted	Yes 🗹	No 🗌		
Water - Preservation labels on bottle and cap match	? Yes 🗌	No 🗆	N/A 🗹		
Water - pH acceptable upon receipt?	Yes	No 🗆	N/A 🗹		
Container/Temp Blank temperature?	3°	<6° C Acceptable			
COMMENTS:		If given sufficient tin	ne to cool.		
		*			
	=======================================				
		_			
Client contacted Date	e contacted:	Person	contacted	y	
Contacted by: Reg	arding:				
Comments:					
				<del></del>	
Corrective Action					

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	AWMWSIS REDUEST	hymp	9ce ( 0L N) 1,2 (8085) 1,4 (8085) 1,5 (8085)	(AH)	A or P letals CI, NC ticides (AO') (AO')	8570 (Se	<b>X</b>							
		(Aju	80S1) a'{ O aniloes0) Ses(Diesel)	HGP (C 18.1) (1.80	hod 5 0d 80 0d 80 1	BTEX + Neth TPH Meth TPH (Met							Remarks:	
0A / QC Pack	1K#33 8-5-08 Project #:		Project Manager:	Sample <del>c 130</del> 6	Sample Temperature: 3:	Number/Volume HgCl <sub>2</sub> HNO <sub>3</sub> ASOSC	3-40A 1/61						Received By: (Signature) 8/4/234	(Referved By: (Signature)
CHAIN-OF-CUSTODY RECORD	4900			1161	-39//	Sample I.D. No.	TK#33						Relinquished By; (Signature)	Relinquished By: (Signature)
MIN-OF-GUS	SS: 40 0			Phone #: 505-632- 416	505-632-	e Time Matrix	0cH 01:0 80						S.S.	Time:
CHAIN-O	Addiness: 1	Bloom		Phone #: 505	Fax #: 505-	Date Time	8-5-08 8:10						Date: Time: 8-5:08 3:08	Date: Time:

., 7



#### COVER LETTER

Tuesday, August 05, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 7-31-08

Dear Cindy Hurtado:

Order No.: 0808002

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 8/1/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001



**Date:** 05-Aug-08

CLIENT:

Western Refining Southwest, Inc.

Project:

TK #33 7-31-08

Lab Order:

0808002

TK #33

Work Order Sample Summary

Lab Sample ID

0808002-01A

Client Sample ID

Batch ID

R29585

**Test Name** 

EPA Method 8260: Volatiles Short List

Collection Date

7/31/2008 8:30:00 AM

Page 1 of 1

**Date:** 05-Aug-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808002

Project:

TK #33 7-31-08

Lab ID:

0808002-01

Client Sample ID: TK #33

Collection Date: 7/31/2008 8:30:00 AM

Date Received: 8/1/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	HORT LIST				Analyst: HL
Benzene	71	5.0	μg/L	5	8/1/2008 11:47:08 AM
Toluene	39	5.0	μg/L	5	8/1/2008 11:47:08 AM
Ethylbenzene	ND	5.0	μg/L	5	8/1/2008 11:47:08 AM
Methyl tert-butyl ether (MTBE)	ND	5.0	μg/L	5	8/1/2008 11:47:08 AM
Xylenes, Total	430	10	μg/L	. 5	8/1/2008 11:47:08 AM
Surr: 1,2-Dichloroethane-d4	110	59.3-133	%REC	5	8/1/2008 11:47:08 AM
Surr: 4-Bromofluorobenzene	89.6	80.4-119	%REC	5	8/1/2008 11:47:08 AM
Surr: Dibromofluoromethane	108	59.5-134	%REC	5	8/1/2008 11:47:08 AM
Surr: Toluene-d8	89.1	53.5-136	%REC	5	8/1/2008 11:47:08 AM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 05-Aug-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 7-31-08

Work Order:

0808002

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	PDLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5ml rb	•	MBLK			Batch I	D: <b>R29585</b>	Analysis Date:	8/1/2008 8:23:32 AN
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	9.608	μg/L	0	96.1	59.3	133		
Surr: 4-Bromofluorobenzene	9.496	μg/L	0	95.0	80.4	119	•	
Surr: Dibromofluoromethane	9.844	μg/L	0	98.4	59.5	134		
Surr: Toluene-d8	9.126	μg/L	0	91.3	53.5	136		
Sample ID: 100ng lcs		LCS			Batch I	D: <b>R29585</b>	Analysis Date:	8/1/2008 9:50:00 AN
Велгеле	21.60	µg/L	1.0	108	86.8	120		
Toluene	20.04	μg/L	1.0	100	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.518	μg/L	0	95.2	59.3	133		,
Surr: 4-Bromofluorobenzene	10.16	μg/L	0	102	80.4	119		
Surr: Dibromofluoromethane	9.788	µg/L	0	97.9	59.5	134		
Surr: Toluene-d8	9.454	µg/L	0	94.5	53.5	136		
,								

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

lient Name WESTERN REFINING SOUT	, ,	Date Received:		8/1/2008	
Work Order Number 0808002  Checklist completed by:  Signature	S Date	Received by: Sample ID labe	ARS .	Initials	
Matrix: Carrier na	me <u>UPS</u>		÷	•	
Shipping container/cooler in good condition?	Yes 🗹	No 🗌 💮	Not Present		
Custody seals intact on shipping container/cooler?	Yes 🔽	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?	Yes 🗌	No 🗌 💮 I	N/A <b>☑</b>		
Chain of custody present?	Yes 🗹	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🗸	No 🗌			
Chain of custody agrees with sample labels?	Yes 🗸	No 🗌			
Samples in proper container/bottle?	Yes 🗸	No 🗌			
Sample containers intact?	Yes 🗸	No 🗀			
Sufficient sample volume for indicated test?	Yes 🗹	No 🗆			
All samples received within holding time?	Yes 🗹	No 🗆			
Water - VOA vials have zero headspace? No VOA vials	submitted	Yes 🗸	No 🗆		
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗌	N/A 🗹		
Water - pH acceptable upon receipt?	Yes 🗌	No 🗌	N/A		
Container/Temp Blank temperature?	5°	<6° C Acceptable			
COMMENTS:		If given sufficient ti	me to cool.		
=					====
Client contacted Date contacted:	: • <u> </u>	Persor	contacted		
Contacted by: Regarding:			<u></u>		
Comments:					
				· · · · · · · · · · · · · · · · · · ·	
				<u> </u>	
Corrective Action					
		<u> </u>		<del>, , , , , , , , , , , , , , , , , , , </del>	

IATUM COLVENIA I I A I		www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Regidest	( <sub>p</sub> O <sub>4</sub> )	S' <sup>†</sup> Od' <sup>?</sup>	(1.81) (1.40) (1.40) (1.40) (1.60) (1.60) (1.60)	bod 5 boo 8 boo 8 boo 9	TPH Methoring TPH (Methoring Methoring (Methonom (F, Moniona (F, Moniona (P, Moniona (Meth	×								this serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analysis report.
200		Œ.	49(	Te	nk L					BTEX + M <sup>-</sup>							Remarks		sibility. An
Turn-Around Time:	☑ Standard □ Rush	Project Name:	1K#33 7-31-08	Project #:		Project Manager:		Sample: Bob	nperature:	Container Preservative HEAL No.	3-10A HC!						Red By 9:30 8 1 08	Received by:	1
Chain-of-Custody Record	Client, Westers Refining (Bluffel		Address: 450 CR 4990	1. 2 2 W 874/3	-633-4/61	# 525-673-3911	ge: E_Level 4 (Full Validation)	(0		Time Sample Request ID	8120 七本の3						Time: Relinquished by:	<u> </u>	ry, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories
Chai	Client:		Address:	-Block Pie	Phone #:	email or Fax#: 525-	QA/QC Package:	□ Other □		Date	7-31-08 8						Date: Time: 7.	Date: Time:	lf neg



### **COVER LETTER**

Monday, July 28, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 7/21/08

Dear Cindy Hurtado:

Order No.: 0807307

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 7/23/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



**Date:** 28-Jul-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

TK #33 7/21/08

Lab Order:

0807307

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

**Collection Date** 

0807307-01A

TK #33

R29448

EPA Method 8260: Volatiles Short List

7/23/2008 9:45:00 AM

Date: 28-Jul-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0807307

Project:

TK #33 7/21/08

Lab ID:

0807307-01

Client Sample ID: TK #33

Collection Date: 7/23/2008 9:45:00 AM

Date Received: 7/23/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST					Analyst: HL
Benzene	75	5.0		μg/L	5	7/23/2008 4:02:21 PM
Toluene	54	5.0		μg/L	5	7/23/2008 4:02:21 PM
Ethylbenzene	ND	5.0		µg/L	5	7/23/2008 4:02:21 PM
Methyl tert-butyl ether (MTBE)	ND	5.0		μg/L	5	7/23/2008 4:02:21 PM
Xylenes, Total	450	10		μg/L	5 .	7/23/2008 4:02:21 PM
Surr: 1,2-Dichloroethane-d4	102	59.3-133		%REC	5	7/23/2008 4:02:21 PM
Surr: 4-Bromofluorobenzene	80.1	80.4-119	S	%REC	5	7/23/2008 4:02:21 PM
Surr: Dibromofluoromethane	107	59.5-134		%REC	5	7/23/2008 4:02:21 PM
Surr: Toluene-d8	94.5	53.5-136		%REC	5	7/23/2008 4:02:21 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
  - S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 28-Jul-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 7/21/08

Work Order:

080730

Analyte	Result	Units	PQL	%Rec	LowLimit 1	lighLimit	%RPD	RPDLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5ml rb		MBLK			Batch ID	: R29448	Analysis Da	ate: 7/23/2008 8:28:09 AN
Benzene	ND	μg/L	1.0					•
Toluene	ND	μg/L	1.0			•		
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	, <b>N</b> D	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					·
Surr: 1,2-Dichloroethane-d4	9.078	μg/L	0	90.8	59.3	133		
Surr: 4-Bromofluorobenzene	9.726	μg/L	0	97.3	80.4	119		
Surr: Dibromofluoromethane	8.874	μg/L	0	88.7	59.5	134		
Surr: Toluene-d8	9.476	μg/L	0	94.8	53.5	136		•
Sample ID: 100ng Ics		LCS			Batch ID	R29448	Analysis Da	ate: 7/23/2008 9:25:42 AN
Benzene	21.51	μg/L	1.0	108	86.8	120		
Toluene	20.35	μg/L	1.0	102	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.436	μg/L	0	94.4	59.3	133		
Surr: 4-Bromofluorobenzene	9.154	μg/L	0	91.5	80.4	119	1	e*
Surr: Dibromofluoromethane	9.102	μg/L	0	91.0	59.5	134		
Surr: Toluene-d8	9.580	μg/L	0	95.8	53.5	136		



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Client Name WESTERN REFINING SOUT	Cap.o / (000)pt 0110	Date Received:	7/23/2008
Work Order Number 0807307		Received by: TLS	_
$\sim$		Sample ID labels checked by	<del></del>
Checklist completed by Signature	7 13 Date	08	Initi <b>b</b> lš
A. A. A. A. A. A. A. A. A. A. A. A. A. A	Corrier name LIBS		
Matrix:	Carrier name <u>UPS</u>		
Shipping container/cooler in good condition?	Yes 🗹	No Not Present	
Custody seals intact on shipping container/cooler?	Yes 🗹	No Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes	No 🗌 N/A	✓
Chain of custody present?	Yes 🗸	No 🗆	
Chain of custody signed when relinquished and receive	ed? Yes ✓	No 🗀	
Chain of custody agrees with sample labels?	Yes 🗹	No 🗆	
Samples in proper container/bottle?	Yes 🗹	No 🗆	
Sample containers intact?	Yes 💆	NO X AT 1/25/67	
Sufficient sample volume for indicated test?	Yes 🗸	No 🗌	
All samples received within holding time?	Yes 🗹	No 🗀	
Water - VOA vials have zero headspace?	VOA vials submitted	Yes ✓ No 🗆	
Water - Preservation labels on bottle and cap match?	Yes	No □ N/A 🗹	
Water - pH acceptable upon receipt?	Yes	No ☐ N/A 🗹	
Container/Temp Blank temperature?	· · · · · · · · · · · · · · · · · · ·	<6° C Acceptable	
COMMENTS:		If given sufficient time to cool.	
	•		
Client contacted Date of	contacted:	Person contacted	
Client contacted Date to		Person contacted	
Contacted by: Regar	ding:		
Comments: () M VITA 15 W	broken un	on arrival	as 4/23
Corrective Action			
,			

	0 R Y							(N to	) Д) S	Air Bubble						-					-	
HALL FRATEORIMENTAL	ANALYSIS LABORATORY	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	s	PCB:	260) HA() 5,NO <sub>2</sub> 1,808?	8 boo 9 10 , 10 , 10 , 10 , 10 , 10 , 10 , 10 ,	TPH (Meth EDB (Meth 8310 (PNA Anions (F,0 8081 Pesti 8250 (VC 8270 (Sem	X			\								intracted data will be clearly notated on the analysis Irenor
		¥	01 Ha	el. 50£			_			TPH Metho		 :								.; ?:		J-qiis vu
			46	Η.						BTEX + MT								•	_	Remarks:		sibility A
d Time:	d 🗆 Rush	.e.	#33 - 7/21/08				-	on 17	7	Preservative HEAL No. Type 0807267	Ha									Received by: 7/33/00 R	ж. <i>С</i>	according laboratorias.—This canas as notice of this nos
Turn-Around Time:	X Standar	Project Nan	16	Project #:		Project Manager:		Sampler:	Sample Temperature	Container Type and #	3-104		ļ									/ logic of potential
Chain-of-Custody Record	Client: WESTERN ReP. Willy (Black H) & Standard	,	CR 4990	1d, NM 87413	1011-629-	-633-FII	CALevel 4 (Full Validation)			Sample Request ID	Tk#33									Relinquished by	Relinquished by:	South of your latest state of the House of t
ain-of-	lester.		450	me	505	-ax#:505	ickage: ard	Type)		Time	9454									Time: <b>/0/0/</b>	Time:	
Ch	Client: 🖊	. ,	Address:	Sjoon	Phone #:	email or Fax#; $\mathcal{S}$	QA/QC Package:	☐ Other☐		Date	7-12-09									Date: 7-28	Date:	





### **COVER LETTER**

Monday, July 28, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 7-16-08

Dear Cindy Hurtado:

Order No.: 0807234

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 7/17/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



Date: 28-Jul-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

TK #33 7-16-08

Lab Order:

0807234

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

Test Name

**Collection Date** 

0807234-01A

TK #33

R29397

EPA Method 8260: Volatiles Short List

7/16/2008 10:10:00 AM

Date: 28-Jul-08

**CLIENT:** 

Western Refining Southwest, Inc.

0807234

Lab Order: Project:

TK #33 7-16-08

Lab ID:

0807234-01

Client Sample ID: TK #33

Collection Date: 7/16/2008 10:10:00 AM

Date Received: 7/17/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual U	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST					Analyst: HL
Benzene	56	5.0	. J.	ıg/L	5	7/18/2008 10:48:19 AM
Toluene	43	5.0	۲	ıg/L	5	7/18/2008 10:48:19 AM
Ethylbenzene	ND	5.0	ļ.	ıg/L	5	7/18/2008 10:48:19 AM
Methyl tert-butyl ether (MTBE)	ND	5.0	۲	ıg/L	5	7/18/2008 10:48:19 AM
Xylenes, Total	380	10	ļ.	ıg/L .	5	7/18/2008 10:48:19 AM
Surr: 1,2-Dichloroethane-d4	114	59.3-133	9	%REC	5	7/18/2008 10:48:19 AM
Surr: 4-Bromofluorobenzene	111	80.4-119	9	%REC	5	7/18/2008 10:48:19 AM
Surr: Dibromofluoromethane	105	59.5-134	9	%REC	5	7/18/2008 10:48:19 AM
Surr: Toluene-d8	104	53.5-136	9	%REC	5	7/18/2008 10:48:19 AM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 28-Jul-08

## QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 7-16-08

Work Order:

080723

Analyte	Result	Units	PQL	%Rec	LowLimit <sub>.</sub> H	lighLimit	%RPD R	RPDLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List					, <sub>1</sub> , <sub>1</sub> , <sub>1</sub>	
Sample ID: 5ml rb		MBLK			Batch ID:	R29397	Analysis Date:	: 7/18/2008 8:52:08 AM
Benzene	ND	µg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					•
Surr: 1,2-Dichloroethane-d4	9.925	μg/L	0	99.2	59.3	133		
Surr: 4-Bromofluorobenzene	10.17	μg/L	0	102	80.4	119		
Surr: Dibromofluoromethane	. 10.06	μg/L	0	101	59.5	134		
Surr: Toluene-d8	9.889	μg/L	0	98.9	53.5	136		
Sample ID: 100ng lcs		LCS			Batch ID:	: R29397	Analysis Date:	: 7/18/2008 9:49:36 AM
Benzene	20.75	μg/L	1.0	104	86.8	120		
Toluene	19.73	μg/L	1.0	98.7	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.622	μg/L	0	96.2	59.3	133		
Surr: 4-Bromofluorobenzene	10.89	μg/L	0	109	80.4	119		•
Surr: Dibromofluoromethane	10.52	μg/L	0	105	59.5	134		
Surr: Toluene-d8	9.669	μg/L	0	96.7	53.5	136		

Ou	al	íſi	Arc

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Client Name WESTERN REFINING SOUT				Date Received	<b>d</b> :		7/17/2008	
Work Order Number 0807234  Checklist completed by: Signature		7	Date (	Received by Sample ID la	ARS	-	Initials	
Matrix:	Carrier name	<u>UPS</u>						
Shipping container/cooler in good condition?		Yes	$\checkmark$	No 🗆	Not Present		•	
Custody seals intact on shipping container/coo	ler?	Yes	<b>/</b>	No 🗌	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗌	N/A	$\checkmark$		
Chain of custody present?		Yes	V	No 🗌				
Chain of custody signed when relinquished and	d received?	Yes	<b>✓</b>	No 🗌				
Chain of custody agrees with sample labels?		Yes	$\checkmark$	No 🗀				
Samples in proper container/bottle?		Yes	<b>✓</b>	No 🗌				
Sample containers intact?		Yes	<b>✓</b>	No 🗀				
Sufficient sample volume for indicated test?		Yes	$\checkmark$	No 🗌				
All samples received within holding time?		Yes	<b>V</b>	No 🗀				
Water - VOA vials have zero headspace?	No VOA vials subm	itted		Yes 🗹	No 🗆			
Water - Preservation labels on bottle and cap r	natch?	Yes		No 🗌	N/A 🗹			
Water - pH acceptable upon receipt?		Yes		No 🗆	N/A 🗹			
Container/Temp Blank temperature?			-	<6° C Acceptab				
COMMENTS:				If given sufficient	time to cool.		•	
							٠	
Client contacted	Date contacted:			Pers	on contacted			
Contacted by:	Regarding:							
Comments:							·	
				<del></del>				
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Corrective Action								
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							· · · · · · · · · · · · · · · · · · ·	

HALL FRAVIBONMENTAL	ANALYSIS LABORATORY	www.hallenvironmental.com	NE - Albuquerque, NM 87109	-3975 Fax 505-345-4107		S	5,PO4,5	(0° (0°) (0°)	928 bo	Pestic	8310 8081 8081 8EDC	×		\ \ \					The state of the s
		Ä	4901 Hawkins NE	Tel. 505-345-3975			o saĐ) iO\ea£	) 8 <u>9</u>	3108 k		I HdT							Remarks:	4
Turn-Around Time:	□ Rush	Project Name:	TK#33-7-16-08	Project #:		Project Manager:	S08) S.	Sampler: CivDy, Bob	On ice: Di Yes No. + Sample Temperature: K.	ative	Type 0807234	3-VOA HC/						Received by:	Received by:
Chain-of-Custody Record	Client: Western Refining Blangle Wastandard		450CR 4950	eld	Phone #: 505-632-4/6/	email or Fax# 505-63ユー ろ 1/1	ge: Iz Level 4 (Full Validation)		(e)		Time Sample Request ID	1010A TX#33						8. Relinguished by: Under durindo	Time: Relinquished by:
Chai	Client: We		Address: #50 (	Blooms	Phone #: 5	email or Fax	QA/QC Package:	□ Other	□ EDD (Type)	-	Date	1 32-91-6						]	Date: Tim



### **COVER LETTER**

Friday, July 18, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0807097

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 7/8/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001



Date: 18-Jul-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

TK #33

Lab Order:

0807097

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0807097-01A	TK #33	R29340	EPA Method 8260: Volatiles Short List	7/7/2008 8:15:00 AM
0807097-01A	TK #33	R29304	EPA Method 8260: Volatiles Short List	7/7/2008 8:15:00 AM

**Date:** 18-Jul-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0807097

Project:

TK #33

Lab ID:

0807097-01

Client Sample ID: TK #33

Collection Date: 7/7/2008 8:15:00 AM

Date Received: 7/8/2008

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analyst: BDH
Benzene	41	1.0	μg/L	1	7/13/2008 11:23:45 AM
Toluene	42	1.0	μg/L	1	7/13/2008 11:23:45 AM
Ethylbenzene	2.8	1.0	μg/L	1	7/13/2008 11:23:45 AM
Methyl tert-butyl ether (MTBE)	2.3	1.0	μg/L	1	7/13/2008 11:23:45 AM
Xylenes, Total	410	10	μg/L	5	7/14/2008 5:21:41 PM
Surr: 1,2-Dichloroethane-d4	98.5	59.3-133	%REC	1	7/13/2008 11:23:45 AM
Surr: 4-Bromofluorobenzene	91.7	80.4-119	. %REC	1	7/13/2008 11:23:45 AM
Surr: Dibromofluoromethane	96.9	59.5-134	%REC	1	7/13/2008 11:23:45 AM
Surr: Toluene-d8	95.6	53.5-136	%REC	1	7/13/2008 11:23:45 AM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 18-Jul-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33

Work Order:

Analyte	Result	Units	PQL	%Rec	LowLimit I	HighLimit	%RPD R	PDLimit Qual
Method: EPA Method 8260: Vo	latiles Short	List						<del>" ! ! </del>
Sample ID: 0807097-01a msd		MSD			Batch ID	): <b>R29304</b>	Analysis Date:	7/13/2008 12:22:51 PM
Benzene	54.94	µg/L	1.0	71.8	72.4	126	13.8	20 S
Toluene	60.93	µg/L	1.0	93.5	79.2	115	7.13	20
Surr: 1,2-Dichloroethane-d4	9.489	μg/L	0	94.9	59.3	133	0 .	0
Surr: 4-Bromofluorobenzene	9.360	μg/L	0	93.6	80.4	119	0	0
Surr: Dibromofluoromethane	9.277	µg/L	0	92.8	59.5	134	0	0
Surr: Toluene-d8	9.784	µg/L	0	97.8	53.5	136	0	0
Sample ID: b5		MBLK			Batch II	): <b>R29304</b>	Analysis Date:	7/13/2008 9:24:56 AN
Benzene	ND	μg/L	1.0				•	
Toluene	ND	μg/L	1.0	•				
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	10.29	μg/L	0	103	59.3	133		
Surr: 4-Bromofluorobenzene	10.19	μg/L	0	102	80.4	119		
Surr: Dibromofluoromethane	9.715	μg/L	0	97.2	59.5	134		r
Surr: Toluene-d8	9.542	μg/L	0	95.4	53.5	136		
Sample ID: &mL rb		MBLK			Batch II	D: <b>R29340</b>	Analysis Date:	7/14/2008 7:51:37 AN
Benzene	NĎ	μg/L	1.0					•
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0			·		
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0		•			
Xylenes, Total	ND	µg/L	2.0					
Surr: 1,2-Dichloroethane-d4	9.811	μg/L	0	98.1	59.3	133		
Surr: 4-Bromofluorobenzene	9.751	μg/L	0	97.5	80.4	119		
Surr: Dibromofluoromethane	9.364	μg/L	0	93.6	59.5	134		
Surr: Toluene-d8	9.308	μg/L	0	93.1	53.5	136		
Sample ID: 100ng Ics	0.000	LCS	· ·	•	Batch II		Analysis Date	7/13/2008 10:24:23 AM
	20.20		1.0	101	86.8	120	,	
Benzene	20.28 19.70	µg/L		98.5		120		
Toluene	9.489	μg/L	1.0 0 .	96.5 94.9	64.1 59.3	133		
Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene	10.18	μg/L	0	94.9 102	80.4	119		•
Surr: Dibromofluoromethane	9.292	µg/L µg/L	0	92.9	59.5	134		
Surr: Toluene-d8	9.472	μg/L μg/L	. 0	94.7	53.5	136		
Sample ID: 100ng Ics	3.412	LCS	U	34.7	Batch II		Analysis Date	: 7/14/2008 9:10:37 AN
_	40.40		4.0	05.0			/ marysis_bate	. 771-72000 0.70.01 711
Benzene	19.16	µg/L	1.0	95.8	86.8	120		
Toluene	20.91	μg/L	1.0	105	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.926	µg/L	0	99.3	59.3	133		
Surr: 4-Bromofluorobenzene	10.16	µg/L 、	0	102	80.4	119		
Surr: Dibromofluoromethane	9.669	· µg/L	0	96.7	59.5	134		
Surr: Toluene-d8	10.06	µg/L	0	101	53.5	136	Amelia 1 B 1	7/40/0000 11 50 15 15
Sample ID: 0807097-01a ms		MS			Batch II		Analysis Date	: 7/13/2008 11:53:18 AN
Benzene	63.09	µg/L	1.0	113	72.4	126		
Toluene	65.44	μg/L ͺ	1.0	116	79.2	115		S



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Date: 18-Jul-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

roject:

TK #33

Work Order:

0807097

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260: V Sample ID: 0807097-01a ms	olatiles Short	List MS		,	Batch I	D: <b>R29304</b>	Analysis Date:	7/13/2008 11:53:18 AM
Surr: 1,2-Dichloroethane-d4	9.765	μg/L	0 .	97.6	59.3	133	rinaryolo Dato.	771072000 711007107111
Surr: 4-Bromofluorobenzene	10.39	μg/L	0	104	80.4	119		
Surr: Dibromofluoromethane	9.736	μg/L	0	97.4	59.5	134		•
Surr: Toluene-d8	10.07	μg/L	0	101	53.5	136		

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

Client Name WESTERN REFINING SOUT		Date Received:	7/8/2008
Work Order Number 0807097		Received by: TLS	<b>X</b> ~
Checklist completed by: Showin	7 X	Sample ID labels checked b	y: Initials
Matrix: Carrier na	ame <u>UPS</u>		
Shipping container/cooler in good condition?	Yes 🗹	No Not Present	
Custody seals intact on shipping container/cooler?	Yes 🗸	No Not Present	☐ Not Shipped ☐
Custody seals intact on sample bottles?	Yes	No 🗌 N/A	<b>✓</b> .
Chain of custody present?	Yes 🗸	No 🗌	•
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌	
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌	
Samples in proper container/bottle?	Yes 🗹	No 🗔 📑	•
Sample containers intact?	Yes 🗹	No 🗌	
Sufficient sample volume for indicated test?	Yes 🗹	No 🗔	
All samples received within holding time?	Yes 🗹	No 🗌	
Water - VOA vials have zero headspace? No VOA vials	submitted	Yes 🗹 No 🗌	
Water - Preservation labels on bottle and cap match?	Yes 🗌	No ☐ N/A 🗹	
Water - pH acceptable upon receipt?	Yes	No ☐ N/A 🗹	
Container/Temp Blank temperature?	13°	<6° C Acceptable	•
COMMENTS:		If given sufficient time to cool.	
	·		
Client contacted Date contacted	:	Person contacted	
Contacted by: Regarding:			
Comments:			
	,		
Corrective Action			
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Time:	d □ Rush		(# N			ager:		<b>B</b> ひ	YeYes iperature:	Preservative Type	HC)							Received by:	Received by: 1	accredited laborator
Turn-Around Time:	Standard	Project Name:	X	Project #:		Project Manager:		Sampler:	On Ice: AN es. Sample Temperature	Container Type and #	3- VOA							L. L.		contracted to other
Chain-of-Custody Record	Client: Western (Ref. W.) NG (Black)		1 R 4990	eld. NM 87413		email or Fax#: 5つ5-43ユー 39//	Z Level 4 (Full Validation)			Sample Request ID	TK# 33							Reproductive by:	Rålinquished by:	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.
ain-of-	lestern.		Address: # 50	Bloomfield	505-6	Fax#: 50.	ackage: ard		Туре)	Time	8:15	.						Time: 10:10	Time:	cessary, sample:
5	Client: L		Address	18/6	Phone #:	email or I	QA/QC Package: □ Standard	□ Other	□ EDD (Type)	Date	2-7008							Date: Time:	Date:	H ne



### COVER LETTER

Monday, July 28, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX: (505) 632-3911

RE: TK #33 3rd QTR 2008

Dear Cindy Hurtado:

Order No.: 0807065

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 7/3/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



Date: 28-Jul-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

TK #33 3rd QTR 2008

Lab Order:

0807065

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0807065-01A	TK #33	R29247	EPA Method 8260: Volatiles Short List	7/2/2008 7:25:00 AM
0807065-01A	TK #33	R29224	EPA Method 8260: Volatiles Short List	7/2/2008 7:25:00 AM
0807065-01A	TK #33	R29198	EPA Method 8260: Volatiles Short List	7/2/2008 7:25:00 AM

Date: 28-Jul-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0807065

Project:

TK #33 3rd QTR 2008

Lab ID:

0807065-01

Client Sample ID: TK #33

Collection Date: 7/2/2008 7:25:00 AM

Date Received: 7/3/2008

Matrix: AQUEOUS

Analyses	Result	PQL Ç	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SE	IORT LIST		· · · · · · · · · · · · · · · · · · ·		Analyst: HL
Benzene	4.9	1.0	μg/L	1	7/8/2008 10:16:57 AM
Toluene	5.1	1.0	μg/L	1	7/8/2008 10:16:57 AM
Ethylbenzene	ND	1.0	μg/L	1	7/8/2008 10:16:57 AM
Methyl tert-butyl ether (MTBE)	1.9	1.0	μg/L	1	7/8/2008 10:16:57 AM
Xylenes, Total	55	2.0	μg/L	1	7/8/2008 10:16:57 AM
Surr: 1,2-Dichloroethane-d4	93.8	59.3-133	%REC	1	7/8/2008 10:16:57 AM
Surr: 4-Bromofluorobenzene	90.4	80.4-119	%REC	1	7/8/2008 10:16:57 AM
Surr: Dibromofluoromethane	101	59.5-134	%REC	1	7/8/2008 10:16:57 AM
Surr: Toluene-d8	96.7	53.5-136	%REC	1	7/8/2008 10:16:57 AM

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 28-Jul-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33 3rd QTR 2008

Work Order:

080706

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260: Vo	latiles Shor	t List	- "					- <del></del>
Sample ID: 5ml rb		MBLK			Batch	ID: <b>R29198</b>	Analysis Date:	7/3/2008 8:26:39 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	ug/L	1.0					
Methyl tert-butyl ether (MTBE)	NĐ	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0		•			
Surr: 1,2-Dichloroethane-d4	9.188	μg/L	0	91.9	59.3	133		
Surr: 4-Bromofluorobenzene	10.19	μg/L	0	102	80.4	119		
Surr: Dibromofluoromethane	9.424	μg/L	0	94.2	59.5	134		
Surr: Toluene-d8	9.748	μg/L	0	97.5	53.5	136		
Sample ID: 5ml rb		MBLK			Batch		Analysis Date:	7/7/2008 8:33:06 AM
Benzene	ND	μg/L	1.0				,	
Toluene	ND	μg/L μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND	µg/∟ µg/L	2.0					
Surr: 1,2-Dichloroethane-d4	9.598	μg/L	0	96.0	59.3	<b>13</b> 3		
Surr: 4-Bromofluorobenzene	9.154	μg/L	0	91.5	80.4	119		•
Surr: Dibromofluoromethane	10.24	μg/L	0	102	59.5	134		
Surr: Toluene-d8	9.390	μg/L	0	93.9	53.5	136		
Sample ID: 5ml rb	0.000	MBLK	U	33.3	Batch		Analysis Date:	7/8/2008 8:21:41 A
	ND		4.0		Baton	10: ((2024)	rinarysis bate.	770/2000 0.21.417
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					*
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0		•			
Xylenes, Total	ND 0.534	μg/L	2.0	00.0	. 50.0	400		
Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene	9.534	μg/L	0	95.3	59.3	133		
	9.246	µg/L	0	92.5	80.4	119		
Surr: Dibromofluoromethane Surr: Toluene-d8	9.916	µg/L	0	99.2	59.5	134		
	9.410	μg/L LCS	0	94.1	53.5	136	Amalusia Data	7/3/2008 9:24:10 AM
Sample ID: 100ng ics					Batch		Analysis Date:	
Benzene	17.03	µg/L	1.0	85.1	86.8	120		S .
Toluene	16.48	µg/L	1.0	82.4	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.426	μg/L	0	94.3	59.3	133		
Surr: 4-Bromofluorobenzene	9.622	μg/L	0	96.2	80.4	119		
Surr: Dibromofluoromethane	9.922	μg/L	0	99.2	59.5	134		
Surr: Toluene-d8	9.482	µg/L	0	94.8	53.5	136		
Sample ID: 100ng Ics		LCS			Batch	ID: <b>R29224</b>	Analysis Date:	7/7/2008 9:30:51 AM
Benzene	18.19	μg/L	1.0	90.9	86.8	120		
Toluene	17.85	μg/L	1.0	89.3	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.816	µg/L	0	98.2	59.3	133		
Surr: 4-Bromofluorobenzene	9.174	μg/L	0	91.7	80.4	119		
Surr: Dibromofluoromethane	9.802	μg/L	0	98.0	59.5	134		
Surr: Toluene-d8	9.766	µg/L	0	97.7	53.5	136		



