GW-001

ANNUAL REPORT

DATE: 2008

Western Refining

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August 7, 2008

Glen Von Gonten
Project Manager
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Western Refining, Inc.'s (Western's) 2008 Annual Report

Certified Mail # 7006 0100 0002 9205 1850

Dear Mr. Von Gonten;

Please find enclosed, Western Refining, Inc.'s (Western's) 2008 annual report for their former refinery in Bloomfield, New Mexico, (prepared by Lodestar Environmental Services).

Please call me if you should have any questions or require additional information.

Respectfully Submitted,

Bruce Cauthen
Environmental Engineer
Logistics / HSER
Western Refining Southwest Inc.

San Juan Regional Office
111 County Road 4990
Bloomfield, NM 87413
Main: 505-632-4035

CC: Brandon Powell NMOCD
Ann Allen
Allen Haines
Bill Robertson
WNR File

Western Refining

LOGISTICS

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2009 APR 17 AM 10 14

August 7, 2008

Glen Von Gonten
Project Manager
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Western Refining Southwest Inc. (Giant) Bloomfield Crude Station Annual Report

Certified Mail #

Dear Mr. Von Gonten;

Please find enclosed, Western Refining Southwest's (Giant) Bloomfield Crude Station 2008 annual report, (prepared by Lodestar Environmental Services).

Please call me if you should have any questions or require additional information.

Respectfully Submitted,

Bruce Cauthen
Environmental Engineer
Logistics / HSER
Western Refining Southwest Inc.

San Juan Regional Office
111 County Road 4990
Bloomfield, NM 87413
Main: 505-632-4035

CC: Brandon Powell NMOCD
Ann Allen
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Bill Robertson
WNR File

Annual Report
Bloomfield Crude Station
Bloomfield, New Mexico

March 2009

Prepared For

Western Refining, Inc.
111 CR 4990
Bloomfield, New Mexico

Lodestar Services, Incorporated
PO Box 4465 Durango, CO 81302 (970)946-1093

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Introduction

The following annual report describes work completed at Giant Industries Arizona, Inc.'s (Giant's) former Crude Station, currently owned by Western Refining, in Bloomfield, New Mexico since the previous annual report submitted in March 2008. The report includes data collected through January 2009 including:

- Bioventing quarterly carbon dioxide and oxygen monitoring measurements during 2008.
- Bioventing soil sampling in October 2008.
- Groundwater sampling results from all wells on January 8, 2009, and additional groundwater sampling of MW-2 in May, August and November 2008.
- Headspace readings from selected injection points on October 27, 2008.

The former Bloomfield Crude Station is located on the southwest corner of Blanco Boulevard and Fifth Street in the city of Bloomfield, San Juan County, New Mexico. The site occupies approximately 5.5 acres within the N ½, NW ¼, NW ¼ of Section 22, Township 29 North, Range 11 West. A regional location map is shown in Figure 1.

A 55,000 barrel crude oil storage tank was previously located at the site within an earthen berm, which occupied approximately 100,000 square feet on the west side of the former crude station. Tank 967-D and berms were removed between late 1995 and early 1996. Approximately 12,924 cubic yards of hydrocarbon impacted soil were removed and treated at Giant's Bisti landfarm. The excavation was backfilled and graded. Currently, the site is an unoccupied, open space. A site map presented as Figure 2 shows the boundary of the former excavation. West of the former tank site is a City of Bloomfield Electrical Substation and two well sites (Jan Redding #1 and Cook #1E) owned and operated by Manana Gas. To the west of the electric substation and Manana well sites, a vacant lot exists. What appears to be a monument may indicate a previous well site that has been plugged and abandoned. Historical research of this area indicate that several oil, and possibly gas wells, may have once been operational on this lot, such as Bishop #1, Bishop #3, Hare #1 and Kittell #1 (Figure 2).

The former crude station has been the focus of a subsurface investigation where activities have included excavation and offsite land farming of hydrocarbon impacted soil, numerous soil borings and sampling, installation of seven groundwater monitoring wells, and groundwater sampling. Remedial activities have included bioventing, manual purging and air sparging. The area of focused investigation is where the former crude oil storage tank numbered 967-D was located. A more detailed historical account can be found in a report previously submitted to the New Mexico Oil Conservation Division (NMOCD) titled *Comprehensive Report for the Bloomfield Crude Station*, dated January 2000. A chronology of initial site operations and investigations is found in the Golden Environmental Management report *Monitoring Well Installation, Groundwater Sampling and Bioventing Pilot Test Bloomfield Crude Station, Bloomfield, New Mexico*, dated July

2001. Bioventing and air sparging details can be found in previous annual reports submitted to the NMOCD.

Methodology

During the period covered in this report, the existing bioventing system was utilized, as well as an air sparge system. Bioventing continues as described in the *March 2004 Annual Report* and according to *Bioventing Plan, July 2002* submitted to the New Mexico Oil Conservation Division (NMOCD) in July 2002. Soil was sampled from monitoring and injection points associated with the bioventing system to evaluate effectiveness. The air sparge system, which was installed in 2006 to target high concentrations of volatile organic carbons in groundwater from MW-2, was turned off during May of this year. MW-2 was sampled quarterly to detect any rebound in concentrations and to work towards closure. All monitoring wells were sampled once to track progress over the entire site and monitor migration of contaminants. Groundwater sampling at all monitoring wells followed accepted industry practices.

Bioventing

Bioventing is the process of supplying air to indigenous microorganisms to enhance natural mineralization of hydrocarbons to carbon dioxide and water. Following a successful bioventing pilot test on June 20, 2001 bioventing was initiated on February 17, 2003.

System installation during 2003 included boring three-inch holes with a hand auger, collecting soil samples at three-foot intervals and screening the samples using headspace techniques. Samples were collected in one-quart plastic bags and split for headspace and laboratory analysis. Eight soil samples with the highest headspace readings were submitted for laboratory analysis. These samples were immediately placed in four-ounce glass jars, sealed, labeled, stored on ice, and shipped to the laboratory under strict chain-of-custody procedures. The samples were shipped to Pinnacle Laboratories in Albuquerque, NM for benzene, toluene, ethylbenzene, xylenes (BTEX), and total petroleum hydrocarbon (TPH) analyses by United States Environmental Protection Agency (USEPA) methods 8021 and 8015, respectively.

Following sampling, one foot of one-inch diameter polyvinyl chloride (PVC) 0.01-inch slotted well screen was set in each hole at approximately twelve feet beneath ground surface at thirty nine locations. Twenty three points are currently used for monitoring subsurface gasses and sixteen points are used to inject air. Monitoring and Injection point locations are shown on Figure 3. Air monitoring points were, for the most part, installed away from the injection points which were installed in the areas of highest hydrocarbon concentrations.

Injection air is supplied by a Gast™ oil-less rotary vane compressor that supplies approximately 90 standard cubic feet per minute air. The compressor is housed in an existing office building on-site (Figure 2) and travels through 1-1/2 inch PVC pipe to

each injection point. Valves are located on each injection and monitoring point. The air is injected where field screening and laboratory analyses indicate elevated concentrations of hydrocarbons in the subsurface. Operations and maintenance are performed routinely to ensure the system is operational.

The compressor operates from 0600 hours to 1800 hours Monday through Fridays. Subsurface airflow and oxygen/carbon dioxide concentrations are monitored quarterly. Oxygen and carbon dioxide are measured using a GEM 500 ™ gas monitor. Each point is evacuated until the gas reading is stable.

Comparative soil samples were collected using a hand powered auger following approximately eight months of system operations during October 2003, and then yearly from 2004 through 2008. Soil samples were collected from a location approximately one foot or less away from where the initial eight soil samples were collected and at the same depth as the originals. The samples were screened in the field using headspace techniques and submitted for laboratory analysis for BTEX and TPH by USEPA methods 8021 and 8015, respectively.

Groundwater Sampling

On January 8, 2009, groundwater samples and depth-to-groundwater measurements were collected from monitoring wells MW-2 through MW-7. Each well was checked for the presence of free phase crude oil. Giant abandoned sampling of monitoring well MW-1 during excavation of the tank pad. MW-7 was sampled at the request of the NMOCD, although Western does not believe groundwater impact at this location is related to their operations. This is discussed in previous reports.

Prior to sampling, depth to groundwater and total depth of each well were measured with a Keck oil/water interface probe. Presence of any free phase crude oil was also investigated using the interface probe. The interface probe was decontaminated with Alconox™ soap and rinsed with de-ionized water prior to each measurement. The volume of water in the wells was calculated, and a minimum of three casing volumes of water was purged from each well using a disposable bailer. As water was extracted, pH, electric conductivity and temperature were monitored. The wells were purged until these properties had stabilized, indicating that the purge water was representative of aquifer conditions. These data were recorded within a bound field notebook.

Once each monitoring well was purged, groundwater samples were collected by filling three 40-milliliter (mL) glass vials. The pre-cleaned and pre-preserved vials were filled and capped with no air inside to prevent degradation of the sample. Samples were labeled with the time and date of collection, as well as the origin of the sample. They were immediately sealed and packed on ice. The May and September 2008 samples were shipped to Pinnacle Laboratories, Inc. (Pinnacle) in Albuquerque, New Mexico in a sealed cooler via UPS. The November 2008 and January 2009 samples were shipped to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico via bus. Proper chain-of-custody procedures were followed with logs documenting the project name and number, sampling point, location, field ID number, date, time, sample type,

number of containers, analyses required and sampler's signatures (Appendix A). Both Pinnacle and HEAL analyzed the samples for BTEX by USEPA Method 8021.

In January 2009, monitoring wells were sampled for a general chemistry analysis by filling two 500-milliliter plastic bottles. Analyses included major cations and anions, total dissolved solids (TDS) and an ion balance by various EPA methods.

Groundwater Remediation

Air sparging

From 1999 through 2004, Giant regularly monitored free-phase product levels and manually purged water and product from MW-2 using a disposable bailer as necessary. Data regarding product thickness and water purge volumes can be found in Appendix D. After 2004, free-phase product was no longer observed, but high levels of BTEX were persistently present in groundwater samples from MW-2 between 2004 and early 2006 (Appendix C). On October 9, 2006, a sparge well was installed adjacent to MW-2 (Figure 2) to address sustained levels of volatile organic hydrocarbons measured in groundwater samples collected from the well. Air sparging is the process of injecting air directly into the subsurface saturated zone, thereby volatilizing hydrocarbons and allowing them to mineralize in the unsaturated zone. The addition of oxygen to impacted groundwater and soils also enhances biodegradation, as it acts as a nutrient for bacteria.

Headspace analyses of soil samples collected in previous years from near MW-2 indicate impacted soil existed between 9 and 12 feet beneath the ground surface (bgs). Depth to groundwater in MW-2 is approximately 13 feet bgs. Using this information as a guide for design of the air sparge system, the injection well was drilled to 25' total depth and completed with schedule 40, two-inch diameter polyvinyl-chloride (PVC) pipe. It included 1 foot of 0.01-inch machine slotted flush-threaded PVC well screen. The screen was set ten feet beneath the water table. A clean 10-20 grade silica sand gravel pack was placed around the outside of the screen from the bottom of the boring to two feet above the screen. Ten feet of three-eights inch natural bentonite chips were set above the gravel pack for a tight seal within the water table. A cement slurry, containing five percent powdered bentonite, was set above the seal to the surface.

Air was injected with a Gast™ oil-less rotary vane compressor that supplies approximately 17 standard cubic feet per minute air. The compressor is located in the same office building as the bioventing compressor (Figure 2). Air was pumped through 1-1/2 inch PVC pipe directly to the sparge well. The compressor operated from 0600 hours to 1800 hours seven days a week. Operations and maintenance were performed routinely to ensure the system was effective and working correctly.

BTEX concentrations from groundwater samples in MW-2 dropped below New Mexico Water Quality Control Commission (NMWQCC) standards in January 2007 and remained there for four consecutive quarters, as documented in last year's annual

report. The sparge system was turned off in March 2008 to ascertain whether the BTEX levels would remain below standards or rebound.

Results

Bioventing

The results from headspace field screening using a PhotoVac photoionization detector (PID) during monitoring and injection point installation in October 2002 are listed in Appendix B. Headspace readings were recorded where there was physical evidence of impacted soil. The samples with the highest headspace readings were chosen for laboratory analysis and annual sampling. The 2007 and 2008 laboratory analysis results are shown in Table 1. The laboratory results from the same locations collected during previous years can be found in Appendix B. Laboratory analytical reports and chain-of-custody documentation are included in Appendix A.

TPH levels in the monitoring wells have generally decreased during bioventing operations, as shown in Table 2 and graphically in Figure 4. In 2002, all soil samples were well over NMOCD standards for TPH. Since 2002, TPH levels in soil samples at all locations have generally fallen (Table 3). Four samples (IP-16, IP-12, MP-7 and IP-10) were over NMOCD standards in 2008. In 2007, IP-11 was sampled rather than MP-11, and TPH values in that sample cannot be compared to those collected previously. MP-11 was sampled again in 2008.

Table 1: 2007-2008 Biovent Laboratory Analysis Results

Location	Depth (ft)	PID (ppm)	Lab TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)
NMOCD Standard			**100**	**10**				**50**
Oct-07								
IP-11*	12	0.1	nd	nd	nd	nd	nd	0
IP-16	9	0.2	**1500**	nd	nd	nd	nd	0
MP-8	9	0.6	70	nd	nd	nd	nd	0
IP-12	12	0.3	84	nd	nd	nd	nd	0
IP-7	12	0.5	**1460**	nd	nd	nd	nd	0
MP-3	6	0.4	45	nd	nd	nd	nd	0
MP-7	6	0.5	**1250**	nd	nd	nd	nd	0
IP-10	6	0.5	nd	nd	nd	nd	nd	0
Oct-08								
MP-11	12	17.1	60	nd	nd	nd	nd	0
IP-16	9	4.2	**450**	nd	nd	nd	nd	0
MP-8	9	3.7	55	nd	nd	nd	nd	0
IP-12	12	3.3	**209**	nd	nd	nd	nd	0
IP-7	12	3.1	64	nd	nd	nd	nd	0
MP-3	6	3.9	78	nd	nd	nd	nd	0

Table 1: 2007-2008 Biovent Laboratory Analysis Results

Location	Depth (ft)	PID (ppm)	Lab TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)
NMOCD Standard			**100**	**10**				**50**
MP-7	6	4.1	**2230**	nd	nd	nd	nd	0
IP-10	6	25.1	**680**	nd	nd	nd	nd	0

nd: not detected

*IP-11 was sampled instead of MP-11 during 2007 and should not be compared to previous sampling results.

TPH levels in all but three samples increased since 2007. IP-12 increased from 84 to 209 mg/kg. MP-3 increased from 45 mg/kg to 78 mg/kg in 2008. IP-7 increased from 1460 to 2230 mg/kg and IP-10 increased from 0 to 680 mg/kg. MP-7 increased from 1250 mg/kg to 2330 mg/kg. Levels in IP-16, MP-8 and IP-7 decreased.

As shown in Table 2 and graphically presented in Figure 5, laboratory results indicate a consistent decrease of the BTEX constituents since bioventing operations began in 2002. All locations have been under NMOCD standards for BTEX concentrations since 2004. In 2008, BTEX was not detected in any of the samples.

Table 2: Comparison of Laboratory Results in Soil Samples

		2002 - 2008	
Hole	Depth (feet)	% Change Lab TPH (mg/kg)	% Change Total BTEX (mg/kg)
MP-11	12	-95.3%	-100%
IP-16	9	-92.1%	-100%
MP-8	9		nc
IP-12	12	-91.5%	-100%
IP-7	12	-98.6%	-100%
MP-3	6	-89.6%	-100%
MP-7	6	-21.2%	-100%
IP-10	6	-53.7%	-100%
	Average:	-77.5%	-100%

Table 3 shows the average of the yearly carbon dioxide and oxygen during bioventing readings. In 2008, monitoring was conducted at all injection and monitoring points since the system configuration has changed over the years to target areas of highest hydrocarbon concentrations. Measurements throughout the year at individual monitoring points are shown on the Biovent Data tables in Appendix B. The average oxygen concentration at all monitoring points decreased slightly in 2004, but returned to 2003 levels during 2005 and increased further in 2006 and 2007. In 2008, the average

oxygen concentrations decreased slightly from 2007 levels but were still (on average) above the 2006 levels. Average concentration of carbon dioxide increased in 2004 and returned to levels comparable to 2003 levels during 2006. There was a decrease in concentrations in both 2007 and slightly again in 2008.

Table 3: Results of Air Monitoring

Monitoring Point	Oxygen Percentage at Monitoring Points							Carbon Dioxide Percentage at Monitoring Points						
	Pre-test	2003 avg	2004 avg	2005 avg	2006 avg	2007 avg	2008 avg	Pre-test	2003 avg	2004 avg	2005 avg	2006 avg	2007 avg	2008 avg
IP1						17.1	19.1						2.8	0.93
IP2						20.5	12.4						0	1.85
IP3						20.2	20.2						0	0.37
IP4						20.5	20.3						0	0.1
IP5						19.2	20.3						1.1	0.05
IP6						15.1	19.6						5.4	0.23
IP7						18	20						2.5	0.13
IP8	20.2	3.25	4.8	0.03	0	20.5	10.8	0.8	13.4	10.6	3.5	14.4	0	1.45
IP9						18.1	20.2						0.2	0.13
IP10	17.2	3.15	12.4	4.8	7.15	14.5	14.6	1.8	6.52	11	4.87	14.1	6.5	5.65
IP11	20.9	9.51	8.63	13.5	19.6	20.4	20.4	0	1.03	11.9	4.47	1.3	0	0.17
IP12						18.4	18.8						1.4	0.2
IP13	20.9	8.62	19	18.3	17.9	19.5	18.9	0.2	1.74	1.38	2.07	2.18	0.45	1.4
IP14	19.9	5.77	4.5	3.4	15.6	18.5	14.4	1	6.84	10.1	13.7	4.75	2.03	3.98
IP15	20.9	0.07	19.9	20.3	20	20.3	20.2	0.8	1.21	0.33	0.47	0.55	0.1	0.13
IP16						20.5	14.3						0	0.4
IP17	20.9	0.44	19.2	19	19.4	17.6	20.4	1	1.1	1.25	2.13	1.03	0.23	0.28
IP18						17.6	19.2						2.9	0.15
IP19	20.9	9.27	16.2	18.1	19.4	19.1	19.7	0.4	1.24	3.5	2.37	0.93	1.38	0.95
IP20	20.5	5.88	7.18	13.5	17.8	19	19.7	0.6	6.36	8.4	5.8	1.78	0.95	0.9
IP21	20.9	8.33	18.1	19.7	18.7	20	20.2	1.4	1.2	2.2	4.1	0.85	0.15	0.35
IP22	20.9	0.14	17.5	18.3	19.2	20	20.3	0.4	0.94	1.85	2.33	1.13	0.43	0.18
IP23	20.9	0.69	19.3	18.7	19.4	20.2	20.7	0.6	0.66	0.77	2.03	0.9	0.2	0.23
MP1						17.9	19.5						2.1	0.28
MP2						20.4	20.2						0.2	0.13
MP3						17	18.2						0.5	1.63
MP4	19	1.94	6.15	2	0	20.5	13.4	1.2	12.1	14.5	6.33	14.9	0	1.7
MP5						30.5	18.7						0	0.23
MP6						15.7	19.9						4.6	0.2
MP7	18.6	6.56	7.85	14.2	18.5	20.5	14.1	1.4	5.6	8.25	4.2	0.7	0.03	0.33
MP8						18.1	20.1						2.2	0.15
MP9	20.5	13.1	18.9	19.3	18.9	19.6	20.1	1	1.89	0.98	1.5	1.28	0.33	0.28
MP10						16.8	20.5						3.2	0.03
MP11						17.2	16						3.3	0.48
MP12						19.7	15.7						0.3	0.63

Table 3: Results of Air Monitoring

Monitoring Point	Oxygen Percentage at Monitoring Points							Carbon Dioxide Percentage at Monitoring Points						
	Pre-test	2003 avg	2004 avg	2005 avg	2006 avg	2007 avg	2008 avg	Pre-test	2003 avg	2004 avg	2005 avg	2006 avg	2007 avg	2008 avg
MP13						17.3	19						2.1	0.23
MP14	19.2	14.2	8.3	14.1	15.9	19.1	18.8	1	3.34	7.98	5.33	3.5	1.08	1.2
MP15	20.9	18.4	14.9	14.2	18.4	19.2	20.5	0.6	1.82	3.68	3.43	1.5	1.45	0.15
MP16	20.9	20.1	19	19.5	19.3	19.3	19.7	0.06	0.97	1.4	1.43	1.2	1.18	0.98
Average	20.2	13.9	13.4	13.9	15.8	19.1	18.4	0.79	3.77	5.55	3.53	3.72	1.3	0.74

2003 includes data from 2/03,3/03,10/03 and 1/04.
2004 includes quarterly data from 4/04,7/04,10/04 and 1/05.
2005 includes data from 4/05, 7/05 and 10/05. The pump that injects air into the subsurface was being repaired during the 4th quarter monitoring event.
2006 includes data from 4/06, 7/06, 10/06 and 1/07.
2007 includes data from 4/07, 7/07, 10/07 and 1/08.