E Value above quantitation range

Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

**Date:** 28-Jul-08

# **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

Project:

TK #33 3rd QTR 2008

Work Order:

0807065

, , , , , , , , , , , , , , , , , , ,								0007003
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	t List						
Sample ID: 100ng lcs		LCS			Batch I	ID: <b>R29247</b>	Analysis Date:	7/8/2008 9:19:16 AM
Benzene	17.87	μg/L	1.0	89.3	86.8	120		
Toluene	17.38	µg/L	1.0	86.9	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.398	μg/L	0	94.0	59.3	133		
Surr: 4-Bromofluorobenzene	9.892	μg/L	0	98.9	80.4	119		
Surr: Dibromofluoromethane	9.668	μg/L	0	96.7	59.5	134		
Surr: Toluene-d8	9.390	µg/L	0	93.9	53.5	136		

### pualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

	Sample	1160	sipt Oi	IECKIISL				
Client Name WESTERN REFINING SOUT				Date Received	t:		7/3/2008	
Work Order Number 0807065				Received by:	TLS		$\wedge$	
han 532			71:	Sample ID la	bels checked l		Table Is	
Checklist completed by:			Date	2 108			Initials	
Matrix:	Coming name	UDC.						
watex.	Carrier name	<u>UPS</u>						
Shipping container/cooler in good condition?		Yes	V	No 🗆	Not Present			
Custody seals intact on shipping container/cooler	?	Yes	<b>✓</b>	No 🗌	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗌	N/A	<b>V</b>		
Chain of custody present?		Yes	<b>✓</b>	No 🗌				
Chain of custody signed when relinquished and re	eceived?	Yes	<b>✓</b>	No 🗀				
Chain of custody agrees with sample labels?		Yes	<b>✓</b>	No 🗀				
Samples in proper container/bottle?		Yes	<b>✓</b>	No 🗌			•	
Sample containers intact?		Yes	$\checkmark$	No 🗌				
Sufficient sample volume for indicated test?		Yes	$\checkmark$	No 🗌				
All samples received within holding time?		Yes	<b>✓</b>	No 🗌				
Water - VOA vials have zero headspace?	No VOA vials subm	nitted		Yes 🗹	. No 🗆			
Water - Preservation labels on bottle and cap ma	tch?	Yes		No 🗌	N/A 🗹		•	
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹			
Container/Temp Blank temperature?			6°	<6° C Acceptable				
COMMENTS:				If given sufficient	time to cool.			
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Client contacted	Date contacted:			Pers	on contacted			
	<u></u>				on contacted		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	
Contacted by:	Regarding:			·				
Comments:				*****				
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Corrective Action								

	HALL ENVIRONMENTAL ANALYSIS LABORATORY	1 							7 vo '	۸) s	Bubbles	λiΑ										eport.
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Turn-Around Time:	☑ Standard □ Rush		TK#33 3m QTR, 2008	Project #:		Project Manager:	-	Sampler:	Onlice: Tress E No	Sample i emperature:	Container Preservative HEAL No.	_	3-10A He! -1							Fectived by: 7(3/38	Received by:	ocontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
Chain-of-Custody Becord	Western Refining (Blufld)		3.450 CR 4990	Bloom Pield, NM 87413	535-6	email or Fax#: 545-637-391/	ige: 	ļ	□ EDD (Type)		Time Sample Request ID		8 7,25 TK# \$ 33							Time: 8 , 25	Time: Relinquished by:	If necessary, samples submitted to Hall Environmental may be subcontracted to other
ن	Client		Address:	X	Phone #:	email o	QA/QC Packa	□ Other			Date		7-2-08				 			Date: 7-2-08	Date:	=



### **COVER LETTER**

Tuesday, July 08, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0806426

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 6/27/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



Date: 08-Jul-08

**CLIENT:** 

Western Refining Southwest, Inc.

Project:

TK #33

Lab Order:

0806426

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

Collection Date

0806426-01A

TK #33

R29198

EPA Method 8260: Volatiles Short List

6/26/2008 8:45:00 AM

Date: 08-Jul-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0806426

0806426 TK #33

Project: Lab ID:

0806426-01

Client Sample ID: TK #33

Collection Date: 6/26/2008 8:45:00 AM

Date Received: 6/27/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed			
EPA METHOD 8260: VOLATILES SI	HORT LIST	, , , , , , , , , , , , , , , , , , ,	<del> </del>		Analyst: HL			
Benzene	31	5.0	μg/L	5	7/3/2008 8:35:11 PM			
Toluene	17	5.0	µg/L	5	7/3/2008 8:35:11 PM			
Ethylbenzene	ND	5.0	μg/L	5	7/3/2008 8:35:11 PM			
Methyl tert-butyl ether (MTBE)	ND	5.0	µg/L	5	7/3/2008 8:35:11 PM			
Xylenes, Total	280	10	μg/L	5	7/3/2008 8:35:11 PM			
Surr: 1,2-Dichloroethane-d4	94.1	59.3-133	%REC	5	7/3/2008 8:35:11 PM			
Surr: 4-Bromofluorobenzene	. 91.0	80.4-119	%REC	5	7/3/2008 8:35:11 PM			
Surr: Dibromofluoromethane	97.1	59.5-134	%REC	5	7/3/2008 8:35:11 PM			
Surr: Toluene-d8	97.3	53.5-136	%REC	5	7/3/2008 8:35:11 PM			

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 1 of 1

Date: 08-Jul-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33

Work Order:

0806426

Analyte	Result	Units	PQL	%Rec	LowLimit I	HighLimit	%RPD RPI	DLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5ml rb		MBLK			Batch ID	): R29198	Analysis Date:	7/3/2008 8:26:39 AN
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0				•	
Xylenes, Total	ND	µg/L	2.0					
Surr: 1,2-Dichloroethane-d4	9.188	μg/L	0	91.9	59.3	133		•
Surr: 4-Bromofluorobenzene	10.19	µg/L	0	102	80.4	119		
Surr: Dibromofluoromethane	9.424	µg/L	0	94.2	59.5	134		
Surr: Toluene-d8	9.748	μg/L	. 0	97.5	53.5	136		
Sample ID: 100ng lcs		LCS			Batch ID	): <b>R29198</b>	Analysis Date:	7/3/2008 9:24:10 AN
Benzene	17.03	μg/L	1.0	85.1	86.8	120		S
Toluene	16.48	μg/L	1.0	82.4	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.426	μg/L	0	94.3	59.3	133		
Surr: 4-Bromofluorobenzene	9.622	µg/L	0	96.2	80.4	119		
Surr: Dibromofluoromethane	9.922	μg/L	0	99.2	59.5	134		
Surr: Toluene-d8	9.482	μg/L	0 '	94.8	53.5	136		

Oua	lifier	S

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Client Name WESTERN REFINING SOUT	of the second		Date Received	l:	6/27/2008	
Work Order Number 0806426  Checklist completed by: Signature		6 27 Date	Received by:	ARS bels checked by	Initials	
Matrix:	Carrier name	<u>UPS</u>				
Shipping container/cooler in good condition?		Yes 🗹	No 🗌	Not Present		
Custody seals intact on shipping container/coole	er?	Yes 🗹	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?		Yes	No $\square$	N/A		
Chain of custody present?		Yes 🗸	No 🗌			
Chain of custody signed when relinquished and	received?	Yes 🔽	No 🗌			
Chain of custody agrees with sample labels?		Yes 🗸	No 🗀			
Samples in proper container/bottle?		Yes 🗹	No 🗌			
Sample containers intact?		Yes 🗸	No $\square$			
Sufficient sample volume for indicated test?		Yes 🗹	No 🗌			
All samples received within holding time?		Yes 🗹	No 🗌			
Water - VOA vials have zero headspace?	No VOA vials subn	nitted 🗌	Yes 🗹	No 🗌		
Water - Preservation labels on bottle and cap m	atch?	Yes 🗌	No 🗆	N/A 🗹		
Water - pH acceptable upon receipt?		Yes 🗌	No 🗆	N/A 🗹		
Container/Temp Blank temperature?		13°	<6° C Acceptable			
COMMENTS:			If given sufficient	time to cool.		
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		====		:		
Client contacted	Date contacted:		Perso	on contacted _		
Contacted by:	Regarding:					
Comments:						
Corrective Action						
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W						۱)	S08) e'	8KT + 38	TM + X3T8							_		Remarks	:::
Turn-Around Time:	☑ Standard □ Rush	Project Name:	1K# 33	Project #:		Project Manager:		Sampler: Sof On!ce: ÆYes □No Sample Temperature:   \$	Container Preservative HEAL No. Type AM# Type (1800)	3-6A HC1 1								Received by: 10:00 6/74/08	Received by:  Received by:  This contracts of this proceiving of this proceiving of this proceiving the graphical random the analytical random.
Chain-of-Custody Record	Refining (Bluf 16)		(P 4990	2/7	19/4-	32-3911	Z Level 4 (Full Validation)		Sample Request ID	7/#33								Relinquished by:	Time: Relinquished by:
ain-of-	Client: Western		Address: # 50	1		-ax#: 52	ickage: ard	Туре)	Time	8:3								Time:	Time:
ဌ	Client: K	, ;	Address	Dir	Phone #:	email or Fax#:	QA/QC Package: □ Standard	☐ Other	Date	80-20-08								Date: Time:	Date:



Thursday, June 19, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0806249

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 6/17/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001



Date: 19-Jun-08

CLIENT:

San Juan Refining

Client Sample ID

Project:

TK #33

Lab Order:

0806249

Work Order Sample Summary

Lab Sample ID 0806249-01A

TK #33

**Batch ID** 

Test Name

EPA Method 8260: Volatiles Short List

**Collection Date** 

6/16/2008 8:10:00 AM

0806249-01A

TK #33

R28988 R28988

EPA Method 8260: Volatiles Short List

6/16/2008 8:10:00 AM

Page 1 of 1

**Date:** 19-Jun-08

CLIENT:

San Juan Refining

Lab Order:

0806249

Project:

TK #33

Lab ID:

0806249-01

Client Sample ID: TK #33

Collection Date: 6/16/2008 8:10:00 AM

Date Received: 6/17/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analyst: HL
Benzene	11	1.0	μg/L	1	6/19/2008 4:22:40 AM
Toluene	5.1	1.0	μg/L	1	6/19/2008 4:22:40 AM
Ethylbenzene	ND	1.0	μg/L	1	6/19/2008 4:22:40 AM
Methyl tert-butyl ether (MTBE)	1.0	1.0	μg/L	1	6/19/2008 4:22:40 AM
Xylenes, Total	140	2.0	μg/L	1	6/19/2008 4:22:40 AM
Surr: 1,2-Dichloroethane-d4	89.3	59.3-133	%REC	1	6/19/2008 4:22:40 AM
Surr: 4-Bromofluorobenzene	82.0	80.4-119	%REC	1	6/19/2008 4:22:40 AM
Surr: Dibromofluoromethane	92.3	59.5-134	%REC	1	6/19/2008 4:22:40 AM
Surr: Toluene-d8	94.7	53.5-136	%REC	1	6/19/2008 4:22:40 AM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
  - S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 1

**Date:** 19-Jun-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

TK #33

Work Order:

N806249

Analyta	D 14	. I : t		0/ 0	1 - 11 - 11	1.12 - 5.1.1 - 16	0/ 000	DDDI	
Analyte	Result	Units	PQL	%Rec	LOWLIMIT	HighLimit	%RPD	RPDLim	it Qual
Method: EPA Method 8260: Vo	olatiles Short	List							
Sample ID: 5ml rb		MBLK			Batch	ID: <b>R28988</b>	Analysis D	ate: 6/18	/2008 11:18:06 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0						
Xylenes, Total	ND	μg/L	2.0						
Surr: 1,2-Dichloroethane-d4	9.722	μg/L	0	97.2	59.3	133			
Surr: 4-Bromofluorobenzene	8.950	μg/L	0	89.5	80.4	119			
Surr: Dibromofluoromethane	9.238	μg/L	0	92.4	59.5	134			
Surr: Toluene-d8	9.648	μg/L	0	96.5	53.5	136			
Sample ID: 100ng lcs		LCS			Batch	ID: <b>R28988</b>	Analysis D	ate: 6/1	8/2008 1:13:50 PM
Benzene	21.08	· μg/L	1.0	105	86.8	120			
Toluene	20.06	μg/L	1.0	100	64.1	127			
Surr: 1,2-Dichloroethane-d4	9.442	μg/L	0	94.4	59.3	133			
Surr: 4-Bromofluorobenzene	9.302	µg/L	0	93.0	80.4	119			
Surr: Dibromofluoromethane	9.268	µg/L	. 0	92.7	59.5	134			
Surr: Toluene-d8	9.320	μg/L	0	93.2	53.5	136			
fe .									



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

Sample	Receipt Ch	ecklist			
Client Name SJR		Date Received	t:	6/17/2008	
Work Order Number 0806249		Received by:	ARS	۸ _	
Checklist completed by:	6/17 Date	Sample ID la	bels checked by:	Initidis	
Matrix: Carrier name	<u>UPS</u>				
Shipping container/cooler in good condition?	Yes 🗹	No 🗆	Not Present		
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?	Yes 🗌	No 🗌	N/A <b></b> ✓		
Chain of custody present?	Yes 🗹	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌			
Chain of custody agrees with sample labels?	Yes 🗸	No 🗌			
Samples in proper container/bottle?	Yes 🗹	No 🗀			
Sample containers intact?	Yes 🗹	No 🗌			
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌	•		
All samples, received within holding time?	Yes 🗹	No 🗌			
Water - VOA vials have zero headspace? No VOA vials sub	mitted	Yes 🗹	No 🗀		
Water - Preservation labels on bottle and cap match?	Yes	No 🗌	N/A 🗹		
Water - pH acceptable upon receipt?	Yes	No 🗌	N/A 🗹		,
Container/Temp Blank temperature?	17°	<6° C Acceptabl			
COMMENTS:		If given sufficient	time to cool.		
Client contacted Date contacted:		Pers	on contacted		
Contacted by: Regarding:		·			
Comments:		<del></del>	Andrew Control of the		<del></del>
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Corrective Action	4				
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Turn-Around Time:	☑ Standard □	Project Name:	17#X	Project #:		Project Manager:		Sampler: Kirk 600 on Ice: Kirk 600 Sample Temperature:	Container Preservative Type and # Type	3-10A HC							4	Receipt	Received by
Chain-of-Custody Record	Client: Western Refining (Blufld)		#50 CR+980	37413	214-	32-39	X Level 4 (Full Validation)		Sample Request ID	TK# 53								Reinquished by:  Reinquished by:	Relinquished by:
ain-of-(	RSTERN R		#50	and e	Phone #: 505-632		:	Type)	Time	8:10					·			Time: 9,05	Time:
5	Client: $\mathcal{U}$		Address:	12/0	Phone #:	email or Fax#:	QA/QC Package:	☐ Other ☐ EDD (Type)	Date	80-71-7								Date: $(5- 6-09 $	Date:



Monday, July 07, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0806141

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 6/10/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



Date: 07-Jul-08

CLIENT: Western Refining Southwest, Inc.

Project: TK #33

**Lab Order:** 0806141

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0806141-01A	TK #33	R28959	EPA Method 8260: Volatiles Short List	6/9/2008 12:15:00 PM
0806141-01A	TK #33	R28959	EPA Method 8260: Volatiles Short List	6/9/2008 12:15:00 PM

**Date:** 07-Jul-08

**CLIENT:** 

Western Refining Southwest, Inc.

Client Sample ID: TK #33

Lab Order:

0806141

Collection Date: 6/9/2008 12:15:00 PM

Project:

TK #33

Date Received: 6/10/2008

Lab ID:

0806141-01

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analyst: HL
Benzene	91	5.0	μg/L	5 .	6/17/2008 9:40:12 AM
Toluene	110	5.0	μg/L	5	6/17/2008 9:40:12 AM
Ethylbenzene	25	5.0	μg/L	5	6/17/2008 9:40:12 AM
Methyl tert-butyl ether (MTBE)	ND	5.0	μg/L	5	6/17/2008 9:40:12 AM
Xylenes, Total	2100	100	μg/L	50	6/17/2008 9:09:52 AM
Surr: 1,2-Dichloroethane-d4	87.3	59.3-133	%REC	5	6/17/2008 9:40:12 AM
Surr: 4-Bromofluorobenzene	84.4	80.4-119	%REC	50	6/17/2008 9:09:52 AM
Surr: Dibromofluoromethane	89.0	59.5-134	%REC	5	6/17/2008 9:40:12 AM
Surr: Toluene-d8	89.1	53.5-136	%REC	5	6/17/2008 9:40:12 AM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
  - Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Page 1 of 1

**Date:** 07-Jul-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

TK #33

Work Order:

080614

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	PDLimit Qual
Method: EPA Method 8260: V	olatiles Short	List						
Sample ID: B6		MBLK			Batch	ID: <b>R28959</b>	Analysis Date:	6/17/2008 3:22:31 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	. ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	9.326	µg/L	0	93.3	59.3	· 133		
Surr: 4-Bromofluorobenzene	9.734	µg/L	0	97.3	80.4	119		
Surr: Dibromofluoromethane	9.084	μg/L	0	90.8	59.5	134		
Surr: Toluene-d8	9.242	μg/L	0	92.4	53.5	136		
Sample ID: 100NG LCS		LCS			Batch	ID: <b>R28959</b>	Analysis Date:	6/17/2008 4:20:17 AM
Benzene	19.51	μg/L	1.0	97.6	86.8	120		
Toluene	18.65	μg/L	1.0	93.2	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.320	μg/L	0	93.2	59.3	133		
Surr: 4-Bromofluorobenzene	9.330	μg/L	0	93.3	80.4	119		
Surr: Dibromofluoromethane	9.414	μg/L	0	94.1	59.5	134		
Surr: Toluene-d8	9.296	μg/L	0	93.0	53.5	136		



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

### Sample Receipt Checklist

Client Name SJR		Date Received:	6/10/2008
Work Order Number 0806141		Received by: ARS	- 16
Checklist completed by: Signature	O Date	Sample ID labels checke	d by:
Matrix: Carrier name	<u>UPS</u>		
Shipping container/cooler in good condition?	Yes 🗹	No Not Preser	nt 🗆
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌 Not Preser	nt Not Shipped
Custody seals intact on sample bottles?	Yes 🗌	No 🗌 N/A	$\checkmark$
Chain of custody present?	Yes 🔽	No 🗌	
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌	
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌	
Samples in proper container/bottle?	Yes 🗹	No 🗌	
Sample containers intact?	Yes 🗹	No 🗆	
Sufficient sample volume for indicated test?	Yes 🗹	No 🗆	
All samples received within holding time?	Yes 🗹	No 🗌	
Water - VOA vials have zero headspace? No VOA vials sub-	mitted	Yes 🗹 No 🛚	
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗌 N/A 🖪	
Water - pH acceptable upon receipt?	Yes 🗌	No 🗌 N/A 🕟	
Container/Temp Blank temperature?	6°	<6° C Acceptable	
COMMENTS:		If given sufficient time to cool	
Client contacted Date contacted:		Person contacted	Ė
Contacted by: Regarding:			
Comments:			
Corrective Action			
. Corrective Action			

Client: Coll	CHAIN-OF-CUSTODY RECORD  Client: Western Refinity (RINGLA)  Address: #50 6R 1990  Phone #: 505-632-4/6/  Fax #: 505-632-37/  Date Ime Natrix Sample 1.D. No.  9-09 12:15 H20 TK#33	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3 2 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		BECNIUS (BINGLA)  22-4/6/ 32-32/ 32-3			Std Other: Project Name: Project Manager: Sample Temperature: Hg 3-V6A Hg	St   H   St   St   St   St   St   St		Level 4 Esservative  S S S S S S S S S S S S S S S S S S S	HEAL NO.	(NS08) s'8MT + 38T8	(lessiDiesel) HTT + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	(N.403 bodtbell) BG3	MW. 2010 (PMA or PAH)  8310 (PMA or PAH)	Hawki Netals RORA 8 Metals 23.4.4.	HALL ENVIRONMENTAL ANALY SIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 Www.hallenvironmental.com RCRA 8 Metals Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) RCRA 8 Metals Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>3</sub> , NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> ) Anions (F. Cl. NO <sub>8</sub> )	SZEOB (VOA) TAL STANDER X STEOR (AOV) 80518 X	(AOV-ime2) 07S8	<b>AL</b> 018 345.4	(M no Y) sosqabada ni A
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Monday, June 16, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 - 6-2-08

Dear Cindy Hurtado:

Order No.: 0806031

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 6/3/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



**Date:** 16-Jun-08

**CLIENT:** 

San Juan Refining

Project: Lab Order: TK #33 - 6-2-08

0806031

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0806031-01A	TK #33	R28898	EPA Method 8270C: Semivolatiles	6/2/2008 9:15:00 AM
0806031-01A	TK #33	R28831	EPA Method 8260: Volatiles Short List	6/2/2008 9:15:00 AM
0806031-01A	TK #33	R28808	EPA Method 8260: Volatiles Short List	6/2/2008 9:15:00 AM

**Date:** 16-Jun-08

**CLIENT:** 

San Juan Refining

Lab Order:

0806031

Project:

TK #33 - 6-2-08

Lab ID:

0806031-01

Client Sample ID: TK #33

Collection Date: 6/2/2008 9:15:00 AM

Date Received: 6/3/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: HL
Benzene	130	5.0	μg/Ł	5	6/5/2008 1:48:42 PM
Toluene	84	5.0	μg/L	5	6/5/2008 1:48:42 PM
Ethylbenzene	6.8	5.0	μg/L	5	6/5/2008 1:48:42 PM
Methyl tert-butyl ether (MTBE)	ND	5.0	μg/L	5	6/5/2008 1:48:42 PM
Xylenes, Total	1100	40	µg/L	20	6/6/2008 12:30:45 PM
Surr: 1,2-Dichloroethane-d4	96.9	59.3-133	%REC	5	6/5/2008 1:48:42 PM
Surr: 4-Bromofluorobenzene	87.4	80.4-119	%REC	20	6/6/2008 12:30:45 PM
Surr: Dibromofluoromethane	95.4	59.5-134	%REC	5	6/5/2008 1:48:42 PM
Surr: Toluene-d8	94.8	53.5-136	%REC	5	6/5/2008 1:48:42 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 16-Jun-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

**Project:** TK #33 - 6-2-08

Work Order:

080603

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RPI	DLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5ml rb		MBLK			Batch I	D: <b>R28808</b>	Analysis Date:	6/5/2008 8:51:14 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0			•		
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Xylenes, Total	ND	μg/L	2.0				•	
Surr: 1,2-Dichloroethane-d4	9.798	μg/L	0	98.0	59.3	133		
Surr: 4-Bromofluorobenzene	9.460	μg/L	0	94.6	80.4	119		
Surr: Dibromofluoromethane	9.728	μg/L	0	97.3	59.5	134		
Surr: Toluene-d8	9.440	µg/L	0	94.4	53.5	136		
Sample ID: 5ml rb		MBLK			Batch I	D: <b>R28831</b>	Analysis Date:	6/6/2008 9:03:50 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					4
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND .	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	9.764	μg/L	0	97.6	59.3	133		
Surr: 4-Bromofluorobenzene	9.430	μg/L	0	94.3	80.4	119		
Surr: Dibromofluoromethane	9.008	μg/L	0	90.1	59.5	134		
Surr: Toluene-d8	9.770	μg/L	0	97.7	53.5	136		4
Sample ID: 100ng lcs		LCS			Batch I	D: <b>R28808</b>	Analysis Date:	6/5/2008 9:49:23 AI
Benzene	21.45	μg/L	1.0	107	86.8	120		•
Toluene	20.45	μg/L	1.0	102	64.1	127		
Surr: 1,2-Dichloroethane-d4	10.09	μg/L	. 0	101	59.3	133		
Surr: 4-Bromofluorobenzene	8.958	μg/L	0	89.6	80.4	119		
Surr: Dibromofluoromethane	10.11	· µg/L	0	101	59.5	134		
Surr: Toluene-d8	9.936	µg/L	0	99.4	53.5	136		
Sample ID: 100ng ics		LCS			Batch I	D: <b>R28831</b>	Analysis Date:	6/6/2008 10:01:38 AM
Benzene	21.08	μg/L	1.0	105	86.8	120		
Toluene	19.83	μg/L	1.0	99.2	64.1	127		
Surr: 1,2-Dichloroethane-d4	9.672	µg/L	0	96.7	59.3	133	•	
Surr: 4-Bromofluorobenzene	9.688	μg/L	0	96.9	80.4	119		
Surr: Dibromofluoromethane	9.210	μg/L	0	92.1	59.5	134		
Surr: Toluene-d8	9.520	µg/L	0	95.2	53.5	136		

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Qua	HHELP

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



### Sample Receipt Checklist

Client Name SJR		Date Received:		6/3/2008	
Work Order Number 0806031	1 1	Received by:	ARS	De	
Checklist completed by: Signature	63 C	Sample ID labels	-	Initials	
Matrix: Carrier nan	ne <u>UPS</u>				
Shipping container/cooler in good condition?	Yes 🗹	No 🗌 Not	Present		
Custody seals intact on shipping container/cooler?	Yes 🗸	No 🗌 Not	Present	Not Shipped	
Custody seals intact on sample bottles?	Yes 🗌	No 🗌 N/A	<b>✓</b>		
Chain of custody present?	Yes 🗹	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌			
Chain of custody agrees with sample labels?	Yes 🗸	No 🗌			
Samples in proper container/bottle?	Yes 🗹	No 🗌			
Sample containers intact?	Yes 🗹	No 🗌			
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌			
All samples received within holding time?	Yes 🗸	No 🗔			
Water - VOA vials have zero headspace? No VOA vials s	submitted	Yes 🗸	No 🗆		
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗌	N/A 🗹		
Water - pH acceptable upon receipt?	Yes	No 🗌	N/A 🗹		
Container/Temp Blank temperature?	12°	<6° C Acceptable			
COMMENTS:		If given sufficient time	to cool.		
Client contacted Date contacted:		Person co	ontacted		
·		1 erson o			
Contacted by: Regarding:					
Comments:					
Corrective Action					

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W-01



Thursday, June 05, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 - 5/27/08

Dear Cindy Hurtado:

Order No.: 0805364

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 5/28/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425

AZ license # AZ0682

ORELAP Lab # NM100001



**Date:** 05-Jun-08

CLIENT:

San Juan Refining

Lab Order:

0805364

TK #33 - 5/27/08

Project:
Lab ID:

0805364-01

Client Sample ID: TK #33

Collection Date: 5/27/2008 10:40:00 AM

Date Received: 5/28/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES S	HORT LIST	1			Analyst: BDH
Benzene	. 49	10	μg/L	10	6/4/2008 6:05:56 PM
Toluene	21	10	μg/L	10	6/4/2008 6:05:56 PM
Ethylbenzene	ND	10	µg/L	10	6/4/2008 6:05:56 PM
Methyl tert-butyl ether (MTBE)	ND	10	μg/L	10	6/4/2008 6:05:56 PM
Xylenes, Total	790	20	μg/L	10	6/4/2008 6:05:56 PM
Surr: 1,2-Dichtoroethane-d4	86.2	59.3-133	%REC	10	6/4/2008 6:05:56 PM
Surr: 4-Bromofluorobenzene	88.0	80.4-119	%REC	10	6/4/2008 6:05:56 PM
Surr: Dibromofluoromethane	85.8	59.5-134	%REC	10	6/4/2008 6:05:56 PM
Surr: Toluene-d8	91.1	53.5-136	%REC	10	6/4/2008 6:05:56 PM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 05-Jun-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project: TK #33 - 5/27/08

Work Order:

0805364

Analyte	Result	Units	PQL	%Rec	LowLimit Hi	ghLimit	%RPD RPI	OLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5mL rb		MBLK			Batch ID:	R28797	Analysis Date:	6/4/2008 11:18:37 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Sample ID: 100ng lcs		LCS			Batch ID:	R28797	Analysis Date:	6/4/2008 12:15:59 PM
Benzene	19.24	μg/L	1.0	96.2	86.8	120		
Toluene	18.29	µg/L	1.0	91.4	64.1	127		

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

### Sample Receipt Checklist

Client Name SJR			Date Receive	d:	5/28/2008	
Work Order Number 0805364		•	Received by	: ARS	Λ0	
Checklist completed by:	5	5)28 Date	Sample ID la	abels checked by:	Initials	
Matrix:	Carrier name <u>UPS</u>				P	N.
Shipping container/cooler in good condition?	Yes	<b>✓</b>	No 🗌	Not Present		
Custody seals intact on shipping container/cooler?	Yes	<b>✓</b>	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?	Yes		No 🗔	N/A		
Chain of custody present?	Yes	<b>✓</b>	No 🗌			
Chain of custody signed when relinquished and recei	ved? Yes	<b>✓</b>	No 🗌			
Chain of custody agrees with sample labels?	Yes	✓	No 🗀			
Samples in proper container/bottle?	Yes	<b>✓</b>	No 🗌			
Sample containers intact?	Yes	<b>✓</b>	No 🗌			
Sufficient sample volume for indicated test?	Yes	$\checkmark$	No 🗌			
All samples received within holding time?	Yes	<b>✓</b>	No 🗌			
Water - VOA vials have zero headspace?	VOA vials submitted		Yes 🗹	No 🗌		
Water - Preservation labels on bottle and cap match?	? Yes		No 🗌	N/A		
Water - pH acceptable upon receipt?	Yes		No 🗌	N/A		
Container/Temp Blank temperature?		1°	<6° C Acceptat	ole		
COMMENTS			If given sufficien	t time to cool.		
				•		
	٠					
Client contacted Date	e contacted:		Per	son contacted		
Contacted by: Reg	arding:					
Comments:						
	:					
Corrective Action						
		<u>.                                    </u>				

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HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com										4				
HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345 www.hallenvironmental.com		725 411	(A	.ΟV-iπ	192) O7S8				-	<del>-</del>			and the second	!
HALL ENVIRONMER ANALYSIS LABORA 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87el. 505.345.3975 Fax 5C www.hallenvironmental.com	25	4 WIBE on				X				<b>†</b>			:	
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<b>HAI</b> <b>AN</b> 4901 Albuc Tel. 5		,			8310 (PN		 ,			-	3		¥ '3 7 :	
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te all		(Çlacoline Only)												rks:
		(1208) s.	8MT +	- 38TI	N + X318					<del>                                     </del>				Remarks:
	Project #:	Project Manager:	Sampler: Cindy	Sample Temperature: ( / <	Number/Volume HgCl <sub>2</sub> HNO <sub>3</sub> (4 c) CSO5:364	3-10A X								Received By: (Signature)
CHAIN-OF-CUSTODY RECORD  Client: Western Refining (RMFL)	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ie d, NM 87413	1914-527-	-632-3911	Matrix Sample I.D. No.	120 TK# 33								Refine wished By: (Signature) Relinquished By: (Signature)
IN.OF	#50	Boomfie	Phone #: 505	505-	Time	10for			_					Time:
Client:	Address:		Phone #	Fax #:	Date	Sun								537-08 Date:



Wednesday, May 28, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0805281

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 5/20/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



Date: 28-May-08

**CLIENT:** 

San Juan Refining

Lab Order:

0805281

Project:

TK #33

Lab ID:

0805281-01

Client Sample ID: TK #33

Collection Date: 5/19/2008 1:20:00 PM

Date Received: 5/20/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: HL
Benzene	93	5.0	μg/L	5	5/22/2008 3:38:54 PM
Toluene	25	5.0	μg/L	5	5/22/2008 3:38:54 PM
Ethylbenzene	ND	5.0	μg/L	5	5/22/2008 3:38:54 PM
Methyl tert-butyl ether (MTBE)	8.5	5.0	μg/L	5	5/22/2008 3:38:54 PM
Xylenes, Total	970	10	μg/L	5	5/22/2008 3:38:54 PM
Surr: 1,2-Dichloroethane-d4	116	59.3-133	%REC	5	5/22/2008 3:38:54 PM
Surr: 4-Bromofluorobenzene	89.5	80.4-119	%REC	5	5/22/2008 3:38:54 PM
Surr: Dibromofluoromethane	112	59.5-134	%REC	5	5/22/2008 3:38:54 PM
Surr: Toluene-d8	103	53.5-136	%REC	5	5/22/2008 3:38:54 PM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 28-May-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

roject:

TK #33

Work Order:

0805281

Analyte	Result	Units	PQL	%Rec	LowLimit H	lighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260: V	olatiles Short	List						
Sample ID: 5ml rb		MBLK			Batch ID:	R28652	Analysis Date:	5/22/2008 12:02:35 PM
Benzene	ND	μg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND	µg/L	2.0			•		
Sample ID: 100 ng lcs		LCS			Batch ID:	R28652	Analysis Date:	5/22/2008 1:40:37 PM
Benzene	21.00	μg/L	1.0	105	86.8	120		
Toluene	18.36	μg/L	1.0	91.8	64.1	127		

#### Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

### Sample Receipt Checklist

Client Name SJR		Date Receiv	red:	5/20/2008	
Work Order Number 0805281		Received b	oy: TLS		
Checklist completed by: John Smarris	5 2 Date	Sample ID	labels checked by:	Initials	
Matrix: Carrier na	ame <u>UPS</u>				
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present		
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?	Yes 🗌	No 🗌	N/A		
Chain of custody present?	Yes 🗸	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🗸	No 🗌			
Chain of custody agrees with sample labels?	Yes 🗸	No 🗌			
Samples in proper container/bottle?	Yes 🗹	No 🗌			
Sample containers intact?	Yes 🗹	No 🗌			
Sufficient sample volume for indicated test?	Yes 🔽	No 🗔			
All samples received within holding time?	Yes 🗹	No 🗌			
Water - VOA vials have zero headspace? No VOA vials	s submitted	Yes 🗸	No 🗆		
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗀	N/A 🗹		
Water - pH acceptable upon receipt?	Yes	No 🗆	N/A 🗹		
Container/Temp Blank temperature?	<b>7</b> °	<6° C Accepta			
COMMENTS:		If given sufficie	ent time to cool.		
					===
Client contacted Date contacted	<b>!</b> :	Pe	erson contacted		
Contacted by: Regarding:					
Comments:		·			
Corrective Action					
·					
			·		

HALL ENVIRONMENTAL	ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107		ANALYSIS REDUESI	1	(PSE '285) 20 <sup>4</sup> )	eid\se6 ,,0q , 08) e'	8.1) (1.86 (C (1.87) (1.96 (C (1.96 (C (1.96 (C) (1.96 (	od 800 Pod 40 So bor 90 Stals Stals Sicides (AO) Pod 40 So bot 10	PH Methorship (Methorship) Met	HT   HT   HT   HT   HT   HT   HT   HT	×						ý	
QA/ QC Packege.		Project Name:	/ K # W.V	Project #:	[/][					We HEAL No.	HgCi <sub>2</sub> HNU <sub>3</sub> //C OBOSO8) B	3-10A X -1						Received By: (Signature) 5 30 0 Remarks:  On 10 MOM O LO 11  Received By: (Signature)	<u>-</u>
	CHAIN-OF-CUSTODY RECORD	Clienti Western Refivious (BIMPE)		Address: # 50 CR 4950	13/00m/C/e/d, NM 874/3			Phone #: 505-633- 4/6/	Fax#: 505-632-4/6/	Date Time Matrix Sample I.D. No.		5-19-08 /N/pn HgO K#53						S-19-08-3:35 (Color) Time: Relinquished By: (Signature) Date: Time: Relinquished By: (Signature)	_



Friday, May 23, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0805179

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 5/13/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



**Date:** 23-May-08

**CLIENT:** 

San Juan Refining

Lab Order:

0805179

TK #33

Project: Lab ID:

. . . . . . . . .

0805179-01

Client Sample ID: TK #33

Collection Date: 5/12/2008 10:15:00 AM

Date Received: 5/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: BDH
Benzene	100	10	μg/L	10	5/16/2008 9:47:02 PM
Toluene	. 42	10	μg/L	10	5/16/2008 9:47:02 PM
Ethylbenzene	ND	10	μg/L	10	5/16/2008 9:47:02 PM
Methyl tert-butyl ether (MTBE)	ND	10	μg/L	10	5/16/2008 9:47:02 PM
Xylenes, Total	1100	20	μg/L	10	5/16/2008 9:47:02 PM
Surr: 1,2-Dichloroethane-d4	111	59.3-133	%REC	10	5/16/2008 9:47:02 PM
Surr: 4-Bromofluorobenzene	84.6	80.4-119	%REC	10	5/16/2008 9:47:02 PM
Surr: Dibromofluoromethane	108	59.5-134	%REC	10	5/16/2008 9:47:02 PM
Surr: Toluene-d8	106	53.5-136	%REC	10	5/16/2008 9:47:02 PM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

TK #33

Work Order:

**Date:** 23-May-08

0805179

Analyte	Result	Units	PQL	%Rec	LowLimit H	ighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260: Ve	olatiles Short	List						
Sample ID: 5 ml rb		MBLK			Batch ID:	R28569	Analysis Date:	5/16/2008 9:15:48 AM
Веплепе	ND	μg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/l₋	1.0					
Xylenes, Total	ND	µg/L	2.0					
Sample ID: 100 ng lcs		LCS			Batch ID:	R28569	Analysis Date:	5/16/2008 10:27:52 AM
Benzene	17.22	μg/L	1.0	86.1	86.8	120		S
Toluene	16.56	µg/L	1.0	79.7	64.1	127		

#### Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

### Sample Receipt Checklist

Client Name SJR			Date Received	<b>1</b> :	5/13/2008
Work Order Number 0805179			Received by:	AT	
Checklist completed by:	7	S/(S	Sample ID ta	bels checked by:	Initials
Matrix:	Carrier name <u>UPS</u>	<u>.</u>			·
Shipping container/cooler in good condition?	Yes	<b>✓</b>	No 🗌	Not Present	·
Custody seals intact on shipping container/cooler?	Yes	✓	No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes		No 🗌	N/A	·
Chain of custody present?	Yes	<b>✓</b>	No 🗌	•	
Chain of custody signed when relinquished and rece	eived? Yes	<b>✓</b>	No 🗆		
Chain of custody agrees with sample labels?	Yes	<b>✓</b>	No 🗌		
Samples in proper container/bottle?	Yes	<b>✓</b>	No 🗌		
Sample containers intact?	Yes	<b>✓</b>	No 🗌		
Sufficient sample volume for indicated test?	Yes	✓	No 🗌		
All samples received within holding time?	Yes	<b>✓</b>	No 🗌		
Water - VOA vials have zero headspace?	lo VOA vials submitted		Yes 🗸	No 🗌	
Water - Preservation labels on bottle and cap match	? Yes		No 🗌	N/A 🗹	
Water - pH acceptable upon receipt?	Yes		No 🗌	N/A	
Container/Temp Blank temperature?		5°	<6° C Acceptable	le	
COMMENTS:			If given sufficient	time to cool.	
				•	
Olicent contented	to contacted:		D		
Client contacted Date	te contacted:		Fers	on contacted	
Contacted by:	garding:				
Comments:					
	,				
•					
Corrective Action					
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HALL ENVIRONI ANALYSIS LABC 4901 Hawkins NE, Suit Albuquerque, New Mexi Tel. 505.345.3975 F www.hallenvironmental.	### Company of Popular (Popular)  ### Company of Popular (Popular)  ### Company of Popular (Popular)  ### Company of Popular (Popular)  ### Company of Popular (Popular)  ### Company of Popular (Popular)  ### Company of Popular (Popular)  ### Company of Popular (Popular)  ### Company of Popular (Popular)  #### Company of Popular (Popular)  #### Company of Popular (Popular)  ###################################	X		
	BTEX + MTBE + TPH (Gasoline Only) TPH Method 8015B (Gas/Diesel) TPH (Method 418.1)			Ķs:
	BTEX + MTBE + TMB's (8021)			Kemarks:
QA/QC Packaye Std ★ Level 4 □ Other: Project Name:	Project #:  Project Manager:  Sampler: ESB  Sample Temperature: Sa			Received By: (Signature)
CHAIN-OF-CUSTODY RECORD Client: Western Resing (Binfld)	Address: #50 (R 4990  Bloom field NM 874/3  Phone #: 505-632-416/  Eax #: 505-632-39//  Date Ime Matrix Sample I.D. No.	5-12-08 10:15 Had TK#33	T. CEE	Date: Time: Relinquished By: (Signature)



Monday, May 12, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 5-05-08

Dear Cindy Hurtado:

Order No.: 0805075

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 5/6/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001



Date: 12-May-08

CLIENT:

San Juan Refining

Project:

TK #33 5-05-08

Lab Order:

0805075

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0805075-01A	TK#33	R28415	EPA Method 8260: Volatiles Short List	5/5/2008 10:00:00 AM
0805075-01A	TK#33	R28415	EPA Method 8260: Volatiles Short List	5/5/2008 10:00:00 AM

**Date:** 12-May-08

CLIENT:

San Juan Refining

Lab Order:

0805075

Project:

TK #33 5-05-08

Lab ID:

0805075-01

Client Sample ID: TK#33

Collection Date: 5/5/2008 10:00:00 AM

Date Received: 5/6/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	IORT LIST		**************************************		Analyst: JDC
Benzene	160	10	µg/L	10	5/7/2008 10:17:07 AM
Toluene	150	10	μg/L	10	5/7/2008 10:17:07 AM
Ethylbenzene	7.9	1.0	µg/L	1	5/7/2008 10:45:54 AM
Methyl tert-butyl ether (MTBE)	3.6	1.0	μg/L	1	5/7/2008 10:45:54 AM
Xylenes, Total	1600	20	μg/L	10	5/7/2008 10:17:07 AM
Surr: 1,2-Dichloroethane-d4	123	59.3-133	%REC	1	5/7/2008 10:45:54 AM
Surr: 4-Bromofluorobenzene	84.8	80.4-119	%REC	10	5/7/2008 10:17:07 AM
Surr: Dibromofluoromethane	106	59.5-134	%REC	1	5/7/2008 10:45:54 AM
Surr: Toluene-d8	102	53.5-136	%REC	1	5/7/2008 10:45:54 AM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 12-May-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

TK #33 5-05-08

Work Order:

0805074

Analyte	Result	Units	PQL	%Rec	LowLimit F	lighLimit	%RPD R	PDLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5mL rb		MBLK			Batch ID	R28415	Analysis Date:	5/6/2008 11:02:26 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	2.0					
Surr: 1,2-Dichloroethane-d4	11.18	µg/L	0	112	59.3	133		
Surr: 4-Bromofluorobenzene	9.500	µg/L	0	95.0	80.4	119		
Surr: Dibromofluoromethane	10.02	μg/L	0	100	59.5	134		
Surr: Toluene-d8	9.938	µg/L	0	99.4	53.5	136		
Sample ID: 100ng lcs		LCS			Batch ID	R28415	Analysis Date:	5/6/2008 12:00:07 PM
Benzene	20.29	µg/L	1.0	101	86.8	120		•
Toluene	17.84	µg/L	1.0	89.2	64.1	127		
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	2.0					
Surr: 1,2-Dichloroethane-d4	11.11	μg/L	. 0	111	59.3	133		
Surr: 4-Bromofluorobenzene	9.878	μg/L	0	98.8	80.4	119		
Surr: Dibromofluoromethane	10.08	µg/L	0	101	59.5	134		
Surr: Toluene-d8	9.634	μg/L	0	96.3	53.5	136		



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



	Sample Receipt C				
Client Name · SJR		Date Received	:	5/6/2008	
Vork Order Number 0805075		Received by:	ARS	N	
Checklist completed by: 10 myc Shom	5) Date	Sample ID lat	oels checked b	y: 1.3	-
Matrix: Carr	ier name <u>UPS</u>				
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present		,
Custody seals intact on shipping container/cooler?	Yes 🗸	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?	Yes	No 🗔	N/A	$\checkmark$	
Chain of custody present?	Yes 🗹	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌			
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌			
Samples in proper container/bottle?	Yes 🗹	No 🗌		•	
Sample containers intact?	Yes 🗹	No 🗌			
Sufficient sample volume for indicated test?	Yes 🗸	No 🗌			
all samples received within holding time?	Yes 🗹	No 🗌			
Vater - VOA vials have zero headspace? No VOA	vials submitted	Yes 🗹	No 🗌	-	
Vater - Preservation labels on bottle and cap match?	Yes	No 🗌	N/A 🗹		
Vater - pH acceptable upon receipt?	Yes 🗌	No 🗆	N/A 🗹		
Container/Temp Blank temperature?	5°	<6° C Acceptable	)		
COMMENTS:		If given sufficient	time to cool.		
Dient contacted Date contact	acted:	Perso	on contacted		
Contacted by: Regarding	:				
Comments:					
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Š	Client SAN JUAN REFINING		Address: #50 CP	TS/arm. Pie	Phone #: 505	email of Fax#:5x	QA/QC Package: □ Standard	Other EDD (Type)	Date	30										8		7
	Clier		Addr	1	Phor	emai	QA/C	☐ Other ☐ EDD (	Da	30-5-5										Date: <b>5/05/0</b> 6	Date:	
										٠,										42		



Monday, May 05, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0804342

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 4/29/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager-

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001



**Date:** 05-May-08

CLIENT:

San Juan Refining

Project:

TK #33

Lab Order:

0804342

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	<b>Collection Date</b>
0804342-01A	TK #33	R28372	EPA Method 8260: Volatiles Short List	4/28/2008 11:20:00 AM
0804342-01A	TK #33	R28372	EPA Method 8260: Volatiles Short List	4/28/2008 11:20:00 AM

Date: 05-May-08

CLIENT:

San Juan Refining

Lab Order:

0804342

Project:

--- !!--

Lab ID:

TK #33

0804342-01

Client Sample ID: TK #33

Collection Date: 4/28/2008 11:20:00 AM

**Date Received:** 4/29/2008

Neceived. 4/29/2000

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PA METHOD 8260: VOLATILES SI	IORT LIST			•		Analyst: JDC
Benzene	190	10		μg/L	10	5/3/2008 11:53:58 AM
Toluene	170	10		μg/L	10	5/3/2008 11:53:58 AM
Ethylbenzene	6.7	1.0		μg/L	1	5/3/2008 12:23:25 PM
Methyl tert-butyl ether (MTBE)	3.6	1.0		µg/L	1	5/3/2008 12:23:25 PM
Xylenes, Total	1600	20		μg/L	10	5/3/2008 11:53:58 AM
Surr: 1,2-Dichloroethane-d4	115	59.3-133		%REC	1	5/3/2008 12:23:25 PM
Surr: 4-Bromofluorobenzene	93.0	80.4-119		%REC	10	5/3/2008 11:53:58 AM
Surr: Dibromofluoromethane	106	59.5-134		%REC	1	5/3/2008 12:23:25 PM
Surr: Toluene-d8	108	53.5-136		%REC	1	5/3/2008 12:23:25 PM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 05-May-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

TK #33

Work Order:

080434

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD R	PDLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5ml rb 2		MBLK			Batch I	D: <b>R28372</b>	Analysis Date:	5/3/2008 10:26:05 AN
Benzene	ND	μg/L	1.0					
Toluene	ND	µg/L	1.0				•	
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0					
Xylenes, Total	ND	µg/L	2.0					
Surr: 1,2-Dichloroethane-d4	10.43	μg/L	0	104	59.3	133		
Surr: 4-Bromofluorobenzene	10.09	µg/L	0	101	80.4	119		
Surr: Dibromofluoromethane	9.708	µg/L	0	97.1	59.5	134		
Surr: Toluene-d8	10.32	μg/L	0	103	53.5	136		
Sample ID: 100ng ics 2		LCS			Batch I	D: <b>R28372</b>	Analysis Date:	5/3/2008 10:54:48 AN
Benzene	20.15	μg/L	1.0	101	86.8	120		
Toluene	17.88	µg/L	1.0	89.4	64.1	127		
Surr: 1,2-Dichloroethane-d4	10.56	μg/Ľ	0	106	59.3	133		
Surr: 4-Bromofluorobenzene	10.20	μg/L	0	102	80.4	119		
Surr: Dibromofluoromethane	9.592	μg/L	0	95.9	59.5	134		
Surr: Toluene-d8	9.950	μg/L	0	99.5	53.5	136		



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



#### Sample Receipt Checklist

Client Name SJR		Date Received:	4/29/2008
Work Order Number 0804342		Received by: ARS	As O
Checklist completed by:	H 29	Sample ID labels checked	d by: // Initials
Matrix: Carr	ier name <u>UPS</u>		
Shipping container/cooler in good condition?	Yes 🗹	No Not Preser	nt 🗀
Custody seals intact on shipping container/cooler?	Yes 🗸	No Not Preser	nt 🗌 Not Shipped 🔲
Custody seals intact on sample bottles?	Yes	No 🗌 N/A	$\checkmark$
Chain of custody present?	Yes 🗸	No 🗌	
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌	
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌	
Samples in proper container/bottle?	Yes 🗸	No 🗆	
Sample containers intact?	Yes 🗹	No 🗀	
Sufficient sample volume for indicated test?	Yes 🔽	No 🗌	
All samples received within holding time?	Yes 🗹	No 🗔	
	vials submitted	Yes ✓ No	
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗌 N/A 🖪	<b>2</b>
Water - pH acceptable upon receipt?	Yes	No □ N/A ■	
Container/Temp Blank temperature?	6°	<6° C Acceptable	
COMMENTS:	I	f given sufficient time to cool	
=======================================			
Client contacted Date contact	acted:	Person contacted	
Contacted by: Regarding	I:		
Comments:			•
Corrective Action			
•			

	ANALYSIS LABORATORY	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Reduest	(*0	S.,5Oq. <sub>8</sub>	(t. (0 (H √N √N √N √N √N	814 bd 805 bd 828 bd 1A9 ro 1, NO3, 1, Split 1,	TPH Methor TPH (Methor EDB (Methor B310 (PNA Anions (F,C 8081 Pestid 8081 Pestid 8081 Pestid 8080 (VO) 8270 (Semi	<b>7</b>								
			490	Tel						тм + хэта тм + хэта								Remarks:	
Turn-Around Time:	Standard   Rush	Project Name:	76#33	Project #:		Project Manager:		Sampler( 74 / //m//	On lce: b Yes □ No Sample Temperature: 6	Container Preservative HEAL No. Type and # Type $(38.04342)$	3-10A HC( 1							Received by: 9:25 4 29 08	
Chail. of-Custody Record				14/3	505-6	5-632-3911	QA/QC Package:		□ EDD (Type)	Time Sample Request ID	180h TK#33						<	Time: Relinguished by:    And Time: Relinguished by:	7
O	Client:	[3]	Addres	Ble	Phone #:	email o	QA/QC Packa □ Standard	□ Other		Date	32-86-1							Date:	



Monday, May 05, 2008

Cindy Hurtado San Juan Refining #50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0804272

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 4/22/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001



**Date:** 05-May-08

CLIENT:

San Juan Refining

Project:

TK #33

**Lab Order:** 0804272

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

Test Name

**Collection Date** 

0804272-01A

TK #33

R28341

EPA Method 8260: Volatiles Short List

4/21/2008 10:05:00 AM

**Date:** 05-May-08

CLIENT:

San Juan Refining

Lab Order:

0804272

Project: Lab ID: TK #33

0804272-01

Client Sample ID: TK #33

Collection Date: 4/21/2008 10:05:00 AM

Date Received: 4/22/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analyst: BDH
Benzene	140	10	μg/L	10	4/30/2008 5:43:11 PM
Toluene	220	10	μg/L	10	4/30/2008 5:43:11 PM
Ethylbenzene	30	10	μg/L	10	4/30/2008 5:43:11 PM
Methyl tert-butyl ether (MTBE)	ND	10	µg/L	10	4/30/2008 5:43:11 PM
Xylenes, Total	1200	20	μg/L	10	4/30/2008 5:43:11 PM
Surr: 1,2-Dichloroethane-d4	108	59.3-133	%REC	10	4/30/2008 5:43:11 PM
Surr: 4-Bromofluorobenzene	83.2	80.4-119	%REC	10	4/30/2008 5:43:11 PM
Surr: Dibromofluoromethane	99.7	59.5-134	%REC	10	4/30/2008 5:43:11 PM
Surr: Toluene-d8	103	53.5-136	%REC	10	4/30/2008 5:43:11 PM

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

**Date:** 05-May-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

TK #33

Work Order:

080427

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD R	PDLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5mL rb II		MBLK			Batch II	D: <b>R28341</b>	Analysis Date	5/1/2008 3:03:45 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	10.57	μg/L	0	106	59.3	133		
Surr: 4-Bromofluorobenzene	10.48	μg/L	0	105	80.4	119		
Surr: Dibromofluoromethane	9.746	μg/L	0	97.5	59.5	134		
Surr: Toluene-d8	10.16	μg/L	0	102	53.5	136		
Sample ID: 100ng ics II		LCS			Batch II	D: <b>R28341</b>	Analysis Date	: 5/1/2008 2:34:35 AM
Benzene	20.74	μg/L	1.0	104	86.8	120		
Toluene	19.50	μg/L	1.0	97.5	64.1	127		
Surr: 1,2-Dichloroethane-d4	10.62	μg/L	0	106	59.3	133		
Surr: 4-Bromofluorobenzene	10.34	μg/L	0	103	80.4	119		
Surr: Dibromofluoromethane	10.29	μg/L	0	103	59.5	134		
Surr: Toluene-d8	10.36	μg/L	0	104	53.5	136		





E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits



#### Sample Receipt Checklist Client Name SJR 4/22/2008 Date Received: Work Order Number 0804272 Received by: ARS Sample ID labels checked by: Checklist completed by: Signature Carrier name UPS Matrix: No 🗌 Yes 🗸 Not Present Shipping container/cooler in good condition? Yes 🗸 No 🗔 Not Present Not Shipped Custody seals intact on shipping container/cooler? Yes 🗌 No 🗀 **V** Custody seals intact on sample bottles? N/A Yes 🗹 No 🗌 Chain of custody present? Yes 🗸 No 🗌 Chain of custody signed when relinquished and received? Yes 🗹 No 🗌 Chain of custody agrees with sample labels? Yes 🗸 No 🗌 Samples in proper container/bottle? Yes 🗹 No 🗌 Sample containers intact? Sufficient sample volume for indicated test? Yes 🗹 No 🗌 Yes 🗹 No 🗍 All samples received within holding time? No VOA vials submitted Yes 🗸 No 🗀 Water - VOA vials have zero headspace? No 🗌 N/A Water - Preservation labels on bottle and cap match? No 🗌 Water - pH acceptable upon receipt? Yes 🗌 N/A 🔽 6° Container/Temp Blank temperature? <6° C Acceptable If given sufficient time to cool. COMMENTS: Client contacted Date contacted: Person contacted Contacted by: Regarding: Comments: Corrective Action

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Turn-Around Time:	□ Standard □ Rush	Project Name:	1433	Project #:		Project Manager:		Sampler AM	On Ice. Tarkes	Sample Temperature (62)	Container Preservative HEAL No. Type and # Type ()864272	3-104 HC								(	Reheinfed by 11:38 4122 08	Received by:	contracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the ana
Chain-of-Custody Record	II. SAN JUAN PALMINA	25	12	10	1914	0	QA/QC Package:	ard	EDD (Type)		tte Time Sample Request ID	ng 10054 TIC#33								V	Time: Reinquished by:	Time: Relinquished by:	If necessary, samples submitted to Half Environmental may be subcontracted to other
	Client:		Addre		Phon	email	QA/Q				Date	17	-								Date:	Date:	



Thursday, April 24, 2008

Cindy Hurtado San Juan Refining #50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33

Dear Cindy Hurtado:

Order No.: 0804185

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 4/16/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



Date: 24-Apr-08

CLIENT:

San Juan Refining

Project:

TK #33

Lab Order:

0804185

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

**Collection Date** 

0804185-01A

TK #33

R28171

EPA Method 8260: Volatiles Short List

4/15/2008 8:30:00 AM

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804185

Project:

TK #33

Lab ID:

0804185-01

Client Sample ID: TK #33

Collection Date: 4/15/2008 8:30:00 AM

**Date Received:** 4/16/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
PA METHOD 8260: VOLATILES S	HORT LIST	W-1104		····	Analyst: BDH
Benzene	130	10	µg/L	10	4/19/2008 7:23:35 PM
Toluene	200	10	μg/L	10	4/19/2008 7:23:35 PM
Ethylbenzene	23	10	μg/L	10	4/19/2008 7:23:35 PM
Methyl tert-butyl ether (MTBE)	ND	10	μg/L	10	4/19/2008 7:23:35 PM
Xylenes, Total	1100	20	μg/L	10	4/19/2008 7:23:35 PM
Surr: 1,2-Dichloroethane-d4	106	59.3-133	%REC	10	4/19/2008 7:23:35 PM
Surr: 4-Bromofluorobenzene	91.0	80.4-119	%REC	10	4/19/2008 7:23:35 PM
Surr: Dibromofluoromethane	95.7	59.5-134	%REC	10	4/19/2008 7:23:35 PM
Surr: Toluene-d8	100	53.5-136	%REC	10	4/19/2008 7:23:35 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- 3 Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 24-Apr-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

TK #33

Work Order:

080418

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	DLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5ml rb		MBLK			Batch	ID: <b>R28171</b>	Analysis Date:	4/18/2008 8:27:05 AM
Benzene	ND	μg/L	1.0			•		
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0			•		
Xylenes, Total	ND.	µg/L	2.0					
Surr: 1,2-Dichloroethane-d4	10.76	μg/L	0	108	59.3	133		
Surr: 4-Bromofluorobenzene	10.74	μg/L	0	107	80.4	119		
Surr: Dibromofluoromethane	9.752	μg/L	0	97.5	59.5	134		
Surr: Toluene-d8	10.01	µg/L	0	100	53.5	136		
Sample ID: 100ng ics		LCS			Batch	ID: <b>R28171</b>	Analysis Date:	4/18/2008 10:23:16 AM
Benzene	21.25	μg/L	1.0	106	72.4	126		
Toluene	17.22	μg/L	1.0	86.1	69.4	126		
Surr: 1,2-Dichloroethane-d4	10.48	µg/L	0	105	59.3	133		,
Surr: 4-Bromofluorobenzene	10.47	μg/L	0	105	80.4	119		
Surr: Dibromofluoromethane	9.984	μg/L	0	99.8	59.5	134		
Surr: Toluene-d8	9.572	μg/L	0	95.7	53.5	136		



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

	Sample Receipt Ch	necklist		
Client Name SJR		Date Receive	ed:	4/16/2008
Work Order Number 0804185		Received by	y: ARS	
Checklist completed by: Signature	A-N Date	Sample ID I G-DO	abels checked by:	Initials
Matrix: Car	rier name <u>UPS</u>	-		
Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present	
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes 🗌	No 🗌	N/A	
Chain of custody present?	Yes 🗹	No 🗌		
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗀		
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌		
Samples in proper container/bottle?	Yes 🗸	No 🗌		
Sample containers intact?	Yes 🗹	No 🗌		
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌	,	
All samples received within holding time?	Yes 🗸	No 🗔		
Water - VOA vials have zero headspace? No VOA	vials submitted	Yes 🗸	No 🗌	
Water - Preservation labels on bottle and cap match?	Yes	No 🗌	N/A 🗹	
Water - pH acceptable upon receipt?	Yes	No 🗆	N/A	
Container/Temp Blank temperature?	2°	<6° C Acceptat	ole	
COMMENTS:		If given sufficien	t time to cool.	
	- <del> </del>			
Client contacted Date contact	acted:	Pers	son contacted	
Contacted by: Regarding				
Comments:				
			·	
Corrective Action				

Turn-Around Time:	□ Rush AMAL		7 + 33 4901 Hawkins NE - Albuquerque, NM 87109	Project #: Tel. 505-345-3975 Fax 505-345-4107	· · · · · · · · · · · · · · · · · · ·	(kļu	eiQ\s	NB's PH (GA (GA (GA (GA (GA (GA (GA (GA (GA (GA	T + H + H + H + H + H + H + H + H + H +	Temperature: 10 A 8 Oct 12 Oct 14 Oct 14 Oct 14 Oct 14 Oct 14 Oct 14 Oct 14 Oct 14 Oct 15 Oct 16 Oct	Container Preservative HEAL No. + MT HEAL NO. + MT HEAL NO	12	9-VON FCC 1						Reference by Donald by Don	received by.
			490	Tel															Remarks	
und Time:		lame:	53	4.		/anager:	•	1. 4 B.	٠	Temperature: $\mathcal{F}^{0}$	Preservative Type		_						1	received by.
Turn-Aro	□ Stan	Project ∧	17	Project #	,	Project N		ال مساور	On Ice:	Sample	Contair Type an	0/1-6	20							
Chair of-Custody Record	Client: SAN JUAN REFINING	Western Refining)	Address: # 50 CR 4990	5/4/8 MN F1	32-4/6/	-63		Level 4 (Full Validation)			Sample Request ID	1,423	16.33						Reinodished by: What also	Relinquished 4y.
air of (	740 JL	STELL	# 50	Rice M. C.	Phone #: 545-6	11			(ype)		Time	7007	830.4						Ma	ПШе:
ຣົ	Client: A	( K	Address:	12/2	Phone #:	email or Fax#:	QA/QC Package:	☐ Standard	□ EDD (Type)		Date	106,71	20,51						80	Date:



Monday, April 14, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: Tank #33

Dear Cindy Hurtado:

Order No.: 0804121

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 4/11/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Rusiness Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001



Date: 14-Apr-08

CLIENT:

San Juan Refining

Project:

Tank #33

Lab Order:

0804121

**Work Order Sample Summary** 

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0804121-01A	TK #33	R28063	EPA Method 8260: Volatiles Short List	4/10/2008 1:40:00 PM
0804121-01A	TK #33	R28063	EPA Method 8260: Volatiles Short List	4/10/2008 1:40:00 PM

Date: 14-Apr-08

**CLIENT:** 

San Juan Refining

Lab Order:

0804121

Project:

Tank #33

Lab ID:

0804121-01

Client Sample ID: TK #33

Collection Date: 4/10/2008 1:40:00 PM

Date Received: 4/11/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analyst: BDH
Benzene	130	10	μg/L	10	4/11/2008 3:16:18 PM
Toluene	360	10	μg/L	10	4/11/2008 3:16:18 PM
Ethylbenzene	56	10	μg/L	10	4/11/2008 3:16:18 PM
Xylenes, Total	1200	20	μg/L	10	4/11/2008 3:16:18 PM
Surr: 1,2-Dichloroethane-d4	94.5	59.3-133	%REC	10	4/11/2008 3:16:18 PM
Surr: 4-Bromofluorobenzene	94.8	80.4-119	%REC	10	4/11/2008 3:16:18 PM
Surr: Dibromofluoromethane	87.4	59.5-134	%REC	10	4/11/2008 3:16:18 PM
Surr: Toluene-d8	90.5	53.5-136	%REC	10	4/11/2008 3:16:18 PM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
  - S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 14-Apr-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

Tank #33

Work Order:

080412

	*							
Analyte	Result	Units	PQL	%Rec	LowLimit 1	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List				•		
Sample ID: 5mL rb		MBLK			Batch II	): R28063	Analysis Date:	4/11/2008 9:57:34 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	µg/L	1.0				•	
Ethylbenzene	ND	μg/L	1.0					
Xylenes, Total	ND	µg/L	2.0					
Surr: 1,2-Dichloroethane-d4	9.549	µg/L	0	95.5	59.3	133		
Surr: 4-Bromofluorobenzene	10.79	µg/L	0	108	80.4	119		
Surr: Dibromofluoromethane	9.189	µg/L	, 0	91.9	59.5	134		
Surr: Toluene-d8	9.669	μg/L	0	96.7	53.5	136		
Sample ID: 100ng lcs		LCS			Batch II	D: 1 <b>R28063</b>	Analysis Date:	4/11/2008 11:27:33 AM
Benzene	20.38	μg/L	1.0	102	72.4	126		
Toluene	20.39	μg/L	1.0	102	69.4	126		
Surr: 1,2-Dichloroethane-d4	9.773	μg/L	0	97.7	59.3	133		
Surr: 4-Bromofluorobenzene	10.55	µg/L	0	105	80.4	119		
Surr: Dibromofluoromethane	9.171	µg/L	0	91.7	59.5	134		
Surr: Toluene-d8	10.29	μg/L	0	103	53.5	136		



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

#### Sample Receipt Checklist

	Cumpio		oipt Oil	Colling				
Client Name SJR				Date Receiv	ed:		4/11/2008	
Work Order Number 0804121	$\sim$		*	Received b	y: AT		*********	
	M	ش	112	Sample ID	labels checked	by	<u>LT</u>	•
Checklist completed by: And		-	Date	108	-		Initials	
		1					•	
Matrix	Carrier name	Grey	/hound					
Shipping container/cooler in good condition?		Yes		No 🗌	Not Present			
Custody seals intact on shipping container/cool	er?	Yes	<b>✓</b>	No 🗌	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗌	N/A	V		٠
Chain of custody present?		Yes	<b>✓</b>	No 🗌				
Chain of custody signed when relinquished and	received?	Yes	<b>✓</b>	No 🗌				
Chain of custody agrees with sample labels?		Yes	<b>✓</b>	No 🗌				
Samples in proper container/bottle?		Yes	V	No 🗌				
Sample containers intact?		Yes	<b>√</b>	No 🗌				
Sufficient sample volume for indicated test?		Yes	V	No 🗌				
All samples received within holding time?		Yes	$\checkmark$	No 🗌				
Water - VOA vials have zero headspace?	No VOA vials subn	nitted		Yes 🔽	No 🗌			
Water - Preservation labels on bottle and cap m	natch?	Yes		No 🗌	N/A			
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹			
Container/Temp Blank temperature?			1°	<6° C Accepta	nble			
COMMENTS:				If given sufficie	nt time to cool.			
		==				:		
,								
							•	
Client contacted	Date contacted:			Pe	rson contacted			
Contacted by:	Regarding							
Comments:								
				· · · · · · · · · · · · · · · · · · ·				
					······································			
							<del></del>	
Corrective Action								
								• .