Groundwater Sampling

Depth-to-water measurements taken during January 2009 are shown in Table 4. During January 2009, water depth ranged from 19.53 feet beneath the top of the well casing (BTOC) in MW-7 to 11.75 feet BTOC in MW-2. Product was found in MW-2 during January 2004 through August 2004 and was absent from September 2004 to date. Free phase crude oil has never been found in any of the other wells. Groundwater elevations were calculated, and an inferred potentiometric surface map is presented as Figure 6. Based on the contours, groundwater movement appears to be to the southwest and the hydraulic gradient is 0.017 feet per feet.

Table 4: January 2009 Groundwater Elevation Data

Well Number	Casing Elevation (ft)	Date	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Groundwater Elevation (ft)
MW-2	5485.33	01/22/09	11.75	np	np	5473.58
MW-3	5488.61	01/22/09	12.17	np	np	5476.44
MW-4	5486.18	01/22/09	13.46	np	np	5472.72
MW-5	5481.61	01/22/09	13.38	np	np	5468.23
MW-6	5486.18	01/22/09	14.89	np	np	5471.29
MW-7	5491.86	01/22/09	19.53	np	np	5472.33

Measuring points are marked by a notch in top of well casing
np: indicates there was no free phase product present
Groundwater Elevation = (Surveyed Well Casing Elevation) - (Depth to Water)
Water level elevation is given in feet above mean sea level
* Monitoring of MW-1 was abandoned by Giant in 2000

Laboratory analytical results for BTEX concentrations in groundwater samples collected in 2008 and January 2009 are presented in Table 5. During January 2009, BTEX was not detected in the groundwater from MW-2, MW-3, MW-4, MW-5 and MW-6. MW-7 continues to be over NMWQCC standards with 570 µg/L of benzene and 2800 µg/L of total xylenes. Complete 2008 reports from Pinnacle Laboratories and HEAL are included in Appendix A. Complete results from all groundwater sampling (1994 – January 2009) can be found in Appendix C.

Table 5: 2008 – January 2009 Groundwater Results

NMWQCC Standards		Benzene (µg/L) 10	Toluene (µg/L) 750	Ethyl-benzene (µg/L) 750	Total Xylenes (µg/L) 620
MW-2	May-08	0.86	12.3	<0.5	16.6
MW-2	Aug-08	1.1	7.3	14	28
MW-2	Nov-08	1.7	2	7.3	15
MW-2	Jan-09	1.6	ND	2.1	6.9
MW-3	Jan-09	ND	ND	ND	ND
MW-4	Jan-09	ND	ND	ND	ND
MW-5	Jan-09	ND	ND	ND	ND
MW-6	Jan-09	ND	ND	66	510
MW-7	Jan-09	**570**	ND	450	**2800**
*Reported from a 5X dilution run on 01/28/08.					

The results of general chemistry analyses for January 2009 are shown in Table 6. Results indicate high conductivity in all of the samples, ranging from 1200 microhms per centimeter (µmhos/cm) to 6200 µmhos/cm. Total dissolved solids (TDS) are also high, with levels between 750 milligram per liter (mg/L) in MW-7 and 5700 mg/L in MW-5. All of the samples, except MW-7, have concentrations greater than the NMWQCC domestic water supply standard for TDS of 1000 mg/L. These results indicate a poor quality for potable use. The samples from wells MW-2, MW-3, MW-4 and MW-5 exceed the NMWQCC domestic water standard for sulfate (600 mg/L) at 2000 mg/L, 2000 mg/L, 2400 mg/L, and 1900 mg/L, respectively. The elevated levels of these parameters are indicators of the typically poor quality of shallow groundwater at the site. The complete laboratory analytical reports are included in Appendix A. Historical general chemistry of groundwater sampled at the Bloomfield Crude Station is included in Appendix C.

Table 6: January 2009 Groundwater General Chemistry Results

		Lab pH (su)	Conductivity (mmhos/cm)	TDS (mg/L)	Alkalinity (CaCO3) (mg/L)	Hardness (CaCO3) (mg/L)	Sodium Absorption Ratio	Bicarbonate (HCO3) (mg/L)	Carbonate (CO3) (mg/L)	Hydroxide (mg/L)
NMWQCC Std		6-9	No Std	1,000	No Std	No Std	No Std	No Std	No Std	No Std
MW-2	12-Jan-09	7.34	4300	**3900**	760	NA	NA	760	ND	NA
MW-3	12-Jan-09	7.33	4000	**3700**	580	NA	NA	580	ND	NA
MW-4	12-Jan-09	7.19	4400	**4000**	450	NA	NA	450	ND	NA
MW-5	12-Jan-09	6.8	6200	**5700**	840	NA	NA	840	ND	NA
MW-6	12-Jan-09	7.14	2800	**1900**	1100	NA	NA	1100	ND	NA
MW-7	12-Jan-09	7.03	1200	750	680	NA	NA	680	ND	NA

Table 6: January 2009 Groundwater General Chemistry Results

		Chloride (mg/L)	Sulfate (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Nitrate/Nitrite (mg/L)
NMWQCC Std		250	600	No Std	No Std	No Std	No Std	No Std	No Std	No Std
MW-2	12-Jan-09	42	**2000**	380	42	2.3	720	BDL	0.25	ND
MW-3	12-Jan-09	37	**2000**	390	37	2.2	600	3.2	6.6	3.1
MW-4	12-Jan-09	36	**2400**	400	42	3.7	670	BDL	4.7	ND
MW-5	12-Jan-09	**1000**	**1900**	570	50	5.6	860	BDL	10	ND
MW-6	12-Jan-09	180	260	180	23	2.2	430	9.1	1.9	ND
MW-7	12-Jan-09	22	6.8	150	17	0.9	140	11	1.5	ND

Groundwater Remediation

As indicated in the Methodology section of this report, values of all BTEX constituents within groundwater samples taken from MW-2 decreased between September 2006 and January 2008. BTEX concentrations from groundwater samples in MW-2 dropped below NMWQCC standards in January 2007 and remained there for four consecutive quarters. The sparge system was turned off in March 2008 to ascertain whether the BTEX levels would stay rebound. The well was sampled in May 2008 and BTEX levels remained below standards. MW-2 has been assigned a quarterly sampling schedule to monitor rebound and work towards closure. May 2008 was the first quarter sampling event, August 2008 represents the second quarter and November 2008 represents the third quarter. The results continue to be below NMWQCC standards.

Conclusions

Bioventing

Based on the overall decrease in concentrations of TPH and BTEX following almost five years of operations, bioventing is effectively reducing the concentrations of hydrocarbons in the subsurface. Prior to bioventing in 2002 seven of eight soil samples were over NMOCD standards for TPH, none for benzene and four were over for total BTEX. In 2007, three of eight samples were over NMOCD standards for TPH, and BTEX was not detected in any of the eight samples while in 2008 four of eight samples were over NMOCD standards for TPH, and BTEX was not detected in any of the eight samples.

The concentrations of oxygen and carbon dioxide recorded through January 2009 indicate decreasing biologic activity at the site since 2006. Oxygen concentrations from the 2002 installation through 2004 decreased, representing enhanced biologic activity at the site during startup of bioventing operations. As indicated, air monitoring points were, for the most part, installed away from the injection points (installed in the areas of highest hydrocarbon concentrations). Because these points were away from hydrocarbons and hence biologic activity, initial oxygen concentrations were typically

higher and carbon dioxide concentrations typically lower than readings in areas of higher hydrocarbon concentrations. Oxygen concentrations began to rise in 2005, indicating less oxygen was consumed as less hydrocarbon mass was available. The increase in subsurface oxygen concentrations during 2006 and 2007 indicates decreasing biologic activity at the site as less oxygen is consumed with a reduced volume of hydrocarbons available as a food source. The 2008 levels are comparable to the 2007 levels indicating only a small amount of change over the last year.

A similar trend is apparent in carbon dioxide concentrations. The peak carbon dioxide concentrations occurred in 2004, when biologic activity was at its highest. Levels have since decreased to 2008 levels as less hydrocarbon mass is available. There was a slight increase in carbon dioxide levels in 2006, which may be attributable to increased activity on site after the installation of the sparge well next to MW-2.

Although the biovent system is still effective, progress for reduction of TPH concentrations in the soil appears to have slowed since 2006. Some of the irregularity observed in TPH concentrations can be attributed to the inherent variability associated with soil sampling and the fact that boreholes from which samples are collected are not located in exactly the same location from year to year. The previous years' boreholes are backfilled after sampling and no longer representative of target soil zones. Borehole locations are within a foot or two of the monitoring point, but are purposely offset from previous sampling locations to avoid backfilled soil.

Additionally, soil type may be affecting progress. Based on original core logs, the areas of concentrations above NMOCD standards (IP-10, IP-12, IP-16, MP-7) are in or surrounded by sand layers containing a portion of clay within its matrix. The biovent system quickly facilitated biodegradation of hydrocarbons within the pure sand layers; but hydrocarbon concentrations within the clayier units will be harder to remove, as clay impedes efficient airflow. The system continues to reduce the overall TPH concentrations, but it is expected that decreases in these subsurface units will take more time.

Groundwater Remediation

Air sparging operations have proven to be successful in reducing BTEX concentrations in groundwater at MW-2. The system was shut-down in March 2008 and sampled in May 2008. BTEX levels were below NMWQCC standards (see the Results section of this report for details). MW-2 has been put on a quarterly sampling schedule for closure. May 2008 was the first quarter sampling event, August 2008 sample represents the second quarter and November 2008 the third quarter. The results continue to be below standards.

Groundwater Sampling

The absence of free-phase product on the groundwater table and the reduction in concentrations of BTEX in the groundwater from MW-2 is evidence that all of the product has been removed from the groundwater on the site and dissolved phase BTEX concentrations have diminished. Groundwater from MW-7 contains concentrations of

benzene, and xylenes that are above NMWQCC standards, but these concentrations are not related to Western's activities at the site due to the well's proximity to former oil and gas wells and it's offsite cross-gradient location. Even so, current activities at the site may be contributing to the decline in BTEX concentrations in the well.

Except for MW-7, the NMWQCC domestic use standards for total dissolved solids in groundwater are exceeded at all monitoring wells including up-gradient well MW-3, indicating that the groundwater is not suitable for domestic use. That the groundwater from MW-7 is significantly lower in TDS, indicates the source of the groundwater at MW-7 may not be the same source of the water beneath the Crude Station.

The potentiometric surface elevation did not show an overall increase or decrease since last year. The general direction and flow gradient also remain static. Groundwater flow is to the southwest and the hydraulic gradient is 0.017 ft/ft.

Recommendations

After compiling the most recent analytical results and comparing these with historical results, the following remedial action and monitoring plan is recommended:

- Continue bioventing at the site to reduce the hydrocarbon concentrations in soil to below NMWQCC standards. Increase airflows where necessary to enhance degradation, especially near IP-10, IP-12, IP-16 and MP-7.

- Increase soil sampling frequency to quarterly to better monitor progress of remediation. Quarterly sampling should begin during the second quarter of 2009 following submittal of this annual report.

- Also during October 2009, turn off the bioventing system for one week and measure the concentrations of hydrocarbons in the soil gas at all monitoring and injection points.

- Since BTEX concentrations in groundwater from MW-2 have been beneath NMWQCC standards for three consecutive quarters, continue the above stated plan to close MW-2. MW-2 will be sampled in Feb, May, Aug, and Nov 09.

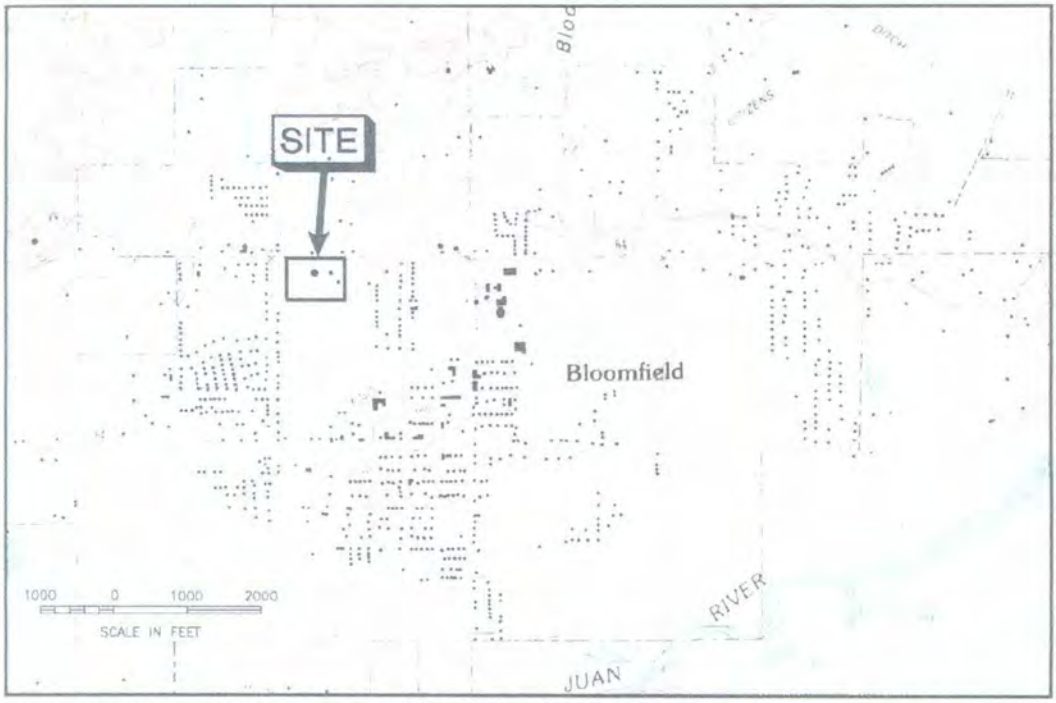
- Prepare an annual report in March 2010.

Figure 1: Site Location Map

NEW MEXICO

SAN JUAN COUNTY

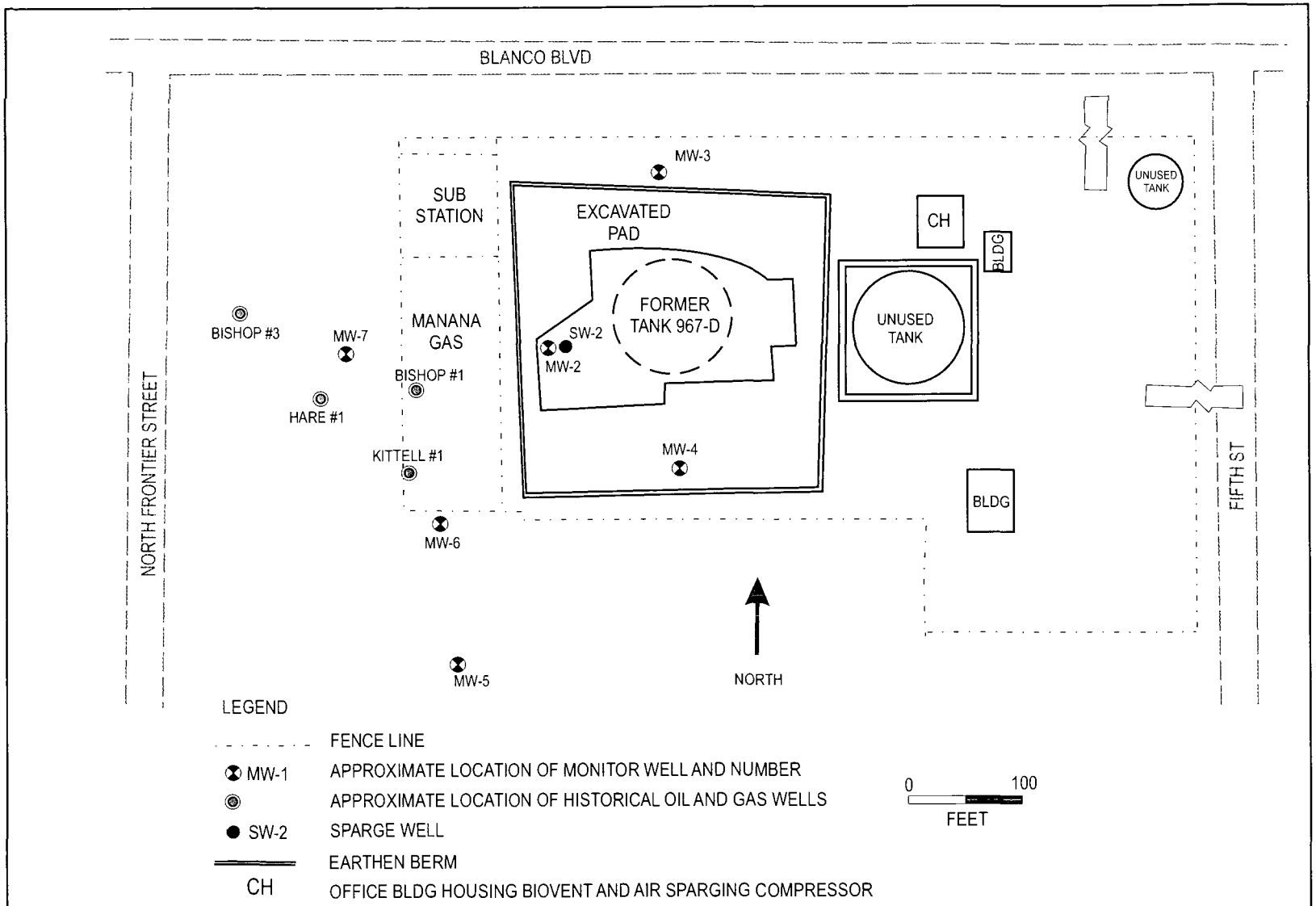
AREA IN DETAIL



Modified from U.S. Geological Survey Quadrangle of Bloomfield, New Mexico, Provisional Edition 1985