	IS LABORATORY	www.hallenvironmental.com	Albuquerque, NM 87109	IX 505-345-4107	10.0174083			X5.	3 \ sət (AO\	oioid (AC	Fes 180 (Fes 180 (V) (Set 180	8 3	<b>X</b>								arty notated on the analytimest report
	ANAL	www.hallenvir	4901 Hawkins NE - Albu	Tel. 505-345-3975 Fax	Anallys	(ləs	əiQ/s¤ţ	1) 1) 1) B (C	8018. 1418. 1504. 1826	bor bod bod	PH (Meth DC (Met MC (Met	H 11 12 13 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16									alo ed lliw state patraction, du s vo
			49	ř							TEX + N									Remarks:	nossibility Ar
Turn-Around Time:	□ Standard ☑ Rush	Project Name:		Project #:	· ·	Project Manager:		Sampler: CitiOu + R. b	On Ice: XYes © No		Container Preservative HEAL No.  Type and #	0304121	3-10A HC/ -1	,						Received by: 14/11/03	In a subcontracted to other accordited laboratories. This serves as notice of this no
Chair, of-Custody Record	Client: SAN JUAN REFINING	(Western Refining)	50 CR 4980	6-	505-632-4161	632-	X		(e		Time Sample Request ID		1400 TK#33	·						Time: Relinguished by: 128pm (May Chattall)	and comband to Hall Environmental may be only
	Client: SAA	(Wes	Address: # 50	B/cm	Phone #:	l ă	QA/QC Package:	□ Other	□ EDD (Type)		Date		4-10-08 14							Uples 128	



Monday, April 07, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: TK #33 - 4 Qtr

Dear Cindy Hurtado:

Order No.: 0803272

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 3/27/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001



**Date:** 07-Apr-08

**CLIENT:** 

San Juan Refining

Project:

TK #33 - 4th Qtr

Lab Order:

0803272

Work Order Sample Summary

Lab Sample ID

Client Sample ID

Batch ID

**Test Name** 

**Collection Date** 

0803272-01A

TK #33

R27912

EPA Method 8260: Volatiles Short List

3/24/2008 9:45:00 AM

Date: 07-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0803272

Project:

TK #33 - 4th Qtr

Lab ID:

0803272-01

Client Sample ID: TK #33

Collection Date: 3/24/2008 9:45:00 AM

Date Received: 3/27/2008

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
PA METHOD 8260: VOLATILES SI	HORT LIST				Analyst: BDH
Benzene	760	50	μg/L	50	3/29/2008 6:13:33 PM
Toluene	1600	50	μg/L	50	3/29/2008 6:13:33 PM
Ethylbenzene	170	50	μg/L	50	3/29/2008 6:13:33 PM
Methyl tert-butyl ether (MTBE)	ND	50	μg/L	50	3/29/2008 6:13:33 PM
Xylenes, Total	4700	100	μg/L	50	3/29/2008 6:13:33 PM
Surr: 1,2-Dichloroethane-d4	99.2	59.3-133	%REC	50	3/29/2008 6:13:33 PM
Surr: 4-Bromofluorobenzene	100	80.4-119	, %REC	50	3/29/2008 6:13:33 PM
Surr: Dibromofluoromethane	103	59.5-134	%REC	50	3/29/2008 6:13:33 PM
Surr: Toluene-d8	104	53.5-136	%REC	50	3/29/2008 6:13:33 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 07-Apr-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project: TK #3

TK #33 - 4th Qtr

Work Order:

0803272

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: EPA Method 8260: Vo	olatiles Short	List						
Sample ID: 5mL rb-b		MBLK			Batch II	D: <b>R27912</b>	Analysis Date:	3/29/2008 4:02:18 AM
Benzene	ND	μg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	2.0					
Surr: 1,2-Dichloroethane-d4	10.14	µg/L	0	101	59.3	133		
Surr: 4-Bromofluorobenzene	10.35	µg/L	, 0	103	80.4	119		
Surr: Dibromofluoromethane	9.719	μg/L	0	97.2	59.5	134		
Surr: Toluene-d8	10.06	µg/L	0	101	53.5	136		
Sample ID: 100ng ics-b		LCS			Batch I	D: <b>R27912</b>	Analysis Date:	3/29/2008 3:27:08 AM
Benzene	20.14	μg/L	1.0	101	72.4	126		
Toluene	20.20	µg/L	1.0	101	69.4	126		
Surr: 1,2-Dichloroethane-d4	9.715	µg/L	0	97.1	59.3	133		
Surr: 4-Bromofluorobenzene	10.62	µg/L	0	106	80.4	. 119		*
Surr: Dibromofluoromethane	9.728	µg/L	0	97.3	59.5	134		
Surr: Toluene-d8	10.35	µg/L	0	104	<b>5</b> 3.5	136		



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Page 1

Sample	e Receipt Cl	hecklist		
Client Name SJR	•	Date Received	:	3/27/2008
Work Order Number 0803272		Received by:	TLS	
Checklist completed by:	321 Date	108	pels checked by:	TS Initials
Matrix: Carrier name	1 '			
Shipping container/cooler in good condition?	Yes 🗹	No 🗆	Not Present	
Custody seals intact on shipping container/cooler?	Yes 🗸	No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes 🗌	No 🗆	N/A	
Chain of custody present?	Yes 🗹	No 🗌		
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌		
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌		
Samples in proper container/bottle?	Yes 🗹	No 🗌		
Sample containers intact?	Yes 🗹	No 🗀		
Sufficient sample volume for indicated test?	Yes 🗹	No 🗔		
All samples received within holding time?	Yes 🗹	No 🗌		
Water - VOA vials have zero headspace? No VOA vials sub	omitted	Yes 🗹	No 🗌	
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗌	N/A 🗹	
Water - pH acceptable upon receipt?	Yes	No 🗌	N/A 🗹	
Container/Temp Blank temperature?	4°	<6° C Acceptable	e	
COMMENTS:	. •	If given sufficient	time to cool.	
		======		
Client contacted Date contacted:		Perso	on contacted	
Contacted by: Regarding:				
Comments:				
Corrective Action				
		:		
				*, 11 * 7 * 7 * 11 * 1

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	rque, New 345.397 Ilenvironm		7	808S) 4, SO <sub>4</sub> )	10 <sup>5,</sup> PO	SO8 b ele 1 , on 1 \ esbi	Pestica Brown Blownian	D168 D168 AROPA Anion Anion B088 D258 D2728	×								
Other:	Project Name:  TK:#33 14 CT.	Project #:	(γir	Project Manager: 8021)	(Besyl	Marature: // 1880   188	Preservative + MTI + Method	X3T8 A H9T ) H9T	2-VOA X 1						Received By: (Signature) 3/37/3's Remarks:	Received Byt-(Signhatedre)	
CHAIN-OF-CUSTODY RECORD	Client: SAN JUHN REFINING (WESTERN REFINING)	Address: # 50 C/2 4990	9	1 1	Phone #: / / / / # bhone	Fax#: 505-632-4/6/		Date Time Matrix Sample I.D. No.	3-24-08 9,45 Had TK.#33						Time: 22 7:30		



Thursday, April 24, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: North Barrier Wall Semi-Annual-2008

Dear Cindy Hurtado:

Order No.: 0804082

Hall Environmental Analysis Laboratory, Inc. received 12 sample(s) on 4/8/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



Date: 24-Apr-08

CLIENT:

San Juan Refining

Project:

North Barrier Wall Semi-Annual-2008

Lab Order:

0804082

CASE NARRATIVE

Analytical Comments for METHOD 8015DRO\_W, SAMPLE 0804082-09A: DNOP not recovered due to dilution



Date: 24-Apr-08

CLIENT:

San Juan Refining

Project:

North Barrier Wall Semi-Annual-2008

Lab Order:

0804082

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0804082-01A	CW 25+95	R28104	EPA Method 8015B: Gasoline Range	4/7/2008 11:25:00 AM
0804082-01A	CW 25+95	R28141	EPA Method 8260: Volatiles Short List	4/7/2008 11:25:00 AM
0804082-01A	CW 25+95	15598	EPA Method 8015B: Diesel Range	4/7/2008 11:25:00 AM
0804082-02A	OW 25+70	15598	EPA Method 8015B: Diesel Range	4/7/2008 11:40:00 AM
0804082-02A	OW 25+70	R28104	EPA Method 8015B: Gasoline Range	4/7/2008 11:40:00 AM
0804082-02A	OW 25+70	R28141	EPA Method 8260: Volatiles Short List	4/7/2008 11:40:00 AM
0804082-03A	OW 23+10	R28141	EPA Method 8260: Volatiles Short List	4/7/2008 11:55:00 AM
0804082-03A	OW 23+10	15598	EPA Method 8015B: Diesel Range	4/7/2008 11:55:00 AM
0804082-03A	OW 23+10	R28104	EPA Method 8015B: Gasoline Range	4/7/2008 11:55:00 AM
0804082-04A	OW 22+00	R28141	EPA Method 8260: Volatiles Short List	4/7/2008 1:15:00 PM
0804082-04A	OW 22+00	15598	EPA Method 8015B: Diesel Range	4/7/2008 1:15:00 PM
0804082-04A	OW 22+00	R28104	EPA Method 8015B: Gasoline Range	4/7/2008 1:15:00 PM
0804082-05A	OW 19+50	15598	EPA Method 8015B: Diesel Range	4/7/2008 1:30:00 PM
0804082-05A	OW 19+50	R28104	EPA Method 8015B: Gasoline Range	4/7/2008 1:30:00 PM
0804082-05A	OW 19+50	R28141	EPA Method 8260: Volatiles Short List	4/7/2008 1:30:00 PM
0804082-06A	OW 16+60	R28104	EPA Method 8015B: Gasoline Range	4/7/2008 1:45:00 PM
0804082-06A	OW 16+60	15598	EPA Method 8015B: Diesel Range	4/7/2008 1:45:00 PM
0804082-06A	OW 16+60	R28141	EPA Method 8260: Volatiles Short List	4/7/2008 1:45:00 PM
0804082-07A	OW 16+60 FD	R28104	EPA Method 8015B: Gasoline Range	4/7/2008 1:55:00 PM
0804082-07A	OW 16+60 FD	R28141	EPA Method 8260: Volatiles Short List	4/7/2008 1:55:00 PM
0804082-07A	OW 16+60 FD	15598	EPA Method 8015B: Diesel Range	4/7/2008 1:55:00 PM
0804082-08A	CW 0+60	15598	EPA Method 8015B: Diesel Range	4/7/2008 2:15:00 PM
0804082-08A	CW 0+60	R28104	EPA Method 8015B: Gasoline Range	4/7/2008 2:15:00 PM
0804082-08A	CW 0+60	R28141	EPA Method 8260: Volatiles Short List	4/7/2008 2:15:00 PM
0804082-09A	OW 0+60	R28141	EPA Method 8260: Volatiles Short List	4/7/2008 2:25:00 PM
0804082-09A	OW 0+60	15598	EPA Method 8015B: Diesel Range	4/7/2008 2:25:00 PM
0804082-09A	OW 0+60	R28104	EPA Method 8015B: Gasoline Range	4/7/2008 2:25:00 PM
0804082-09A	OW 0+60	15598	EPA Method 8015B: Diesel Range	4/7/2008 2:25:00 PM
0804082-10A	OW 23+90	R28104	EPA Method 8015B: Gasoline Range	4/7/2008 2:50:00 PM
0804082-10A	OW 23+90	R28141	EPA Method 8260: Volatiles Short List	4/7/2008 2:50:00 PM
0804082-10A	OW 23+90	15598	EPA Method 8015B: Diesel Range	4/7/2008 2:50:00 PM
0804082-11A	Field Blank	15598	EPA Method 8015B: Diesel Range	4/7/2008 3:00:00 PM
0804082-11A	Field Blank	R28104	EPA Method 8015B: Gasoline Range	4/7/2008 3:00:00 PM
0804082-11A	Field Blank	R28141	EPA Method 8260: Volatiles Short List	4/7/2008 3:00:00 PM
0804082-12A	Trip Blank	R28141	EPA Method 8260: Volatiles Short List	
0804082-12A	Trip Blank	R28104	EPA Method 8015B: Gasoline Range	

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804082

Collection Date: 4/7/2008 11:25:00 AM

Client Sample ID: CW 25+95

Project:

North Barrier Wall Semi-Annual-2008

Date Received: 4/8/2008

Lab ID:

0804082-01

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE	<del></del>			Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	4/9/2008 9:20:53 PM
Motor Oll Range Organics (MRO)	ND	5.0	mg/L	1	4/9/2008 9:20:53 PM
Surr: DNOP	118	58-140	%REC	. 1	4/9/2008 9:20:53 PM
EPA METHOD 8015B: GASOLINE R.	ANGE				Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	2.0	0.050	mg/L	1	4/15/2008 1:44:44 PM
Surr: BFB	113	79.2-121	%REC	1	4/15/2008 1:44:44 PM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: BDH
Benzene	43	2.0	μg/L	2	4/17/2008 11:06:44 AM
Toluene	85	2.0	μg/L	2	4/17/2008 11:06:44 AM
Ethylbenzene	13	2.0	μg/L	2	4/17/2008 11:06:44 AM
Methyl tert-butyl ether (MTBE)	ND	2.0	μg/L	2	4/17/2008 11:06:44 AM
Xylenes, Total	110	6.0	μg/L	2	4/17/2008 11:06:44 AM
Surr: 1,2-Dichloroethane-d4	106	59.3-133	%REC	2	4/17/2008 11:06:44 AM
Surr: 4-Bromofluorobenzene	97.2	80.4-119	%REC	2	4/17/2008 11:06:44 AM
Surr: Dibromofluoromethane	102	59.5-134	%REC	2	4/17/2008 11:06:44 AM
Surr: Toluene-d8	97.5	53.5-136	%REC	2	4/17/2008 11:06:44 AM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804082

North Barrier Wall Semi-Annual-2008

Project: Lab ID:

0804082-02

Client Sample ID: OW 25+70

Collection Date: 4/7/2008 11:40:00 AM

Date Received: 4/8/2008

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE			AND COLOR OF THE PARTY OF THE P	Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	4/9/2008 9:54:46 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/9/2008 9:54:46 PM
Surr: DNOP	122	58-140	%REC	1	4/9/2008 9:54:46 PM
EPA METHOD 8015B: GASOLINE R	ANGE		,	•	Analyst: NSB
Gasoline Range Organics (GRO)	0.14	0.050	mg/L	1	4/15/2008 2:14:42 PM
Surr: BFB	102	79.2-121	%REC	1	4/15/2008 2:14:42 PM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: BDH
Benzene	2.7	1.0	µg/L	1	4/17/2008 11:35:49 AM
Toluene	2.6	1.0	μg/L	1	4/17/2008 11:35:49 AM
Ethylbenzene	ND	1.0	μg/L	1	4/17/2008 11:35:49 AM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	4/17/2008 11:35:49 AM
Xylenes, Total	ND	3.0	μg/L	1	4/17/2008 11:35:49 AM
Surr: 1,2-Dichloroethane-d4	108	59.3-133	%REC	1	4/17/2008 11:35:49 AM
Surr: 4-Bromofluorobenzene	96.7	80.4-119	%REC	1	4/17/2008 11:35:49 AM
Surr: Dibromofluoromethane	98.4	59.5-134	%REC	1	4/17/2008 11:35:49 AM
Surr: Toluene-d8	96.3	53.5-136	%REC	1	4/17/2008 11:35:49 AM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804082

Client Sample ID: OW 23+10

Collection Date: 4/7/2008 11:55:00 AM

Project:

North Barrier Wall Semi-Annual-2008

Date Received: 4/8/2008

Lab ID:

0804082-03

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	3E	1		The second of th		Analyst: SCC
Diesel Range Organics (DRO)	1,1	1.0		mg/L	1	4/9/2008 10:28:32 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/9/2008 10:28:32 PM
Surr: DNOP	116	58-140		%REC	. 1	4/9/2008 10:28:32 PM
EPA METHOD 8015B: GASOLINE RA	ANGE					Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	0.94	0.25		mg/L	5	4/15/2008 2:47:26 PM
Surr: BFB	124	79.2-121	s	%REC	5	4/15/2008 2:47:26 PM
EPA METHOD 8260: VOLATILES SH	ORT LIST					Analyst: BDH
Benzene	, ND	1.0		μg/L	1	4/17/2008 12:05:02 PM
Toluene	ND	1.0		μg/L	1	4/17/2008 12:05:02 PM
Ethylbenzene	ND	1.0		μg/L	1	4/17/2008 12:05:02 PM
Methyl tert-butyl ether (MTBE)	25	1.0		µg/L	1	4/17/2008 12:05:02 PM
Xylenes, Total	ND	3.0		µg/L	1	4/17/2008 12:05:02 PM
Surr: 1,2-Dichloroethane-d4	103	59.3-133		%REC	1.	4/17/2008 12:05:02 PM
Surr: 4-Bromofluorobenzene	98.6	80.4-119		%REC	1	4/17/2008 12:05:02 PM
Surr: Dibromofluoromethane	104	59.5-134		%REC	1	4/17/2008 12:05:02 PM
Surr: Toluene-d8	93.7	53.5-136		%REC	1	4/17/2008 12:05:02 PM

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Value exceeds Maximum Contaminant Level

Ε Value above quantitation range

Analyte detected below quantitation limits J

Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Η Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order: Project:

Lab ID:

0804082

0804082-04

North Barrier Wall Semi-Annual-2008

Client Sample ID: OW 22+00

Collection Date: 4/7/2008 1:15:00 PM

Date Received: 4/8/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	3E	**************************************	**************************************		Analyst: SCC
Diesel Range Organics (DRO)	5.4	1.0	mg/L	1	4/9/2008 11:02:21 PM
Motor Oil Range Organics (MRO)	. ND	5.0	mg/L	1	4/9/2008 11:02:21 PM
Surr: DNOP	122	58-140	%REC	1	4/9/2008 11:02:21 PM
EPA METHOD 8015B: GASOLINE R.	ANGE		•		Analyst: NSB
Gasoline Range Organics (GRO)	0.51	0.25	mg/L	5	4/15/2008 3:20:07 PM
Surr: BFB	106	79.2-121	%REC	5	4/15/2008 3:20:07 PM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: BDH
Benzene	ND	10	μg/L	10	4/17/2008 12:35:26 PM
Toluene	ND	10	μg/L	10	4/17/2008 12:35:26 PM
Ethylbenzene	ND	10	μg/L	10	4/17/2008 12:35:26 PM
Methyl tert-butyl ether (MTBE)	1200	10	μg/L	10	4/17/2008 12:35:26 PM
Xylenes, Total	ND	30	μg/L	10	4/17/2008 12:35:26 PM
Surr: 1,2-Dichloroethane-d4	104	59.3-133	%REC	10	4/17/2008 12:35:26 PM
Surr: 4-Bromofluorobenzene	102	80.4-119	%REC	10	4/17/2008 12:35:26 PM
Surr: Dibromofluoromethane	102	59.5-134	%REC	10	4/17/2008 12:35:26 PM
Surr: Toluene-d8	102	53.5-136	%REC	10	4/17/2008 12:35:26 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 24-Apr-08

CLIENT: Lab Order:

Project:

Lab ID:

San Juan Refining

0804082

0804082-05

Client Sample ID: OW 19+50

\_\_\_\_

Collection Date: 4/7/2008 1:30:00 PM

North Barrier Wall Semi-Annual-2008

Date Received: 4/8/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF .	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: SCC
Diesel Range Organics (DRO)	8.8	1.0	mg/L	1.	4/9/2008 11:36:26 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/9/2008 11:36:26 PM
Surr: DNOP	115	58-140	%REC	1	4/9/2008 11:36:26 PM
EPA METHOD 8015B; GASOLINE R	ANGE .				Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.25	mg/L	5	4/15/2008 3:52:44 PM
Surr: BFB	104	79.2-121	%REC	5	4/15/2008 3:52:44 PM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: BDH
Benzene	ND	2.0	μg/L	2	4/17/2008 1:05:52 PM
Toluene	ND	2.0	μg/L	2	4/17/2008 1:05:52 PM
Ethylbenzene	ND	2.0	μg/L	2	4/17/2008 1:05:52 PM
Methyl tert-butyl ether (MTBE)	140	2.0	μg/L	2	4/17/2008 1:05:52 PM
Xylenes, Total	ND .	6.0	μg/L	2	4/17/2008 1:05:52 PM
Surr: 1,2-Dichloroethane-d4	107	59.3-133	%REC	2	4/17/2008 1:05:52 PM
Surr: 4-Bromofluorobenzene	101	80.4-119	%REC	2	4/17/2008 1:05:52 PM
Surr: Dibromofluoromethane	98.2	59.5-134	%REC	2	4/17/2008 1:05:52 PM
Surr: Toluene-d8	101	53.5-136	%REC	2	4/17/2008 1:05:52 PM

Qualifiers:

\* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 5 of 12

Date: 24-Apr-08

CLIENT:

San Juan Refining

0804082

Client Sample ID: OW 16+60

Lab Order:

North Barrier Wall Semi-Annual-2008

Collection Date: 4/7/2008 1:45:00 PM Date Received: 4/8/2008

Project: Lab ID:

0804082-06

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE	***************************************		<del></del>	Analyst: SCC
Diesel Range Organics (DRO)	34	1.0	mg/L	1	4/10/2008 12:10:30 AM
Motor Oil Range Organics (MRO)	ND ·	5.0	mg/L	1	4/10/2008 12:10:30 AM
Surr: DNOP	118	58-140	%REC	1	4/10/2008 12:10:30 AM
EPA METHOD 8015B: GASOLINE R.	ANGE				Analyst: NSB
Gasoline Range Organics (GRO)	21	1.0	mg/L	20	4/15/2008 4:25:36 PM
Surr: BFB	. 112	79.2-121	%REC	20	4/15/2008 4:25:36 PM
EPA METHOD 8260: VOLATILES SH	IORT LIST	.,			Analyst: BDH
Benzene	2300	50	μg/L	50	4/17/2008 1:36:17 PM
Toluene	ND	50	μg/L	50	4/17/2008 1:36:17 PM
Ethylbenzene	1400	50	μg/L	50	4/17/2008 1:36:17 PM
Methyl tert-butyl ether (MTBE)	4500	50	μg/L	50	4/17/2008 1:36:17 PM
Xylenes, Total	1300	150	μg/L	50	4/17/2008 1:36:17 PM
Surr: 1,2-Dichloroethane-d4	107	59.3-133	%REC	50	4/17/2008 1:36:17 PM
Surr: 4-Bromofluorobenzene	103	80.4-119	%REC	50	4/17/2008 1:36:17 PM
Surr: Dibromofluoromethane	100	59.5-134	%REC	50	4/17/2008 1:36:17 PM
Surr: Toluene-d8	97.0	53.5-136	%REC	50	4/17/2008 1:36:17 PM



Value exceeds Maximum Contaminant Level

E Value above quantitation range

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804082

Client Sample ID: OW 16+60 FD

Collection Date: 4/7/2008 1:55:00 PM

Project:

North Barrier Wall Semi-Annual-2008

Date Received: 4/8/2008

**Lab ID:** 0804082-07

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE	. Ar Tarak and Araba and Araba and Araba and Araba and Araba and Araba and Araba and Araba and Araba and Araba	4449 SP-CE-300	TITLES AND PARTY HOLDER TO A COL		Analyst: SCC
Diesel Range Organics (DRO)	40	1.0		mg/L	1	4/10/2008 12:44:38 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/10/2008 12:44:38 AM
Surr: DNOP	135	58-140		%REC	1	4/10/2008 12:44:38 AM
EPA METHOD 8015B: GASOLINE RA	ANGE					Analyst: NSB
Gasoline Range Organics (GRO)	22	1.0		mg/L	20	4/15/2008 5:30:56 PM
Surr: BFB	124	79.2-121	S	%REC	20	4/15/2008 5:30:56 PM
EPÀ METHOD 8260: VOLATILES SH	ORT LIST					Analyst: BDH
Benzene	2500	50		μg/L	50	4/17/2008 2:06:49 PM
Toluene	ND	50		μ <b>g/L</b>	50	4/17/2008 2:06:49 PM
Ethylbenzene	1400	50		µg/L	50	4/17/2008 2:06:49 PM
Methyl tert-butyl ether (MTBE)	4800	50		µg/L	50	4/17/2008 2:06:49 PM
Xylenes, Total	1400	150		µg/L	50	4/17/2008 2:06:49 PM
Surr: 1,2-Dichloroethane-d4	106	59.3-133		%REC	50	4/17/2008 2:06:49 PM
Surr: 4-Bromofluorobenzene	95.6	80.4-119		%REC	50	4/17/2008 2:06:49 PM
Surr: Dibromofluoromethane	101	59.5-134		%REC	50	4/17/2008 2:06:49 PM
Surr: Toluene-d8	93.5	53.5-136		%REC	50	4/17/2008 2:06:49 PM

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 24-Apr-08

CLIENT:

Project:

Lab ID:

San Juan Refining

Lab Order:

0804082

0804082-08

Client Sample ID: CW 0+60

North Barrier Wall Semi-Annual-2008

Collection Date: 4/7/2008 2:15:00 PM

Date Received: 4/8/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual U	Jn <b>its</b>	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				· · · · · · · · · · · · · · · · · · ·	Analyst: SCC
Diesel Range Organics (DRO)	5.3	1.0	m	ıg/L	1	4/10/2008 1:18:43 AM
Motor Oil Range Organics (MRO)	ND	5.0	m	ng/L	1	4/10/2008 1:18:43 AM
Surr: DNOP	101	58-140	%	REC .	1	4/10/2008 1:18:43 AM
EPA METHOD 8015B: GASOLINE R	ANGE					Analyst: NSB
Gasoline Range Organics (GRO)	6.6	0.25	m	ıg/L	5	4/15/2008 6:36:26 PM
Surr: BFB	103	79.2-121	%	REC	5	4/15/2008 6:36:26 PM
EPA METHOD 8260; VOLATILES SH	IORT LIST					Analyst: BDH
Benzene	180	5.0	μ	g/L	5	4/17/2008 2:37:25 PM
Toluene	ND	5.0	μ	g/L	5	4/17/2008 2:37:25 PM
Ethylbenzene	49	5.0	μ	g/L	5	4/17/2008 2:37:25 PM
Methyl tert-butyl ether (MTBE)	52	5.0	μ	g/L	5	4/17/2008 2:37:25 PM
Xylenes, Total	26	15	μ	g/L	5	4/17/2008 2:37:25 PM
Surr: 1,2-Dichloroethane-d4	105	59.3-133	%	REC	5	4/17/2008 2:37:25 PM
Sµrr: 4-Bromofluorobenzene	107	80.4-119	%	REC	5	4/17/2008 2:37:25 PM
Surr: Dibromofluoromethane	107	59.5-134	%	REC	5	4/17/2008 2:37:25 PM
Surr: Toluene-d8	102	53.5-136	%	REC	5	4/17/2008 2:37:25 PM

<sup>\*</sup> Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804082

North Barrier Wall Semi-Annual-2008

Project: Lab ID:

0804082-09

Client Sample ID: OW 0+60

Collection Date: 4/7/2008 2:25:00 PM

Date Received: 4/8/2008

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	3E					Analyst: SCC
Diesel Range Organics (DRO)	360	5.0		mg/L	5	4/21/2008 8:21:37 PM
Motor Oil Range Organics (MRO)	. ND	25		mg/L	5	4/21/2008 8:21:37 PM
Surr: DNOP	185	58-140	S	%REC	5	4/21/2008 8:21:37 PM
EPA METHOD 8015B: GASOLINE RA	ANGE					Analyst: NSB
Gasoline Range Organics (GRO)	6.7	2.5		mg/L	50	4/15/2008 7:09:09 PM
Surr: BFB	114	79.2-121		%REC	50	4/15/2008 7:09:09 PM
EPA METHOD 8260: VOLATILES SH	ORT LIST			•		Analyst: BDH
Benzene	ND	10		μg/L	10	4/17/2008 3:08:00 PM
Toluene	ND	10		μg/ <b>L</b>	10	4/17/2008 3:08:00 PM
Ethylbenzene	18	10		μg/L	10	4/17/2008 3:08:00 PM
Methyl tert-butyl ether (MTBE)	ND	10		μg/L	10	4/17/2008 3:08:00 PM
Xylenes, Total	48	30		µg/L	10	4/17/2008 3:08:00 PM
Surr: 1,2-Dichloroethane-d4	106	59.3-133		%REC	10	4/17/2008 3:08:00 PM
Surr: 4-Bromofluorobenzene	95.5	80.4-119		%REC	10	4/17/2008 3:08:00 PM
Surr: Dibromofluoromethane	95.8	59.5-134		%REC	10	4/17/2008 3:08:00 PM
Surr: Toluene-d8	96.7	53.5-136		%REC	10	4/17/2008 3:08:00 PM

Value exceeds Maximum Contaminant Level

Value above quantitation range E

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

0804082

Client Sample ID: OW 23+90

Lab Order:

Collection Date: 4/7/2008 2:50:00 PM

Project:

North Barrier Wall Semi-Annual-2008

Date Received: 4/8/2008

Lab ID:

0804082-10

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	3E		and the second state of the second second second second second second second second second second second second		Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	4/10/2008 2:26:37 AM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	4/10/2008 2:26:37 AM
Surr: DNOP	107	58-140	%REC	1	4/10/2008 2:26:37 AM
EPA METHOD 8015B; GASOLINE R.	ANGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	4/15/2008 8:39:36 PM
Surr: BFB	102	79.2-121	%REC	1	4/15/2008 8:39:36 PM
EPA METHOD 8260; VOLATILES SH	IORT LIST				Analyst: BDH
Benzene	ND	1.0	μg/L	1	4/17/2008 3:53:08 PM
Toluene	ND	1.0	μg/L	· <b>1</b>	4/17/2008 3:53:08 PM
Ethylbenzene	ND	1.0	μg/L	1	4/17/2008 3:53:08 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	4/17/2008 3:53:08 PM
Xylenes, Total	ND	3.0	μg/L	1	4/17/2008 3:53:08 PM
Surr: 1,2-Dichloroethane-d4	111	59.3-133	%REC	1	4/17/2008 3:53:08 PM
Surr: 4-Bromofluorobenzene	98.4	80.4-119	%REC	1	4/17/2008 3:53:08 PM
Surr: Dibromofluoromethane	103	59.5-134	%REC	1	4/17/2008 3:53:08 PM
Surr: Toluene-d8	98.5	53.5-136	%REC	1	4/17/2008 3:53:08 PM

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804082

Client Sample ID: Field Blank

Collection Date: 4/7/2008 3:00:00 PM

Project:

North Barrier Wall Semi-Annual-2008

Date Received: 4/8/2008

Lab ID: 0804082-11

Matrix: AQUEOUS

Analyses	Result	PQL	Qual 1	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				<del></del>	Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	r	ng/L	1	4/10/2008 3:34:45 AM
Motor Oil Range Organics (MRO)	ND	5.0	• г	ng/L	1	4/10/2008 3:34:45 AM
Surr: DNOP	101	58-140	9	%REC	1	4/10/2008 3:34:45 AM
EPA METHOD 8015B: GASOLINE R.	ANGE					Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050	r	ng/L	1	4/15/2008 11:35:24 AM
Surr: BFB	103	79.2-121	9	%REC	1	4/15/2008 11:35:24 AM
EPA METHOD 8260: VOLATILES SH	ORT LIST					Analyst: BDH
Benzene	ND	1.0	j.	ıg/L	1	4/17/2008 4:21:55 PM
Toluene	· ND	1.0	ļ	ıg/L	1	4/17/2008 4:21:55 PM
Ethylbenzene	ND	1.0	F	ıg/L	1	4/17/2008 4:21:55 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	+	ıg/L	1	4/17/2008 4:21:55 PM
Xylenes, Total	ND	3.0	1-	ug/L	1	4/17/2008 4:21;55 PM
Surr: 1,2-Dichloroethane-d4	108	59.3-133	9	%REC	1	4/17/2008 4:21:55 PM
Surr: 4-Bromofluorobenzene	94.0	80.4-119	9	%REC	1	4/17/2008 4:21:55 PM
Surr: Dibromofluoromethane	96.7	59.5-134	g	%REC	1	4/17/2008 4:21:55 PM
Surr: Toluene-d8	99.0	53.5-136	D	%REC	1	4/17/2008 4:21:55 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit



Date: 24-Apr-08

CLIENT:

San Juan Refining

Lab Order:

0804082

Client Sample ID: Trip Blank

Collection Date:

Project:

North Barrier Wall Semi-Annual-2008

Date Received: 4/8/2008

Received: 4

Lab ID:

0804082-12

Matrix: TRIP BLANK

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE R	ANGE	······································			Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	4/15/2008 12:05:33 PM
Surr: BFB	99.8	79.2-121	%REC	1	4/15/2008 12:05:33 PM
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: BDH
Benzene	ND	1.0	μg/L	1	4/17/2008 4:50:41 PM
Toluene	ND	1.0	μg/L	1	4/17/2008 4:50:41 PM
Ethylbenzene	ND	1.0	µg/L	1	4/17/2008 4:50:41 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μ <b>g/L</b>	1	4/17/2008 4:50:41 PM
Xylenes, Total	ND	3.0	μg/L	1	4/17/2008 4:50:41 PM
Surr: 1,2-Dichloroethane-d4	108	59.3-133	%REC	1	4/17/2008 4:50:41 PM
Surr: 4-Bromofluorobenzene	107	80.4-119	%REC	1	4/17/2008 4:50:41 PM
Surr: Dibromofluoromethane	101	59.5-134	%REC	1	4/17/2008 4:50:41 PM
Surr: Toluene-d8	102	53.5-136	%REC	1	4/17/2008 4:50:41 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

### Date: 24-Apr-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

North Barrier Wall Semi-Annual-2008

Work Order:

0804082

					<u> </u>	· · · · · · · · · · · · · · · · · · ·	<del>_</del>	K Order: 0804082
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RI	PDLimit Qual
Method: EPA Method 8015B: D	iesel Range			•	D -4 -1- 10	3. 45500	Analosis Data	4/0/0000 0:04:40 004
Sample ID: MB-15598		MBLK			Batch II	D: 15598	Analysis Date:	4/9/2008 6:31:40 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0					
Motor Oil Range Organics (MRO)	ND	mg/L	5.0	440		4.40		
Surr: DNOP	1.164	mg/L	0	1 <b>1</b> 6	58	140	A look - Doko	4/0/0000 7-05-50 DN
Sample ID: LCS-15598		LCS			Batch II	D: <b>15598</b>	Analysis Date:	4/9/2008 7:05:50 PM
Diesel Range Organics (DRO)	4.932	mg/L	1.0	98.6	74	157		
Surr: DNOP	0.5510	mg/L	0	110	58	140		
Sample ID: LCSD-15598		LCSD			Batch II	D: <b>15598</b>	Analysis Date:	4/9/2008 7:39:36 PM
Diesel Range Organics (DRO)	5.511	mg/L	1.0	110	. 74	157	11.1	23
Surr: DNOP	0.5927	mg/L	0	119	58	140	0	0
Method: EPA Method 8015B: G	asoline Ran	ge						
Sample ID: 5ML RB		MBLK			Batch it	D: R28104	Analysis Date:	4/15/2008 9:04:21 AM
Gasoline Range Organics (GRO)	ND ·	mg/L	0.050					
Surr: BFB	20.57	mg/L	0	103	79.2	121		
Sample ID: 2.5UG GRO LCS		LCS			Batch ID	): R28104	Analysis Date:	4/16/2008 12:10:23 AM
Gasoline Range Organics (GRO)	0.4920	mg/L	0.050	98.4	80	115	,	
Surr: BFB	20.81	mg/L	0	104	79.2	121		
Method: EPA Method 8260: Vol	latiles Short	List						
Sample ID: 5mL		MBLK			Batch ID	): R28141	Analysis Date:	4/17/2008 9:09:26 AM
Benzene	ND	μg/L	1.0					•
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0					
Xylenes, Total	ND	μg/L	2.0					
Surr: 1,2-Dichloroethane-d4	10.86	μg/L	0	109	59.3	133		
Surr: 4-Bromofluorobenzene	9.936	μg/L	.0	99.4	80.4	119		
Surr: Dibromofluoromethane	10.04	μg/L	0	100	59.5	134		-
Surr: Toluene-d8	9.856	µg/L	0	98.6	53.5	136		
Sample ID: 100ng Ics		LCS			Batch II	): R28141	Analysis Date:	4/17/2008 10:07:16 AM
Benzene	21.41	μg/L	1.0	107	72.4	126		
Toluene	17.68	µg/L	1.0	88.4	69.4	126		
Surr: 1,2-Dichloroethane-d4	10.92	μg/L	0	109	59.3	133		
Surr: 4-Bromofluorobenzene	10.06	μg/L	0	101	80.4	119		
Surr: Dibromofluoromethane	10.62	μg/L	0	106	59.5	134		
Surr: Toluene-d8	9.868	µg/L	0	98.7	53.5	136		

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E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page I



San	nple Receipt Ch	ecklist		
Client Name SJR		Date Receive	ed:	4/8/2008
Work Order Number 0804082	,	Received b	y: TLS	
Checklist completed by:	H S Date	Sample ID	labels checked by:	Initials
Matrix: Carrier na	ame <u>UPS</u>			
Shipping container/cooler in good condition?	Yes 🗹	No 🗀	Not Present	
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes 🗌	No 🗆	N/A 🗹	
Chain of custody present?	Yes 🗹	No 🗆		
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗀		
Chain of custody agrees with sample labels?	Yes 🗹	No 🗀	•	
Samples in proper container/bottle?	Yes 🗹	No 🗀		
Sample containers intact?	Yes 🗹	No 🗌		
Sufficient sample volume for indicated test?	Yes 🗹	No 🗆		
All samples received within holding time?	Yes 🗹	No 🗌		
Water - VOA vials have zero headspace? No VOA vials	submitted	Yes 🗹	No 🗌	
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗌	N/A	
Water - pH acceptable upon receipt?	Yes	No 🗌	N/A 🗹	
Container/Temp Blank temperature?	5°	<6° C Acceptat		
COMMENTS:		If given sufficien	t time to cool.	·
: · · · · · · · · · · · · · · · · · · ·				
				•
Client contacted Date contacted:	The second secon	Pers	son contacted	
Contacted by: Regarding:		•		
Comments: Correct ID on hample	080408	2-5 in	OW19+!	mas par.
		<del></del>		
Corrective Action	7,100			

	HALL ENVIRONMENTAL ANALYSIS LABORATORY 4001 Hawking NE Suite D	430 Chawnis NE, Saire D Abunierate New Mexico 87109	Tel. 245.345.3975		IS REVUEST	Apr	22 <b>5</b>	308) s	/X <b>2.</b> /	eebioi B (A( AOV-ii	ons (F, C 83 Pest 70 (Sen Bubbles	58 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	X	×	×	×	*	×	*	×	×	<u></u>					
		Albunier	Tel. 505.	en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de	ANALYS	[λ]	nO Br		1PH (68.1)	+ 381 64 801 14 800 02 90 04 80	EX + Wech	HT	<.	×	×	×	X	X	х)	<u>×</u>	<u> </u>	\(\lambda\)	×	()	Remarks:		
QA / QC Package:	Std 🗖 Level 4 🗷	orner.	Project Name:		Project #:		Project Manager:		Sampler Antido/Bob Kakow	perature: / 5	e, e	HgCl <sub>2</sub> HNO <sub>3</sub> HC 0804082	2-v01-c	7	X   3	η Х	His X S	X	F X	X 8	X	5-10A X 10	3-VOA X	7	Received By: (Signature) 4/18/03	Received By: (Signature)	<b>-</b>
	CHAIN-OF-CUSTODY RECORD		LAN (Retining	Western Refining)	Address: 井50 CR 4990	Bloomfield, NM 874/3			Phone #:505-632-4161		Metrix Sample I.D. No.	4-1	<del></del>	4 DW 25+70	0W 23+10	M O	0 19+62550 Mgs	00 16 F60	10W 16460 FC	(w) 0+60	OW 0 +60	04 CB MO		Trip Blank 4	Relinquished By: (Signature)	Relinquished By: Signat	
)	CHAIN-OF	(	CHENT: SAN JUAN	Wester	Address: #50	Bloom	i		Phone #: 505-	Fax#: 505-632-	Date Time		104/08/11/20	1140pm	155/Am	15/4	Reg.	The state of the s	1250	2150	75.	250	- 200 - 200 - V	-	Pate:   Time:   107/09 330p.	Date: Time:	

(,



### **COVER LETTER**

Thursday, September 04, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: Observation Wells Semi-Annual Aug 2008

Dear Cindy Hurtado:

Order No.: 0808213

Hall Environmental Analysis Laboratory, Inc. received 13 sample(s) on 8/13/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682

ORELAP Lab # NM100001



Date: 04-Sep-08

CLIENT: Western Refining Southwest, Inc.

Project: Observation Wells Semi-Annual Aug 2008

**Lab Order:** 0808213

# Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808213-01A	OW-0+60	16767	EPA Method 8015B: Diesel Range	8/12/2008 10:30:00 AM
0808213-01A	OW-0+60	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 10:30:00 AM
0808213-01A	OW-0+60	R29896	EPA Method 8015B: Gasoline Range	8/12/2008 10:30:00 AM
0808213-01A	OW-0+60	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 10:30:00 AM
0808213-02A	OW-3+85	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 9:55:00 AM
0808213-02A	OW-3+85	16767	EPA Method 8015B: Diesel Range	8/12/2008 9:55:00 AM
0808213-02A	OW-3+85	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 9:55:00 AM
0808213-02A	OW-3+85	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 9:55:00 AM
0808213-02A	OW-3+85	R29896	EPA Method 8015B: Gasoline Range	8/12/2008 9:55:00 AM
0808213-03A	OW-16+60	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 9:35:00 AM
0808213-03A	OW-16+60	R29896	EPA Method 8015B: Gasoline Range	8/12/2008 9:35:00 AM
0808213-03A	OW-16+60	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 9:35:00 AM
0808213-03A	OW-16+60	16767	EPA Method 8015B: Diesel Range	8/12/2008 9:35:00 AM
0808213-03A	OW-16+60	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 9:35:00 AM
0808213-03A	OW-16+60	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 9:35:00 AM
0808213-04A	OW-16+60 Dup	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 9:40:00 AM
0808213-04A	OW-16+60 Dup	16767	EPA Method 8015B: Diesel Range	8/12/2008 9:40:00 AM
0808213-04A	OW-16+60 Dup	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 9:40:00 AM
0808213-04A	OW-16+60 Dup	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 9:40:00 AM
0808213-04A	OW-16+60 Dup	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 9:40:00 AM
0808213-04A	OW-16+60 Dup	R29896	EPA Method 8015B: Gasoline Range	8/12/2008 9:40:00 AM
0808213-05A	OW-22+00	R29896	EPA Method 8015B: Gasoline Range	8/12/2008 9:20:00 AM
0808213-05A	OW-22+00	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 9:20:00 AM
0808213-05A	OW-22+00	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 9:20:00 AM
0808213-05A	OW-22+00	16767	EPA Method 8015B: Diesel Range	8/12/2008 9:20:00 AM
0808213-06A	OW-23+10	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 8:55:00 AM
0808213-06A	OW-23+10	16767	EPA Method 8015B: Diesel Range	8/12/2008 8:55:00 AM
0808213-06A	OW-23+10	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 8:55:00 AM
0808213-06A	OW-23+10	R29896	EPA Method 8015B: Gasoline Range	8/12/2008 8:55:00 AM
0808213-07A	OW-23+90	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 8:40:00 AM
0808213-07A	OW-23+90	16767	EPA Method 8015B: Diesel Range	8/12/2008 8:40:00 AM
0808213-07A	OW-23+90	R29896	EPA Method 8015B: Gasoline Range	8/12/2008 8:40:00 AM
0808213-08A	OW-25+70	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 8:30:00 AM
0808213-08A	OW-25+70	16767	EPA Method 8015B: Diesel Range	8/12/2008 8:30:00 AM
0808213-08A	OW-25+70	R29896	EPA Method 8015B: Gasoline Range	8/12/2008 8:30:00 AM
0808213-09A	OW-1+50	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 10:15:00 AM
0808213-09A	OW-1+50	R29896	EPA Method 8015B: Gasoline Range	8/12/2008 10:15:00 AM
	•		EPA Method 8015B: Diesel Range	8/12/2008 10:15:00 AM

CLIENT:

Western Refining Southwest, Inc.

Project:

Observation Wells Semi-Annual Aug 2008

Lab Order:

0808213

# Work Order Sample Summary

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
0808213-09A	OW-1+50	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 10:15:00 AM
0808213-10A	CW-25+95	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 8:15:00 AM
0808213-10A	CW-25+95	16767	EPA Method 8015B: Diesel Range	8/12/2008 8:15:00 AM
0808213-10A	CW-25+95	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 8:15:00 AM
0808213-11A	CW-0+60	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 10:45:00 AM
0808213-11A	CW-0+60	16767	EPA Method 8015B: Diesel Range	8/12/2008 10:45:00 AM
0808213-11A	CW-0+60	R29801	EPA Method 8260: Volatiles Short List	8/12/2008 10:45:00 AM
0808213-12A	Field Blank	R29776	EPA Method 8260: Volatiles Short List	8/12/2008 10:40:00 AM
0808213-13A	Trip Blank	R29896	EPA Method 8015B: Gasoline Range	
0808213-13A	Trip Blank	R29776	EPA Method 8260: Volatiles Short List	

Date: 04-Sep-08

**CLIENT:** 

Project:

Lab ID:

Western Refining Southwest, Inc.

Lab Order:

0808213

Observation Wells Semi-Annual Aug 2008

0808213-01

Client Sample ID: OW-0+60

Collection Date: 8/12/2008 10:30:00 AM

Date Received: 8/13/2008

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: SCC
Diesel Range Organics (DRO)	6.4	1.0	mg/L	1	8/15/2008 4:21:31 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/15/2008 4:21:31 PM
Surr: DNOP	107	58-140	%REC	1	8/15/2008 4:21:31 PM
EPA METHOD 8015B: GASOLINE R	ANGE				Analyst: DAM
Gasoline Range Organics (GRO)	2.3	1.2	mg/L	25	8/22/2008 9:47:46 PM
Surr: BFB	96.4	79.2-121	%REC	25	8/22/2008 9:47:46 PM
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: <b>HL</b>
Benzene	ND	1.0	μg/L	1	8/15/2008 10:17:08 AM
Toluene	ND	1.0	µg/L	1	8/15/2008 10:17:08 AM
Ethylbenzene	6.6	1.0	μg/L	1	8/15/2008 10:17:08 AM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1 .	8/15/2008 10:17:08 AM
Xylenes, Total	19	2.0	μg/L	1	8/15/2008 10:17:08 AM
Surr: 1,2-Dichloroethane-d4	96.1	59.3-133	%REC	1	8/15/2008 10:17:08 AM
Surr: 4-Bromofluorobenzene	115	80.4-119	%REC	1	8/15/2008 10:17:08 AM
Surr: Dibromofluoromethane	100	59.5-134	%REC	1	8/15/2008 10:17:08 AM
Surr: Toluene-d8	97.4	53.5-136	%REC	1	8/15/2008 10:17:08 AM



Value exceeds Maximum Contaminant Level

E Value above quantitation range

Analyte detected below quantitation limits

Not Detected at the Reporting Limit ND

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded Η

Maximum Contaminant Level

Reporting Limit

**Date:** 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

Lab ID:

0808213

Project:

Observation Wells Semi-Annual Aug 2008

0808213-02

Client Sample ID: OW-3+85

Collection Date: 8/12/2008 9:55:00 AM

Date Received: 8/13/2008

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE		· · · · · · · · · · · · · · · · · · ·		Analyst: SCC
Diesel Range Organics (DRO)	12	1.0	mg/L	1	8/15/2008 4:55:54 PM
Motor Oil Range Organics (MRO)	. ND	5.0	mg/L	1	8/15/2008 4:55:54 PM
Surr: DNOP	117	58-140	%REC	1	8/15/2008 4:55:54 PM
EPA METHOD 8015B: GASOLINE RA	ANGE				Analyst: DAM
Gasoline Range Organics (GRO)	14	2.5	mg/L	50	8/22/2008 10:18:05 PM
Surr: BFB	100	79.2-121	%REC	50	8/22/2008 10:18:05 PM
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: <b>HL</b>
Benzene	· 99	10	μg/L	10	8/15/2008 11:18:11 AM
Toluene	ND	10	μg/L	10	8/15/2008 11:18:11 AM
Ethylbenzene	950	10	μg/L	10	8/15/2008 11:18:11 AM
Methyl tert-butyl ether (MTBE)	ND	10	μg/ <b>L</b>	10	8/15/2008 11:18:11 AM
Xylenes, Total	3200	. 200	μg/L	100	8/14/2008 3:19:18 PM
Surr: 1,2-Dichloroethane-d4	92.8	59.3-133	%REC	10	8/15/2008 11:18:11 AM
Şurr: 4-Bromofluorobenzene	87.0	80.4-119	%REC	10	8/15/2008 11:18:11 AM
Surr: Dibromofluoromethane	100	59.5-134	%REC	10	8/15/2008 11:18:11 AM
Surr: Toluene-d8	93.7	53.5-136	%REC	10	8/15/2008 11:18:11 AM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808213

Project: Ob

Observation Wells Semi-Annual Aug 2008

Lab ID:

0808213-03

Client Sample ID: OW-16+60

Collection Date: 8/12/2008 9:35:00 AM

Date Received: 8/13/2008

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	3E	1			Analyst: SCC
Diesel Range Organics (DRO)	7.7	1.0	mg/L	1	8/15/2008 5:30:14 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/15/2008 5:30:14 PM
Surr: DNOP	109	58-140	%REC	1	8/15/2008 5:30:14 PM
EPA METHOD 8015B: GASOLINE RA	ANGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	17	2.5	mg/L	50	8/22/2008 10:48:32 PM
Surr: BFB	105	79.2-121	%REC	50	8/22/2008 10:48:32 PM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: <b>HL</b>
Benzene	1200	50	μg/L	50	8/15/2008 4:42:26 PM
Toluene	ND	10	μg/L	10	8/15/2008 5:12:55 PM
Ethylbenzene	1100	50	μg/L	50	8/15/2008 4:42:26 PM
Methyl tert-butyl ether (MTBE)	3900	- 50	μg/L	50	8/15/2008 4:42:26 PM
Xylenes, Total	. 980	20	μg/L	10	8/15/2008 5:12:55 PM
Surr: 1,2-Dichloroethane-d4	99.6	59.3-133	%REC	10	8/15/2008 5:12:55 PM
Surr: 4-Bromofluorobenzene	106	80.4-119	%REC	10	8/15/2008 5:12:55 PM
Surr: Dibromofluoromethane	107	59.5-134	%REC	10	8/15/2008 5:12:55 PM
Surr: Toluene-d8	. 98.8	53.5-136	%REC	10	8/15/2008 5:12:55 PM



- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit





Date: 04-Sep-08

CLIENT: Lab Order: Western Refining Southwest, Inc.

0808213

Observation Wells Semi-Annual Aug 2008

Project: Lab ID:

0808213-04

Client Sample ID: OW-16+60 Dup

Collection Date: 8/12/2008 9:40:00 AM

Date Received: 8/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE			· · · · · · · · · · · · · · · · · · ·	Analyst: SCC
Diesel Range Organics (DRO)	8.0	1.0	mg/L	1	8/15/2008 6:04:35 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/15/2008 6:04:35 PM
Surr: DNOP	115	58-140	%REC	1	8/15/2008 6:04:35 PM
EPA METHOD 8015B: GASOLINE R.	ANGE				Analyst: DAM
Gasoline Range Organics (GRO)	17	2.5	mg/L	50	8/22/2008 11:19:02 PM
Surr: BFB	104	79.2-121	%REC	50	8/22/2008 11:19:02 PM
EPA METHOD 8260: VOLATILES SH	ORT LIST			·	Analyst: HL
Benzen <i>e</i>	1200	50	μg/L	50	8/15/2008 6:12:19 PM
Toluene	ND	10	µg/L	10	8/15/2008 6:42:56 PM
Ethylbenzene	2000	20	μg/L	20	8/15/2008 12:47:59 PM
Methyl tert-butyl ether (MTBE)	3100	50	µg/L	50	8/15/2008 6:12:19 PM
Xylenes, Total	1300	20	µg/∟	10	8/15/2008 6:42:56 PM
Surr: 1,2-Dichloroethane-d4	99.4	59.3-133	%REC	10	8/15/2008 6:42:56 PM
Surr: 4-Bromofluorobenzene	99.0	80.4-119	%REC	10	8/15/2008 6:42:56 PM
Surr: Dibromofluoromethane	109	59.5-134	%REC	10	8/15/2008 6:42:56 PM
Surr: Toluene-d8	97.3	53.5-136	%REC	10	8/15/2008 6:42:56 PM

Value exceeds Maximum Contaminant Level

E Value above quantitation range

<sup>·</sup>J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

Date: 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808213

Client Sample ID: OW-22+00

Project:

Collection Date: 8/12/2008 9:20:00 AM

Observation Wells Semi-Annual Aug 2008 Lab ID: 0808213-05

Date Received: 8/13/2008 Matrix: AQUEOUS

Analyses	Result	PQL Qu	ıal Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: SCC
Diesel Range Organics (DRO)	3.1	1.0	mg/L	1	8/15/2008 6:38:58 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/15/2008 6:38:58 PM
Surr. DNOP	134	58-140	%REC	· 1	8/15/2008 6:38:58 PM
EPA METHOD 8015B: GASOLINE R.	ANGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	0.078	0.050	mg/L	1	8/22/2008 11:49:32 PM
Surr: BFB	82.2	79.2-121	%REC	1	8/22/2008 11:49:32 PM
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: HL
Benzene	ND	1.0	μg/L	1	8/15/2008 1:45:44 PM
Toluene	ND	1.0	μg/L	1	8/15/2008 1:45:44 PM
Ethylbenzene	ND	1.0	μg/L	1	8/15/2008 1:45:44 PM
Methyl tert-butyl ether (MTBE)	44	1.0	μg/L	1	8/15/2008 1:45:44 PM
Xylenes, Total	. ND	2.0	μg/L	1	8/15/2008 1:45:44 PM
Surr: 1,2-Dichloroethane-d4	97.2	59.3-133	%REC	1	8/15/2008 1:45:44 PM
Surr: 4-Bromofluorobenzene	98.0	80.4-119	%REC	1	8/15/2008 1:45:44 PM
Surr: Dibromofluoromethane	107	59.5-134	%REC	1	8/15/2008 1:45:44 PM
Surr: Toluene-d8	99.8	53.5-136	%REC	1	8/15/2008 1:45:44 PM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Date: 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808213

Observation Wells Semi-Annual Aug 2008

Project: Lab ID:

0808213-06

Client Sample ID: OW-23+10

Collection Date: 8/12/2008 8:55:00 AM

Date Received: 8/13/2008

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: SCC
Diesel Range Organics (DRO)	13	1.0	mg/L	1	8/15/2008 7:13:22 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/15/2008 7:13:22 PM
Surr: DNOP	130	58-140	%REC	. 1	8/15/2008 7:13:22 PM
EPA METHOD 8015B: GASOLINE R.	ANGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	1.2	0.50	mg/L	10	8/23/2008 12:19:55 AM
Surr: BFB	90.4	79.2-121	%REC	10	8/23/2008 12:19:55 AM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: <b>HL</b>
Benzene	ND	1.0	μg/L	1	8/15/2008 2:14:38 PM
Toluene	ND	1.0	μg/L	1	8/15/2008 2:14:38 PM
Ethylbenzene	. ND	1.0	μg/L	1	8/15/2008 2:14:38 PM
Methyl tert-butyl ether (MTBE)	9.7	1.0	μ <b>g/L</b>	1	8/15/2008 2:14:38 PM
Xylenes, Total	ND	2.0	μg/L	1	8/15/2008 2:14:38 PM
Surr: 1,2-Dichloroethane-d4	99.6	59.3-133	%REC	1	8/15/2008 2:14:38 PM
Surr: 4-Bromofluorobenzene	105	80.4-119	%REC	1	8/15/2008 2:14:38 PM
Surr: Dibromofluoromethane	108	59.5-134	%REC	1	8/15/2008 2:14:38 PM
Surr: Toluene-d8	97.7	53.5-136	%REC	1	8/15/2008 2:14:38 PM

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808213

Project: Obse

Observation Wells Semi-Annual Aug 2008

Lab ID:

0808213-07

Client Sample ID: OW-23+90

Collection Date: 8/12/2008 8:40:00 AM

Date Received: 8/13/2008

Analyses	Result	PQL	Qual Unit	rs DF	Date Analyzed
EPA METHOD 8015B: DIESEL RAN	GE ·	,			Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	. 1	8/15/2008 8:21:53 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	. 1	8/15/2008 8:21:53 PM
Surr: DNOP	133	58-140	%RE	C 1	8/15/2008 8:21:53 PM
EPA METHOD 8015B: GASOLINE R	ANGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	ND	0.050	mg/L	. 1	8/23/2008 12:50:10 AM
Surr: BFB	85.0	79.2-121	%RE	Ç 1	8/23/2008 12:50:10 AM
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analyst: <b>HL</b>
Benzene	· ND	1.0	μg/L	1	8/14/2008 5:50:10 PM
Toluene .	ND	1.0	µg/L	1	8/14/2008 5:50:10 PM
Ethylbenzene	ND	. 1.0	μg/L	1	8/14/2008 5:50:10 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/14/2008 5:50:10 PM
Xylenes, Total	ND	2.0	μg/L	. 1	8/14/2008 5:50:10 PM
Surr: 1,2-Dichloroethane-d4	96.3	59.3-133	%RE	C 1	8/14/2008 5:50:10 PM
Surr: 4-Bromofluorobenzene	104	80.4-119	%RE	C 1	8/14/2008 5:50:10 PM
Surr: Dibromofluoromethane	103	59.5-134	%RE	C 1	8/14/2008 5:50:10 PM
Surr: Toluene-d8	98.0	53.5-136	%RE	C 1	8/14/2008 5:50:10 PM

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Qua	muci o.

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
  - S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Date:** 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808213

Project:

Observation Wells Semi-Annual Aug 2008

Lab ID:

0808213-08

Client Sample ID: OW-25+70

Collection Date: 8/12/2008 8:30:00 AM

Date Received: 8/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/15/2008 8:55:59 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/15/2008 8:55:59 PM
Surr: DNOP	132	58-140	%REC	1	8/15/2008 8:55:59 PM
EPA METHOD 8015B: GASOLINE RA	ANGE				Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	. ND	0.050	mg/L	1	8/23/2008 1:20:27 AM
Surr: BFB	82.5	79.2-121	%REC	1	8/23/2008 1:20:27 AM
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: <b>HL</b>
Benzene	ND	1.0	μg/L	1	8/14/2008 6:18:51 PM
Toluene	ND	1.0	μg/L	1	8/14/2008 6:18:51 PM
Ethylbenzene	ND	1.0	μg/L	1	8/14/2008 6:18:51 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/14/2008 6:18:51 PM
Xylenes, Total	ND	2.0	μg/L	1	8/14/2008 6:18:51 PM
Surr: 1,2-Dichloroethane-d4	94.9	59.3-133	%REC	1	8/14/2008 6:18:51 PM
Surr: 4-Bromofluorobenzene	104	80.4-119	%REC	1	8/14/2008 6:18:51 PM
Surr: Dibromofluoromethane	97.6	59.5-134	%REC	1	8/14/2008 6:18:51 PM
Surr: Toluene-d8	94.0	53.5-136	%REC	1	8/14/2008 6:18:51 PM

<sup>\*</sup> Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808213

Client Sample ID: OW-1+50

Collection Date: 8/12/2008 10:15:00 AM

Project: Lab ID:

Observation Wells Semi-Annual Aug 2008 0808213-09

Date Received: 8/13/2008

Matrix: AQUEOUS

Analyses	Result	PQL Q	ıal Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE	77	<del></del>		Analyst: SCC
Diesel Range Organics (DRO)	2.9	1.0	mg/L	1	8/15/2008 9:30:03 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/15/2008 9:30:03 PM
Surr: DNOP	126	58-140	%REC	1	8/15/2008 9:30:03 PM
EPA METHOD 8015B: GASOLINE R	ANGE		•		Analyst: <b>DAM</b>
Gasoline Range Organics (GRO)	24	5.0	mg/L	100	8/23/2008 3:52:09 AM
Surr: BFB	90.2	79.2-121	%REC	100	8/23/2008 3:52:09 AM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: HL
Benzene	76	10	μg/L	10	8/15/2008 2:45:09 PM
Toluene	ND	10	μg/L	. 10	8/15/2008 2:45:09 PM
Ethylbenzene	950	10	μg/L	10	8/15/2008 2:45:09 PM
Methyl tert-butyl ether (MTBE)	ND	10	μg/L	10	8/15/2008 2:45:09 PM
Xylenes, Total	6700	200	μg/L	100	8/14/2008 7:46:43 PM
Surr: 1,2-Dichloroethane-d4	97.5	59.3-133	%REC	10	8/15/2008 2:45:09 PM
Surr: 4-Bromofluorobenzene	91.1	80.4-119	%REC	100	8/14/2008 7:46:43 PM
Surr: Dibromofluoromethane	105	59.5-134	%REC	10	8/15/2008 2:45:09 PM
Surr: Toluene-d8	92.7	53.5-136	%REC	10	8/15/2008 2:45:09 PM

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Value exceeds Maximum Contaminant Level

Page 9 of 13

E Value above quantitation range

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

Maximum Contaminant Level

Reporting Limit

Date: 04-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: CW-25+95

Lab Order:

0808213

Project:

Collection Date: 8/12/2008 8:15:00 AM

Observation Wells Semi-Annual Aug 2008

Date Received: 8/13/2008

Lab ID:

0808213-10

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	GE		-		Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/15/2008 10:04:10 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	· 1	8/15/2008 10:04:10 PM
Surr: DNOP	124	58-140	%REC	1	8/15/2008 10:04:10 PM
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: HL
Benzene	1.8	1.0	μg/L	1	8/15/2008 3:43:02 PM
Toluene	1.1	1.0	μg/L	1	8/15/2008 3:43:02 PM
Ethylbenzene	2.3	1.0	μg/L	1	8/15/2008 3:43:02 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/15/2008 3:43:02 PM
Xylenes, Total	ND	2.0	μg/L	1	8/15/2008 3:43:02 PM
Surr: 1,2-Dichloroethane-d4	97.6	59.3-133	%REC	1	8/15/2008 3:43:02 PM
Surr: 4-Bromofluorobenzene	88.5	80.4-119	%REC	1	8/15/2008 3:43:02 PM
Surr: Dibromofluoromethane	104	59.5-134	%REC	1	8/15/2008 3:43:02 PM
Surr: Toluene-d8	95.6	53.5-136	. %REC	1	8/15/2008 3:43:02 PM

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- B . Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Date: 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

0808213

Client Sample ID: CW-0+60

Collection Date: 8/12/2008 10:45:00 AM

Project:

Observation Wells Semi-Annual Aug 2008

Date Received: 8/13/2008

Matrix: AQUEOUS

Lab ID: 0808213-11

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	SE .			<del>-</del>	Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/15/2008 10:38:17 PM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/15/2008 10:38:17 PM
Surr: DNOP	113	58-140	%REC	1	8/15/2008 10:38:17 PM
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst: <b>HL</b>
Benzene	47	1.0	μg/L	1	8/15/2008 4:11:59 PM
Toluene	ND	1.0	μg/L	1	8/15/2008 4:11:59 PM
Ethylbenzene	6.6	1.0	μg/L	1	8/15/2008 4:11:59 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/15/2008 4:11:59 PM
Xylenes, Total	ND	2.0	μg/L	1	8/15/2008 4:11:59 PM
Surr. 1,2-Dichloroethane-d4	98.7	59.3-133	%REC	1	8/15/2008 4:11:59 PM
Surr: 4-Bromofluorobenzene	90.9 .	80.4-119	%REC	1	8/15/2008 4:11:59 PM
Surr: Dibromofluoromethane	98.3	59.5-134	%REC	. 1	8/15/2008 4:11:59 PM
Surr: Toluene-d8	98.6	53.5-136	%REC	1	8/15/2008 4:11:59 PM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - Reporting Limit

**Date:** 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Client Sample ID: Field Blank

Lab Order:

0808213

Collection Date: 8/12/2008 10:40:00 AM

Project:

Observation Wells Semi-Annual Aug 2008

Date Received: 8/13/2008

Lab ID:

0808213-12

Matrix: AQUEOUS

Result	PQL •	Qual Units	DF	Date Analyzed
IORT LIST			. , , ,	Analyst: HL
ND	1.0	μg/L	1	8/14/2008 10:13:59 PM
ND	1.0	μg/L	1	8/14/2008 10:13:59 PM
ND	1.0	μg/L	1	8/14/2008 10:13:59 PM
ND	1.0	µg/L	1	8/14/2008 10:13:59 PM
ND	2.0	μg/L	1	8/14/2008 10:13:59 PM
91.5	59.3-133	%REC	. 1	8/14/2008 10:13:59 PM
.99.8	80.4-119	%REC	1	8/14/2008 10:13:59 PM
96.6	59.5-134	%REC	1	8/14/2008 10:13:59 PM
99.3	53.5-136	%REC	1	8/14/2008 10:13:59 PM
	ND ND ND ND 91.5 99.8 96.6	ND 1.0 ND 1.0 ND 1.0 ND 1.0 ND 1.0 ND 2.0 91.5 59.3-133 99.8 80.4-119 96.6 59.5-134	ND 1.0 μg/L ND 1.0 μg/L ND 1.0 μg/L ND 1.0 μg/L ND 1.0 μg/L ND 2.0 μg/L 91.5 59.3-133 %REC 99.8 80.4-119 %REC 96.6 59.5-134 %REC	ND 1.0 μg/L 1 ND 1.0 μg/L 1 ND 1.0 μg/L 1 ND 1.0 μg/L 1 ND 1.0 μg/L 1 ND 2.0 μg/L 1 91.5 59.3-133 %REC 1 99.8 80.4-119 %REC 1 96.6 59.5-134 %REC 1

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 04-Sep-08

**CLIENT:** 

Western Refining Southwest, Inc.