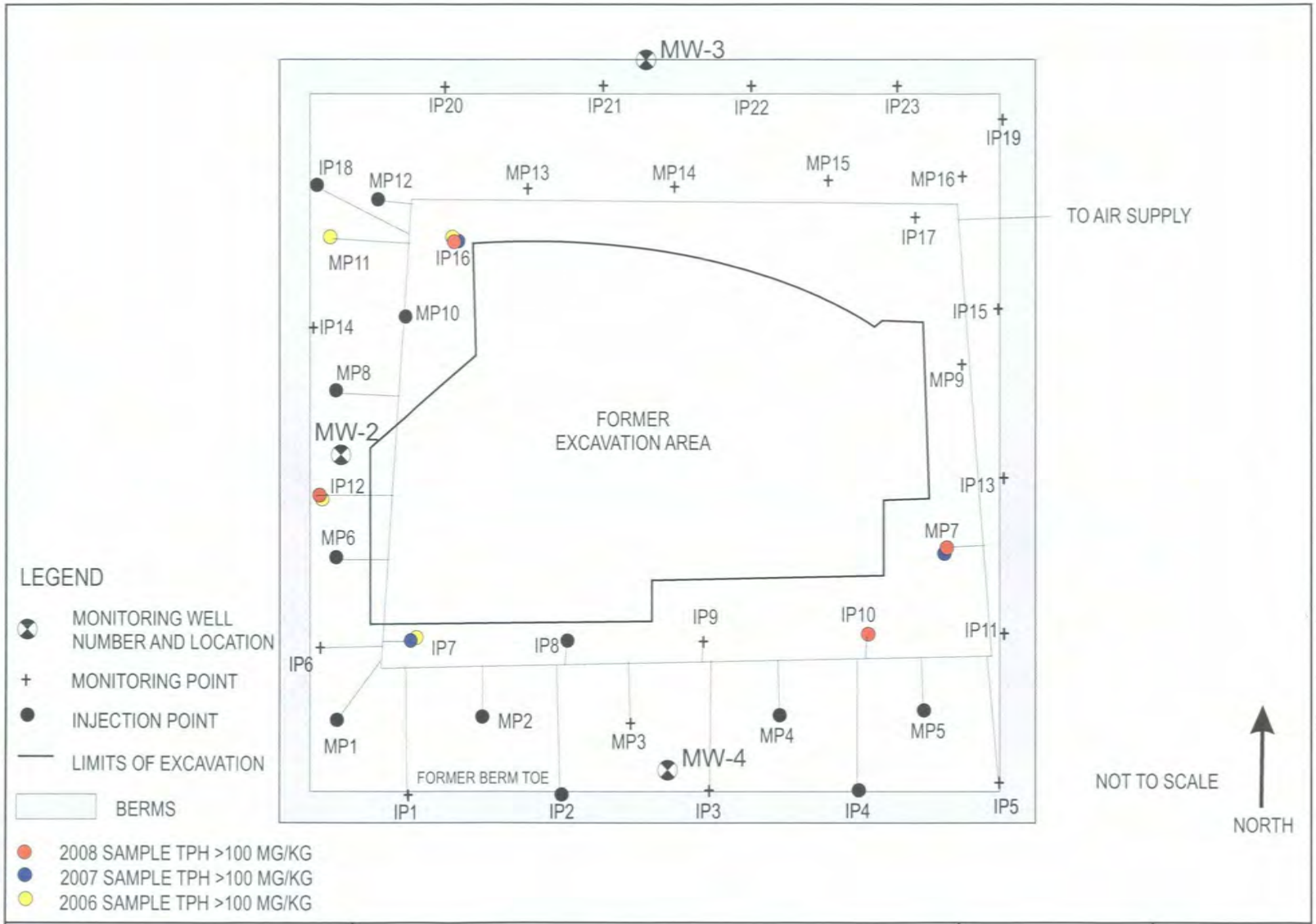
Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	Western Refining, Inc. Bloomfield Crude Station Site Location Map	DRWN BY: AA CHKD BY: MN APPVD BY: MN DATE: 03/24/08	Figure 1

Figure 2: Site Map



Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	Western Refining, Inc. Bloomfield Crude Station Site Map	Drawn by: AA Updated by: AH Appvd by: AA DATE: 02/25/08	Figure 2 Site Map

Figure 3: Bioventing Layout Map



Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	Western Refining, Inc. Bloomfield Crude Station Bioventing Configuration	DRWN BY: AA DATE: 11/14/08	Figure 3

Figure 4: Laboratory TPH Concentration in Soil Samples

Figure 4
Laboratory TPH Results at Monitoring and Injection Points

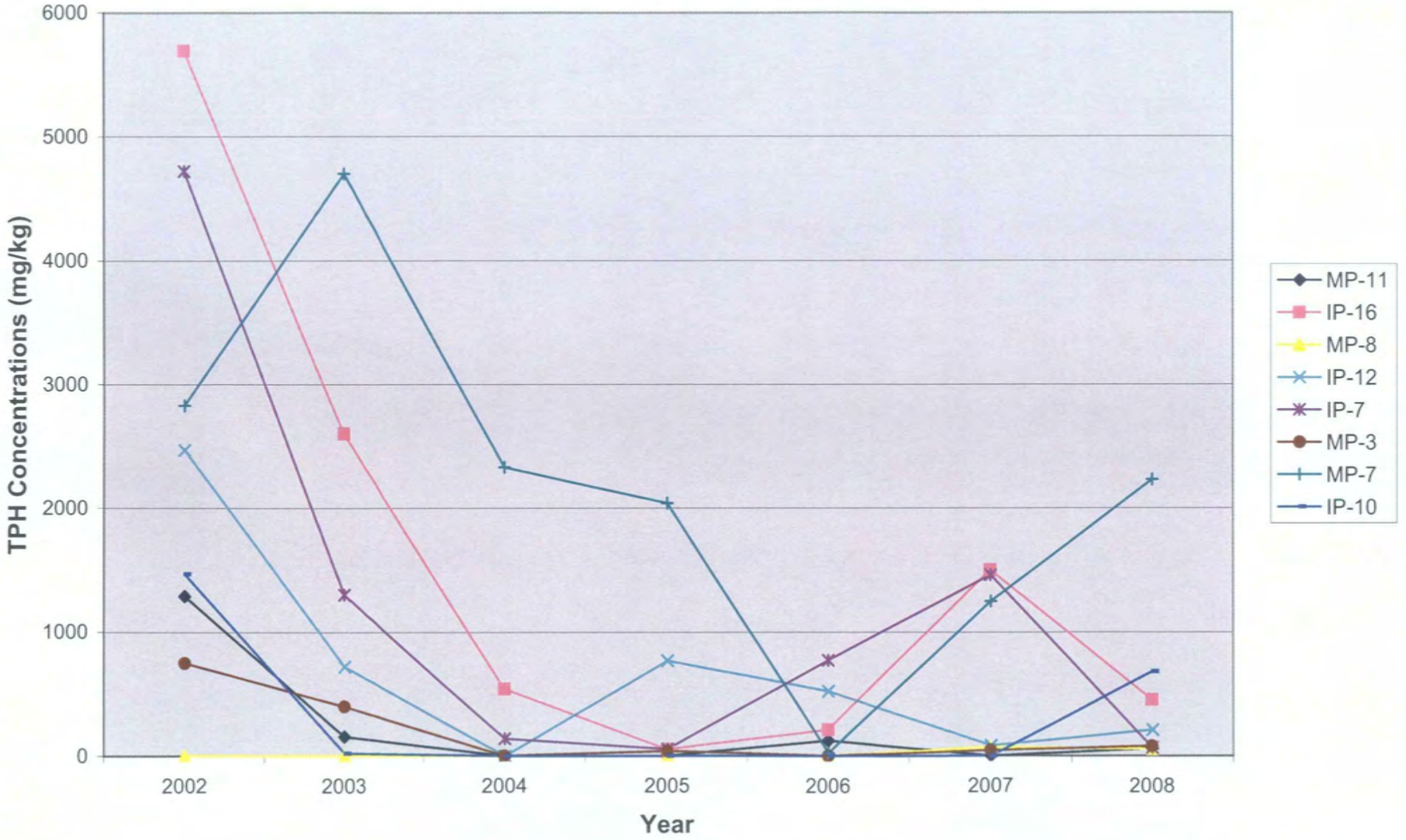


Figure 5: Laboratory BTEX Concentrations in Soil Samples

Figure 5
Laboratory Total BTEX Results at Monitoring and Injection Points
2002-2008

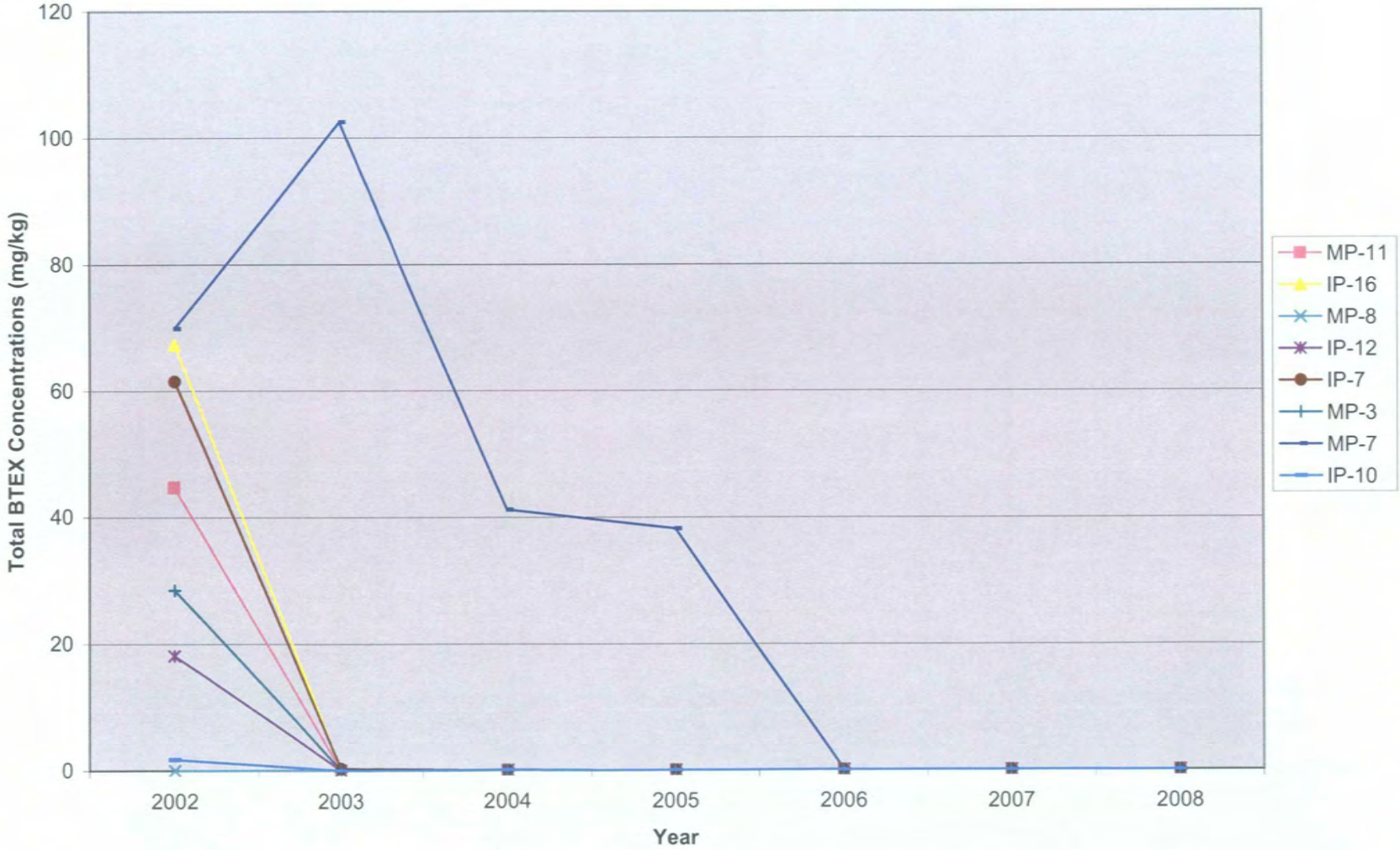
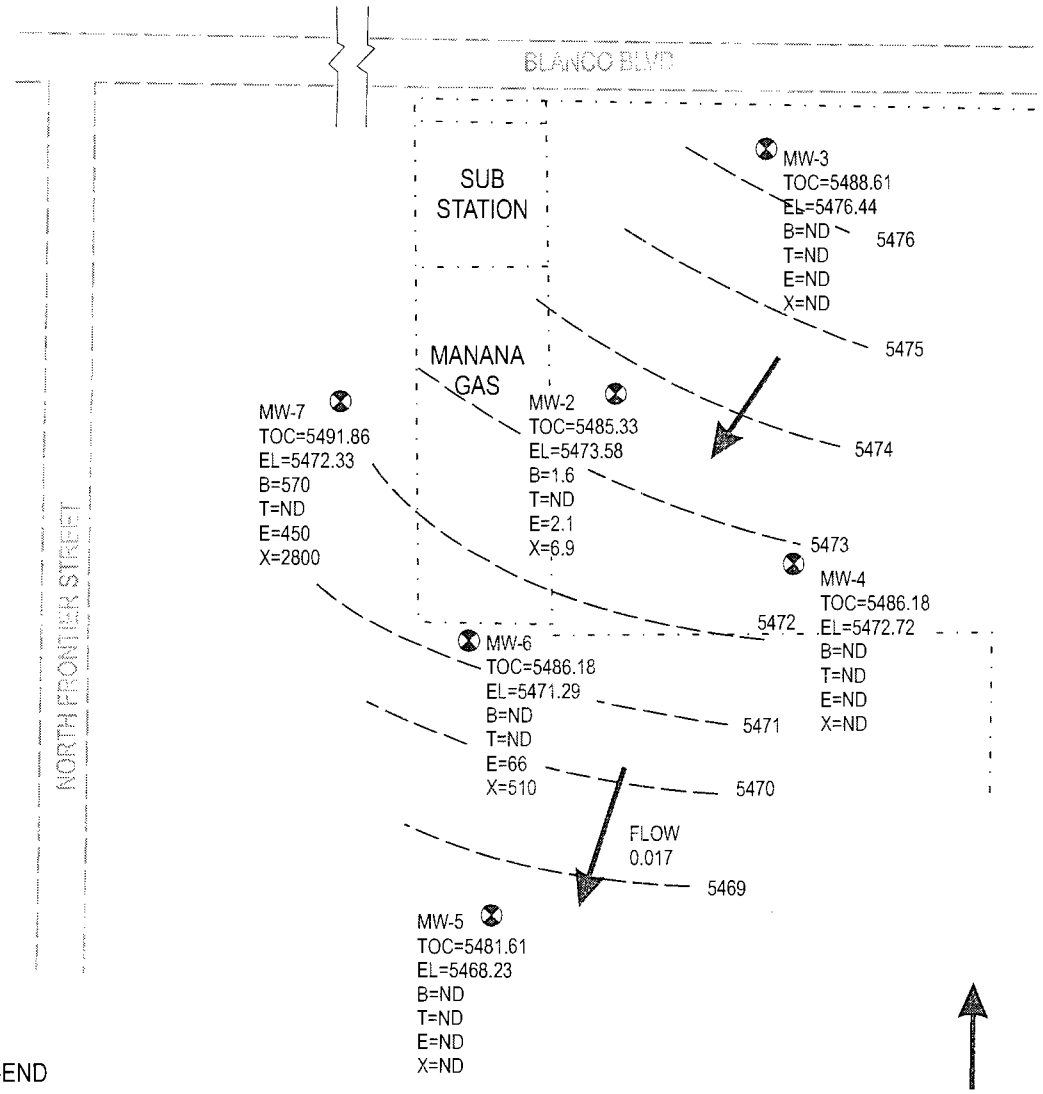


Figure 6: Groundwater Elevation Contour Map
January 2009



LEGEND

. . . . .	FENCE LINE
⊗ MW-1	APPROXIMATE LOCATION OF MONITOR WELL AND NUMBER
⌒	POTENTIOMETRIC SURFACE OF GROUND WATER
TOC	TOP OF CASING ELEVATION
EL	GROUND WATER ELEVATION
B	BENZENE IN ug/L
T	TOLUENE IN ug/L
E	ETHYLBENZENE IN ug/L
X	TOTAL XYLENES IN ug/L

0 100
FEET

Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	Western Refining, Inc. Bloomfield Crude Station Ground Water Gradient Map 01/09/08	DRWN BY: AH APPVD BY: AA DATE: 02/23/09	Figure 6

Appendix A

Analytical Laboratory Reports

PINNACLE LABS
Environmental Testing

Pinnacle Lab ID number **805054**
May 23, 2008

LODESTAR SERVICES
P.O. BOX 4465
DURANGO, CO 81302

WESTERN REFINING
111 CR 4490
BLOOMFIELD, NM 87413

Project Name (NONE)
Project Number BCS

Attention: ASHLEY AGER/BILL ROBERTSON

On 05/16/08 Pinnacle Laboratories Inc., (ADHS License No. AZ0643), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

H. Mitchell Rubenstein, Ph.D.
General Manager, Pinnacle Laboratories, Inc.

MR: jt

Enclosure

PINNACLE LABS
Environmental Testing

CLIENT	: LODESTAR SERVICES	PINNACLE ID	: 805054
PROJECT #	: BCS	DATE RECEIVED	: 05/16/08
PROJECT NAME	: (NONE)	REPORT DATE	: 05/23/08

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
805054 - 01	BCS MW-2	AQUEOUS	05/15/08
805054 - 02	TRIP BLANK	AQUEOUS	05/15/08

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021B
CLIENT : LODESTAR SERVICES
PROJECT # : BCS
PROJECT NAME : (NONE)

PINNACLE I.D. : 805054
ANALYST : ARM

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	BCS MW-2	AQUEOUS	05/15/08	NA	05/20/08	1
02	TRIP BLANK	AQUEOUS	05/15/08	NA	05/20/08	1

PARAMETER	DET. LIMIT	UNITS	BCS MW-2	TRIP BLANK
BENZENE	**0.5**	**UG/L**	**0.9**	< 0.5
TOLUENE	**0.5**	**UG/L**	**12**	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5
TOTAL XYLENES	**2.0**	**UG/L**	**17**	< 2.0

SURROGATE:			
BROMOFLUOROBENZENE (%)		119	96
SURROGATE LIMITS	(80 - 120)		

CHEMIST NOTES:
N/A

PINNACLE Labs
Environmental Testing

GAS CHROMATOGRAPHY RESULTS
METHOD BLANK

TEST	: EPA 8021B	PINNACLE I.D.	: 805054
BLANK I. D.	: 052008B	DATE EXTRACTED	: NA
CLIENT	: LODESTAR SERVICES	DATE ANALYZED	: 05/20/08
PROJECT #	: BCS	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: (NONE)	ANALYST	: ARM

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<2.0
SURROGATE:		
BROMOFLUOROBENZENE (%)		95
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8021B		PINNACLE I.D.
BATCH ID	: 052008B		DATE EXTRACTED
CLIENT	: LODESTAR SERVICES		DATE ANALYZED
PROJECT #	: BCS		SAMPLE MATRIX
PROJECT NAME	: (NONE)		UNITS

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % RE
BENZENE	<0.5	20.0	18.3	91	18.8	94
TOLUENE	<0.5	20.0	19.4	97	19.9	100
ETHYLBENZENE	<0.5	20.0	20.4	102	21.0	105
TOTAL XYLENES	<2.0	60.0	60.7	101	62.0	103

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABS
Environmental Testing

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

TEST	: EPA 8021B	PINNACLE I.D.	: 80505
SAMPLE ID	: 805054-01	DATE EXTRACTED	: NA
CLIENT	: LODESTAR SERVICES	DATE ANALYZED	: 05/20/
PROJECT #	: BCS	SAMPLE MATRIX	: AQUE
PROJECT NAME	: (NONE)	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	RE LIMI
BENZENE	**0.866**	20.0	17.4	83	18.6	89	6	(80 -
TOLUENE	**12.3**	20.0	19.6	**37 M4**	20.6	**41 M4**	5	(80 -
ETHYLBENZENE	<0.5	20.0	20.5	103	21.6	108	5	(80 -
TOTAL XYLENES	**16.6**	60.0	62.4	**76 M4**	65.0	81	4	(80 -

CHEMIST NOTES:
M4 = %REC is outside of PLI criteria.

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 05-15-08 PAGE: 1 OF 1

PLI Accession #: 805054

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Ashley Ager

COMPANY: Lodestar Services
ADDRESS: 1588 CR 204
Durango, CO 81301
PHONE: 970 946 1093
FAX: 970 385 6794

BILL TO: Bill Robertson
COMPANY: Western Refining
ADDRESS: 111 CR 4990
Bloomfield, NM

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
BCS MW-2	5-15-08	1219	WG	01
TRIP BLANK	5-15-08	0700	water	02

ANALYSIS REQUEST

	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	8021B BTEX	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐MTBE ☐TMB ☐PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐/DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics ☐PBMS	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides/PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method1311)	Metals:	NUMBER OF CONTAINERS
BCS MW-2			✓																							3
TRIP BLANK			✓																							2

WEEKEND ANALYSES MAY RESULT IN AN ADDITIONAL SURCHARGE - PLEASE INQUIRE.