Lab Order:

Project:

Lab ID:

0808213

0808213-13

Observation Wells Semi-Annual Aug 2008

**Collection Date:** 

Date Received: 8/13/2008

Client Sample ID: Trip Blank

Matrix: TRIP BLANK

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE R.	ANGE			<del>,</del>	Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/23/2008 4:52:58 AM
Surr: BFB	82.2	79.2-121	%REC	1	8/23/2008 4:52:58 AM
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analyst: HL
Benzene	ND	1.0	μg/L	1	8/14/2008 10:42:53 PM
Toluene	ND	1.0	µg/L	1	8/14/2008 10:42:53 PM
Ethylbenzene	ND	1.0	µg/L	1	8/14/2008 10:42:53 PM
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/14/2008 10:42:53 PM
Xylenes, Total	ND	2.0	μg/L	1	8/14/2008 10:42:53 PM
Surr: 1,2-Dichloroethane-d4	95.4	59.3-133	%REC	1	8/14/2008 10:42:53 PM
Surr: 4-Bromofluorobenzene	99.4	80.4-119	%REC	1	8/14/2008 10:42:53 PM
Surr: Dibromofluoromethane	99.8	59.5-134	%REC	1	8/14/2008 10:42:53 PM
Surr: Toluene-d8	96.5	53.5-136	%REC	1	8/14/2008 10:42:53 PM

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Value exceeds Maximum Contaminant Level

Е Value above quantitation range

Analyte detected below quantitation limits

Not Detected at the Reporting Limit ND

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

DATES REPORT Observation Wells Semi-Annual A Western Refining Southwest, Inc. 0808213 Lab Order: Project:
Sample ID
0808213-01 Client:

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808213-01A	0M-0+60	8/12/2008 10:30:00 AM	Aqueous	EPA Method 8015B: Diesel Range	19191	8/13/2008	8/15/2008
				EPA Method 8015B; Gasoline Range	R29896		8/22/2008
				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008
0808213-02A	OW-3+85	8/12/2008 9:55:00 AM		EPA Method 8015B: Diesel Range	16767	8/13/2008	8/15/2008
				EPA Method 8015B: Gasoline Range	R29896		8/22/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008
				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
0808213-03A	OW-16+60	8/12/2008 9:35:00 AM		EPA Method 8015B: Diesel Range	16767	8/13/2008	8/15/2008
				EPA Method 8015B: Gasoline Range	R29896		8/22/2008
				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008
				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
0808213-04A	OW-16+60 Dup	8/12/2008 9:40:00 AM		EPA Method 8015B; Diesel Range	16767	8/13/2008	8/15/2008
			•	EPA Method 8015B: Gasoline Range	R29896		8/22/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008
				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
,				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
				EPA Method 8260. Volatiles Short List	R29801		8/15/2008
0808213-05A	OW-22+00	8/12/2008 9:20:00 AIM		EPA Method 8015B: Diesel Range	19191	8/13/2008	8/15/2008
				EPA Method 8015B: Gasoline Range	R29896		8/22/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008

8/15/2008

R29801

EPA Method 8260: Volatiles Short List

Page 1 of 2

Hall Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Inc.

0808213

Lab Order: Client:

DATES REPORT

04-Sep-08

Sample ID         Client Sample ID           0808213-06A         OW-23+10           0808213-07A         OW-23+90           0808213-08A         OW-25+70	ple ID	Collection Date 8/12/2008 8:55:00 AM	Matrix Aqueous	Test Name	QC Batch ID 16767	Prep Date . 8/13/2008	Analysis Date
·		/2008 8:55:00 AM	Aqueous		16767	8/13/2008	
•				EPA Method 8015B: Diesel Range			8/15/2008
·				EPA Method 8015B: Gasoline Range	R29896		8/23/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008
				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
		8/12/2008 8:40:00 AM		EPA Method 8015B: Diesel Range	16767	8/13/2008	8/15/2008
			·	EPA Method 8015B: Gasoline Range	R29896		8/23/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008
		8/12/2008 8:30:00 AM		EPA Method 8015B: Diesel Range	. 16767	8/13/2008	8/15/2008
				EPA Method 8015B: Gasoline Range	R29896		8/23/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008
0808213-09A OW-1+50	8/12/	8/12/2008 10:15:00 AM		EPA Method 8015B: Diesel Range	16767	8/13/2008	8/15/2008
				EPA Method 8015B: Gasoline Range	R29896		8/23/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008
				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
0808213-10A CW-25+95	8/12	8/12/2008 8:15:00 AM		EPA Method 8015B: Diesel Range	16767	8/13/2008	8/15/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008
				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
0808213-11A CW-0+60	8/12/	8/12/2008 10:45:00 AM	,	EPA Method 8015B: Diesel Range	16767	8/13/2008	8/15/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008
				EPA Method 8260: Volatiles Short List	R29801		8/15/2008
0808213-12A Field Blank		8/12/2008 10:40:00 AM		EPA Method 8260: Volatiles Short List	R29776		8/14/2008
0808213-13A Trip Blank			Trip Blank	EPA Method 8015B. Gasoline Range	R29896		8/23/2008
				EPA Method 8260: Volatiles Short List	R29776		8/14/2008

**Date:** 04-Sep-08

# **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

Project:

Observation Wells Semi-Annual Aug 2008

Work Order:

0808213

Analyte	Result	Units	PQL	%Rec	LowLimit H	HighLimit	%RPD	RPD	Limit Qual
Method: EPA Method 8015B: D	iesel Range								
Sample ID: MB-16767		MBLK			Batch ID	16767	Analysis Da	te:	8/15/2008 2:04:22 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Surr: DNOP	1.081	mg/L	0	108	58	140			
Sample ID: LCS-16767		LCS			Batch ID	16767	Analysis Da	te:	8/15/2008 2:38:27 PM
Diesel Range Organics (DRO)	4.676	mg/L	1.0	93.5	74	157			
Surr: DNOP	0.4651	mg/L	0	93.0	58	140			
Sample ID: LCSD-16767		LCSD			Batch ID	16767	Analysis Da	te:	8/15/2008 3:12:48 PM
Diesel Range Organics (DRO)	4.837	mg/L	1.0	96.7	74	157	3.38	23	
Surr: DNOP	0.5492	mg/L	0	110	58	140	0	0	
Method: EPA Method 8015B: G	asoline Ran	ne							
Sample ID: 0808213-05A-MSD		MSD	٠		Batch ID	: R29896	Analysis Da	te:	8/23/2008 5:53:45 AM
Gasoline Range Organics (GRO)	0.4608	mg/L	0.050	92.2	80	115	0.735	8.39	a
Surr: BFB	17.89	mg/L	0	89.4	79.2	121	0.700	0.00	•
Sample ID: 5ML RB		MBLK			Batch ID		Analysis Da	te:	8/22/2008 1:10:43 PN
Gasoline Range Organics (GRO)	ND	mg/L	0.050				, <b>,</b> .		
Surr: BFB 4	17.46	mg/L	0.000	87.3	79.2	121			
Sample ID: 5ML RB	17.10	MBLK	v	٠,٠.٥	Batch ID		Analysis Da	te:	8/22/2008 1:10:43 PN
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Surr: BFB	17.46	mg/L	0.050	87.3	79.2	121			
sample ID: 2.5UG LCS-GRO	***	LCS	Ü	07.0	Batch ID		Analysis Dat	e.	8/23/2008 2:34:11 PN
Gasoline Range Organics (GRO)	0.4270	mg/L	0.050	85.4	80	115	,a., 5.00 = a.		0,20,2000 2.0 1. 1 1 1 1
Surr: BFB	15.78	mg/L	0.030	78.9	79.2	121			S
Sample ID: 0808213-05A-MS	15.70	MS	U	70.5	Batch ID		Analysis Dat	ъ.	8/23/2008 5:23:20 AN
•	0.4040		0.050	00.0			, araiyala Dal	.c.	5/20/2000 5.25.20 AN
Gasoline Range Organics (GRO)	0.4642	mg/L	0.050	92.8	80	115			
Surr: BFB	16.18	mg/L	0	80.9	79.2	121			

Dualifi	arc.	

Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

Date: 04-Sep-08

# **QA/QC SUMMARY REPORT**

Client:

Western Refining Southwest, Inc.

Project:

Observation Wells Semi-Annual Aug 2008

Work Order:

0808213

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260: Vo	olatiles Short	List							
Sample ID: 0808213-08a MSD		. MSD			Batch	ID: <b>R29776</b>	Analysis D	ate: 8/14/	2008 7:16:14 PM
Benzene	21.16	μg/L	1.0	106	72.4	126	0.838	20	-
l'oluene	20.30	μg/L	1.0	101	79.2	115	1.00	20	
Surr: 1,2-Dichloroethane-d4	9.640	μg/L	0	96.4	59.3	133	0	0	
Surr: 4-Bromofluorobenzene	10.17	µg/L	0	102	80.4	119	0	0	
Surr: Dibromofluoromethane	9.850	μg/L	0	98.5	59.5	134	0	<b>o</b> .	
Surr: Toluene-d8	9.768	μg/L	0	97.7	53.5	136	0	0	
Sample ID: 5ml rb		MBLK			Batch	ID: <b>R29776</b>	Analysis D	ate: 8/14/2	008 12:18:31 PM
Benzene	ND	μg/L	1.0						
Foluene	ND	μg/L	1.0						
Ethylbenzene	ND	μg/L	1.0						:
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0						
(ylenes, Total	ND	μg/L	2.0			•			
Surr: 1,2-Dichloroethane-d4	9.492	µg/L	0	94.9	59.3	133			
Surr: 4-Bromofluorobenzene	10.06	μg/L	. 0	101	80.4	119			
Surr: Dibromofluoromethane	9.598	μg/L	0	96.0	59.5	134			
Surr: Toluene-d8	9.988	μg/L	0	99.9	53.5	136			
sample ID: 5ml rb		MBLK			Batch	ID: <b>R29801</b>	Analysis D	ate: 8/15/	2008 8:22:02 AN
Benzene ,	ND	μg/L	1.0						
oluene	ND	μg/L	1.0						
thylbenzene	ND	μg/L	1.0						4
Methyl tert-butyl ether (MTBE)	ND	μg/L	1.0						
ylenes, Total	ND	μg/L	2.0						
Surr: 1,2-Dichloroethane-d4	9.432	μg/L	0	. 94.3	59.3	133			
Surr: 4-Bromofluorobenzene	9.996	μg/L	0	100	80.4	119			
Surr: Dibromofluoromethane	9.336	μg/L	0	93.4	59.5	134			
Surr: Toluene-d8	9.734	μg/L	0	97.3	53.5	136			
iample ID: 100ng Ics		LCS			Batch	ID: <b>R29776</b>	Analysis D	ate: 8/14/	2008 1:45:09 PM
Benzene	20.03	μg/L	1.0	100	86.8	120			
oluene	19.37	μg/L	1.0	96.8	64.1	127			
Surr: 1,2-Dichloroethane-d4	9.500	μg/L	0	95.0	59.3	133			
Surr: 4-Bromofluorobenzene	10.32	μg/L	0	103	80.4	119			
Surr: Dibromofluoromethane	9.748	µg/L	0	97.5	59.5	134			
Surr: Toluene-d8	9.790	μg/L	0	97.9	53.5	136			
Sample ID: 100ng lcs		LCS			Batch	ID: <b>R29801</b>	Analysis D	ate: 8/15/	2008 9:19:29 AN
Benzene	20.35	μg/L	1.0	102	86.8	120			
foluene	19.16	μg/L	1.0	95.8	64.1	127		•	
Surr: 1,2-Dichloroethane-d4	9.440	μg/L	0	94.4	59.3	133			
Surr: 4-Bromofluorobenzene	10.04	μg/L	0	100	80.4	119	÷		
Surr: Dibromofluoromethane	9.622	µg/L	0	96.2	59.5	134			
Surr: Toluene-d8	9.676	µg/L	0	96.8	53.5	136			
Sample ID: 0808213-08a MS		MS	•		Batch		Analysis D	ate: 8/14/	2008 6:47:32 PN
Benzene	21.34	μg/L	1.0	107	72.4	126	,		
Senzene Foluene	20.09		1.0	107	79.2	115			
1 Oluene	20.03	µg/L	1.0	100	13.2	110			

Qualifiers:

R

Value above quantitation range

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Page 2

**Date:** 04-Sep-08

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

Observation Wells Semi-Annual Aug 2008

Work Order:

0808213

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RPI	DLimit Qual
Method: EPA Method 8260: Vo Sample ID: 0808213-08a MS	olatiles Short	t List MS			Batch II	D: <b>R29776</b>	Analysis Date:	8/14/2008 6:47:32 PM
Surr: 1,2-Dichloroethane-d4	9.700	μg/L	0	97.0	59.3	133		
Surr: 4-Bromofluorobenzene	9.886	μg/L	0	98.9	80.4	119		
Surr: Dibromofluoromethane	9.902	μg/L	0	99.0	59.5	134		
Surr: Toluene-d8	9.690	μg/L	0	96.9	53.5	136		

Qualifiers:

Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 3

### Sample Receipt Checklist

Client Name WESTERN REFINING SOUT			,	Date Recei	ived:	8/13/2008	
Work Order Number 0808213				Received	by: ARS Diabels checked i	ov. Al	
Checklist completed by:	h		Dat	113/08	_	Initials	
Matrix:	Carrier name	UPS				·	
Shipping container/cooler in good condition?		Yes	<b>✓</b>	No 🗌	Not Present		
Custody seals intact on shipping container/coole	er?	Yes	<b>Y</b>	No 🗌	Not Present	☐ Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗆	N/A	<b>✓</b>	
Chain of custody present?		Yes	<b>V</b>	No 🗆	•		
Chain of custody signed when relinquished and	received?	Yes	<b>✓</b>	No 🗌			*
Chain of custody agrees with sample labels?		Yes	V	No 🗀			
Samples in proper container/bottle?		Yes	V	No 🗌			
Sample containers intact?		Yes	<b>Y</b>	No 🗆			
Sufficient sample volume for indicated test?		Yes	V	No 🗔			
All samples received within holding time?		Yes	<b>✓</b>	No 🗌			
Water - VOA vials have zero headspace?	No VOA vials subr	nitted		Yes 🗸	No 🗆		
Water - Preservation labels on bottle and cap m	atch?	Yes		No 🗌	N/A 🗹		
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A		
Container/Temp Blank temperature?			2°	<6° C Accept	table		
COMMENTS:				If given suffici	ent time to cool.		
•							
		==					
Client contacted	Date contacted:			P	erson contacted		
Contacted by:	Regarding:						
Comments:							
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Corrective Action	-						<del></del>
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	ABORATORY	E	A 87109	4107						imə2) 07S8												-		
	ENVIR Ysis L	eut	- Albuquerque, NM 87109	5 Fax 505-345-4107	Analysis, Request 🛸 🌲			H) NO <sub>2</sub> ,	or PAI ,EON,I	AVI) 0158 O, I) anoinA oite9	1	×	<u>≺</u>	×		У.	X	X	.×	×				
		www.ha	4901 Hawkins NE	Tel. 505-345-3975		ujλ)	(Gas or	H9T 5) 85 (1.)	PE + .	STEX + MT TPH Method TPH (Meth	- - - ->	X	メ	メ		メ	メ	7	メ	×		Remarks:		
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Chain-of-Custody Record	Client: Western Refining (Blanfld)	<i>}</i>	CR 4990	Bloomfield, NM 874/3	Phone #: 505-633-4/6/	email or Fax#: 505-632-39//	Prevel 4 (Full Validation)			Sample Request ID	09+0-MD	0w-3-485	02)+2/-WD	and 02+21-00	2 05+ Pl WO	00+cc-mU		0w-23+90	OW 25+70	0W 1+50		Relinquished by: 1/1/	( weby Hunted o	Relinquished by
hain-of-(	Deflern!	-1	Address: $#50$ (	on Geld	# 505-1	r Fax#: 505	QA/QC Package:	<u>_</u>	(Type)	Time	3 1030A	955A	935A	940A		920A	855.4	8404	824	10154		Time:	23 pm	
َ ت	Client:		Addres	Bic	Phone #	email or	QA/QC Packa □ Standard	□ Other	□ EDD (Type)	Date	345-08	_								-	-	Date:	3-12-08	Date:

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		7000	Semi ANNual Aug					<i>158</i> 4	⊡ No	HEAL NO.	-16		-12	<u>(3</u>						9.55 8/13/0V		This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
Time:	□ Rush	ö	muluells			ıger:		I would	Zi Yes $\ell \ell_{-}$ l þerature: $- \int_{-}$	Preservative Type	<i> </i>	Hc/	HCL						_	Received by:	Reckived by:	ccredited laboratories
Turn-Around Time:	Z Standard	Project Name	Collect	Project #:		Project Manager:		Sampler:	On Ice: Sample Temp	Container Type and #	6- VOA	401-9	3-VOA									contracted to other a
Chain-of-Custody Record	Clienti Western Refining (Blufld)		CR 4990	1. UM 874/3	-632-4/6/	-632-3911	Z Level 4 (Full Validation)			Sample Request ID	CW. 25+95	Ch 0+60	Field Blank	Γ∖ີ						Refinquished by:	Relinquished by	If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories.
ain-of-	25km		Address: # 50	mfield	BS	email or Fax#: 525	ıckage: ırd		Туре)	Time	815A	bysa	1040A	Ŧ	10(2)(5					Time:	Time:	assary, samples
<u>ჯ</u>	Client		Address	Bloom	Phone #:	email or !	QA/QC Package: □ Standard	□ Other	□ EDD (Type)	Date	812.08	_	_			ļ				Date:	Date:	If ne



### **COVER LETTER**

Monday, April 21, 2008

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: Outfalls April 2008

Dear Cindy Hurtado:

Order No.: 0804183

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 4/16/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



Date: 21-Apr-08

**CLIENT:** 

San Juan Refining

Project:

Outfalls April 2008

Lab Order:

0804183

Lab ID: Client Sample ID: Outfall #1

0804183-01

Collection Date: 4/15/2008 10:20:00 AM

Matrix: AQUEOUS

Analyses		Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES				<del>-</del>		Analyst: NSB
Benzene		ND	1.0	µg/L	1	4/19/2008 11:54:13 AM
Toluene		ND	1.0	μg/L	1	4/19/2008 11:54:13 AM
Ethylbenzene		ND	1.0	μg/L	1	4/19/2008 11:54:13 AM
Xylenes, Total	محر	ND	2.0	μg/L	1	4/19/2008 11:54:13 AM
Surr: 4-Bromofluorobenzene		88.2	68.9-122	%REC	1	4/19/2008 11:54:13 AM

Lab ID:

Client Sample ID: Outfall #6

Client Sample ID: Outfall #7

Client Sample ID: Outfall #9

0804183-02

Collection Date: 4/15/2008 10:15:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES				•	Analyst: NSB
Benzene	ND	1.0	µg/L	1	4/19/2008 12:54:13 PM
Toluene	ND ·	1.0	μg/L	1	4/19/2008 12:54:13 PM
Ethylbenzene	ND	1.0	μg/L	· 1 ·	4/19/2008 12:54:13 PM
Xylenes, Total	. ND	2.0	μg/L	.1	4/19/2008 12:54:13 PM
Surr: 4-Bromofluorobenzene	85.3	68.9-122	%REC	1	4/19/2008 12:54:13 PM

Lab-ID:

0804183-03

Collection Date: 4/15/2008 10:10:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units .	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: <b>NSB</b>
Benzene	ND	1.0	μg/L	1	4/19/2008 1:24:23 PM
Toluene	ND	1.0	μg/L	1	4/19/2008 1:24:23 PM
Ethylbenzene	3.8	1.0	µg/L	1	4/19/2008 1:24:23 PM
Xylenes, Total	4.2	2.0	μg/L	1	4/19/2008 1:24:23 PM
Surr: 4-Bromofluorobenzene	87.9	68.9-122	%REC	1	4/19/2008 1:24:23 PM

Lab ID:

0804183-04

Collection Date: 4/15/2008 10:30:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	1.0	μg/L	1	4/19/2008 2:24:42 PM
Toluene	. ND	1.0	μg/L	1	4/19/2008 2:24:42 PM
Ethylbenzene	ND	1.0	μg/L	1	4/19/2008 2:24:42 PM
Xylenes, Total	ND .	2.0	μg/L	1	4/19/2008 2:24:42 PM
Surr: 4-Bromofluorobenzene	89.3	68.9-122	%REC	1	4/19/2008 2:24:42 PM

- Value exceeds Maximum Contaminant Level
- Ε. Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

**Date:** 21-Apr-08

# QA/QC SUMMARY REPORT

Client:

San Juan Refining

Project:

Outfalls April 2008

Work Order:

0804183

Analyte	Result	Units	PQL	%Rec	LowLimit F	lighLimit	%RPD RPI	DLimit Qual
Method: EPA Method 8021B:	Volatiles							
Sample ID: 5ML RB		MBLK			Batch ID	R28165	Analysis Date:	4/18/2008 8:42:39 AM
Benzene	ND	μg/L	1.0		•			
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	2.0					
Sample ID: 100NG BTEX LCS		LCS			Batch ID	R28165	Analysis Date:	4/18/2008 3:51:21 PM
Benzene	20.58	μg/L	1.0	103	85.9	113		
Toluene	20.34	μg/L	1.0	102	86.4	113		
Ethylbenzene	20.42	µg/L	1.0	102	83.5	118		
Xylenes, Total	61.03	µg/L	2.0	102	83.4	122		



E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

## Sample Receipt Checklist

Client Name SJR		Date Receive	d:	4/16/2008	
Work Order Number 0804183		Received by	: ARS		
		Sample ID la	abels checked by:		
Checklist completed by: Once signature	4-14-			Initials .	
Matrix: Carrier name	<u>UPS</u>				
Shipping container/cooler in good condition?	Yes 🗹	No 🗆	Not Present		
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?	Yes $\square$	No 🗌	N/A ✓		
Chain of custody present?	Yes 🗹	No 🗌			
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗌			
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌			
Samples in proper container/bottle?	Yes 🗹	No 🗌			
Sample containers intact?	Yes 🗹	No 🗌			
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌			
All samples received within holding time?	Yes 🗹	No 🗔			
Water - VOA vials have zero headspace? No VOA vials subi	mitted	Yes 🗹	No 🗆		
Water - Preservation labels on bottle and cap match?	Yes 🗌	No 🗹	N/A		
Water - pH acceptable upon receipt?	Yes 🗌	No 🗌	N/A		
Container/Temp Blank temperature?	2°	<6° C Acceptal		•	
COMMENTS		If given sufficier	it time to cool.		. *
			•		
	•				
Client contacted Date contacted:		Per	son contacted		
Contacted by: Regarding:					
Comments:					\$ 1.00 m
	-				
					· · · · · · · · · · · · · · · · · · ·
			<u> </u>		,
Corrective Action			-		

•	ENVIRONMENTAL	LABORATORY	ital.com	Albuquerque, NM 87109	505-345-4107	lysis Request					AOV	-im	V) 808 9S) 07	728											ed on the analytical report.
	HALL ENVI	· ·	www.hallenvironmental.com	4901 Hawkins NE - Albuquerq	505-345-3975 Fax 50	🔆 🛬 Ana	(40	S' <sup>†</sup> O	d' <sup>2</sup>	(1:1) (0) (H)	314 b 202 b 928 b A9 10	tho tho tho tho tho tho	H (Methor) H (Me (Methor) G (Me (PN (PN (Pn (Pn (Pn (Pn (Pn (Pn (Pn (Pn (Pn (Pn	TPI ED 831											sub-contracted data will be clearly nota
	14 ( )			4901	Tel.		(λju	198 C	9) F	Н	+ 38	ΤN	+ X3	178	×	X	×	  X					Remarks:		ssibility. Any s
	<u> </u>			2008						- 13	No 		HEAL No.	OBO4183		2	3	+					10.15 4/16/03	<u>.</u>	s. This serves as notice of this pos
Timo	<u>.</u>	□ Rush		MPri			ger:		1	Kakow	lD∕Yes perature: 分・		Preservative Type	-	ACC						,		seined by:	Received by:	edited laboratorie
T Calloy Can't		□ Standard	Project Name:	[ (), Halls	Project #:		Project Manage		•	Sampler: <b>bb/b</b>	On Ice:		Container F		2-VOA		/						Œ.	<u> </u>	contracted to other accr
	Chail - or-Custody Record	Clienting TUAN REFINING	- Western Refining)	CR 4990	3	632-4161	email or Fa <i>x#: らつ5</i>		□ Level 4 (Full Validation)				Sample Request ID		0utfall #1	outfall #6	out fall #7	Key				V	Relinquished by:	Relinquished by:	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.
	al) , -01-(	JUAR D	Cwest	17	Blooms	505-	ax#: 505	ckage:	ırd		Гуре)		Time		1020A	1015A	10101	10301					Time: 108 pm		essary, samples
	5	Client:		Address:	7	Phone #:	email or F	QA/QC Package:	Standard	_ Other	☐ EDD (Type)		Date		4-15-00	/		/					90		If nec



### COVER LETTER

Wednesday, September 03, 2008

Cindy Hurtado Western Refining Southwest, Inc. #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: San Juan River Bluff Seeps Semi-Annual

Aug 2008

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory, Inc. received 5 sample(s) on 8/13/2008 for the analyses presented in the following report.

Order No.: 0808219

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



Date: 03-Sep-08

Work Order Sample Summary

CLIENT:

Lab Order:

Western Refining Southwest, Inc.

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

0808219

Lab Sample ID	Client Sample ID	Batch ID	Test Name	Collection Date
•	•	R29757	EPA Method 8260: Volatiles Short List	8/12/2008 2:00:00 PM
0808219-01A	Seep #1		•	8/12/2008 2:00:00 PM 8/12/2008 2:00:00 PM
0808219-01B	Seep #1	16775	EPA Method 8270C: Semivolatiles	8/12/2008 2:00:00 PM 8/12/2008 2:00:00 PM
0808219-01B	Seep #1	16818	EPA Method 8270C: Semivolatiles	8/12/2008 2:00:00 PM 8/12/2008 2:00:00 PM
0808219-01C	Seep #1	R29778	EPA Method 300.0: Anions	· ·
0808219-01C	Seep #1	R29778	EPA Method 300.0: Anions	8/12/2008 2:00:00 PM
0808219-01C	Seep #1	R29839	SM 2320B: Alkalinity	8/12/2008 2:00:00 PM
0808219-01C	Seep #1	R29846	Carbon Dioxide	8/12/2008 2:00:00 PM
0808219-01C	Seep #1	R30012	EPA Method 300.0: Anions	8/12/2008 2:00:00 PM
0808219-02A	Seep #3	R29757	EPA Method 8260: Volatiles Short List	8/12/2008 2:10:00 PM
0808219-02B	Seep #3	16775	EPA Method 8270C: Semivolatiles	8/12/2008 2:10:00 PM
0808219-02C	Seep #3	R30012	EPA Method 300.0: Anions	8/12/2008 2:10:00 PM
0808219-02C	Seep #3	R29778	EPA Method 300.0: Anions	8/12/2008 2:10:00 PM
0808219-02C	Seep #3	R29778	EPA Method 300.0: Anions	8/12/2008 2:10:00 PM
0808219-02C	Seep #3	R29839	SM 2320B: Alkalinity	8/12/2008 2:10:00 PM
0808219-02C	Seep #3	R29846	Carbon Dioxide	8/12/2008 2:10:00 PM
0808219-03A	Seep #6	R29757	EPA Method 8260: Volatiles Short List	8/12/2008 1:00:00 PM
0808219-03B	Seep #6	16775	EPA Method 8270C: Semivolatiles	8/12/2008 1:00:00 PM
0808219-03C	Seep #6	R29778	EPA Method 300.0: Anions	8/12/2008 1:00:00 PM
0808219-03C	Seep #6	R29778	EPA Method 300.0: Anions	8/12/2008 1:00:00 PM
0808219-03C	Seep #6	R29839	SM 2320B: Alkalinity	8/12/2008 1:00:00 PM
0808219-03C	Seep #6	R29846	Carbon Dioxide	8/12/2008 1:00:00 PM
0808219-03C	Seep #6	R30012	EPA Method 300.0: Anions	8/12/2008 1:00:00 PM
0808219-04A	Seep #6 Dup	R29757	EPA Method 8260: Volatiles Short List	8/12/2008 1:05:00 PM
0808219-04B	Seep #6 Dup	16775	EPA Method 8270C: Semivolatiles	8/12/2008 1:05:00 PM
0808219-04B	Seep #6 Dup	16818	EPA Method 8270C: Semivolatiles	8/12/2008 1:05:00 PM
0808219-04C	Seep #6 Dup	R29778	EPA Method 300.0: Anions	8/12/2008 1:05:00 PM
0808219-04C	Seep #6 Dup	R29778	EPA Method 300.0: Anions	8/12/2008 1:05:00 PM
0808219-04C	Seep #6 Dup	R29839	SM 2320B: Alkalinity	8/12/2008 1:05:00 PM
0808219-04C	Seep #6 Dup	R29846	Carbon Dioxide	8/12/2008 1:05:00 PM
0808219-04C	Seep #6 Dup	R30012	EPA Method 300.0: Anions	8/12/2008 1:05:00 PM
0808219-05A	Trip Blan	R29757	EPA Method 8260: Volatiles Short List	



CLIENT:

Western Refining Southwest, Inc.