PROJECT INFORMATION

PROJ. NO.: BCS
PROJ. NAME:
P.O. NO.:
SHIPPED VIA: UPS

SAMPLE RECEIPT

NO CONTAINERS	5
CUSTODY SEALS	Y (N) NA
RECEIVED INTACT	(Y) N
BLUE ICE/ICE	5.1°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr* ☐48hr* ☑72hr* ☐ 1 WEEK (NORMAL) ☒
*NOT AVAILABLE ON ALL ANALYSES

CERTIFICATION REQUIRED ☐ NM ☐ SDWA ☐ AZ ☐ OTHER

METHANOL PRESERVATION ☐ | METALS ☐ TOTAL ☐ DISSOLVED

COMMENTS:

#051608

RELINQUISHED BY: 1

Signature: Ashley Ager Time: 1500
Printed Name: Ashley L. Ager Date: 5-15-08
Company: Lodestar Services

RECEIVED BY: 1

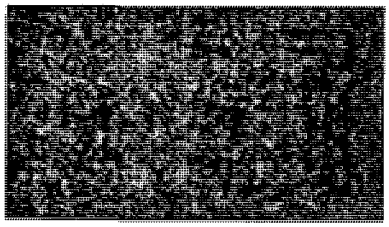
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2

Signature: Time: 1245
Printed Name: Date: 5/16/08
Pinnacle Laboratories Inc.



ANASAZI ENVIRONMENTAL SOLUTIONS

A Woman-Owned, Native-American Business

Pinnacle Lab ID number **808026**
September 15, 2008

LODESTAR
1588 CR 204
DURANGO, CO 81301

Project Name BLOOMFIELD CRUDE STA
Project Number (NONE)

Attention: ASHLEY AGER/MARK GARRISON

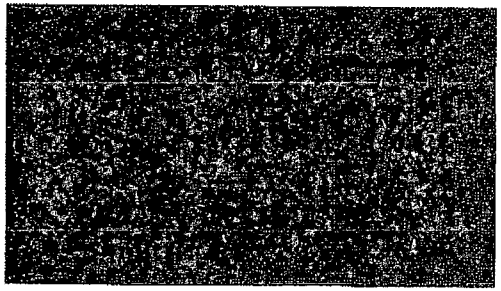
On 8/14/2008 Pinnacle Laboratories Inc., (ADHS License No. AZ0643), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

H. Mitchell Rubenstein, Ph.D.
General Manager, Pinnacle Laboratories, Inc.

MR: jt

Enclosure

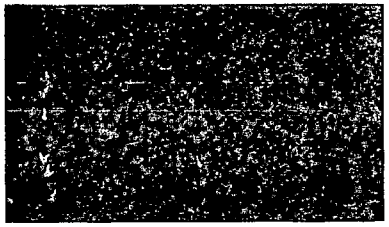


ANASAZI ENVIRONMENTAL SOLUTIONS

A Woman-Owned, Native-American Business

CLIENT	: LODESTAR	ANASAZI ID	: 808026
PROJECT #	: (NONE)	DATE RECEIVED	: 8/14/2008
PROJECT NAME	: BLOOMFIELD CRUDE STA	REPORT DATE	: 9/15/2008

ANASAZI ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
808026 - 01	MW-2	AQUEOUS	8/13/2008



ANASAZI ENVIRONMENTAL SOLUTIONS

A Woman-Owned, Native-American Business

GAS CHROMATOGRAPHY RESULTS

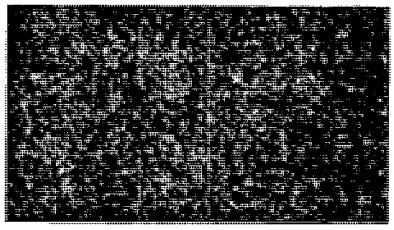
TEST : EPA 8021B / 8015B GRO
CLIENT : LODESTAR
PROJECT # : (NONE)
PROJECT NAME : BLOOMFIELD CRUDE STA

AES I.D. : 808026
ANALYST : DRK

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-2	AQUEOUS	08/13/08	NA	8/26/2008	1

PARAMETER	DET. LIMIT	UNITS	MW-2
FUEL HYDROCARBONS	**100**	**UG/L**	**940**
HYDROCARBON RANGE			C6-C10
HYDROCARBONS QUANTITATED USING			GASOLINE
BENZENE	**0.5**	**UG/L**	**1.1**
TOLUENE	**0.5**	**UG/L**	**7.3**
ETHYLBENZENE	**0.5**	**UG/L**	**14**
TOTAL XYLENES	**2.0**	**UG/L**	**28**
METHYL-t-BUTYL ETHER	2.5	UG/L	< 2.5
SURROGATE:			
BROMOFLUOROBENZENE (%)			92
SURROGATE LIMITS	(80 - 120)		

CHEMIST NOTES:



ANASAZI ENVIRONMENTAL SOLUTIONS

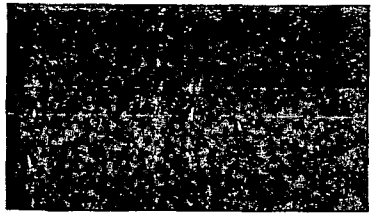
A Woman-Owned, Native-American Business

GAS CHROMATOGRAPHY RESULTS
METHOD BLANK

TEST	: EPA 8021B / 8015B GRO	AES I.D.	: 808026
BLANK I.D.	: 082608B1	DATE EXTRACTED	: NA
CLIENT	: LODESTAR	DATE ANALYZED	: 8/26/20
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEO
PROJECT NAME	: BLOOMFIELD CRUDE STA	ANALYST	: DRK

PARAMETER	UNITS	
FUEL HYDROCARBONS	MG/L	<0.10
HYDROCARBON RANGE		C6-C10
HYDROCARBONS QUANTITATED USING		GASOLINE
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<2.0
METHYL-t-BUTYL ETHER	UG/L	<2.5
SURROGATE:		
TRIFLUOROTOLUENE (%)		81
SURROGATE LIMITS	(80 - 120)	

CHEMIST NOTES:
N/A



ANASAZI ENVIRONMENTAL SOLUTIONS

A Woman-Owned, Native-American Business

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

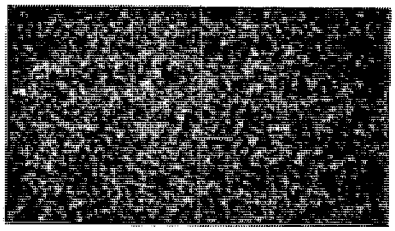
TEST	: EPA 8021B	AES I.D.	: 808026
BATCH ID	: 082608B1	DATE EXTRACTED	: NA
CLIENT	: LODESTAR	DATE ANALYZED	: 8/26/2008
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: BLOOMFIELD CRUDE STA	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	18.0	90	17.5	87	3	(80 - 120)	20
TOLUENE	<0.5	20.0	17.6	88	17.4	87	2	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	17.6	88	16.8	84	5	(80 - 120)	20
TOTAL XYLENES	<2.0	60.0	54.9	91	52.7	88	4	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	17.7	89	14.8	74	18	(70 - 133)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



ANASAZI ENVIRONMENTAL SOLUTIONS

A Woman-Owned, Native-American Business

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

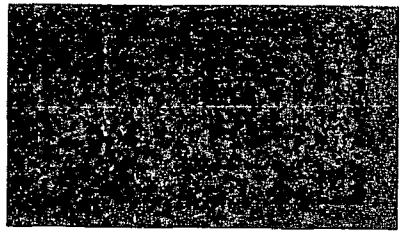
TEST	: EPA 8021B	AES I.D.	: 808026
SAMPLE ID	: 808043-01	DATE EXTRACTED	: NA
CLIENT	: LODESTAR	DATE ANALYZED	: 8/26/20
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEO
PROJECT NAME	: BLOOMFIELD CRUDE STA	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	RE LIMI
BENZENE	<0.5	20.0	7.55	**38 m**	3.35	**17 m**	**77R**	(80 - 1
TOLUENE	<0.5	20.0	9.91	**50 m**	4.47	**22 m**	**76R**	(80 - 1
ETHYLBENZENE	<0.5	20.0	17.1	86	16.7	84	2	(80 - 1
TOTAL XYLENES	<2.0	60.0	54.4	91	51.9	86	5	(80 - 1
METHYL-t-BUTYL ETHER	<2.5	20.0	17.6	88	18.5	92	5	(70 - 1

CHEMIST NOTES:
m = Recovery was outside of AES criteria - low.
R = RPD was outside of AES criteria - high.

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



ANASAZI ENVIRONMENTAL SOLUTIONS

A Woman-Owned, Native-American Business

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8015B GRO	AES I.D.	: 808026
BATCH ID	: 082608B1	DATE EXTRACTED	: NA
CLIENT	: LODESTAR	DATE ANALYZED	: 8/26/200
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOL
PROJECT NAME	: BLOOMFIELD CRUDE STA	UNITS	: UG/L

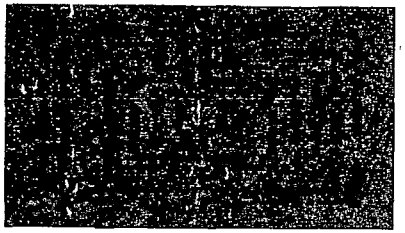
PARAMETER	BLANK RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS
FUEL HYDROCARBONS	<100	1000	984	98	974	97	1	(70 - 13
HYDROCARBON RANGE		C6-C10						

HYDROCARBONS QUANTITATED USING GASOLINE

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



ANASAZI ENVIRONMENTAL SOLUTIONS

A Woman-Owned, Native-American Business

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

TEST	: EPA 8015B GRO	AES I.D.	: 808026
SAMPLE ID	: 808043-01	DATE EXTRACTED	: NA
CLIENT	: LODESTAR	DATE ANALYZED	: 8/26/2008
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: BLOOMFIELD CRUDE STA	UNITS	: UG/L

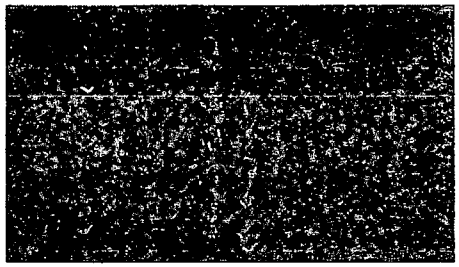
PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<100	1000	936	94	960	96	3	(70 - 130)	20
HYDROCARBON RANGE		C6-C10							

HYDROCARBONS QUANTITATED USING GASOLINE

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



ANASAZI ENVIRONMENTAL SOLUTIONS

A Woman-Owned, Native-American Business

GAS CHROMATOGRAPHY RESULTS

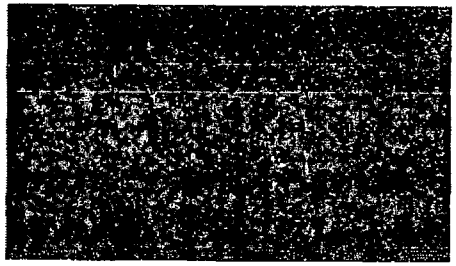
TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : LODESTAR
PROJECT # : (NONE)
PROJECT NAME : BLOOMFIELD CRUDE STA

AES I.D. : 808043
ANALYST : DRK

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	MW-2	AQUEOUS	08/14/08	8/21/2008	8/27/2008	1
02	MW-4	AQUEOUS	08/14/08	8/21/2008	8/27/2008	1

PARAMETER	DET. LIMIT	UNITS	MW-2	MW-4
FUEL HYDROCARBONS, C10-C22	1.0	MG/L	< 1.0	< 1.0
FUEL HYDROCARBONS, C22-C36	1.0	MG/L	< 1.0	< 1.0
SURROGATE:				
O-TERPHENYL (%)			90	87
SURROGATE LIMITS	(70-130)			

CHEMIST NOTES:
N/A



ANASAZI ENVIRONMENTAL SOLUTIONS

A Woman-Owned, Native-American Business

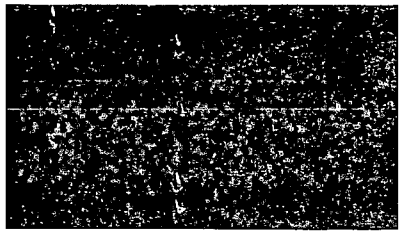
GAS CHROMATOGRAPHY RESULTS
METHOD BLANK

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	AES I.D.	: 808043
BLANK I.D.	: 082108FW	DATE EXTRACTED	: 8/21/2008
CLIENT	: LODESTAR	DATE ANALYZED	: 8/27/2008
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: BLOOMFIELD CRUDE STA	ANALYST	: DRK

PARAMETER	UNITS	
FUEL HYDROCARBONS, C10-C22	MG/L	< 1.0
FUEL HYDROCARBONS, C22-C36	MG/L	< 1.0

SURROGATE:		
O-TERPHENYL (%)		102
SURROGATE LIMITS	(70-130)	

CHEMIST NOTES:
N/A



ANASAZI ENVIRONMENTAL SOLUTIONS

A Woman-Owned, Native-American Business

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	AES I.D.	: 808043
BATCH ID	: 082108FW	DATE EXTRACTED	: 8/21/2008
CLIENT	: LODESTAR	DATE ANALYZED	: 8/27/2008
PROJECT #	: (NONE)	SAMPLE MATRIX	: NON-AQ
PROJECT NAME	: BLOOMFIELD CRUDE STA	UNITS	: MG/KG

PARAMETER	BLANK RESULT	CONC SPIKE	SPIKED BLANK	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RP LIMI
FUEL HYDROCARBONS	<10	200	243	121	220	110	10	(75-125)	2(
HYDROCARBON RANGE		C10-C32							

HYDROCARBONS QUANTITATED USING DIESEL FUEL

CHEMIST NOTES:
Insufficient sample collected to perform matrix spike and spike duplicate.

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 8-13-08 PAGE: 1 OF 1

PLI Accession #: 808026

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:	Ashley Ager
COMPANY:	Lodestar Services
ADDRESS:	P.O. Box 4465
	Durango CO 81302
PHONE:	970-946-1093
FAX:	
BILL TO:	Bill Robertson
COMPANY:	Giant Industries Az Inc
ADDRESS:	111 CR 4990
	Bloomfield NM 87413

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	NUMBER OF CONTAINERS
MW-2	08-13-08	1147	WG	01	3

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) TRPH	
(MOD.8015) Diesel/Direct Inject	
(M8015) Gas/Purge & Trap	
8021 (BTEX)/8015 (Gasoline) ~~MTBE~~	X
8021 (BTEX) ☐MTBE ☐TMB ☐PCE	
8021 (TCL)	
8021 (EDX)	
8021 (HALO)	
8021 (CUST)	
504.1 EDB ☐/DBCP ☐	
8260 (TCL) Volatile Organics	
8260 (Full) Volatile Organics ☐PBMS	
8260 (CUST) Volatile Organics	
8260 (Landfill) Volatile Organics	
Pesticides/PCB (608/8081/8082)	
Herbicides (615/8151)	
Base/Neutral/Acid Compounds GC/MS (625/8270)	
Polynuclear Aromatics (610/8310/8270-SIMS)	
General Chemistry:	
Priority Pollutant Metals (13)	
Target Analyte List Metals (23)	
RCRA Metals (8)	
RCRA Metals by TCLP (Method1311)	
Metals:	

WEEKEND ANALYSES MAY RESULT IN AN ADDITIONAL SURCHARGE - PLEASE INQUIRE.

PROJECT INFORMATION	
PROJ. NO.:	
PROJ. NAME:	Bloomfield Crude Sta.
P.O. NO.:	
SHIPPED VIA:	UPS

SAMPLE RECEIPT	
NO CONTAINERS	3
CUSTODY SEALS	Y (N) NA
RECEIVED INTACT	Yes
BLUE ICE/ICE	4°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr* ☐48hr* ☐72hr* ☐ 1 WEEK (NORMAL) ☒

*NOT AVAILABLE ON ALL ANALYSES

CERTIFICATION REQUIRED ☐ NM ☐ SDWA ☐ AZ ☐ OTHER

METHANOL PRESERVATION ☐ METALS ☐ TOTAL ☐ DISSOLVED

COMMENTS:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Troy Urban Time: 1555	Signature: Time:
Printed Name: Troy Urban Date: 8-13-08	Printed Name: Date:
Company: Lodestar Services	Company:
See Reverse side (Force Majeure)	
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Time: 1223
Printed Name: Date:	Printed Name: Francine Tanio Date: 8/14/08
Company:	Pinnacle Laboratories Inc.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Thursday, November 06, 2008

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

RE: BCS

Order No.: 0810573

Dear Ashley Ager:

Hall Environmental Analysis Laboratory, Inc. received 8 sample(s) on 10/28/2008 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

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Nov-08*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	MP-11
Lab Order:	0810573	**Collection Date:**	10/23/2008 1:55:00 PM
Project:	BCS	**Date Received:**	10/28/2008
Lab ID:	0810573-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/29/2008
Motor Oil Range Organics (MRO)	60	50		mg/Kg	1	10/29/2008
Surr: DNOP	93.3	61.7-135		%REC	1	10/29/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/4/2008 1:10:18 AM
Surr: BFB	94.6	58.8-123		%REC	1	11/4/2008 1:10:18 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	0.050		mg/Kg	1	11/4/2008 1:10:18 AM
Toluene	ND	0.050		mg/Kg	1	11/4/2008 1:10:18 AM
Ethylbenzene	ND	0.050		mg/Kg	1	11/4/2008 1:10:18 AM
Xylenes, Total	ND	0.10		mg/Kg	1	11/4/2008 1:10:18 AM
Surr: 4-Bromofluorobenzene	115	66.8-139		%REC	1	11/4/2008 1:10:18 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Nov-08*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	IP-16
Lab Order:	0810573	**Collection Date:**	10/23/2008 2:38:00 PM
Project:	BCS	**Date Received:**	10/28/2008
Lab ID:	0810573-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	140	10		mg/Kg	1	10/29/2008
Motor Oil Range Organics (MRO)	310	50		mg/Kg	1	10/29/2008
Surr: DNOP	72.8	61.7-135		%REC	1	10/29/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	25		mg/Kg	5	11/4/2008 1:40:36 AM
Surr: BFB	95.8	58.8-123		%REC	5	11/4/2008 1:40:36 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	0.25		mg/Kg	5	11/4/2008 1:40:36 AM
Toluene	ND	0.25		mg/Kg	5	11/4/2008 1:40:36 AM
Ethylbenzene	ND	0.25		mg/Kg	5	11/4/2008 1:40:36 AM
Xylenes, Total	ND	0.50		mg/Kg	5	11/4/2008 1:40:36 AM
Surr: 4-Bromofluorobenzene	118	66.8-139		%REC	5	11/4/2008 1:40:36 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Nov-08*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	MP-7
Lab Order:	0810573	**Collection Date:**	10/23/2008 3:34:00 PM
Project:	BCS	**Date Received:**	10/28/2008
Lab ID:	0810573-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	730	50		mg/Kg	5	10/29/2008
Motor Oil Range Organics (MRO)	1500	250		mg/Kg	5	10/29/2008
Surr: DNOP	126	61.7-135		%REC	5	10/29/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	50		mg/Kg	10	11/4/2008 2:10:55 AM
Surr: BFB	97.7	58.8-123		%REC	10	11/4/2008 2:10:55 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	0.50		mg/Kg	10	11/4/2008 2:10:55 AM
Toluene	ND	0.50		mg/Kg	10	11/4/2008 2:10:55 AM
Ethylbenzene	ND	0.50		mg/Kg	10	11/4/2008 2:10:55 AM
Xylenes, Total	ND	1.0		mg/Kg	10	11/4/2008 2:10:55 AM
Surr: 4-Bromofluorobenzene	121	66.8-139		%REC	10	11/4/2008 2:10:55 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	IP-10
Lab Order:	0810573	**Collection Date:**	10/23/2008 3:38:00 PM
Project:	BCS	**Date Received:**	10/28/2008
Lab ID:	0810573-04	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	240	10		mg/Kg	1	10/29/2008
Motor Oil Range Organics (MRO)	440	50		mg/Kg	1	10/29/2008
Surr: DNOP	107	61.7-135		%REC	1	10/29/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	50		mg/Kg	10	11/4/2008 2:41:16 AM
Surr: BFB	97.3	58.8-123		%REC	10	11/4/2008 2:41:16 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	0.50		mg/Kg	10	11/4/2008 2:41:16 AM
Toluene	ND	0.50		mg/Kg	10	11/4/2008 2:41:16 AM
Ethylbenzene	ND	0.50		mg/Kg	10	11/4/2008 2:41:16 AM
Xylenes, Total	ND	1.0		mg/Kg	10	11/4/2008 2:41:16 AM
Surr: 4-Bromofluorobenzene	119	66.8-139		%REC	10	11/4/2008 2:41:16 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Nov-08*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	MP-3
Lab Order:	0810573	**Collection Date:**	10/23/2008 3:48:00 PM
Project:	BCS	**Date Received:**	10/28/2008
Lab ID:	0810573-05	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/29/2008
Motor Oil Range Organics (MRO)	78	50		mg/Kg	1	10/29/2008
Surr: DNOP	107	61.7-135		%REC	1	10/29/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/4/2008 5:47:03 PM
Surr: BFB	95.5	58.8-123		%REC	1	11/4/2008 5:47:03 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	0.050		mg/Kg	1	11/4/2008 5:47:03 PM
Toluene	ND	0.050		mg/Kg	1	11/4/2008 5:47:03 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/4/2008 5:47:03 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/4/2008 5:47:03 PM
Surr: 4-Bromofluorobenzene	118	66.8-139		%REC	1	11/4/2008 5:47:03 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	MP-8
Lab Order:	0810573	**Collection Date:**	10/23/2008 4:21:00 PM
Project:	BCS	**Date Received:**	10/28/2008
Lab ID:	0810573-06	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/29/2008
Motor Oil Range Organics (MRO)	55	50		mg/Kg	1	10/29/2008
Surr: DNOP	92.2	61.7-135		%REC	1	10/29/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/4/2008 6:17:20 PM
Surr: BFB	95.4	58.8-123		%REC	1	11/4/2008 6:17:20 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	0.050		mg/Kg	1	11/4/2008 6:17:20 PM
Toluene	ND	0.050		mg/Kg	1	11/4/2008 6:17:20 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/4/2008 6:17:20 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/4/2008 6:17:20 PM
Surr: 4-Bromofluorobenzene	117	66.8-139		%REC	1	11/4/2008 6:17:20 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Nov-08*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	IP-12
Lab Order:	0810573	**Collection Date:**	10/24/2008 10:25:00 AM
Project:	BCS	**Date Received:**	10/28/2008
Lab ID:	0810573-07	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	49	10		mg/Kg	1	10/29/2008
Motor Oil Range Organics (MRO)	160	50		mg/Kg	1	10/29/2008
Surr: DNOP	80.9	61.7-135		%REC	1	10/29/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/4/2008 6:47:52 PM
Surr: BFB	94.6	58.8-123		%REC	1	11/4/2008 6:47:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	0.050		mg/Kg	1	11/4/2008 6:47:52 PM
Toluene	ND	0.050		mg/Kg	1	11/4/2008 6:47:52 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/4/2008 6:47:52 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/4/2008 6:47:52 PM
Surr: 4-Bromofluorobenzene	115	66.8-139		%REC	1	11/4/2008 6:47:52 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Nov-08*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	IP-7
Lab Order:	0810573	**Collection Date:**	10/24/2008 11:05:00 AM
Project:	BCS	**Date Received:**	10/28/2008
Lab ID:	0810573-08	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/29/2008
Motor Oil Range Organics (MRO)	64	50		mg/Kg	1	10/29/2008
Surr: DNOP	101	61.7-135		%REC	1	10/29/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/4/2008 7:18:14 PM
Surr: BFB	97.2	58.8-123		%REC	1	11/4/2008 7:18:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	0.050		mg/Kg	1	11/4/2008 7:18:14 PM
Toluene	ND	0.050		mg/Kg	1	11/4/2008 7:18:14 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/4/2008 7:18:14 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/4/2008 7:18:14 PM
Surr: 4-Bromofluorobenzene	120	66.8-139		%REC	1	11/4/2008 7:18:14 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Inc.
Project: BCS **Work Order:** 0810573

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics									
Sample ID: MB-17482		*MBLK*			Batch ID:	**17482**	Analysis Date:		10/29/2008
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-17482		*LCS*			Batch ID:	**17482**	Analysis Date:		10/29/2008
Diesel Range Organics (DRO)	42.04	mg/Kg	10	84.1	64.6	116			
Sample ID: LCSD-17482		*LCSD*			Batch ID:	**17482**	Analysis Date:		10/29/2008
Diesel Range Organics (DRO)	42.12	mg/Kg	10	84.2	64.6	116	0.171	17.4	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 0810573-01A MSD		*MSD*			Batch ID:	**17489**	Analysis Date:		11/4/2008 12:09:38 AM
Gasoline Range Organics (GRO)	22.22	mg/Kg	5.0	88.9	69.5	120	0.723	11.6	
Sample ID: MB-17489		*MBLK*			Batch ID:	**17489**	Analysis Date:		11/4/2008 12:39:59 AM
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-17489		*LCS*			Batch ID:	**17489**	Analysis Date:		11/3/2008 11:08:48 PM
Gasoline Range Organics (GRO)	24.05	mg/Kg	5.0	96.2	69.5	120			
Sample ID: 0810573-01A MS		*MS*			Batch ID:	**17489**	Analysis Date:		11/3/2008 11:39:12 PM
Gasoline Range Organics (GRO)	22.06	mg/Kg	5.0	88.2	69.5	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Inc.
Project: BCS
Work Order: 0810573

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0810573-01A MSD		*MSD*			Batch ID:	**17489**	Analysis Date:		11/4/2008 12:09:38 AM
Benzene	0.2771	mg/Kg	0.050	99.0	78.8	132	1.08	27	
Toluene	2.180	mg/Kg	0.050	109	78.9	112	0.0413	19	
Ethylbenzene	0.5651	mg/Kg	0.050	141	69.3	125	1.44	10	S
Xylenes, Total	3.014	mg/Kg	0.10	131	73	128	1.55	13	S
Sample ID: 0810573-01A MSD		*MSD*			Batch ID:	**17489**	Analysis Date:		11/4/2008 8:49:32 PM
Benzene	0.2631	mg/Kg	0.050	94.0	78.8	132	2.74	27	
Toluene	2.038	mg/Kg	0.050	102	78.9	112	5.00	19	
Ethylbenzene	0.5304	mg/Kg	0.050	133	69.3	125	8.19	10	S
Xylenes, Total	2.802	mg/Kg	0.10	122	73	128	6.89	13	
Sample ID: MB-17489		*MBLK*			Batch ID:	**17489**	Analysis Date:		11/4/2008 12:39:59 AM
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: LCS-17489		*LCS*			Batch ID:	**17489**	Analysis Date:		11/3/2008 11:08:48 PM
Benzene	0.2977	mg/Kg	0.050	106	78.8	132			
Toluene	2.357	mg/Kg	0.050	118	78.9	112			S
Ethylbenzene	0.6138	mg/Kg	0.050	153	69.3	125			S
Xylenes, Total	3.287	mg/Kg	0.10	143	73	128			S
Sample ID: LCS-17489		*LCS*			Batch ID:	**17489**	Analysis Date:		11/5/2008 4:55:34 AM
Benzene	0.2952	mg/Kg	0.050	105	78.8	132			
Toluene	2.239	mg/Kg	0.050	112	78.9	112			
Ethylbenzene	0.5915	mg/Kg	0.050	148	69.3	125			S
Xylenes, Total	3.114	mg/Kg	0.10	135	73	128			S
Sample ID: 0810573-01A MS		*MS*			Batch ID:	**17489**	Analysis Date:		11/3/2008 11:39:12 PM
Benzene	0.2801	mg/Kg	0.050	100	78.8	132			
Toluene	2.179	mg/Kg	0.050	109	78.9	112			
Ethylbenzene	0.5570	mg/Kg	0.050	139	69.3	125			S
Xylenes, Total	2.968	mg/Kg	0.10	129	73	128			S
Sample ID: 0810573-01A MS		*MS*			Batch ID:	**17489**	Analysis Date:		11/4/2008 8:19:02 PM
Benzene	0.2704	mg/Kg	0.050	96.6	78.8	132			
Toluene	2.143	mg/Kg	0.050	107	78.9	112			
Ethylbenzene	0.5757	mg/Kg	0.050	144	69.3	125			S
Xylenes, Total	3.002	mg/Kg	0.10	131	73	128			S

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name WESTERN REFINING SOUT | Date Received: 10/28/2008

Work Order Number 0810573 | Received by: TLS

Checklist completed by: _____ 10/28/08 | Sample ID labels checked by: AS

Signature | Date | Initials

Matrix: | Carrier name Greyhound

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?	3°	<6° C *Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Western Refining
Bill Robertson

Mailing Address: 111 CR 4990
Bloomfield, NM

Phone #: 505-632-8006

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: BCS

Project #:

Project Manager: Ashley Ager

Sampler: Ashley Ager 970 946 1093

On Ice: ☒ Yes ☐ No

Sample Temperature: 3

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0810513	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
10-23-08	1355	soil	MP-11	4oz/2	—	1	✓		✓													
10-23-08	1438	soil	IP-16	4oz/2	—	2	✓		✓													
10-23-08	1534	soil	MP-7	4oz/2	—	3	✓		✓													
10-23-08	1538	soil	IP-10	4oz/2	—	4	✓		✓													
10-23-08	1548	soil	MP-3	4oz/2	—	5	✓		✓													
10-23-08	1621	soil	MP-8	4oz/2	—	6	✓		✓													
10-24-08	1025	soil	IP-12	4oz/2	—	7	✓		✓													
10-24-08	1105	soil	IP-7	4oz/2	—	8	✓		✓													

Date	Time	Relinquished by:	Received by:	Date	Time
10-28-08	0730	Ashley L Ager		10/28/08	1445
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:
Please copy results to
ALA@lodestarservices.com

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

HALL
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ANALYSIS
LABORATORY

COVER LETTER

Tuesday, November 25, 2008

Ashley Ager
Western Refining Southwest, Inc.
#50 CR 4990
Bloomfield, NM 87413

TEL: (970) 946-1093
FAX (505) 632-3911

RE: Bloomfield Crude Station

Order No.: 0811203

Dear Ashley Ager:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 11/14/2008 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

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *25-Nov-08*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	MW-2
Lab Order:	0811203	**Collection Date:**	11/12/2008 2:15:00 PM
Project:	Bloomfield Crude Station	**Date Received:**	11/14/2008
Lab ID:	0811203-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/22/2008 9:35:10 PM
Benzene	1.7	1.0		µg/L	1	11/22/2008 9:35:10 PM
Toluene	2.0	1.0		µg/L	1	11/22/2008 9:35:10 PM
Ethylbenzene	7.3	1.0		µg/L	1	11/22/2008 9:35:10 PM
Xylenes, Total	15	2.0		µg/L	1	11/22/2008 9:35:10 PM
1,2,4-Trimethylbenzene	52	1.0		µg/L	1	11/22/2008 9:35:10 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/22/2008 9:35:10 PM
Surr: 4-Bromofluorobenzene	106	65.9-130		%REC	1	11/22/2008 9:35:10 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	*Estimated value*	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Inc.
Project: Bloomfield Crude Station **Work Order:** 0811203

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R31311**	Analysis Date:	11/21/2008 9:04:19 AM	
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						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: b 5		*MBLK*			Batch ID:	**R31311**	Analysis Date:	11/21/2008 11:06:32 AM	
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						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R31311**	Analysis Date:	11/21/2008 7:18:22 PM	
Methyl tert-butyl ether (MTBE)	29.56	µg/L	2.5	148	51.2	138			S
Benzene	23.17	µg/L	1.0	116	85.9	113			S
Toluene	22.16	µg/L	1.0	111	86.4	113			
Ethylbenzene	21.80	µg/L	1.0	109	83.5	118			
Xylenes, Total	63.99	µg/L	2.0	107	83.4	122			
1,2,4-Trimethylbenzene	20.57	µg/L	1.0	103	83.5	115			
1,3,5-Trimethylbenzene	19.73	µg/L	1.0	98.7	85.2	113			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R31311**	Analysis Date:	11/22/2008 5:28:32 AM	
Methyl tert-butyl ether (MTBE)	28.60	µg/L	2.5	143	51.2	138			S
Benzene	22.91	µg/L	1.0	115	85.9	113			S
Toluene	21.92	µg/L	1.0	110	86.4	113			
Ethylbenzene	21.72	µg/L	1.0	109	83.5	118			
Xylenes, Total	63.21	µg/L	2.0	105	83.4	122			
1,2,4-Trimethylbenzene	20.37	µg/L	1.0	102	83.5	115			
1,3,5-Trimethylbenzene	19.73	µg/L	1.0	98.6	85.2	113			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name WESTERN REFINING SOUT | Date Received: 11/14/2008

Work Order Number 0811203 | Received by: TLS

Checklist completed by: [signature] Signature 11/14/08 Date | Sample ID labels checked by: [initials] Initials

Matrix: | Carrier name Greyhound

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 Acceptable If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Giant Industries
Bill Robertson
Address: 111 CR 4990
Bloomfield NM 87413
Phone #:
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: Bloomfield Crude Station
Project #:
Project Manager: Ashley Ager
Sampler: Troy Urban
On Ice: ☒ Yes ☐ No
Sample Temperature: 2.7 °C

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

Date	Time	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0811203	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8260)	8310 (PNA or PAH)	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
111208	1415	MW-2	40ml/3	$HgCl_2$	-1	✓											

Analysis Request

Relinquished by:	Received by:	Date	Time
Troy Urban		11/13/08	0835
		11/14/08	950

Remarks: please copy results to ALA@lodestarservices.com

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, January 26, 2009

Ashley Ager
Western Refining Southwest, Inc.
#50 CR 4990
Bloomfield, NM 87413

TEL: (970) 946-1093
FAX (505) 632-3911

RE: Bloomfield Crude Station

Order No.: 0901168

Dear Ashley Ager:

Hall Environmental Analysis Laboratory, Inc. received 7 sample(s) on 1/12/2009 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

Hall Environmental Analysis Laboratory, Inc.