Project:

San Juan River Bluff Seeps Semi-Annual Aug 20

Lab Order:

0808219

CASE NARRATIVE

**METHOD: 300.0** 

HOLDING TIMES: All holding times for Preparation and Analysis were met.

METHOD: Preparations: none

Analysis: 300.0

PREPARATION: Sample preparation proceeded normally.

### ANALYSIS:

1. Calibration: All acceptance criteria were met.

2. Blanks: All acceptance criteria were met.

4. Duplicates: All acceptance criteria were met.

5. Spikes: Sample Seep #6 Dup MS/MSD failed for o-PO4 due to high concentrations of sulfate and chloride in the parent sample.

6. Samples: All acceptance criteria were met.

No Notes for other methods indicate that all QC were within acceptable parameters.

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Seep #1

Lab Order:

0808219

Collection Date: 8/12/2008 2:00:00 PM

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Date Received: 8/13/2008

Lab ID:

0808219-01

Matrix: AQUEOUS

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS		,			Analyst: SLB
Fluoride	0.35	0.10	mg/L	, 1	8/13/2008 10:25:31 PM
Chloride	370	1.0	mg/L	10	8/13/2008 10:42:55 PM
Nitrogen, Nitrite (As N)	ND	1.0	mg/L	10	8/13/2008 10:42:55 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/13/2008 10:25:31 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/13/2008 10:25:31 PM
Sulfate	1500	25	mg/L	50	8/28/2008 3:00:38 PM
EPA METHOD 8270C: SEMIVOLATILE	S				Analyst: JDC
Acenaphthene	ND	10	μg/L	1	8/20/2008
Acenaphthylene	ND	10	μg/L	1	8/20/2008
Aniline	ND	10	μg/L	1	8/20/2008
Anthracene	ND	10	µg/L	1	8/20/2008
Azobenzene	ND	10	μg/L	1	8/20/2008
Benz(a)anthracene	ND	10	μg/L	1	8/20/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/20/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/20/2008
Benzo(g,h,i)perylene	ND	10	µg/L	1	8/20/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/20/2008
Benzoic acid	ND	20	μg/L	1	8/20/2008
Benzyl alcohol	ND	10	μg/L	1	8/20/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1	8/20/2008
Bis(2-chloroethyl)ether	ND	10	µg/L	1	8/20/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/20/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/20/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/20/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/20/2008
Carbazole	ND	10	·µg/L	1	8/20/2008
4-Chloro-3-methylphenol	ND	10	µg/L	1	8/20/2008
4-Chloroaniline	ND	10	µg/L	1	8/20/2008
2-Chloronaphthalene	ND	10	µg/L	1	8/20/2008
2-Chlorophenol	ND	10	μg/L	1	8/20/2008
4-Chlorophenyl phenyl ether	ND .	10	μg/L	1	8/20/2008
Chrysene	ND	10	μg/L	. 1	8/20/2008
Di-n-butyl phthalate	ND	10	μg/L	1	8/20/2008
Di-n-octyl phthalate	ND	.10	μg/L	1	8/20/2008
Dibenz(a,h)anthracene	ND	10	μg/L	1	8/20/2008
Dibenzofuran	ND	10	μg/L	1	8/20/2008
1,2-Dichlorobenzene	ND	10	μg/L	1	8/20/2008
1,3-Dichlorobenzene	ND	. 10	μg/L	. 1	8/20/2008
1,4-Dichlorobenzene	ND	10	μg/L	1	8/20/2008
3,3'-Dichtorobenzidine	ND	10	μg/L	1 -	8/20/2008
Diethyl phthalate	ND	. 10	μg/L	1	8/20/2008

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 13

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Seep #1

Lab Order:

0808219

Collection Date: 8/12/2008 2:00:00 PM

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Date Received: 8/13/2008

Lab ID:

0808219-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLA	TILES				Analyst: JDC
Dimethyl phthalate	ND	10	μg/L	1	8/20/2008
2,4-Dichlorophenol	ND	20	μg/L.	. 1	8/20/2008
2,4-Dimethylphenol	ND	10	μg/L	1	8/20/2008
4,6-Dinitro-2-methylphenol	ND	20	µg/L	1	8/20/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/20/2008
2,4-Dinitrotoluene	ND	10	μg/L	1	8/20/2008
2,6-Dinitrotoluene	ND	10	μg/L	1	8/20/2008
Fluoranthene	ND	10	μg/L	1	8/20/2008
Fluorene	ND	10	μg/L	1	8/20/2008
Hexachlorobenzene	ND	· 10	µg/L	1	8/20/2008
Hexachlorobutadiene	ND	· 10	μg/L	1	8/20/2008
Hexachlorocyclopentadiene	ND	10	µg/L	1	8/20/2008
Hexachloroethane	ND	10	μg/L	1	8/20/2008
Indeno(1,2,3-cd)pyrene	ND	10	μg/L	1	8/20/2008
Isophorone	ND	10	µg/L	1	8/20/2008
2-Methylnaphthalene	ND	10	µg/L	1	8/20/2008
2-Methylphenol	ND	10	μg/L	1	8/20/2008
3+4-Methylphenol	ND	10	μg/L	1	8/20/2008
N-Nitrosodi-n-propylamine	ND	10	μg/L	1	8/20/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/20/2008
N-Nitrosodiphenylamine	ND	10	μg/L	1	8/20/2008
Naphthalene	ND	10	μg/L	1	8/20/2008
2-Nitroaniline	ND	10	μg/L	1	8/20/2008
3-Nitroaniline	ND	10	µg/L	. 1	8/20/2008
4-Nitroanlline	ND	10	µg/L	1	8/20/2008
Nitrobenzene	ND	10	µg/L	1	8/20/2008
2-Nitrophenol	ND	10	μg/L	1	8/20/2008
4-Nitrophenol	ND	10	µg/L	1	8/20/2008
Pentachlorophenol	ND	40	µg/L	. 1	8/20/2008
Phenanthrene	ND	10	µg/L	1	8/20/2008
Phenol	ND	10	μg/L	1	8/20/2008
Pyrene	ND	10	µg/L	1	8/20/2008
Pyridine	ND	10	µg/L	1	8/20/2008
1,2,4-Trichlorobenzene	ND	10	µg/L	1	8/20/2008
2,4,5-Trichlorophenol	ND	10	µg/L	. 1	8/20/2008
2,4,6-Trichlorophenol	ND	10	μg/L	1	8/20/2008
Surr: 2,4,6-Tribromophenol	17.0	16.6-150	%REC	, 1	8/20/2008
Surr: 2-Fluorobiphenyl	83.9	19.6-134	%REC	1	8/20/2008
Surr: 2-Fluorophenol	16.2	9.54-113	%REC	1	8/20/2008
Surr: 4-Terphenyl-d14	59.3	22.7-145	%REC	1	8/20/2008
Surr: Nitrobenzene-d5	79.7	14.6-134	%REC	1	8/20/2008
Surr: Phenol-d5	22.0	10.7-80.3	%REC	1	8/20/2008

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Reporting Limit

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Seep #1

Lab Order:

0808219

Collection Date: 8/12/2008 2:00:00 PM

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Date Received: 8/13/2008

Lab ID:

0808219-01

Matrix: AQUEOUS

Analyses	Result	PQL Qua	al Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILE	S				Analyst: JDC
EPA METHOD 8260: VOLATILES SHO	RT LIST				Analyst: HL
Benzene	ND	1.0	μg/L	1	8/14/2008 5:03:09 AM
Toluene	ND	1.0	µg/L	1	8/14/2008 5:03:09 AM
Ethylbenzene	ND ·	1.0	μg/L	1	8/14/2008 5:03:09 AM
Methyl tert-butyl ether (MTBE)	42	1.5	μg/L	1	8/14/2008 5:03:09 AM
Xylenes, Total	ND	3.0	μg/L	1	8/14/2008 5:03:09 AM
Surr: 4-Bromofluorobenzene	98.4	80.4-119	%REC	1	8/14/2008 5:03:09 AM
SM 2320B: ALKALINITY					Analyst: TAF
Alkalinity, Total (As CaCO3)	<b>250</b> .	20	mg/L CaCO3	1	8/19/2008
Carbonate	ND	2.0	mg/L CaCO3	1	8/19/2008
Bicarbonate	250	20	mg/L CaCO3	1	8/19/2008
TOTAL CARBON DIOXIDE CALCULAT	ION		:		Analyst: TAF
Total'Carbon Dioxide	230	1.0	mg CO2/L	1	8/20/2008

Qua	lifi	ers:
-----	------	------

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 3 of 13

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Seep #3

Lab Order:

0808219

Collection Date: 8/12/2008 2:10:00 PM

Project:

Date Received: 8/13/2008

San Juan River Bluff Seeps Semi-Annual Aug 2

Lab ID:

0808219-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS		····			Analyst: SLE
Fluoride	0.80	0.10	`mg/Ļ	1	8/13/2008 11:00:20 PN
Chloride	370	1.0	mg/L	10	8/13/2008 11:17:45 PM
Nitrogen, Nitrite (As N)	ND	1.0	mg/L	10	8/13/2008 11:17:45 PM
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/13/2008 11:00:20 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/13/2008 11:00:20 PN
Sulfate	2500	25	mg/L	50	8/28/2008 3:18:03 PM
EPA METHOD 8270C: SEMIVOLATILE	ES				Analyst: JD0
Acenaphthene	ND	10	μg/L	1	8/18/2008
Acenaphthylene	ND	10	μg/L	1	8/18/2008
Aniline	ND	10	μg/L	1	8/18/2008
Anthracene	ND	10	μg/L	1	8/18/2008
Azobenzene	ND	10	μg/L	1,	8/18/2008
Benz(a)anthracene	ND	10	μg/L	1	8/18/2008
Benzo(a)pyrene	ND	10	μg/L	. 1	8/18/2008
Benzo(b)fluoranthene	ND	10	μg/L	1	8/18/2008
Benzo(g,h,i)perylene	ND	10	μg/L	1	8/18/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/18/2008
Benzolc acid	ND	80	μg/L	1	8/18/2008
Benzyl alcohol	ND	10	µg/L	1	8/18/2008
Bis(2-chloroethoxy)methane	ND	10	µg/L	1	8/18/2008
Bis(2-chloroethyl)ether	ND	10	μg/L	1	8/18/2008
Bis(2-chloroisopropyl)ether	ND	10	μg/L	1	8/18/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/18/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	1	8/18/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/18/2008
Carbazole	ND	10	μg/L	1	8/18/2008
4-Chloro-3-methylphenol	ND	10	μg/L	1	8/18/2008
4-Chloroaniline	ND*	10	μg/L	1	8/18/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/18/2008
2-Chlorophenol	ND	10	μg/L	1	8/18/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1.	8/18/2008
Chrysene	ND	10	μg/L	1	8/18/2008
Di-n-butyl phthalate	ИD	10	µg/L	1	8/18/2008
Di-n-octyl phthalate	ND	10	μg/L	1	8/18/2008
Dibenz(a,h)anthracene	ND	10	µg/L	1	8/18/2008
Dibenzofuran	ND	10	μg/L	1	8/18/2008
1,2-Dichlorobenzene	ND	10	μg/L	1	8/18/2008
1,3-Dichlorobenzene	ND	10	μg/L	• 1	8/18/2008
1,4-Dichlorobenzene	ND	. 10	μg/L	1	8/18/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/18/2008
Diethyl phthalate	ND	10	μg/L	1	8/18/2008

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits J
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Seep #3

Lab Order:

0808219

Collection Date: 8/12/2008 2:10:00 PM

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Date Received: 8/13/2008

Lab ID:

0808219-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Un	its D	OF Date Analyzed
EPA METHOD 8270C: SEMIVOLAT	ILES		· · · · · · · · · · · · · · · · · · ·		Analyst: JE
Dimethyl phthalate	ND	10	µg/	L 1	
2,4-Dichlorophenol	ND	20	μg/		8/18/2008
2,4-Dimethylphenol	ND	10	μg/	L 1	8/18/2008
4,6-Dinitro-2-methylphenol	ND	20	μg/	L 1	8/18/2008
2,4-Dinitrophenol	ND	20	µg/	L 1	8/18/2008
2,4-Dinitrotoluene	ND	10	μ <b>g</b> /	L 1	8/18/2008
2,6-Dinitrotoluene	· ND	10	μg/	L 1	8/18/2008
Fluoranthene	ND	10	µg/	L 1	8/18/2008
Fluorene	ND	10	μg/	L 1	8/18/2008
Hexachlorobenzene	ND	. 10	μg/	L 1	8/18/2008
Hexachlorobutadiene	ND	10	μg/	L 1	8/18/2008
Hexachlorocyclopentadiene	ND	10	μg/	L 1	8/18/2008
Hexachloroethane	ND -	10	µg/	L 1	8/18/2008
Indeno(1,2,3-cd)pyrene	ND	. 10	μg/	L . 1	8/18/2008
Isophorone	· ND	10	μg/	L 1	8/18/2008
2-Methylnaphthalene	ND	10	μg/	L 1	8/18/2008
2-Methylphenol	ND	10	μg/	L 1	8/18/2008
3+4-Methylphenol	ND	. 10	μg/	և 1	8/18/2008
N-Nitrosodi-n-propylamine	ND	10	μg/	L . 1	8/18/2008
N-Nitrosodimethylamine	ND	10	μg/	L 1	8/18/2008
N-Nitrosodiphenylamine	ND	10	μg/	L 1	8/18/2008
Naphthalene	ND	10	μg/	L 1	8/18/2008
2-Nitroaniline	ND	10	μg/	L 1	8/18/2008
3-Nitroaniline	ND	10	μg/	L 1	8/18/2008
4-Nitroaniline	ND	10	μg/	L 1	8/18/2008
Nitrobenzene	ND	10	μg/	L 1	8/18/2008
2-Nitrophenol	ND	10	μg/	L 1	8/18/2008
4-Nitrophenol	NĎ	10	μg/	L 1	8/18/2008
Pentachlorophenol	ND	20	µg/	L 1	8/18/2008
Phenanthrene	ND	10	μg/	L 1	8/18/2008
Phenol	ND	10	µg/	L . 1	8/18/2008
Pyrene	ND	10	μg/	L 1	8/18/2008
Pyridine	ND	10	μg/		8/18/2008
1,2,4-Trichlorobenzene	ND	10	µg/		
2,4,5-Trichlorophenol	ND ND	10	μg/		** ** * * * *
2,4,6-Trichlorophenol	ND 1	10	μg/		
Surr: 2,4,6-Tribromophenol	72.7	16.6-150		REC 1	
Surr: 2-Fluorobiphenyl	73.8	19.6-134		REC 1	
Surr: 2-Fluorophenol	54.9	9.54-113		REC 1	f
Surr: 4-Terphenyl-d14	71.1	22.7-145		REC 1	
Surr: Nitrobenzene-d5	71.4	14.6-134		EC 1	8/18/2008
Surr: Phenol-d5	42.4	10.7-80.3	%R	REC 1	8/18/2008

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Seep #3

Lab Order:

0808219

Collection Date: 8/12/2008 2:10:00 PM

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Date Received: 8/13/2008

Lab ID:

0808219-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
EPA METHOD 8260: VOLATILES SHOR	T LIST					Analyst: HL
Benzene	ND	1.0		μg/L	1	8/14/2008 5:31:54 AM
Toluene	ND	1.0		μg/L	1	8/14/2008 5:31:54 AM
Ethylbenzene	ND	1.0		µg/L	1	8/14/2008 5:31:54 AM
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	-1	8/14/2008 5:31:54 AM
Xylenes, Total	ND	3.0		µg/L	1	8/14/2008 5:31:54 AM
Surr: 4-Bromofluorobenzene	100	80.4-119		%REC	1	8/14/2008 5:31:54 AM
SM 2320B: ALKALINITY						Analyst: TAF
Alkalinity, Total (As CaCO3)	160	20		mg/L CaCO3	1	8/19/2008
Carbonate	ND	2.0	•	mg/L CaCO3	1	8/19/2008
Bicarbonate	160	20		mg/L CaCO3	1	8/19/2008
TOTAL CARBON DIOXIDE CALCULATION	ON					Analyst: TAF
Total Carbon Dioxide	140	1.0		mg CO2/L	1	8/20/2008

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Seep #6

Lab Order:

0808219

Collection Date: 8/12/2008 1:00:00 PM

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Date Received: 8/13/2008

Lab ID:

0808219-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: SLE
Fluoride	0.47	0.10	mg/L	1	8/13/2008 11:35:10 PN
Chloride	2500	. 10	mg/L	100	8/28/2008 3:35:27 PM
Nitrogen, Nitrite (As N)	ND	1.0	mg/L	10	8/13/2008 11:52:35 PN
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	8/13/2008 11:35:10 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	mg/L	1	8/13/2008 11:35:10 PM
Sulfate	960	50	mg/L	100	8/28/2008 3:35:27 PM
PA METHOD 8270C: SEMIVOLATILE	S		:		Analyst: JD0
Acenaphthene	ND	10	μg/L	1	8/18/2008
Acenaphthylene	ND	10	μg/L	1	8/18/2008
Aniline	ND	10	μg/L	. 1	8/18/2008
Anthracene	ND	10	µg/L	1	8/18/2008
Azobenzene	ND	10	µg/L	1	8/18/2008
Benz(a)anthracene	ND	10	μg/L	1	8/18/2008
Benzo(a)pyrene	ND	10	μg/L	1	8/18/2008
Benzo(b)fluoranthene	ND	10	µg/L	1	8/18/2008
Benzo(g,h,i)perylene	ND	10	μg/Ľ	1	8/18/2008
Benzo(k)fluoranthene	ND	10	μg/L	1	8/18/2008
Benzolc acid	ND	80	μg/L	. 1	8/18/2008
Benzyl alcohol	ND	10	μg/L	1	8/18/2008
Bis(2-chloroethoxy)methane	ND	10	μg/L	1 `	8/18/2008
Bis(2-chloroethyl)ether	ND	10	µg/L	1 -	8/18/2008
Bis(2-chloroisopropyi)ether	ND	10	μg/L	1	8/18/2008
Bis(2-ethylhexyl)phthalate	ND	10	μg/L	1	8/18/2008
4-Bromophenyl phenyl ether	ND	10	μg/L	. 1	8/18/2008
Butyl benzyl phthalate	ND	10	μg/L	1	8/18/2008
Carbazole	ND	10	μg/L	1	8/18/2008
4-Chioro-3-methylphenol	ND	10	μg/L	1	8/18/2008
4-Chloroaniline	ND	. 10	μg/L	1	8/18/2008
2-Chloronaphthalene	ND	10	μg/L	1	8/18/2008
2-Chlorophenol	, ND	10	μg/L	· 1	8/18/2008
4-Chlorophenyl phenyl ether	ND	10	μg/L	1	8/18/2008
Chrysene	ND .	10	µg/L	1 .	8/18/2008
Di-n-butyl phthalate	ND	10	µg/L	1	8/18/2008
Di-n-octyl phthalate	ND	10	µg/L	1	8/18/2008
Dibenz(a,h)anthracene	. ND	10	μg/L	1	8/18/2008
Dibenzofuran	ND	.10	µg/L	1	8/18/2008
1,2-Dichlorobenzene	ND	10	µg/L	1	8/18/2008
1,3-Dichlorobenzene	ND	10	μg/L	. 1	8/18/2008
1,4-Dichlorobenzene	. ND	10	µg/L	1	8/18/2008
3,3'-Dichlorobenzidine	ND	10	μg/L	1	8/18/2008
Diethyl phthalate	ND	10	µg/L	1	8/18/2008

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
  - RL Reporting Limit

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Lab Order:

0808219

0808219-03

Client Sample ID: Seep #6

Collection Date: 8/12/2008 1:00:00 PM

Project: Lab ID: San Juan River Bluff Seeps Semi-Annual Aug 2

Date Received: 8/13/2008

Matrix: AQUEOUS

Result PQL Qual Units Analyses DF Date Analyzed **EPA METHOD 8270C: SEMIVOLATILES** Analyst: JDC Dimethyl phthalate ND 10 µg/L 1 8/18/2008 2,4-Dichlorophenol ND 20 μg/L 8/18/2008 1 2.4-Dimethylphenol ND 10 8/18/2008 µg/L 1 ND 8/18/2008 4,6-Dinitro-2-methylphenol 20 µg/L 1 2,4-Dinitrophenol ND 20 μg/L 1 8/18/2008 2.4-Dinitrotoluene ND 10 1 8/18/2008 μg/L ND 8/18/2008 2,6-Dinitrotoluene 10 μg/L ND Fluoranthene 10 μg/L 8/18/2008 ND 10 1 8/18/2008 Fluorene µg/L ND 10 8/18/2008 Hexachiorobenzene µg/L ND 10 8/18/2008 Hexachlorobutadiene µg/L 1 ND 10 Hexachlorocyclopentadiene µg/L 1 8/18/2008 ND Hexachloroethane 10 µg/L 1 8/18/2008 ND 10 8/18/2008 Indeno(1,2,3-cd)pyrene μg/L 1 ND 10 µg/L 8/18/2008 Isophorone 2-Methylnaphthalene ND 10 μg/L 8/18/2008 1 ND 10 8/18/2008 2-Methylphenol µg/L 1 ND 10 8/18/2008 3+4-Methylphenol µg/L ND 10 8/18/2008 N-Nitrosodi-n-propylamine µg/L 1 N-Nitrosodimethylamine ND 10 µg/L 8/18/2008 N-Nitrosodiphenylamine ND 10 µg/L 1 8/18/2008 Nachthalene ND 10 μg/L 1 8/18/2008 2-Nitroaniline ND 10 μg/L 1 8/18/2008 ND 3-Nitroaniline 10 µg/L 8/18/2008 1 4-Nitroaniline ND 10 8/18/2008 µg/L Nitrobenzene ND 10 μg/L 1 8/18/2008 ND 2-Nitrophenol 10 µg/L 1 8/18/2008 ND 10 μg/L 8/18/2008 4-Nitrophenol 1 ND 20 8/18/2008 Pentachlorophenol μg/L Phenanthrene ND 10 µg/L 8/18/2008 Phenol ND 10 μg/L 8/18/2008 1 ND 10 µg/L Pyrene 1 8/18/2008 Pyridine ND 10 μg/L 1 8/18/2008 ND 10 μg/L 8/18/2008 1,2,4-Trichlorobenzene 1 ND 10 8/18/2008 2,4,5-Trichlorophenol µg/L 2,4,6-Trichlorophenol ND 10 8/18/2008 µg/L Surr: 2,4,6-Tribromophenol 79.3 16.6-150 %REC 8/18/2008 Surr: 2-Fluorobiphenyl 65.7 19.6-134 %REC 1 8/18/2008 Surr: 2-Fluorophenol 48.1 9,54-113 %REC 8/18/2008

Qualifiers:

Surr: 4-Terphenyl-d14

Surr: Nitrobenzene-d5

Surr: Phenol-d5

Value exceeds Maximum Contaminant Level

47.4

65.5

36.6

- E Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank

1

8/18/2008

8/18/2008

8/18/2008

- Holding times for preparation or analysis exceeded
- Maximum Contaminant Level
- Reporting Limit

%REC

%REC

%REC

22.7-145

14.6-134

10.7-80.3

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Seep #6

Lab Order:

0808219

Collection Date: 8/12/2008 1:00:00 PM

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Date Received: 8/13/2008

Lab ID:

0808219-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES				· · · · · · · · · · · · · · · · · · ·	Analyst: JDC
EPA METHOD 8260: VOLATILES SHORT	LIST				Analyst: HL
Benzene	ND	1.0	μg/L	. 1	8/14/2008 6:00:41 AM
Toluene	ND	1.0	µg/L	1.	8/14/2008 6:00:41 AM
Ethylbenzene	ПИ	1.0	µg/L	.1	8/14/2008 6:00:41 AM
Methyl tert-butyl ether (MTBE)	5.8	1.5	µg/L	1	8/14/2008 6:00:41 AM
Xylenes, Total	·ND	3.0	μg/L	1	8/14/2008 6:00:41 AM
Surr: 4-Bromofluorobenzene	102	80.4-119	%REC	.1	8/14/2008 6:00:41 AM
SM 2320B: ALKALINITY					Analyst: TAF
Alkalinity, Total (As CaCO3)	370	20	mg/L CaCO	3 . 1	8/19/2008
Carbonate	ND	2.0	mg/L CaCO	3 1	8/19/2008
Bicarbonate	370	20	mg/L CaCO	3 1 .	8/19/2008
TOTAL CARBON DIOXIDE CALCULATIO	N ·				Analyst: TAF
Total Carbon Dioxide	380	1.0	mg CO2/L	1	8/20/2008

Value exceeds Maximum Contaminant Level

E Value above quantitation range

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level.

Reporting Limit

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Seep #6 Dup

Lab Order:

Collection Date: 8/12/2008 1:05:00 PM

Project:

Date Received: 8/13/2008

San Juan River Bluff Seeps Semi-Annual Aug 2

Lab ID:

0808219-04

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS			*			Analyst: SLB
Fluoride	0.45	0.10	1	mg/L	1	8/14/2008 12:09:59 AM
Chloride	2500	10	1	mg/L	100	8/28/2008 3:52:51 PM
Nitrogen, Nitrite (As N)	ND ·	1.0		mg/L	10	8/14/2008 1:02:13 AM
Nitrogen, Nitrate (As N)	ND	0.10	. 1	mg/L	1	8/14/2008 12:09:59 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/14/2008 12:09:59 AM
Sulfate	950	50	1	mg/L	100	8/28/2008 3:52:51 PM
EPA METHOD 8270C: SEMIVOLATILE	S					Analyst: JDC
Acenaphthene	ND	10	1	µg/L	1	8/20/2008
Acenaphthylene	ND	10		μg/L	1	8/20/2008
Aniline	ND	10		μg/L	1	8/20/2008
Anthracene	ND	10		µg/L	1	8/20/2008
Azobenzene	ND	10		μg/L	1	8/20/2008
Benz(a)anthracene	ND	10		μg/L	1	8/20/2008
Benzo(a)pyrene	ND	10		μg/L	1	8/20/2008
Benzo(b)fluoranthene	ND	10		μg/L	1	8/20/2008
Benzo(g,h,i)perylene	ND	10		μg/L	1	8/20/2008
Benzo(k)fluoranthene	ND	10		μg/L	1	8/20/2008
Benzolc acid	ND	20		µg/L	1	8/20/2008
Benzyl alcohol	ND	10		μg/L	1	8/20/2008
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	8/20/2008
Bis(2-chloroethyl)ether	ND	10		μg/L	1	8/20/2008
Bis(2-chloroisopropyl)ether	ND	10		μg/L	1	8/20/2008
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	8/20/2008
4-Bromophenyl phenyl ether	ND	10		µg/L	1	8/20/2008
Butyl benzyl phthalate	ND	10	1	μg/L	1	8/20/2008
Carbazole	ND	10		µg/L	1	8/20/2008
4-Chloro-3-methylphenot	ND	10		μg/L	1	8/20/2008
4-Chloroaniline	ND	10	i	μg/L	1	8/20/2008
2-Chloronaphthalene	ND	10		μg/L	1	8/20/2008
2-Chlorophenol	ND	10	ı	µg/L	1	8/20/2008
4-Chlorophenyl phenyl ether	ND	10	i	µg/L	1	8/20/2008
Chrysene	ND	10	٠ ١	µg/L	1	8/20/2008
Di-n-butyl phthalate	ND	10	ı	µg/L	1	8/20/2008
Di-n-octyl phthalate	ND	10	j	ug/L	1	8/20/2008
Dibenz(a,h)anthracene	ND	10	ı	µg/L	1	8/20/2008
Dibenzofuran	ND	10	j	µg/L	1	8/20/2008
1,2-Dichlorobenzene	ND ·	10	. 1	ug/L	1	8/20/2008
1,3-Dichlorobenzene	ND	10		µg/L	1	8/20/2008
1,4-Dichlorobenzene	ND	10		µg/L	1	8/20/2008
3,3'-Dichlorobenzidine	ND	10	ļ	ug/L	1	8/20/2008
Diethyl phthalate	ND	10	l	ug/L	1	8/20/2008

### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Holding times for preparation or analysis exceeded Н
- MCL Maximum Contaminant Level
- Reporting Limit

Page 10 of 13

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Seep #6 Dup

Lab Order:

0808219

Collection Date: 8/12/2008 1:05:00 PM

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Date Received: 8/13/2008

Lab ID:

0808219-04

Matrix: AQUEOUS

Analyses	Result -	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLAT	ILES		:		Analyst: JD0
Dimethyl phthalate	.ND	10	μg/L	1	8/20/2008
2,4-Dichlorophenol	ND	20	μg/L	1	8/20/2008
2,4-Dimethylphenol	ND	10	µg/L	1	8/20/2008
4,6-Dinitro-2-methylphenol	ND	. 20	μg/L	1	8/20/2008
2,4-Dinitrophenol	ND	20	μg/L	1	8/20/2008
2,4-Dinitrotoluene	. ND	10	μg/L	1	8/20/2008
2,6-Dinitrotoluene	ND	10	μg/L.	1	8/20/2008
Fluoranthene	ND	10	µg/L	1	8/20/2008
Fluorene	ND	10	μg/L	1 .	8/20/2008
Hexachiorobenzene	ND	10	μg/L	, 1	8/20/2008
Hexachlorobutadiene	ND	10	μg/L	1	8/20/2008
Hexachlorocyclopentadiene	ND	10	μg/L	1	8/20/2008
Hexachloroethane	ND	10	μg/L	1	8/20/2008
Indeno(1,2,3-cd)pyrene	· ND	10	μg/L	1	8/20/2008
Isophorone	ND	10	μg/L	1	8/20/2008
2-Methylnaphthalene	ND	10	μg/L	1	8/20/2008
2-Methylphenol	ND	10	μg/L	1	8/20/2008
3+4-Methylphenol	ND	10	μg/L	1	8/20/2008
N-Nitrosodi-n-propylamine	ND	10	µg/L	1	8/20/2008
N-Nitrosodimethylamine	ND	10	μg/L	1	8/20/2008
N-Nitrosodiphenylamine	ND	10	μ <b>g/L</b>	1	8/20/2008
Naphthalene	ND	10	µg/L	1	8/20/2008
2-Nitroaniline	ND	10	μg/L	1	8/20/2008
3-Nitroaniline	ND	10	μg/L	1	8/20/2008
4-Nitroaniline	ND	. 10	μg/L	1	8/20/2008
Nitrobenzene	ND	10	μg/L	1 1	8/20/2008
2-Nitrophenol	ND	10	μg/L	1	8/20/2008
4-Nitrophenol	ND	10	μg/L	1	8/20/2008
Pentachlorophenol	ND	40	μg/L	1	8/20/2008
Phenanthrene	ND	10	μg/L	1	8/20/2008
Phenol	ND	10	μg/L	1	8/20/2008
Pyrene	ND	10	µg/L	1	8/20/2008
Pyridine	· ND	10	µg/L	1	8/20/2008
1,2,4-Trichlorobenzene	ND	10	μg/L	1	8/20/2008
2,4,5-Trichlorophenol	ND	10	μg/L	1	8/20/2008
2,4,6-Trichlorophenol	ND	10	μg/L	. 1	8/20/2008
Surr: 2,4,6-Tribromophenol	32.8	16.6-150	%REC	1	8/20/2008
Surr: 2-Fluorobiphenyl	93.4	19.6-134	%REC	. 1	8/20/2008
Surr: 2-Fluorophenol	39.8	9.54-113	%REC	1	8/20/2008
Surr; 4-Terphenyl-d14	69.0	22.7-145	%REC	. 1	8/20/2008
Surr: Nitrobenzene-d5	87.9	14.6-134	%REC	1	8/20/2008
Surr: Phenol-d5	54.9	10.7-80.3	%REC	1	8/20/2008

Value exceeds Maximum Contaminant Level

Value above quantitation range E

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Maximum Contaminant Level

RL Reporting Limit

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Seep #6 Dup

Lab Order:

0808219

Collection Date: 8/12/2008 1:05:00 PM

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Date Received: 8/13/2008

Lab ID:

0808219-04

Matrix: AQUEOUS

Analyses	Result	PQL Qua	l Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES	<del></del>			`	Analyst: JDC
EPA METHOD 8260: VOLATILES SHOR	T LIST				Analyst: HL
Benzene	ND	1.0	µg/L	1	8/14/2008 6:29:37 AM
Toluene	ND	1.0	μg/L	1	8/14/2008 6:29:37 AM
Ethylbenzene	ND	1.0	µg/L	1	8/14/2008 6:29:37 AM
Methyl tert-butyl ether (MTBE)	6.0	1.5	μg/L	1	8/14/2008 6:29:37 AM
Xylenes, Total	ND	3.0	μg/L	1	8/14/2008 6;29:37 AM
Surr: 4-Bromofluorobenzene	98.5	80.4-119	%REC	1	8/14/2008 6:29:37 AM
SM 2320B: ALKALINITY					Analyst: TAF
Alkalinity, Total (As CaCO3)	370	20	mg/L CaCO3	1	8/19/2008
Carbonate	ND	2.0 .	mg/L CaCO3	1	8/19/2008
Bicarbonate	370	20	mg/L CaCO3	1	8/19/2008
TOTAL CARBON DIOXIDE CALCULATI	ON				Analyst: TAF
Total Carbon Dioxide	380	1.0	mg CO2/L	1	8/20/2008

Value exceeds Maximum Contaminant Level

E Value above quantitation range

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded Н

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 03-Sep-08

CLIENT:

Western Refining Southwest, Inc.