Date: *26-Jan-09*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	Bloomfield Crude Station MW-2
Lab Order:	0901168	**Collection Date:**	1/9/2009 11:26:00 AM
Project:	Bloomfield Crude Station	**Date Received:**	1/12/2009
Lab ID:	0901168-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	1/14/2009 6:31:15 PM
Benzene	1.6	1.0		µg/L	1	1/14/2009 6:31:15 PM
Toluene	ND	1.0		µg/L	1	1/14/2009 6:31:15 PM
Ethylbenzene	2.1	1.0		µg/L	1	1/14/2009 6:31:15 PM
Xylenes, Total	6.9	2.0		µg/L	1	1/14/2009 6:31:15 PM
1,2,4-Trimethylbenzene	26	1.0		µg/L	1	1/14/2009 6:31:15 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/14/2009 6:31:15 PM
Surr: 4-Bromofluorobenzene	82.7	65.9-130		%REC	1	1/14/2009 6:31:15 PM
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Fluoride	0.59	0.10		mg/L	1	1/16/2009 4:56:48 AM
Chloride	42	1.0		mg/L	10	1/16/2009 5:14:12 AM
Bromide	1.7	0.10		mg/L	1	1/16/2009 4:56:48 AM
Nitrate (As N)+Nitrite (As N)	ND	1.0		mg/L	5	1/21/2009 12:55:24 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	1/16/2009 4:56:48 AM
Sulfate	2000	50		mg/L	100	1/19/2009 6:55:06 PM
SM 2320B: ALKALINITY						Analyst: **KMS**
Alkalinity, Total (As CaCO3)	760	20		mg/L CaCO3	1	1/15/2009
Carbonate	ND	2.0		mg/L CaCO3	1	1/15/2009
Bicarbonate	760	20		mg/L CaCO3	1	1/15/2009
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMS**
Specific Conductance	4300	0.010		µmhos/cm	1	1/19/2009
SM4500-H+B: PH						Analyst: **KMS**
pH	7.34	0.1		pH units	1	1/13/2009
SM 2540 C: TOTAL DISSOLVED SOLIDS						Analyst: **KMS**
Total Dissolved Solids	3900	200		mg/L	1	1/13/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *26-Jan-09*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	Bloomfield Crude Station MW-3
Lab Order:	0901168	**Collection Date:**	1/9/2009 10:27:00 AM
Project:	Bloomfield Crude Station	**Date Received:**	1/12/2009
Lab ID:	0901168-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	1/13/2009 1:55:58 PM
Benzene	ND	1.0		µg/L	1	1/13/2009 1:55:58 PM
Toluene	ND	1.0		µg/L	1	1/13/2009 1:55:58 PM
Ethylbenzene	ND	1.0		µg/L	1	1/13/2009 1:55:58 PM
Xylenes, Total	ND	2.0		µg/L	1	1/13/2009 1:55:58 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2009 1:55:58 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2009 1:55:58 PM
Surr: 4-Bromofluorobenzene	78.3	65.9-130		%REC	1	1/13/2009 1:55:58 PM
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Fluoride	0.44	0.10		mg/L	1	1/16/2009 6:58:38 AM
Chloride	37	0.10		mg/L	1	1/16/2009 6:58:38 AM
Bromide	1.2	0.10		mg/L	1	1/16/2009 6:58:38 AM
Nitrate (As N)+Nitrite (As N)	3.1	1.0		mg/L	5	1/16/2009 7:33:27 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	1/16/2009 6:58:38 AM
Sulfate	2000	50		mg/L	100	1/19/2009 7:12:31 PM
SM 2320B: ALKALINITY						Analyst: **KMS**
Alkalinity, Total (As CaCO3)	580	40		mg/L CaCO3	2	1/15/2009
Carbonate	ND	4.0		mg/L CaCO3	2	1/15/2009
Bicarbonate	580	40		mg/L CaCO3	2	1/15/2009
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMS**
Specific Conductance	4000	0.010		µmhos/cm	1	1/19/2009
SM4500-H+B: PH						Analyst: **KMS**
pH	7.33	0.1		pH units	1	1/13/2009
SM 2540 C: TOTAL DISSOLVED SOLIDS						Analyst: **KMS**
Total Dissolved Solids	3700	200		mg/L	1	1/13/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *26-Jan-09*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	Bloomfield Crude Station MW-4
Lab Order:	0901168	**Collection Date:**	1/8/2009 4:35:00 PM
Project:	Bloomfield Crude Station	**Date Received:**	1/12/2009
Lab ID:	0901168-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	1/13/2009 2:26:34 PM
Benzene	ND	1.0		µg/L	1	1/13/2009 2:26:34 PM
Toluene	ND	1.0		µg/L	1	1/13/2009 2:26:34 PM
Ethylbenzene	ND	1.0		µg/L	1	1/13/2009 2:26:34 PM
Xylenes, Total	ND	2.0		µg/L	1	1/13/2009 2:26:34 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2009 2:26:34 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2009 2:26:34 PM
Surr: 4-Bromofluorobenzene	77.0	65.9-130		%REC	1	1/13/2009 2:26:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Fluoride	0.39	0.10		mg/L	1	1/16/2009 7:50:52 AM
Chloride	36	0.10		mg/L	1	1/16/2009 7:50:52 AM
Bromide	0.77	0.10		mg/L	1	1/16/2009 7:50:52 AM
Nitrate (As N)+Nitrite (As N)	ND	1.0		mg/L	5	1/16/2009 11:54:35 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	1/16/2009 7:50:52 AM
Sulfate	2400	50		mg/L	100	1/19/2009 7:29:55 PM
SM 2320B: ALKALINITY						Analyst: **KMS**
Alkalinity, Total (As CaCO3)	450	40		mg/L CaCO3	2	1/15/2009
Carbonate	ND	4.0		mg/L CaCO3	2	1/15/2009
Bicarbonate	450	40		mg/L CaCO3	2	1/15/2009
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMS**
Specific Conductance	4400	0.010		µmhos/cm	1	1/19/2009
SM4500-H+B: PH						Analyst: **KMS**
pH	7.19	0.1		pH units	1	1/13/2009
SM 2540 C: TOTAL DISSOLVED SOLIDS						Analyst: **KMS**
Total Dissolved Solids	4000	200		mg/L	1	1/13/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *26-Jan-09*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	Bloomfield Crude Station MW-5
Lab Order:	0901168	**Collection Date:**	1/8/2009 12:58:00 PM
Project:	Bloomfield Crude Station	**Date Received:**	1/12/2009
Lab ID:	0901168-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	1/13/2009 2:57:12 PM
Benzene	ND	1.0		µg/L	1	1/13/2009 2:57:12 PM
Toluene	ND	1.0		µg/L	1	1/13/2009 2:57:12 PM
Ethylbenzene	ND	1.0		µg/L	1	1/13/2009 2:57:12 PM
Xylenes, Total	ND	2.0		µg/L	1	1/13/2009 2:57:12 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2009 2:57:12 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2009 2:57:12 PM
Surr: 4-Bromofluorobenzene	78.2	65.9-130		%REC	1	1/13/2009 2:57:12 PM
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Fluoride	0.22	0.10		mg/L	1	1/16/2009 8:43:05 AM
Chloride	1000	5.0		mg/L	50	1/19/2009 7:47:20 PM
Bromide	7.7	1.0		mg/L	10	1/16/2009 9:00:30 AM
Nitrate (As N)+Nitrite (As N)	ND	1.0		mg/L	5	1/16/2009 9:17:54 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	1/16/2009 8:43:05 AM
Sulfate	1900	25		mg/L	50	1/19/2009 7:47:20 PM
SM 2320B: ALKALINITY						Analyst: **KMS**
Alkalinity, Total (As CaCO3)	840	40		mg/L CaCO3	2	1/15/2009
Carbonate	ND	4.0		mg/L CaCO3	2	1/15/2009
Bicarbonate	840	40		mg/L CaCO3	2	1/15/2009
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMS**
Specific Conductance	6200	0.010		µmhos/cm	1	1/19/2009
SM4500-H+B: PH						Analyst: **KMS**
pH	6.80	0.1		pH units	1	1/13/2009
SM 2540 C: TOTAL DISSOLVED SOLIDS						Analyst: **KMS**
Total Dissolved Solids	5700	400		mg/L	1	1/13/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *26-Jan-09*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	Bloomfield Crude Station MW-6
Lab Order:	0901168	**Collection Date:**	1/8/2009 2:05:00 PM
Project:	Bloomfield Crude Station	**Date Received:**	1/12/2009
Lab ID:	0901168-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	1/13/2009 3:27:44 PM
Benzene	ND	1.0		µg/L	1	1/13/2009 3:27:44 PM
Toluene	ND	1.0		µg/L	1	1/13/2009 3:27:44 PM
Ethylbenzene	66	1.0		µg/L	1	1/13/2009 3:27:44 PM
Xylenes, Total	510	10		µg/L	5	1/14/2009 7:04:19 PM
1,2,4-Trimethylbenzene	80	1.0		µg/L	1	1/13/2009 3:27:44 PM
1,3,5-Trimethylbenzene	25	1.0		µg/L	1	1/13/2009 3:27:44 PM
Surr: 4-Bromofluorobenzene	95.3	65.9-130		%REC	1	1/13/2009 3:27:44 PM
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Fluoride	0.39	0.10		mg/L	1	1/16/2009 9:35:19 AM
Chloride	180	1.0		mg/L	10	1/16/2009 10:27:32 AM
Bromide	1.8	1.0		mg/L	10	1/16/2009 10:27:32 AM
Nitrate (As N)+Nitrite (As N)	ND	1.0		mg/L	5	1/16/2009 10:44:56 AM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	1/16/2009 10:27:32 AM
Sulfate	260	5.0		mg/L	10	1/16/2009 10:27:32 AM
SM 2320B: ALKALINITY						Analyst: **KMS**
Alkalinity, Total (As CaCO3)	1100	40		mg/L CaCO3	2	1/15/2009
Carbonate	ND	4.0		mg/L CaCO3	2	1/15/2009
Bicarbonate	1100	40		mg/L CaCO3	2	1/15/2009
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMS**
Specific Conductance	2800	0.010		µmhos/cm	1	1/19/2009
SM4500-H+B: PH						Analyst: **KMS**
pH	7.14	0.1		pH units	1	1/13/2009
SM 2540 C: TOTAL DISSOLVED SOLIDS						Analyst: **KMS**
Total Dissolved Solids	1900	200		mg/L	1	1/13/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *26-Jan-09*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	Bloomfield Crude Station MW-7
Lab Order:	0901168	**Collection Date:**	1/8/2009 3:10:00 PM
Project:	Bloomfield Crude Station	**Date Received:**	1/12/2009
Lab ID:	0901168-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	13		µg/L	5	1/13/2009 4:30:59 PM
Benzene	570	20		µg/L	20	1/14/2009 7:37:23 PM
Toluene	ND	5.0		µg/L	5	1/13/2009 4:30:59 PM
Ethylbenzene	450	5.0		µg/L	5	1/13/2009 4:30:59 PM
Xylenes, Total	2800	40		µg/L	20	1/14/2009 7:37:23 PM
1,2,4-Trimethylbenzene	280	5.0		µg/L	5	1/13/2009 4:30:59 PM
1,3,5-Trimethylbenzene	100	5.0		µg/L	5	1/13/2009 4:30:59 PM
Surr: 4-Bromofluorobenzene	83.6	65.9-130		%REC	5	1/13/2009 4:30:59 PM
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Fluoride	0.69	0.10		mg/L	1	1/16/2009 11:02:21 AM
Chloride	22	0.10		mg/L	1	1/19/2009 8:04:45 PM
Bromide	ND	0.10		mg/L	1	1/16/2009 11:02:21 AM
Nitrate (As N)+Nitrite (As N)	ND	1.0		mg/L	5	1/16/2009 11:37:10 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	1/16/2009 11:02:21 AM
Sulfate	6.8	0.50		mg/L	1	1/16/2009 11:02:21 AM
SM 2320B: ALKALINITY						Analyst: **KMS**
Alkalinity, Total (As CaCO3)	680	40		mg/L CaCO3	2	1/15/2009
Carbonate	ND	4.0		mg/L CaCO3	2	1/15/2009
Bicarbonate	680	40		mg/L CaCO3	2	1/15/2009
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMS**
Specific Conductance	1200	0.010		µmhos/cm	1	1/19/2009
SM4500-H+B: PH						Analyst: **KMS**
pH	7.03	0.1		pH units	1	1/13/2009
SM 2540 C: TOTAL DISSOLVED SOLIDS						Analyst: **KMS**
Total Dissolved Solids	750	100		mg/L	1	1/14/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level
B	Analyte detected in the associated Method Blank
E	Estimated value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *26-Jan-09*

CLIENT:	Western Refining Southwest, Inc.	**Client Sample ID:**	Trip Blank
Lab Order:	0901168	**Collection Date:**	
Project:	Bloomfield Crude Station	**Date Received:**	1/12/2009
Lab ID:	0901168-07	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	1/13/2009 5:31:51 PM
Benzene	ND	1.0		µg/L	1	1/13/2009 5:31:51 PM
Toluene	ND	1.0		µg/L	1	1/13/2009 5:31:51 PM
Ethylbenzene	ND	1.0		µg/L	1	1/13/2009 5:31:51 PM
Xylenes, Total	ND	2.0		µg/L	1	1/13/2009 5:31:51 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2009 5:31:51 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/13/2009 5:31:51 PM
Surr: 4-Bromofluorobenzene	79.2	65.9-130		%REC	1	1/13/2009 5:31:51 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

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REPORT OF ANALYSIS

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

January 20, 2009

ESC Sample # : L383554-01

Date Received : January 14, 2009
Description : 0901168

Site ID :

Sample ID : BLOOMFIELD CRUDE STATION MW-2

Project # : 0901168

Collected By :
Collection Date : 01/09/09 11:26

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hardness	1200	300	mg/l	130.1	01/16/09	10
Calcium, Dissolved	380	0.50	mg/l	6010B	01/15/09	1
Iron, Dissolved	3.2	0.10	mg/l	6010B	01/15/09	1
Magnesium, Dissolved	42.	0.10	mg/l	6010B	01/15/09	1
Manganese, Dissolved	6.6	0.010	mg/l	6010B	01/15/09	1
Potassium, Dissolved	2.3	0.50	mg/l	6010B	01/15/09	1
Sodium, Dissolved	720	0.50	mg/l	6010B	01/15/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 01/20/09 09:34 Printed: 01/20/09 09:34

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REPORT OF ANALYSIS

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

January 20, 2009

ESC Sample # : L383554-02

Date Received : January 14, 2009
Description : 0901168

Site ID :

Sample ID : BLOOMFIELD CRUDE STATION MW-2

Project # : 0901168

Collected By :
Collection Date : 01/09/09 11:26

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	01/15/09	1
Arsenic	BDL	0.020	mg/l	6010B	01/15/09	1
Barium	0.038	0.0050	mg/l	6010B	01/15/09	1
Cadmium	BDL	0.0050	mg/l	6010B	01/15/09	1
Chromium	BDL	0.010	mg/l	6010B	01/15/09	1
Lead	BDL	0.0050	mg/l	6010B	01/15/09	1
Selenium	BDL	0.020	mg/l	6010B	01/15/09	1
Silver	BDL	0.010	mg/l	6010B	01/15/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 01/20/09 09:34 Printed: 01/20/09 09:34

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REPORT OF ANALYSIS

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

January 20, 2009

ESC Sample # : L383554-03

Date Received : January 14, 2009
Description : 0901168

Site ID :

Sample ID : BLOOMFIELD CRUDE STATION MW-3

Project # : 0901168

Collected By :
Collection Date : 01/09/09 10:27

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hardness	1100	300	mg/l	130.1	01/16/09	10
Calcium,Dissolved	390	0.50	mg/l	6010B	01/15/09	1
Iron,Dissolved	BDL	0.10	mg/l	6010B	01/15/09	1
Magnesium,Dissolved	37.	0.10	mg/l	6010B	01/15/09	1
Manganese,Dissolved	0.25	0.010	mg/l	6010B	01/15/09	1
Potassium,Dissolved	2.2	0.50	mg/l	6010B	01/15/09	1
Sodium,Dissolved	600	0.50	mg/l	6010B	01/15/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 01/20/09 09:34 Printed: 01/20/09 09:34

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REPORT OF ANALYSIS

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

January 20, 2009

ESC Sample # : L383554-04

Date Received : January 14, 2009
Description : 0901168

Site ID :

Sample ID : BLOOMFIELD CRUDE STATION MW-3

Project # : 0901168

Collected By :
Collection Date : 01/09/09 10:27

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	01/15/09	1
Arsenic	BDL	0.020	mg/l	6010B	01/15/09	1
Barium	0.049	0.0050	mg/l	6010B	01/15/09	1
Cadmium	BDL	0.0050	mg/l	6010B	01/15/09	1
Chromium	BDL	0.010	mg/l	6010B	01/15/09	1
Lead	BDL	0.0050	mg/l	6010B	01/15/09	1
Selenium	BDL	0.020	mg/l	6010B	01/15/09	1
Silver	BDL	0.010	mg/l	6010B	01/15/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 01/20/09 09:34 Printed: 01/20/09 09:34

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REPORT OF ANALYSIS

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

January 20, 2009

ESC Sample # : L383554-05

Date Received : January 14, 2009
Description : 0901168

Site ID :

Sample ID : BLOOMFIELD CRUDE STATION MW-4

Project # : 0901168

Collected By :
Collection Date : 01/09/09 16:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hardness	1500	300	mg/l	130.1	01/16/09	10
Calcium, Dissolved	400	0.50	mg/l	6010B	01/15/09	1
Iron, Dissolved	BDL	0.10	mg/l	6010B	01/15/09	1
Magnesium, Dissolved	42.	0.10	mg/l	6010B	01/15/09	1
Manganese, Dissolved	4.7	0.010	mg/l	6010B	01/15/09	1
Potassium, Dissolved	3.7	0.50	mg/l	6010B	01/15/09	1
Sodium, Dissolved	670	0.50	mg/l	6010B	01/15/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 01/20/09 09:34 Printed: 01/20/09 09:34

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REPORT OF ANALYSIS

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

January 20, 2009

Date Received : January 14, 2009
Description : 0901168

Sample ID : BLOOMFIELD CRUDE STATION MW-4

Collected By :
Collection Date : 01/09/09 16:35

ESC Sample # : L383554-06

Site ID :

Project # : 0901168

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	01/15/09	1
Arsenic	BDL	0.020	mg/l	6010B	01/15/09	1
Barium	0.037	0.0050	mg/l	6010B	01/15/09	1
Cadmium	BDL	0.0050	mg/l	6010B	01/15/09	1
Chromium	BDL	0.010	mg/l	6010B	01/15/09	1
Lead	BDL	0.0050	mg/l	6010B	01/15/09	1
Selenium	BDL	0.020	mg/l	6010B	01/15/09	1
Silver	BDL	0.010	mg/l	6010B	01/15/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 01/20/09 09:34 Printed: 01/20/09 09:34

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REPORT OF ANALYSIS

Anne Thorne
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4901 Hawkins NE
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January 20, 2009

Date Received : January 14, 2009
Description : 0901168

Sample ID : BLOOMFIELD CRUDE STATION MW-5

Collected By :
Collection Date : 01/09/09 12:58

ESC Sample # : L383554-07

Site ID :

Project # : 0901168

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hardness	1800	300	mg/l	130.1	01/16/09	10
Calcium, Dissolved	570	0.50	mg/l	6010B	01/15/09	1
Iron, Dissolved	BDL	0.10	mg/l	6010B	01/15/09	1
Magnesium, Dissolved	50.	0.10	mg/l	6010B	01/15/09	1
Manganese, Dissolved	10.	0.010	mg/l	6010B	01/15/09	1
Potassium, Dissolved	5.6	0.50	mg/l	6010B	01/15/09	1
Sodium, Dissolved	860	0.50	mg/l	6010B	01/15/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit (PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 01/20/09 09:34 Printed: 01/20/09 09:34

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REPORT OF ANALYSIS

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
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January 20, 2009

ESC Sample # : L383554-08

Date Received : January 14, 2009
Description : 0901168

Site ID :

Sample ID : BLOOMFIELD CRUDE STATION MW-5

Project # : 0901168

Collected By :
Collection Date : 01/09/09 12:58

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	01/15/09	1
Arsenic	BDL	0.020	mg/l	6010B	01/15/09	1
Barium	0.070	0.0050	mg/l	6010B	01/15/09	1
Cadmium	BDL	0.0050	mg/l	6010B	01/15/09	1
Chromium	BDL	0.010	mg/l	6010B	01/15/09	1
Lead	BDL	0.0050	mg/l	6010B	01/15/09	1
Selenium	BDL	0.020	mg/l	6010B	01/15/09	1
Silver	BDL	0.010	mg/l	6010B	01/15/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 01/20/09 09:34 Printed: 01/20/09 09:34

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REPORT OF ANALYSIS

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January 20, 2009

ESC Sample # : L383554-09

Date Received : January 14, 2009
Description : 0901168

Site ID :

Sample ID : BLOOMFIELD CRUDE STATION MW-6

Project # : 0901168

Collected By :
Collection Date : 01/09/09 14:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hardness	650	150	mg/l	130.1	01/16/09	5
Calcium, Dissolved	180	0.50	mg/l	6010B	01/15/09	1
Iron, Dissolved	9.1	0.10	mg/l	6010B	01/15/09	1
Magnesium, Dissolved	23.	0.10	mg/l	6010B	01/15/09	1
Manganese, Dissolved	1.9	0.010	mg/l	6010B	01/15/09	1
Potassium, Dissolved	2.2	0.50	mg/l	6010B	01/15/09	1
Sodium, Dissolved	430	0.50	mg/l	6010B	01/15/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 01/20/09 09:34 Printed: 01/20/09 09:34

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REPORT OF ANALYSIS

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

January 20, 2009

ESC Sample # : L383554-10

Date Received : January 14, 2009
Description : 0901168

Site ID :

Sample ID : BLOOMFIELD CRUDE STATION MW-6

Project # : 0901168

Collected By :
Collection Date : 01/09/09 14:05

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	01/15/09	1
Arsenic	0.055	0.020	mg/l	6010B	01/15/09	1
Barium	1.2	0.0050	mg/l	6010B	01/15/09	1
Cadmium	0.020	0.0050	mg/l	6010B	01/15/09	1
Chromium	BDL	0.010	mg/l	6010B	01/15/09	1
Lead	BDL	0.0050	mg/l	6010B	01/15/09	1
Selenium	BDL	0.020	mg/l	6010B	01/15/09	1
Silver	BDL	0.010	mg/l	6010B	01/15/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Anne Thorne
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January 20, 2009

ESC Sample # : L383554-11

Date Received : January 14, 2009
Description : 0901168

Site ID :

Sample ID : BLOOMFIELD CRUDE STATION MW-7

Project # : 0901168

Collected By :
Collection Date : 01/09/09 15:10

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hardness	460	150	mg/l	130.1	01/16/09	5
Calcium,Dissolved	150	0.50	mg/l	6010B	01/19/09	1
Iron,Dissolved	11.	0.10	mg/l	6010B	01/19/09	1
Magnesium,Dissolved	17.	0.10	mg/l	6010B	01/19/09	1
Manganese,Dissolved	1.5	0.010	mg/l	6010B	01/19/09	1
Potassium,Dissolved	0.90	0.50	mg/l	6010B	01/19/09	1
Sodium,Dissolved	140	0.50	mg/l	6010B	01/19/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 01/20/09 09:34 Printed: 01/20/09 09:34

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REPORT OF ANALYSIS

Anne Thorne
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January 20, 2009

ESC Sample # : L383554-12

Date Received : January 14, 2009
Description : 0901168

Site ID :

Sample ID : BLOOMFIELD CRUDE STATION MW-7

Project # : 0901168

Collected By :
Collection Date : 01/09/09 15:10

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	01/15/09	1
Arsenic	BDL	0.020	mg/l	6010B	01/15/09	1
Barium	1.8	0.0050	mg/l	6010B	01/15/09	1
Cadmium	0.0055	0.0050	mg/l	6010B	01/15/09	1
Chromium	BDL	0.010	mg/l	6010B	01/15/09	1
Lead	BDL	0.0050	mg/l	6010B	01/15/09	1
Selenium	BDL	0.020	mg/l	6010B	01/15/09	1
Silver	BDL	0.010	mg/l	6010B	01/15/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 01/20/09 09:34 Printed: 01/20/09 09:34

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Inc.
Project: Bloomfield Crude Station **Work Order:** 0901168

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: 0901168-01BMSD		*MSD*			Batch ID: **R32070**		Analysis Date:		1/16/2009 5:49:01 AM
Fluoride	1.093	mg/L	0.10	100	65.1	121	1.29	20	
Bromide	5.033	mg/L	0.10	135	75.6	132	5.04	20	S
Nitrate (As N)+Nitrite (As N)	5.740	mg/L	0.20	164	78.4	118	27.1	20	SR
Phosphorus, Orthophosphate (As P)	1.886	mg/L	0.50	37.7	77.6	118	6.12	20	S
Sample ID: MB		*MBLK*			Batch ID: **R32070**		Analysis Date:		1/16/2009 12:00:50 AM
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Bromide	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB-2		*MBLK*			Batch ID: **R32070**		Analysis Date:		1/16/2009 3:23:31 PM
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Bromide	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB		*MBLK*			Batch ID: **R32089**		Analysis Date:		1/19/2009 10:47:38 AM
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Bromide	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB		*MBLK*			Batch ID: **R32123**		Analysis Date:		1/21/2009 9:26:29 AM
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Bromide	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS-b		*LCS*			Batch ID: **R32070**		Analysis Date:		1/16/2009 8:25:41 AM
Fluoride	0.5427	mg/L	0.10	109	90	110			
Chloride	4.904	mg/L	0.10	98.1	90	110			
Bromide	2.641	mg/L	0.10	106	90	110			
Nitrate (As N)+Nitrite (As N)	3.540	mg/L	0.20	101	90	110			
Phosphorus, Orthophosphate (As P)	5.416	mg/L	0.50	108	90	110			
Sulfate	10.42	mg/L	0.50	104	90	110			
Sample ID: LCS-2		*LCS*			Batch ID: **R32070**		Analysis Date:		1/16/2009 3:40:55 PM
Fluoride	0.5832	mg/L	0.10	117	90	110			S
Chloride	4.974	mg/L	0.10	99.5	90	110			
Bromide	2.678	mg/L	0.10	107	90	110			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Inc.
Project: Bloomfield Crude Station **Work Order:** 0901168