Client Sample ID: Trip Blan

Lab Order:

0808219

Collection Date:

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Date Received: 8/13/2008

Lab ID:

0808219-05

Matrix: TRIP BLANK

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES S	IORT LIST	·			Analyst: HL
Benzene	. ND	1.0	μg/L	1	8/14/2008 7:58:59 AM
Toluene	ND	1.0	μg/L	1	8/14/2008 7:58:59 AM
Ethylbenzene	ND	1.0	µg/L	1	8/14/2008 7:58:59 AM
Methyl tert-butyl ether (MTBE)	· ND	1.5	μg/L	1	8/14/2008 7:58:59 AM
Xylenes, Total	ND .	3.0	μg/L	1	8/14/2008 7:58:59 AM
Surr: 4-Bromofluorobenzene	98.0	80.4-119	%REC	1	8/14/2008 7:58:59 AM

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

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DATES REPORT

# Hall Environmental Analysis Laboratory, Inc.

Lab Order: 0808219

Client: Western Refining Southwest, Inc.

Project: San Juan River Bluff Seeps Semi-

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808219-01A	Seep #1	8/12/2008 2:00:00 PM	Aqueous	EPA Method 8260: Volatiles Short List	R29757		8/14/2008
0808219-01B				EPA Method 8270C: Semivolatiles	16775	8/14/2008	8/18/2008
				EPA Method 8270C: Semivolatiles	16818	8/19/2008	8/20/2008
0808219-01C				Carbon Dioxide	R29846		8/20/2008
				EPA Method 300.0: Anions	R29778		8/13/2008
				EPA Method 300.0: Anions	R29778		8/13/2008
				EPA Method 300.0: Anions	R30012		8/28/2008
				SM 2320B: Alkalinity	R29839		8/19/2008
0808219-02A	Seep #3	8/12/2008 2:10:00 PM		EPA Method 8260: Volatiles Short List	R29757		8/14/2008
0808219-02B				EPA Method 8270C: Semivolatiles	16775	8/14/2008	8/18/2008
0808219-02C				Carbon Dioxide	R29846		8/20/2008
				EPA Method 300.0: Anions	R29778		8/13/2008
				EPA Method 300.0: Anions	R29778		8/13/2008
				EPA Method 300.0: Anions	R30012		8/28/2008
				SM 2320B: Alkalinity	R29839		8/19/2008
0808219-03A	Seep #6	8/12/2008 1:00:00 PM		EPA Method 8260. Volatiles Short List	R29757		8/14/2008
0808219-03B				EPA Method 8270C: Semivolatiles	16775	8/14/2008	8/18/2008
0808219-03C				Carbon Dioxide	R29846		8/20/2008
				EPA Method 300.0: Anions	R29778		8/13/2008
				EPA Method 300.0: Anions	R29778		8/13/2008
				EPA Method 300.0: Anions	R30012		8/28/2008
				SM 2320B: Alkalinity	R29839		8/19/2008
0808219-04A	Seep #6 Dup	8/12/2008 1:05:00 PM		EPA Method 8260: Volatiles Short List	R29757		8/14/2008
0808219-04B		•		EPA Method 8270C: Semivolatiles	16775	8/14/2008	8/18/2008
				EPA Method 8270C: Semivolatiles	16818	8/19/2008	8/20/2008

DATES REPORT

# Hall Environmental Analysis Laboratory, Inc.

Lab Order: 0808219
Client: Western Refining Southwest, Inc.

Project: San Juan River Bluff Seeps Semi-

Sample ID	Sample ID Client Sample ID Collection	Date	Matrix	Test Name	QC Batch ID	Prep Date	Analysis Date
0808219-04C	Seep #6 Dup	8/12/2008 1:05:00 PM	Aqueous	Carbon Dioxide	R29846		8/20/2008
				EPA Method 300.0: Anions	R29778	•	8/14/2008
				EPA Method 300.0. Anions	R29778		8/14/2008
				EPA Method 300.0: Anions	R30012		8/28/2008
				SM 2320B: Alkalinity	R29839		8/19/2008
0808219-05A Trip Blan	Trip Blan		Trip Blank	EPA Method 8260: Volatiles Short List	R29757		8/14/2008

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# QA/QC SUMMARY REPORT

lient:

Western Refining Southwest, Inc.

San Juan River Bluff Seeps Semi-Annual Aug 2

Work Order:

0808219

Analyte	Result	Units	PQL	%Rec	LowLimit	- Ingricini	%RPD RF	'DLimit Qual
ethod: EPA Method 300.0: Anii	ากร							
ample ID: 0808219-04CMSD		MSD			Batch II	): R29778	Analysis Date:	8/14/2008 1:37:03 AI
uoride	0.9702	mg/L	0.10	105	65.1	121	2.05	20
itrogen, Nitrate (As N)	2.548	mg/L	0.10	102	83.8	112	1.66	20
hosphorus, Orthophosphate (As P)	4.524	mg/L	0.50	90.5	77.6	118	19.4	20
ample ID: 0808219-04CMSD		MSD			Batch II	D: R30012	Analysis Date:	8/28/2008 5:02:28 PI
uoride	0.7838	mg/L	0.10	67.7	65.1	121	13.2	20
itrogen, Nitrate (As N)	2.274	mg/L	0.10	91.0	83.8	112	2.22	20
ample ID: MB		MBLK			Batch ID	): <b>R29778</b>	Analysis Date:	8/13/2008 11:06:31 A
uoride	ND	mg/L	0.10				•	
hloride	ND	mg/L	0.10					
itrogen, Nitrite (As N)	ND	mg/L	0.10					
itrogen, Nitrate (As N)	ND	mg/L	0.10					•
hosphorus, Orthophosphate (As P)	ND	mg/L	0.50					
ulfate	ND	mg/L	0.50					
ample ID: MB		MBLK			Batch II	D: R30012	Analysis Date:	8/28/2008 9:47:15 Al
luoride	ND	mg/L	0.10					•
hloride	ND	mg/L	0.10					•
itrogen, Nitrite (As N)	ND	mg/L	0.10					
itrogen, Nitrate (As N)	ND	mg/L	0.10					
hosphorus, Orthophosphate (As P)	ND	mg/L	0.50					
ulfate	ND	mg/L	0.50					
ample ID: LCS		LCS			Batch II	D: <b>R29778</b>	Analysis Date:	8/13/2008 11:23:56 A
luoride	0.5481	mg/L	0.10	110	90	110		
hloride	5.047	mg/L	0.10	101	90	110		
itrogen, Nitrite (As N)	1.023	mg/L	0.10	102	90	110		
itrogen, Nitrate (As N)	2.549	mg/L	0.10	102	90	110		,
hosphorus, Orthophosphate (As P)	5.114	mg/L	0.50	102	90	110		
ulfate	10.50	mg/L	0.50	105	90	110		
ample ID: LCS		LCS			Batch II	D: R30012	Analysis Date:	8/28/2008 10:04:39 A
luoride	0.5088	mg/L	0.10	102	90	110		
hloride	4.854	mg/L	0.10	97.1	90	110		
ltrogen, Nitrite (As N)	0.9857	mg/L	0.10	98.6	90	110		
itrogen, Nitrate (As N)	2.504	mg/L	0.10	100	90	110		
hosphorus, Orthophosphate (As P)	4.890	mg/L	0.50	97.8	90	110		
ulfate	10.09	mg/L	0.50	101	90	110		
ample ID: 0808219-04CMS		MS			Batch II	D: <b>R29778</b>	Analysis Date:	8/14/2008 1:19:38 A
uoride	0.9504	mg/L	0.10	101	65.1	121		
itrogen, Nitrate (As N)	2.591	mg/L	0.10	104	83.8	112		
hosphorus, Orthophosphate (As P)	3.722	mg/L	0.50	74.4	77.6	118		S
ample ID: 0808219-04CMS		MS			Batch II	D: R30012	Analysis Date:	8/28/2008 4:45:04 P
uoride	0.6866	mg/L	0.10	48.3	65.1	121		s
itrogen, Nitrate (As N)	2.224	mg/L	0.10	89.0	83.8	112		
Qualifiers:								· · · · · · · · · · · · · · · · · · ·

RPD outside accepted recovery limits

Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Work Order:

0808219

		•			·		0000217
Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RF	'DLimit . Qual
Method: SM 2320B: Alkalinity			<u></u>		• .		
Sample ID; MB		MBLK			Batch ID: R29839	Analysis Date:	8/19/2008
Alkalinity, Total (As CaCO3)	ND ·	mg/L CaC	20				
Carbonate	ND .	mg/L CaC	2.0			•	
Bicarbonate	ND	mg/L CaC	20				
Sample ID: LCS		LCS			Batch ID: R29839	Analysis Date:	8/19/2008
Alkalinity, Total (As CaCO3)	82.00	mg/L CaC	20	100	80 120		
Method: EPA Method 8260: Vol	atiles Short	List					
Sample ID: 5ml rb		MBLK			Batch ID: R29757	Analysis Date:	8/13/2008 12:36:05 PM
Benzene	ND	μg/L	1.0				•
Toluene	ND	µg/L	1.0				
Ethylbenzene	ND ·	µg/L	1.0	•			•
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0				
Xylenes, Total	ND ·	μg/L	2.0			•	
Surr: 4-Bromofluorobenzene	9.956	µg/L	0	99.6	80.4 119 .		
Sample ID: b6		MBLK			Batch ID: <b>R2975</b> 7	' Analysis Date:	8/14/2008 12:44:10 AM
Benzene	ND	µg/L	1.0			• .	
Toluene (	. ND	μg/L	1.0				•
Ethylbenzene	ND	µg/L	1.0				
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0				
Xylenes, Total	ND	µg/L	2.0				
Surr: 4-Bromofluorobenzene	10.42	µg/L	0	104	80.4 119		
Sample ID: 100ng Ics		LCS			Batch ID: R29757	Analysis Date:	8/13/2008 2:03:00 PM
Benzene	19.87	μg/L	1.0	99.3	86.8 120		
Toluene	18.94	μg/L	1.0	94.7	64.1 127		
Surr: 4-Bromofluorobenzene	10.22	μg/L	0	102	80.4 119		*
Sample ID: 100ng ics		LCS			Batch ID: R29757	Analysis Date:	8/14/2008 1:41:39 AM
Benzene	19.70	µg/L	1.0	98.5	86.8 120		* 0 .
Toluene	19.35	μg/L	1.0	96.8	64.1 127		
Surr: 4-Bromofluorobenzene	10.39	µg/L	0	104	80.4 119		

E Value above quantitation range

R RPD outside accepted recovery limits

S Spike recovery outside accepted recovery limits

J Analyte detected below quantitation limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

# QA/QC SUMMARY REPORT

lient:

Western Refining Southwest, Inc.

San Juan River Bluff Seeps Semi-Annual Aug 2

Work Order:

0808219

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLi	mit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C	: Semivolatiles	•								**************************************
Sample ID: mb-16775		MBLK			Batch	ID: 1	6775	Analysis [	Date:	8/15/200
Acenaphthene	ND	μg/L	10		4.1					
Acenaphthylene	. ND	μg/L	10							
Aniline	ND	μg/L	10							
Anthracene	ND	μg/L	10							
Azobenzene	ND	μg/L	10							
Benz(a)anthracene	ND	μg/L	10							
Benzo(a)pyrene	ND	μg/L	10		•					
Benzo(b)fluoranthene	ND	μg/L	10							
Benzo(g,h,i)perylene	ND	μg/L	10					•		
Benzo(k)fluoranthene	ND	μg/L	10		·					
Benzoic acid	ND	μg/L	80							
Benzyl alcohol	ND	µg/L	10	•						
3is(2-chloroethoxy)methane	ND	μg/L	10					·.		
3is(2-chloroethyl)ether	ND	μg/L	10							
3ls(2-chloroisopropyl)ether	ND	μg/L	10							
3is(2-ethylhexyl)phthalate	ND	μg/L	10							
1-Bromophenyl phenyl ether	ND	μg/L	10							
Butyl benzyl phthalate	ND	μg/L	10							
Carbazole	ND	µg/L	10							
Chloro-3-methylphenol	ND	µg/L	10							
-Chloroaniline	ND	µg/L	10							
2-Chloronaphthalene	ND	µg/L	10							
2-Chlorophenol	ND	μg/L	10							
I-Chlorophenyl phenyl ether	ND	μg/L	10							, i
Chrysene	ND	μg/L	10							
Di-n-butyl phthalate	ND	μg/L	10			•				
Di-n-octyl phthalate	ND	μg/L	10							
Dibenz(a,h)anthracene	ND	μg/L	10							
Dibenzofuran	ND	μg/L	10							
,2-Dichlorobenzene	ND	μg/L	10							
,3-Dichlorobenzene	ND	μg/L μg/L	10							
,4-Dichlorobenzene	ND	µg/L	10							
,3'-Dichlorobenzidine	ND	µg/L	10							
Diethyl phthalate	ND	μg/L	10							•
Dimethyl phthalate	ND	ha\r ha\r	10							
,4-Dichlorophenol	ND	µg/L	20							•
,4-Dimethylphenol	ND	μg/L	10		-					
,6-Dinitro-2-methylphenol	ND	μg/L	20							
,4-Dinitrophenol	ND	µg/L	20							
,4-Dinitrotoluene	ND	μg/L	10							
,6-Dinitrotoluene	ND	μg/L	10							
luoranthene	ND	μg/L	10							
luorene	ND	μg/L	10							
lexachlorobenzene	ND	ha\r ha\r	10							



Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project: San Juan River Bluff Seeps Semi-Annual Aug 2 Work Order:

0808219

Analyte	Result	Units	PQL	%Rec	LowLimit Hi	ghLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C:	Semivolatiles	•						1000	,
Sample-ID: mb-16775		MBLK			Batch ID:	16775	Analysis D	Date:	8/15/200
Hexachlorobutadiene	ND	μg/L	10						
Hexachlorocyclopentadiene	ND	μg/L	10				•		
Hexachloroethane	ND.	μg/L	10						•
Indeno(1,2,3-cd)pyrene	ND	µg/L	10						
Isophorone	ND	μg/L	10						
2-Methylnaphthalene	ND	μg/L	10						
2-Methylphenol	ND	μ <b>g/L</b>	10						
3+4-Methylphenol	ND	µg/L	10						
N-Nitrosodi-n-propylamine	ND	µg/L	10						
N-Nitrosodimethylamine	ND	µg/L	10						
N-Nitrosodiphenylamine	ND	μg/L	10		•				
Naphthalene	ND	μg/L	10						
2-Nitroaniline	ND	μg/L	10		• ,				
3-Nitroaniline	ND	μg/L	10				,		
4-Nitroaniline	ND	µg/L	10						
Nitrobenzene	ND	μg/L	10						
2-Nitrophenol	ND	μg/L	10						
4-Nitrophenol	ND	μg/L	10		•				
Pentachlorophenol	ND	µg/L	20						
Phenanthrene	ND	μg/L	10						
Phenol	ND	µg/L	10						
Pyrene	ND	μ <b>g/L</b>	10						•
Pyridine	ND	µg/L	10					•	
1,2,4-Trichlorobenzene	ND	µg/L	10						
2,4,5-Trichlorophenol	ND	μg/L	10	*					
2,4,6-Trichlorophenol	ND	μg/L	10				•	١	
Surr: 2,4,6-Tribromophenol	137.3	μg/L	0	68.7	16.6	160		,	
Surr: 2-Fluorobiphenyl	72.32	µg/L	0	72.3	19.6	134			
Surr: 2-Fluorophenol	107.4	µg/L	. 0	53.7	9.54	113			
Surr: 4-Terphenyl-d14	68.48	µg/L	0	68.5	22.7	145			
Surr: Nitrobenzene-d5	73.84	µg/L	0	73.8	14.6	134			
Surr: Phenol-d5	82.80	µg/L	0	41.4	10.7	30.3			
Sample ID: mb-16818		MBLK			Batch ID:	16818	Analysis [	Date:	8/20/200
Acenaphthene	ND ·	μg/L	10.				•		
Acenaphthylene	ND	μg/L	10	•					
Anlline	ND	μg/L	10		•				
Anthracene	ND	μg/L	10	•					
Azobenzene	ND	μg/L	10		. 4.				
Benz(a)anthracene	ND	µg/L	10						
Benzo(a)pyrane	ND	μg/L	10						
Benzo(b)fluoranthene	ND	μg/L	10			•			٠.
Benzo(g,h,i)perylene	ND	μg/L	10						
Benzo(k)fluoranthene	ND	µg/L	10						
Benzoic acid	ND	μg/L	20						-
Qualifiers:		MA: =							· · · · · · · · · · · · · · · · · · ·



- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

lient: roject: Western Refining Southwest, Inc.

t: San Juan River Bluff Seeps Semi-Annual Aug 2

Work Order:

0808219

Analyte	Result	Units	PQL	%Rec	LowLimit	High	Limit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C:	Semivolatiles									
Sample ID: mb-16818	•	MBLK	•	•	Batch	łD:	16818	Analysis [	Date:	8/20/200
Benzyl alcohol	ND	μg/L	10							
Bis(2-chloroethoxy)methane	ND	μg/L	10							
Bis(2-chloroethyl)ether	ND	μg/L	10	•						
Bis(2-chloroisopropyl)ether	ND	μg/L	10							
Bis(2-ethylhexyl)phthalate	ND	μg/L	10						•	
4-Bromophenyl phenyl ether	ND	μg/L	10							
Butyl benzyl phthalate	ND .	μg/L	10				*	•		
Carbazole	ND	μg/L	10							
4-Chloro-3-methylphenol	ND	μg/L	10							
4-Chloroaniline	ND	μg/L	10							
2-Chloronaphthalene	ND	μg/L	10							
2-Chlorophenol	ND	µg/L	10							
4-Chlorophenyl phenyl ether	ND	μg/L	10							
Chrysene	ND	μg/L	10							
Di-n-butyl phthalate	ND	μg/L	10							
Di-n-octyl phthalate	ND	µg/L	10							
Dibenz(a,h)anthracene	ND	μg/L	10							
Dibenzofuran	ND	μg/L	10							
1,2-Dichlorobenzene	ND	μg/L	10							
3-Dichtorobenzene	ND	µg/L	10							
4-Dichlorobenzene	ND	μg/L	10							
3,3'-Dichlorobenzidine	ND	µg/L	10							
Diethyl phthalate	ND	μg/L	10					•		
Dimethyl phthalate	ND	μg/L	10							
2,4-Dichlorophenol	ND	μg/L	20						-	
2,4-Dimethylphenol	ND	μg/L	10							
4,6-Dinitro-2-methylphenol	ND	µg/L	20							•
2,4-Dinitrophenol	ND	µg/L	20							
2,4-Dinitrotoluene	ND	µg/L	10							
2,6-Dinitrotoluene	ND	µg/L	10							
Fluoranthene	ND	μg/L	10							
Fluorene	ND	μg/L	10							
dexachlorobenzene	ND	μg/L	10							
-lexachlorobutadiene	ND	μg/L	10							
lexachlorocyclopentadiene	ND	µg/L	10							
lexachloroethane	ND	μg/L	10							
ndeno(1,2,3-cd)pyrene	ND	µg/L	10							
sophorone	ND	μg/L	10	•						
:-Methylnaphthalene	ND	µg/L	10							
:-Methylphenol	ND	μg/L	10							
+4-Methylphenol	ND	µg/L	10							
I-Nitrosodi-n-propylamine	ND	µg/L	10					,		
I-Nitrosodimethylamine	ND	µg/L	10					•		
I-Nitrosodiphenylamine	ND	μg/L	10							

ualifiers:

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

E

R

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

San Juan River Bluff Seeps Semi-Annual Aug 2

Work Order:

0808219

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Analyte	Result	Uńits	PQL	%Rec	LowLimit	HighLimit	%RPD RPDLimit	Qual
Method: EPA Method 8270C:	Semivolatiles	<b>3</b>						
Sample ID: mb-16818		MBLK			Batch	ID: 16818	Analysis Date:	8/20/2008
Naphthalene	ND	μg/L	10				•	
2-Nitroaniline	ND	µg/L	10				•	
3-Nitroaniline	ND	μg/L	10					
4-Nitroaniline	ND	μg/L	10					
Nitrobenzene	ND	μg/L	10					
2-Nitrophenol	ND	μg/L	10					
4-Nitrophenol	ND	μg/L	10				,	
Pentachlorophenol	ND	µg/L	40		•			
Phenanthrene	ND	μg/L	10					
Phenol	ND	μg/L	10					
Pyrene	ND	µg/∟	10					
Pyridine	ND	μg/L	10					
1,2,4-Trichlorobenzene	ND	μg/L	10				1	
2,4,5-Trichlorophenol	ND	µg/L	10					
2,4,6-Trichlorophenol	ND	μg/L	10					
Surr: 2,4,6-Tribromophenol	133.0	μg/L	0	66.5	16.6	150		
Surr: 2-Fluorobiphenyl	82.46	µg/L	0	82.5	19.6	134		
Surr: 2-Fluorophenol	133.0	μg/L	. 0	66.5	9.54	113		
Surr: 4-Terphenyl-d14	69.20	μg/L	0	69.2	22.7	145		
Surr: Nitrobenzene-d5	77.38	μg/L	0	77.4	14.6	134		
Surr: Phenol-d5	109.6	μg/L	0	54.8	10.7	80.3		
Sample ID: Ics-16775		LCS			Batch	ID: 16775	Analysis Date:	8/15/2008
Acenaphthene	53.96	μ <b>g/L</b>	10	54.0	11	123		
4-Chloro-3-methylphenol	102.5	μg/L	10	51.3	15.4	119		
2-Chlorophenol	99.08	μg/L	10	49.5	12.2	122		
1,4-Dichlorobenzene	46.34	µg/L	10	46.3	16.9	100		
2,4-Dinitrotoluene	51.28	µg/L	10	51.3	13	138		
N-Nitrosodi-n-propylamine	57.62	μg/ <b>L</b>	10	57.6	9.93	122		
4-Nitrophenol	42.30	μg/L	10	21.2	12.5	87.4	•	
Pentachlorophenol	88.82	μg/L	20	40.4	3.55	114		
Phenol	58.08	μg/L	10	29.0	7.53	73.1		
Pyrene	53.76	μg/L	10	53.8	12.6	140		
1,2,4-Trichlorobenzene	48.08	μg/L	10	48.1	17.4	98.7		
Surr: 2,4,6-Tribromophenol	101.1	μg/L	0	50.5	16.6	150		
Surr: 2-Fluorobiphenyl	54.24	μg/L	0	54.2	19.6	134		
Surr: 2-Fluorophenol	75.52	μg/L	0	37.8	9.54	113	•	
Surr: 4-Terphenyl-d14	47.24	μg/L	0	47.2	22.7	145		
Surr: Nitrobenzene d5	58.64	μg/L	0	58.6	14.6	134		
	59.76	µg/L	0	29.9	10.7	80.3		
Surr: Phenol-d5	55.75				Batch	ID: 16818	Analysis Date:	8/20/2008
Surr: Phenol-d5	55.70	LCS						
Surr: Phenol-d5 Sample ID: Ics-16818			10	60.6		123		
Surr: Phenol-d5 Sample ID: Ics-16818 Acenaphthene	60.60	μg/L	10 10	60.6 63.4	11	123 119		
Surr: Phenol-d5 Sample ID: Ics-16818			10 10 10	60.6 63.4 61.4		123 119 122		

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Holding times for preparation or analysis exceeded

Spike recovery outside accepted recovery limits

Not Detected at the Reporting Limit

# QA/QC SUMMARY REPORT

lient:

Western Refining Southwest, Inc.

San Juan River Bluff Seeps Semi-Annual Aug 2

Work Order:

0808219

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C:	Semivolatiles					·			
Sample ID: Ics-16818		LCS .			Batch	ID: 16818	Analysis I	Date:	8/20/200
2,4-Dinitrotoluene	57.62	μg/L	10	57.6	13	138			
N-Nitrosodi-n-propylamine	70.54	μg/L	10	70.5	9.93	122			
4-Nitrophenol	71.38	μg/L	10	35.7	12.5	87.4			
Pentachlorophenol	119.9	μg/L	40	60.0	3.55	114			
Phenol	73.12	μg/L	10	36.6	7.53	73.1			
Pyrene	63.16	μg/L	10	63.2	12.6	140			
1,2,4-Trichlorobenzene	60.56	μg/L	10	60.6	17.4	98.7			
Surr: 2,4,6-Tribromophenol	134.4	μg/L	0	67.2	16.6	150			
Surr: 2-Fluorobiphenyl	87.68	μg/L	0	87.7	19.6	134			
Surr: 2-Fluorophenol	126.1	µg/L	0	63.0	9.54	113			
Surr: 4-Terphenyl-d14	75.24	μg/L	0	75.2	22.7	145			
Surr: Nitrobenzene-d5	84.34	µg/L	0	84.3	14.6	134			
Surr: Phenol-d5	109.7	μg/L	0	54.8	10.7	80.3			
Sample ID: icsd-16775	,,,,,,	LCSD	v	00	Batch		Analysis I	Date:	8/15/200
Acenaphthene	56.36	μg/L	10	56.4	11	123	4.35	30.5	
1-Chloro-3-methylphenol	102.8	μg/L	10	51.4	15.4	119	0.292	28.6	
2-Chlorophenol	99.68	μg/L	10	49.8	12.2	122	0.604	107	
1,4-Dichlorebenzene	48.82	μg/L	10	48.8	16.9	1 <b>0</b> 0	5.21	62.1	
2,4-Dinitrotoluene	51.78	µg/L	10	51.8	13	138	0.970	14.7	
-Nitrosodi-n-propylamine	61.42	μg/L	10	61.4	9.93	122 <sup>-</sup>	6.38	30.3	
4-Nitraphenol	35.04	µg/L	10	17.5	12.5	87.4	18.8	36.3	
Pentachiorophenol	84.90	µg/L	20	38.4	3.55	114	4.51	49	
Phenol	60.90	μg/L	10	30.4	7.53	73.1	4.74	52.4	
Pyrene	59.88	μg/L	10	59.9	12.6	140	10.8	16.3	
1,2,4-Trichlorobenzene	52.10	µg/L	10	52.1	17.4	98.7	8.03	36.4	
Surr: 2,4,6-Tribromophenol	101.1	µg/L	0	50.6	16.6	150	0	0	
Surr: 2-Fluorobiphenyl	60.64	μg/L	0	60.6	19.6	134	0	0	
Surr: 2-Fluorophenol	75.88	μg/L	0	37.9	9.54	113	0	0	
Surr: 4-Terphenyl-d14	50.00	µg/L	Ö	50.0	22.7	145	0	0	
Surr: Nitrobenzene-d5	62.76	μg/L	Ö	62.8	14.6	134	0	0	
Surr: Phenol-d5	65.10	μg/L	Ŏ	32.6	10.7	80.3	Ö	.0	
Sample ID:   csd-16818		LCSD	_		Batch		Analysis [	Date:	8/20/200
Acenaphthene	59.20	μg/L	10	59.2	11	123	2.34	30.5	
I-Chloro-3-methylphenol	120.1	μg/L	10	59.2	15.4	119	6.76	28.6	
2-Chlorophenol	119.6	µg/L µg/L	10	58.8	12.2	122	4.21	107	
I,4-Dichlorobenzene	57.08 <sub>.</sub>	μg/L μg/L	10	57.1	16.9	100	3.14	62.1	
2.4-Dinitrotoluene	56.86	μg/L	10	56.9	13	138	1.33	14.7	
N-Nitrosodi-n-propylamine	68.64	μg/L μg/L	10	68.6	9.93	122	2.73	30.3	
-Nitrophenol	69.00	μg/L μg/L	10	34.5	9.93 12.5	87.4	3.39	36.3	
entachlorophenol	120.5	μg/L	40	60.3	3.55	114	0.516	36.3 49	
•	69.24		10	34.6	7.53	73.1	5.45	52.4	
Phenol		µg/L							
Pyrene	59.88	µg/L	10 10	59.9	12.6 17.4	140	5.33	16.3	
,2,4-Trichlorobenzene	56.88	µg/L	10	56.9	17.4	98.7	6.27	36.4	
Surr: 2,4,6-Tribromophenol	135.5	µg/L	0	67.7	16.6	150	0	0	

Qualifiers:

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# QA/QC SUMMARY REPORT

Client:

Western Refining Southwest, Inc.

Project:

San Juan River Bluff Seeps Semi-Annual Aug 2

Work Order:

0808219

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 82700 Sample ID: Icsd-16818	: Semivolatiles	LCSD			Batch	ID: 16818	Analysis [	)ate:	8/20/2008
Surr: 2-Fluorobiphenyl	83.20		0	83.2	19.6	134	0	0 .	5,25,255
		µg/L	_		9.54	113	0	0	
Surr: 2-Fluorophenol	122.5	hg/r	0	61.2				_	
Surr: 4-Terphenyl-d14	71.42	μg/L	0	71.4	22.7	145	0	0	•
Surr: Nitrobenzene-d5	82.30	μg/L	0	82.3	14.6	134	. 0	. 0	
Surr: Phenol-d5	105.4	µg/L	0	52.7	10.7	80.3	0	0	*

Qualifiers:	
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- E Value above quantitation range
- Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

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

	Sample	Rec	eipt C	hecklist			
Client Name WESTERN REFINING SOUT	$\sim$			Date Receive	d:	8/13/2008	
Work Order Number 0808219	//			Received by	r: ARS	1	
Checklist completed by:	M		Date	3113168	abels checked t	oy: AT	
Matrix:	Carrier name	UPS	į				
Shipping container/cooler in good condition?		Yes	$\checkmark$	No 🗆	Not Present		
Custody seals intact on shipping container/coo	ier?	Yes	¥	No 🗆	Not Present	Not Shippe	d 🗆
Custody seals intact on sample bottles?		Yes		No 🗆	N/A	V	
Chain of custody present?		Yes	V	No 🗀			
Chain of custody signed when relinquished and	d received?	Yes	<b>Y</b> .	No 🗆			4
Chain of custody agrees with sample labels?		Yes	V	No 🗆			i .
Samples in proper container/bottle?		Yes	¥	No 🗌			
Sample containers intact?		Yes	V	No 🗌			
Sufficient sample volume for indicated test?		Yes	V	No 🗀			
All samples received within holding time?		Yes	V	No 🗆		•	
Water - VOA vials have zero headspace?	No VOA vials sub	mitted		Yes 🗹	No 🗆		
Vater - Preservation labels on bottle and cap in	natch?	Yes	V	No 🗀	N/A		
Water - pH acceptable upon receipt?		Yes	V	No 🗆	N/A □		
Container/Temp Blank temperature?			<b>4</b> °	<6° C Acceptab			
COMMENTS:				If given sufficien	t time to cool.		
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Client contacted	Date contacted;			Dore	son contacted	•	
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Chain-of-Custody Record	Turn-Around Time:	<u>o</u>			3	7	IAH	2		FNAMNOGIANA	2	Ü	 	¥	
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Phone #: 505-632-4/6/				14 A			A.	allysis	s Re	Sanb	_				
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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.