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: LCS-2		*LCS*			Batch ID: **R32070**		Analysis Date:	1/16/2009 3:40:55 PM	
Nitrate (As N)+Nitrite (As N)	3.630	mg/L	0.20	104	90	110			
Phosphorus, Orthophosphate (As P)	5.526	mg/L	0.50	111	90	110			S
Sulfate	10.51	mg/L	0.50	105	90	110			
Sample ID: LCS		*LCS*			Batch ID: **R32089**		Analysis Date:	1/19/2009 11:05:02 AM	
Fluoride	0.4963	mg/L	0.10	99.3	90	110			
Chloride	4.931	mg/L	0.10	98.6	90	110			
Bromide	2.635	mg/L	0.10	105	90	110			
Nitrate (As N)+Nitrite (As N)	3.478	mg/L	0.20	99.4	90	110			
Phosphorus, Orthophosphate (As P)	5.235	mg/L	0.50	105	90	110			
Sulfate	10.28	mg/L	0.50	103	90	110			
Sample ID: LCS		*LCS*			Batch ID: **R32123**		Analysis Date:	1/21/2009 9:43:53 AM	
Fluoride	0.5204	mg/L	0.10	104	90	110			
Chloride	4.865	mg/L	0.10	97.3	90	110			
Bromide	2.577	mg/L	0.10	103	90	110			
Nitrate (As N)+Nitrite (As N)	3.446	mg/L	0.20	98.5	90	110			
Phosphorus, Orthophosphate (As P)	5.110	mg/L	0.50	102	90	110			
Sulfate	10.19	mg/L	0.50	102	90	110			
Sample ID: 0901168-01BMS		*MS*			Batch ID: **R32070**		Analysis Date:	1/16/2009 5:31:36 AM	
Fluoride	1.079	mg/L	0.10	97.4	65.1	121			
Bromide	4.785	mg/L	0.10	125	75.6	132			
Nitrate (As N)+Nitrite (As N)	4.372	mg/L	0.20	124	78.4	118			S
Phosphorus, Orthophosphate (As P)	2.005	mg/L	0.50	40.1	77.6	118			S
Method: SM 2320B: Alkalinity									
Sample ID: MB		*MBLK*			Batch ID: **R32029**		Analysis Date:	1/15/2009	
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: **R32029**		Analysis Date:	1/15/2009	
Alkalinity, Total (As CaCO3)	84.00	mg/L CaC	20	103	80	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Inc.
Project: Bloomfield Crude Station **Work Order:** 0901168

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0901168-02A MSD		*MSD*			Batch ID:	**R31991**	Analysis Date:		1/13/2009 6:32:50 PM
Methyl tert-butyl ether (MTBE)	18.41	µg/L	2.5	92.1	51.2	138	5.08	28	
Benzene	21.99	µg/L	1.0	110	85.9	113	2.65	27	
Toluene	20.04	µg/L	1.0	100	86.4	113	2.36	19	
Ethylbenzene	19.63	µg/L	1.0	98.2	83.5	118	2.95	10	
Xylenes, Total	58.75	µg/L	2.0	97.9	83.4	122	1.72	13	
1,2,4-Trimethylbenzene	17.59	µg/L	1.0	87.9	83.5	115	1.04	21	
1,3,5-Trimethylbenzene	17.55	µg/L	1.0	87.7	85.2	113	2.20	10	
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R31991**	Analysis Date:		1/13/2009 9:16:09 AM
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						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R32012**	Analysis Date:		1/14/2009 9:22:17 AM
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						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R31991**	Analysis Date:		1/13/2009 7:03:29 PM
Methyl tert-butyl ether (MTBE)	19.20	µg/L	2.5	96.0	51.2	138			
Benzene	22.45	µg/L	1.0	112	85.9	113			
Toluene	20.47	µg/L	1.0	102	86.4	113			
Ethylbenzene	19.84	µg/L	1.0	99.2	83.5	118			
Xylenes, Total	59.71	µg/L	2.0	99.5	83.4	122			
1,2,4-Trimethylbenzene	18.15	µg/L	1.0	90.8	83.5	115			
1,3,5-Trimethylbenzene	18.02	µg/L	1.0	90.1	85.2	113			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R32012**	Analysis Date:		1/14/2009 11:20:47 PM
Methyl tert-butyl ether (MTBE)	18.67	µg/L	2.5	93.3	51.2	138			
Benzene	21.63	µg/L	1.0	108	85.9	113			
Toluene	20.38	µg/L	1.0	102	86.4	113			
Ethylbenzene	19.47	µg/L	1.0	97.3	83.5	118			
Xylenes, Total	60.44	µg/L	2.0	101	83.4	122			
1,2,4-Trimethylbenzene	18.40	µg/L	1.0	92.0	83.5	115			
1,3,5-Trimethylbenzene	18.28	µg/L	1.0	91.4	85.2	113			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R32012**	Analysis Date:		1/14/2009 11:51:23 PM
Methyl tert-butyl ether (MTBE)	18.23	µg/L	2.5	91.1	51.2	138	2.39	28	
Benzene	21.37	µg/L	1.0	107	85.9	113	1.19	27	
Toluene	19.72	µg/L	1.0	98.6	86.4	113	3.30	19	

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Inc.
Project: Bloomfield Crude Station **Work Order:** 0901168

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R32012**	Analysis Date:		1/14/2009 11:51:23 PM
Ethylbenzene	18.90	µg/L	1.0	94.5	83.5	118	2.94	10	
Xylenes, Total	57.55	µg/L	2.0	95.9	83.4	122	4.89	13	
1,2,4-Trimethylbenzene	17.42	µg/L	1.0	87.1	83.5	115	5.47	21	
1,3,5-Trimethylbenzene	17.14	µg/L	1.0	85.7	85.2	113	6.40	10	
Sample ID: 0901168-02A MS		*MS*			Batch ID:	**R31991**	Analysis Date:		1/13/2009 6:02:21 PM
Methyl tert-butyl ether (MTBE)	17.50	µg/L	2.5	87.5	51.2	138			
Benzene	21.41	µg/L	1.0	107	85.9	113			
Toluene	19.57	µg/L	1.0	97.8	86.4	113			
Ethylbenzene	19.06	µg/L	1.0	95.3	83.5	118			
Xylenes, Total	57.74	µg/L	2.0	96.2	83.4	122			
1,2,4-Trimethylbenzene	17.40	µg/L	1.0	87.0	83.5	115			
1,3,5-Trimethylbenzene	17.17	µg/L	1.0	85.8	85.2	113			
Method: SM 2540 C: Total Dissolved Solids									
Sample ID: MBLK-18080		*MBLK*			Batch ID:	**18080**	Analysis Date:		1/13/2009
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-18080		*LCS*			Batch ID:	**18080**	Analysis Date:		1/13/2009
Total Dissolved Solids	1031	mg/L	20	102	80	120			
Sample ID: LCS-18086		*LCS*			Batch ID:	**18086**	Analysis Date:		1/14/2009
Total Dissolved Solids	1023	mg/L	20	102	80	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name WESTERN REFINING SOUT | Date Received: 1/12/2009

Work Order Number 0901168 | Received by: ARS

Checklist completed by: _____ 1/12/09 | Sample ID labels checked by: _____

Signature | Date | Initials

Matrix: | Carrier name Greyhound

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?	3°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: As per A.A. correct sample time for 0901168-1 is 11:26. Analysis requested by A.A. is cation/anion balance, RCRA 8 Metals, 8021 Btex, ph and hardness. AS 1/12/09
MW-2 collection date is 1126 per AA 1/12/09 AT

Corrective Action _____

Chain-of-Custody Record

Client: ~~Enterprise~~ ~~Giant~~ ~~Western~~ TU Refining

Bill Richardson

Mailing Address: 111 CR 4990

Bloomfield NM 87413

Phone #:

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: Bloomfield Crude Station

Project #:

Project Manager: Ashley Ager

970-946-1093

Sampler: Troy Urban

On Ice: ☒ Yes ☐ No

Sample Temperature: 5

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 901468	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	pH, SO_4, Cl, Alk, GWC	TDS, EC, Cations	Ca, Mg, K, Na, Fe, Mn	Hardness	Air Bubbles (Y or N)
010909	~~1155~~ 11:26	GW	Bloomfield Crude Station MW-2	7 total		1	X						X					X	X	X	X	
010909	1027	GW	Bloomfield Crude Station MW-3	7 total		2	X						X	1/2	1/2			X	X	X	X	
010809	1635	GW	Bloomfield Crude Station MW-4	7 total		3	X						X					X	X	X	X	
010809	1258	GW	Bloomfield Crude Station MW-5	7 total		4	X						X					X	X	X	X	
010809	1405	GW	Bloomfield Crude Station MW-6	7 total		5	X						X					X	X	X	X	
010809	1510	GW	Bloomfield Crude Station MW7	7 total		6	X						X					X	X	X	X	
010809	0700	GW	trip blank	2 total		7	X															

Date:	Time:	Relinquished by:	Received by:	Date	Time
011209	0830	Troy Urban		1/12/09	14:45
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: please copy results to ALA @ lodestarservices.com

~~8021 BTEX~~ TU

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.

Appendix B

Biovent Data Tables

2002 Biovent Headspace Results

Location	DEPTH (feet)	PID (ppm)	Location	DEPTH (feet)	PID (ppm)	Location	DEPTH (feet)	PID (ppm)
IP-1	6	57.5	IP-21	6	3.5	MP-12	6	6.2
IP-1	9	57.5	IP-21	9	0.2	MP-12	9	8.9
IP-1	12	594	IP-21	12	4.8	MP-12	12	700
IP-10	6	756	IP-22		no PID	MP-13	6	6
IP-10	9	724	IP-23	6	0.3	MP-13	9	4.9
IP-10	12	212	IP-23	9.5	1.3	MP-13	13	650
IP-11	6	262	IP-3	9	240	MP-14	6	1.5
IP-11	9	543	IP-3	12	738	MP-14	9	6.9
IP-11	12.5	59.2	IP-4	6	102	MP-14	12	1.8
IP-12	6	2.9	IP-4	9	415	MP-15	6	0.4
IP-12	9	5.1	IP-4	12	618	MP-16	6	4.2
IP-12	13	616	IP-5	6	1.8	MP-16	9	no PID
IP-13	6	5.6	IP-5	9	768	MP-16	10.5	no PID
IP-13	9	2	IP-5	13	20.3	MP-2	6	69
IP-13	12	7.5	IP-6	6	187	MP-2	9	697
IP-14	6	0	IP-6	9	1005	MP-2	12	793
IP-14	9	0	IP-6	13	200	MP-3	6	777
IP-14	13.5	25.7	IP-7	3	2.2	MP-3	9	146
IP-15		no PID	IP-7	6	19	MP-3	12	23.8
IP-16	6	1.6	IP-7	9	655	MP-4	6	410
IP-16	9	728	IP-7	12	676	MP-4	9	122
IP-16	13	675	IP-8	3	29.2	MP-4	12	632
IP-17		no PID	IP-8	6	106	MP-5	6	37.6
IP-18	3	24.2	IP-8	9	439	MP-5	9	757
IP-18	6	106	IP-8	13	76	MP-5	12	865
IP-18	9	439	IP-9	3	102	MP-6	3	2.6
IP-18	12	10.3	IP-9	6	503	MP-6	6	2.1
IP-18	13	76	IP-9	9	74	MP-6	12	616
IP-19		no PID	IP-9	12	627	MP-7	3	224
IP-2	6	13.5	MP-1	6	2.3	MP-7	6	872
IP-2	9	786	MP-1	9	602	MP-7	9	708
IP-2	12.5	562	MP-1	13	203	MP-7	11	70.7
IP-20	3	1.5	MP-10	6	49.1	MP-8	6	30.3
IP-20	6	1.2	MP-10	9	733	MP-8	9	772
IP-20	9	1	MP-10	12	738	MP-8	12	602
IP-20	12	0.7	MP-11	6	0	MP-12	6	6.2
IP-21	3	0.4	MP-11	9	0	MP-12	9	8.9
MP-9		no PID	MP-11	12	732	MP-12	12	700

2002-2008 Biovent Laboratory Analysis Results

Location	Depth (ft)	PID (ppm)	Lab TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)
NMOCD Standard			**100**	**10**				**50**
Oct-02								
MP-11	12	732	1290	2.9	nd	5.8	36	44.7
IP-16	9	728	5690	0.85	0.78	7.7	58	67.33
MP-8	9	772	nd	nd	nd	nd	nd	0
IP-12	12	616	2470	nd	nd	2.1	16	18.1
IP-7	12	676	4720	2.9	nd	7.6	51	61.5
MP-3	6	777	750	2	0.3	3.2	23	28.5
MP-7	6	872	2830	2	3.3	8.6	56	69.9
IP-10	6	756	1470	0.42	0.14	0.11	1.1	1.77
Oct-03								
MP-11	12	191	**157**	nd	nd	nd	nd	0
IP-16	9	110	**2600**	nd	nd	nd	nd	0
MP-8	9	149	nd	nd	nd	nd	nd	0
IP-12	12	190	**720**	nd	nd	nd	nd	0
IP-7	12	287	**1299**	nd	nd	nd	0.29	0.29
MP-3	6	314	**400**	nd	nd	nd	nd	0
MP-7	6	3964	**4700**	3.5	nd	10	89	102.5
IP-10	6	311	21	nd	nd	nd	nd	0
Oct-04								
MP-11	12	0	nd	nd	nd	nd	nd	0
IP-16	9	0	**540**	nd	nd	nd	nd	0
MP-8	9	149	nd	nd	0.027	nd	nd	0.027
IP-12	12	253	nd	nd	nd	nd	nd	0
IP-7	12	123	**139**	nd	nd	nd	nd	0
MP-3	6	0	nd	nd	nd	nd	nd	0
MP-7	6	994	**2330**	3.5	nd	2.7	35	41.2
IP-10	6	262	nd	nd	nd	nd	0.083	0.083
Oct-05								
MP-11	12	7.49	nd	nd	nd	nd	nd	0
IP-16	9	0	52	nd	nd	nd	nd	0
MP-8	9	56.2	nd	nd	nd	nd	nd	0
IP-12	12	120	**770**	nd	nd	nd	nd	0
IP-7	12	6.2	55	nd	nd	nd	nd	0
MP-3	6	0	39	nd	nd	nd	nd	0
MP-7	6	443	**2040**	< 0.13	< 0.13	6	32	38.2
IP-10	6	30.3	nd	nd	nd	nd	nd	0

2002-2008 Biovent Laboratory Analysis Results

Location	Depth (ft)	PID (ppm)	Lab TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)
NMOCD Standard			**100**	**10**				**50**
Oct-06								
MP-11	12	3.2	**124**	nd	nd	nd	nd	0
IP-16	9	5	**210**	nd	nd	nd	nd	0
MP-8	9	4.6	28	nd	nd	nd	nd	0
IP-12	12	3.3	**520**	nd	nd	nd	nd	0
IP-7	12	7.4	**770**	nd	nd	nd	nd	0
MP-3	6	4.7	nd	nd	nd	nd	nd	0
MP-7	6	4.9	22	nd	nd	nd	nd	0
IP-10	6	13.8	nd	nd	nd	nd	nd	0
Oct-07								
IP-11*	12	0.1	nd	nd	nd	nd	nd	0
IP-16	9	0.2	**1500**	nd	nd	nd	nd	0
MP-8	9	0.6	70	nd	nd	nd	nd	0
IP-12	12	0.3	84	nd	nd	nd	nd	0
IP-7	12	0.5	**1460**	nd	nd	nd	nd	0
MP-3	6	0.4	45	nd	nd	nd	nd	0
MP-7	6	0.5	**1250**	nd	nd	nd	nd	0
IP-10	6	0.5	nd	nd	nd	nd	nd	0
Oct-08								
MP-11	12	17.1	60	nd	nd	nd	nd	0
IP-16	9	4.2	**450**	nd	nd	nd	nd	0
MP-8	9	3.7	55	nd	nd	nd	nd	0
IP-12	12	3.3	**209**	nd	nd	nd	nd	0
IP-7	12	3.1	64	nd	nd	nd	nd	0
MP-3	6	3.9	78	nd	nd	nd	nd	0
MP-7	6	4.1	**2230**	nd	nd	nd	nd	0
IP-10	6	25.1	**680**	nd	nd	nd	nd	0

nd: not detected

*IP-11 was sampled instead of MP-11 during 2007 and should not be compared to previous sampling results.

Bioventing Data Table: Carbon Dioxide Concentrations at Monitoring Points (percent)

	2/10/03	2/17/03 1332 hours	2/17/03 1601 hours	2/18/03	2/19/03	2/21/03	2/24/03	2/25/03	3/5/03	3/19/03	10/21/03	1/20/04	Average Concentration During Operations	Percentage of Pretest Reading
IP10	1.8	5.8	5.4	7.6	6	5.6	7.8	7.8	5.4	8.8	11.5	0	6.52	362%
IP11	0	0	0	0	0	0	0	0	0	0	10	1.3	1.03	
IP13	0.2	0.2	2	1.8	1.4	2	1.8	1.8	2.9	2.6	0.4	2.2	1.74	868%
IP14	1	2.8	9.2	2.8	7.4	9.4	4.2	6.6	7.2	5.4	9.6	10.6	6.84	684%
IP15	0.8	0.2	2.4	1.2	0	0	0	0.8	0.6	0.8	1.8	5.5	1.21	151%
IP17	1	0.6	1	1	1.2	0.8	1	0.8	0.8	1.2	2.2	1.5	1.10	110%
IP19	0.4	1.4	1.8	1.2	1.6	1	1.8	1.6	1.6	0.2	0.8	0.6	1.24	309%
IP20	0.6	3.2	3.2	3.6	3.8	4.2	4.8	4.6	5.8	8	15.2	13.6	6.36	1061%
IP21	1.4	0.6	1	0.8	1	0.6	0.8	1	1.2	2	0.9	3.3	1.20	86%
IP22	0.4	1	1	1.2	0.8	0.2	0.8	1	1.2	1.6	0	1.5	0.94	234%
IP23	0.6	0.4	0.8	0.6	0.6	0.4	0.6	0.6	0.6	1	0.5	1.2	0.66	111%
IP8	0.8	10.8	14.2	13	14.4	13.4	6.2	14	14.6	15.8	17.1	14.2	13.43	1678%
MP14	1	3.6	3.6	3	3.4	3.4	2.2	2.8	3.2	4	1.1	6.4	3.34	334%
MP15	0.6	2	1.2	2.4	1.8	1.4	1.6	2	2.2	2.2	1.5	1.7	1.82	303%
MP16	0.06	0.8	1.4	1	1.2	0.8	1.2	1.2	1	1.4	0.4	0.3	0.97	1621%
MP4	1.2	10.4	11.4	10.4	11	11	10	10.6	10.2	12	20	15.5	12.05	1004%
MP7	1.4	4.4	7	7.8	8.2	5.6	5.4	4.4	7.2	8.4	3.2	0	5.60	400%
MP9	1	1.2	1.8	1.6	2	1.2	1.2	1.4	1.6	2	4	2.8	1.89	189%
Ave.	0.79	2.74	3.80	3.39	3.66	3.39	2.86	3.50	3.74	4.30	5.57	4.57	3.77	559%

System was started on 2/17/03 0900 hrs

Bioventing Data Table: Carbon Dioxide Concentrations at Monitoring Points (percent)

	4/29/04	7/28/04	10/19/04	1/12/05	Average Concentration During 2004	Percentage of Pretest Reading	Percentage of 2003 Reading
IP10	7.6	15.9	12.9	7.4	10.95	608%	168%
IP11	1.3	15.0	23.3	8.0	11.90		1158%
IP13	1.4	0.3	2.5	1.3	1.38	688%	79%
IP14	12.5	4.3	7.0	16.4	10.05	1005%	147%
IP15	0.0	1.2	0.1	0.0	0.33	41%	27%
IP17	1.3	0.7	1.2	1.8	1.25	125%	114%
IP19	na	na	na	3.5	3.50	875%	283%
IP20	12.6	2.6	10.9	7.5	8.40	1400%	132%
IP21	2.8	1.9	2.7	1.4	2.20	157%	183%
IP22	1.8	1.9	2.0	1.7	1.85	463%	198%
IP23	0.6	1.2	0.5	na	0.77	128%	116%
IP8	9.5	0.2	17.1	15.5	10.58	1322%	79%
MP14	7.3	2.4	13.5	8.7	7.98	798%	239%
MP15	2.1	3.8	3.0	5.8	3.68	613%	202%
MP16	0.9	2.5	0.4	1.8	1.40	2333%	144%
MP4	12.8	2.6	26.9	15.5	14.45	1204%	120%
MP7	7.2	0.7	16.9	8.2	8.25	589%	147%
MP9	0.2	2.1	1.4	0.2	0.98	98%	52%
Ave.	**4.55**	**3.29**	**7.91**	**5.82**	5.55	732%	199%

Bioventing Data Table: Carbon Dioxide Concentrations at Monitoring Points (percent)

	4/27/05	7/28/05	10/25/05	Average Concentration During 2005	Percentage of Pretest Reading	Percentage of 2004 Reading
IP10	2.0	6.9	5.7	4.87	271%	41%
IP11	12.1	0.3	1.0	4.47		38%
IP13	3.0	0.2	3.0	2.07	1035%	150%
IP14	8.9	14.2	18.1	13.73	1373%	137%
IP15	0.6	0.0	0.8	0.47	59%	142%
IP17	1.7	0.4	4.3	2.13	213%	170%
IP19	2.8	1.7	2.6	2.37	593%	68%
IP20	5.5	5.0	6.9	5.80	967%	69%
IP21	1.5	0.7	1.9	4.10	293%	186%
IP22	2.8	0.1	4.1	2.33	583%	126%
IP23	2.1	0.1	3.9	2.03	338%	264%
IP8	10.3	0.1	0.1	3.50	438%	33%
MP14	7.8	2.9	5.3	5.33	533%	67%
MP15	4.9	0.7	4.7	3.43	572%	93%
MP16	0.8	0.5	3.0	1.43	2383%	102%
MP4	17.5	0.0	1.5	6.33	528%	44%
MP7	2.4	0.0	10.2	4.2	300%	51%
MP9	2.1	0.4	2.0	1.5	150%	153%
Ave.	**4.3**	**1.9**	**4.4**	3.53	609%	107%

Note: Due to pump failure, no readings are available for the fourth quarter of 2005.

Bioventing Data Table: Carbon Dioxide Concentrations at Monitoring Points (percent)

	4/20/06	7/25/06	10/25/06	1/31/07	Average Concentration During 2006	Percentage of Pretest Reading	Percentage of 2005 Reading
IP1		6.5	0.5	2.0	3.0		
IP5		1.4	6.6	0.7	2.9		
IP6		11.2	6.1	5.6	7.6		
IP7		14	15.1	3.4	10.8		
IP8	14.4				14.4	1800%	411%
IP10	5.9	21	24.6	5.0	14.13	785%	290%
IP11		1.3			1.3		29%
IP12		1.1	2.9	1.9	2.0		
IP13	0.1	1.3	5.7	1.6	2.2	1086%	105%
IP14	4.8	1.9	7.8	4.5	4.8	475%	35%
IP15	0.1	0	1.5	0.6	0.6	69%	117%
IP17	0.2	0.9	1.9	1.1	1.0	103%	48%
IP18		0	7.5	1.7	3.1		
IP19	0.1	0	1.6	2.0	0.9	231%	39%
IP20	2.9	0	2.5	1.7	1.8	296%	31%
IP21	1.4	0	1.3	0.7	0.9	61%	21%
IP22	0.2	0.5	3.0	0.8	1.1	281%	48%
IP23	0.2	0	2.5	0.9	0.9	150%	44%
MP1		6.8	4.0	8.7	6.5		
MP4	14.9				14.9	350%	235%
MP6		1.5	8.6	5.1	5.1		
MP7	0.7				0.7	50%	17%
MP8		2.5	10.9	1.9	5.1		
MP9	0.3	1.2	2.7	0.9	1.3	128%	85%
MP10		1.8	6.5	4.6	4.3		
MP12		0	1.1	2.7	1.3		
MP13		0	3.2	3.4	2.2		
MP14	2.5	3	6.3	2.2	3.5	350%	66%
MP15	0.2	0	5.6	0.2	1.5	250%	44%
MP16	0.2	0	2.9	1.7	1.2	2000%	84%
Ave.	**2.8**	**2.9**	**5.5**	**2.5**	**3.4**	430%	114%

Blank data indicates the point was an injection point not a monitoring point at this time during the project

Bioventing Data Table: Carbon Dioxide Concentrations at Monitoring Points (percent)

	4/23/07	7/24/07	10/24/07	1/23/08	Average Concentration During 2007	Percentage of Pretest Reading	Percentage of 2006 Reading
IP1	3.7	5.8	0.9	0.6	2.8		
IP2		0	0.1	0.0	0.0		
IP3		0	0.1	0.0	0.0		
IP4		0	0.1	0.0	0.0		
IP5	1.8	2.3	0.1	0.1	1.1		
IP6	12.6	7.8	0.9	0.3	5.4		
IP7	9.9	0	0.1	0.0	2.5		
IP8		0	0.1	0.0	0.0	4%	0%
IP9		0.7	0	0.0	0.2		
IP10	17.3	8.5	0.1	0.1	6.5	361%	46%
IP11		0	0.1	0.0	0.0	0%	3%
IP12	5. 3	0	0.1	0.0	1.4		
IP13	0.7	0.9	0.1	0.1	0.5	225%	21%
IP14	3.8	3	0.6	0.7	2.0	203%	43%
IP15	0	0.3	0.1	0.0	0.1	13%	18%
IP16		0	0.1	0.0	0.0		
IP17	0.2	0.3	0.3	0.1	0.2	23%	22%
IP18	9.2	2.4	0.1	0.0	2.9		
IP19	1.9	2.9	0.6	0.1	1.4	344%	148%
IP20	2.3	1.1	0.3	0.1	1.0	158%	53%
IP21	0.1	0.3	0.2	0.0	0.2	11%	18%
IP22	0.8	0.8	0.1	0.0	0.4	106%	38%
IP23	M	0.4	0.2	0.0	0.2	33%	22%
MP1	5.3	2.7	0.4	0.0	2.1		
MP2		0	0.1	0.6	0.2		
MP3		0.4	0.7	0.5	0.5		
MP4	14.9	0	0.1	0.0	0.0	3%	0%
MP5		0	0.1	0.0	0.0		
MP6	14.2	4.1	0.7	0.0	4.8		
MP7		0	0.1	0.0	0.0	2%	5%
MP8	2.6	5.6	0.4	0.0	2.2		
MP9	0.2	0.9	0.2	0.0	0.3	33%	25%
MP10	11.7	0.1	0.7	0.3	3.2		
MP11	9.9	3	0.1	0.0	3.3		
MP12	0	0.3	0.6	0.2	0.3		
MP13	4.6	2	1.3	0.3	2.1		
MP14	1.8	2.2	0.1	0.2	1.1	108%	31%
MP15	2.6	3.1	0.1	0.0	1.5	242%	97%
MP16	0.6	2.1	2	0.0	1.2	1958%	98%
Ave.	**4.7**	1.6	0.3	0.1	1.3	167%	35%

Blank data indicates the point was an injection point not a monitoring point at this time during the project

Bioventing Data Table: Oxygen Concentrations in Monitoring Points (percent)

	2/10/03	2/17/03 1332 hrs	2/17/03 1601hrs	2/18/03	2/19/03	2/21/03	2/24/03	2/25/03	3/5/03	3/19/03	10/21/04	1/20/04	Average Concentration During Operations	Percentage of Pretest Reading
IP10	17.20	2.00	5.50	0.90	2.80	2.90	0.90	0.90	6.00	1.00	10.10	1.60	3.15	18%
IP11	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.90	20.00	20.90	9.20	18.20	19.51	93%
IP13	20.90	20.60	18.40	18.60	19.60	18.00	18.60	18.60	17.90	16.70	20.50	17.30	18.62	89%
IP14	19.90	15.70	1.70	14.70	5.60	0.90	10.40	6.50	3.10	3.30	0	1.60	5.77	29%
IP15	20.90	20.90	20.70	17.30	20.90	20.90	20.90	20.70	20.40	20.80	18.70	18.60	20.07	96%
IP17	20.90	20.60	20.80	20.30	20.60	20.90	20.90	20.80	20.70	20.40	19.60	19.20	20.44	98%
IP19	20.90	18.30	18.80	18.90	18.80	20.20	19.20	19.10	18.00	20.90	20.40	19.40	19.27	92%
IP20	20.50	14.00	14.00	13.30	10.40	2.20	3.20	3.00	2.20	0.90	0	1.50	5.88	29%
IP21	20.90	19.70	19.50	19.90	19.80	18.10	19.20	18.00	16.20	13.80	19.90	17.50	18.33	88%
IP22	20.90	19.60	20.80	19.90	20.40	20.90	20.90	20.30	19.80	19.10	21.10	18.70	20.14	96%
IP23	20.90	20.90	20.90	20.70	20.90	20.90	20.90	20.90	20.30	20.90	20.70	19.60	20.69	99%
IP8	20.20	4.60	2.10	4.00	2.90	3.30	11.50	1.80	2.00	2.20	0	1.40	3.25	16%
MP14	19.20	13.10	13.70	14.80	14.30	13.70	17.30	15.40	13.10	11.20	19.30	10.30	14.20	74%
MP15	20.90	17.90	18.10	19.90	18.50	19.70	20.30	18.80	17.60	18.50	19.30	13.80	18.40	88%
MP16	20.90	19.90	20.20	19.70	20.30	20.90	20.80	20.10	19.20	19.40	20.90	19.80	20.11	96%
MP4	19.00	1.10	1.00	3.40	2.60	1.80	3.00	1.70	3.10	3.40	0	0.20	1.94	10%
MP7	18.60	7.70	2.40	1.20	1.20	5.30	8.20	10.40	3.10	1.10	15.70	15.90	6.56	35%
MP9	20.50	19.40	19.30	19.00	18.90	19.90	20.60	19.30	18.80	18.40	16.00	17.70	13.13	64%
Ave.	20.23	15.38	14.38	14.86	14.41	13.97	15.43	14.29	13.42	12.94	13.97	12.91	13.86	67%

System was started on 2/17/03 0900 hrs

Bioventing Data Table: Oxygen Concentrations in Monitoring Points (percent)

	4/29/2004	7/28/2004	10/19/04	1/12/2005	Average Concentration During 2004	Percentage of Pretest Reading	Percentage of 2003 Reading
IP10	11.40	11.30	15.20	11.60	12.38	72%	393%
IP11	18.60	5.40	-	10.50	8.63	41%	44%
IP13	19.70	20.30	17.30	18.50	18.95	91%	102%
IP14	-	18.00	-	-	4.50	23%	78%
IP15	20.20	18.90	20.10	20.50	19.93	95%	99%
IP17	19.40	19.70	19.30	18.40	19.20	92%	94%
IP19	na	na	na	16.2	16.20	78%	84%
IP20	2.20	14.30	4.10	8.10	7.18	35%	122%
IP21	18.10	17.20	18.20	18.90	18.10	87%	99%
IP22	17.90	14.70	17.70	19.70	17.50	84%	87%
IP23	19.60	19.30	19.10	na	19.33	93%	93%
IP8	0.50	18.50	-	0.20	4.80	24%	147%
MP14	4.80	16.10	4.20	8.10	8.30	43%	58%
MP15	17.90	14.90	14.70	12.00	14.88	71%	81%
MP16	19.70	18.00	19.70	18.40	18.95	91%	94%
MP4	1.90	19.40	-	3.30	6.15	32%	318%
MP7	6.60	19.20	-	5.60	7.85	42%	120%
MP9	19.90	17.60	17.80	20.20	18.88	92%	144%
Ave.	12.85	16.64	11.02	12.36	13.43	66%	125%

Bioventing Data Table: Oxygen Concentrations in Monitoring Points (percent)

	4/27/2005	7/28/2005	10/25/05	Average Concentration During 2005	Percentage of Pretest Reading	Percentage of 2004 Reading
IP10	0	14.4	0	4.8	28%	39%
IP11	0	20.6	19.9	13.5	65%	156%
IP13	16.7	20.4	17.7	18.3	88%	97%
IP14	7.8	2.4	0	3.4	17%	76%
IP15	20.2	21.1	19.7	20.3	97%	102%
IP17	19.3	20.6	17.2	19.0	91%	99%
IP19	16.9	19	18.4	18.1	87%	112%
IP20	13.0	15.0	12.5	13.5	66%	188%
IP21	19.9	20.5	18.8	19.7	94%	109%
IP22	16.6	20.9	16.8	18.3	88%	105%
IP23	17.9	20.9	17.3	18.7	89%	97%
IP8	0	0	0.1	0.03	0.1%	0.01%
MP14	13.2	17.8	11.3	14.1	73%	17%
MP15	10.8	19.6	12.1	14.2	68%	95%
MP16	19.9	20.7	18.0	19.5	93%	103%
MP4	0.7	5.2	0	2.0	105%	33%
MP7	19.6	16.9	6.2	14.2	76%	181%
MP9	18.5	20.4	19.1	19.3	94%	102%
Ave.	12.8	16.5	12.5	13.9	73%	95%

Note: Due to pump failure, no readings are available for the fourth quarter of 2005.

Bioventing Data Table: Oxygen Concentrations at Monitoring Points (percent)

	4/20/06	7/25/06	10/25/06	1/31/07	Average Concentration During 2006	Percentage of Pretest Reading	Percentage of 2005 Reading
IP1		11.4	19.9	16	15.8		
IP5		15.4	7.6	19.6	14.2		
IP6		2.4	13.1	13.0	9.5		
IP7		1.9	4.9	15.7	7.5		
IP8	0				0	0%	0%
IP10	15.6	0	0	13	7.2	42%	149%
IP11	19.6				19.6	94%	145%
IP12		15.8	16.8	18.9	17.2		
IP13	20.2	17.8	14.8	18.7	17.9	86%	98%
IP14	14	19.7	12.9	5.7	15.6	78%	458%
IP15	20.3	20	19.4	20.1	20	95%	98%
IP17	20.1	18.6	19	19.8	19.4	93%	102%
IP18		19.9	8.2	18.4	15.5		
IP19	20.6	19.4	19	18.6	19.4	93%	107%
IP20	17.7	20.1	16	17.4	17.8	87%	132%
IP21	20.2	18	17.2	19.2	18.7	89%	95%
IP22	20.6	18.6	17.8	19.8	19.2	92%	105%
IP23	20.5	18.4	18.5	20	19.35	93%	103%
MP1		11.9	16.6	8	12.2		
MP4	0				0	0%	0%
MP6		12.7	3	13.7	9.8		
MP7	18.5				18.5	99%	130%
MP8		12.5	6.2	18.4	12.4		
MP9	20.1	17.3	18.2	19.8	18.9	92%	98%
MP10		17	11.7	11	13.2		
MP12		20.3	19.2	16.4	18.6		
MP13		20.3	15.8	14.9	17		
MP14	18	15	13	17.6	15.9	83%	113%
MP15	20.5	19.2	13.6	20.3	18.4	88%	130%
MP16	20.4	19.2	18.3	19.2	19.3	92%	99%
Ave.	**17.1**	**15.5**	**13.9**	**17.0**	**14.9**	74%	107%

Blank data indicates the point was an injection point not a monitoring point at this time during the project

Bioventing Data Table: Oxygen Concentrations at Monitoring Points (percent)

	4/23/07	7/24/07	10/24/07	1/23/08	Average Concentration During 2007	Percentage of Pretest Reading	Percentage of 2006 Reading
IP1	15.1	14.2	19.5	19.6	17.1		
IP2		20.2	20.8	20.6	20.5		
IP3		19.8	20.7	20.1	20.2		
IP4		20.1	20.8	20.7	20.5		
IP5	18	17.3	20.7	20.6	19.2		
IP6	6.7	13.5	19.9	20.3	15.1		
IP7	10.7	20	20.8	20.6	18.0		
IP8		20	20.8	20.6	20.5	101%	0%
IP9		13.2	20.6	20.6	18.1		
IP10	5.2	12	20.6	20.3	14.5	84%	203%
IP11		20	20.7	20.6	20.4	98%	104%
IP12	12.3	20	20.8	20.6	18.4		
IP13	19.1	18	20.7	20.3	19.5	93%	109%
IP14	16.9	17.3	20.3	19.6	18.5	93%	119%
IP15	20.2	19.7	20.7	20.5	20.3	97%	102%
IP16		20.1	20.9	20.5	20.5		
IP17	20.3	19.4	20.4	20.4	20.1	96%	104%
IP18	11.3	17.8	20.9	20.3	17.6		
IP19	18.4	17	20.6	20.4	19.1	91%	98%
IP20	16.4	18.5	20.8	20.2	19.0	93%	107%
IP21	19.5	19.1	20.8	20.4	20.0	95%	107%
IP22	19.4	19.1	20.9	20.6	20.0	96%	104%
IP23		19.2	20.9	20.5	20.2	97%	104%
MP1	13.5	17.2	20.4	20.6	17.9		
MP2		20	20.6	20.6	20.4		
MP3		13.2	18.3	19.6	17.0		
MP4		20	20.8	20.6	20.5	108%	0%
MP5		20.2	50.6	20.7	30.5		
MP6	6.7	15.7	19.9	20.6	15.7		
MP7		20.1	20.7	20.6	20.5	110%	111%
MP8	14.6	16.8	20.4	20.4	18.1		
MP9	19.8	18	20.4	20.3	19.6	96%	104%
MP10	7.6	19.4	20	20.3	16.8		
MP11	10	17.3	20.9	20.5	17.2		
MP12	19.9	18.5	20.1	20.2	19.7		
MP13	12.8	16.6	19.6	20.1	17.3		
MP14	18.1	17	20.9	20.2	19.1	99%	120%
MP15	18.4	16.6	21	20.6	19.2	92%	104%
MP16	19.6	17.8	19.3	20.5	19.3	92%	100%
Ave.	**14.6**	**17.9**	**21.2**	**20.4**	**19.1**	95%	121%

Blank data indicates the point was an injection point not a monitoring point at this time during the project

Bioventing Data Table: Oxygen Concentrations at Monitoring Points (percent)

	Pre-test	Average Conc. During 2007	9-Apr-08	8-Jul-08	23-Oct-08	8-Jan-09	Average Conc. During 2008	Percentage of Pretest Reading	Percentage of 2007 Reading
IP1		17.1	19	18.6	19.5	19.4	19.1		112%
IP2		20.5	19.6	3.4		21.3	14.8		72%
IP3		20.2	19.5	19.4	20.7	20.6	20.1		99%
IP4		20.5	19.7	18.7	21.1	21	20.1		98%
IP5		19.2	19.6	19.5	21	21.1	20.3		106%
IP6		15.1	19.5	18	21.2	19.6	19.6		130%
IP7		18	19.5	18	21.3	21.3	20.0		111%
IP8	20.2	20.5	19.6	0.4		21.1	13.7	68%	67%
IP9		18.1	19.6	18.6	20.9	21.1	20.1		111%
IP10	17.2	14.5	19.2	18.9	0	20.4	14.6	85%	101%
IP11	20.9	20.4	19.7	18.7	21.2	21.2	20.2	97%	99%
IP12		18.4	19.5	13.1	21.5	21.2	18.8		102%
IP13	20.9	19.5	19.6	19.6	16	20.5	18.9	91%	97%
IP14	19.9	18.5	19.1	18.9	0.9	18.7	14.4	72%	78%
IP15	20.9	20.3	19.7	19.6	20.6	20.9	20.2	97%	100%
IP16		20.5	19.4	0.3	21.5	21.2	15.6		76%
IP17	20.9	20.1	19.7	20.4	20.5	21.1	20.4	98%	102%
IP18		17.6	19.2	14.9	21.5	21.1	19.2		109%
IP19	20.9	19.1	19	20.2	18.6	21.1	19.7	94%	103%
IP20	20.5	19	19.1	19.7	18.7	21.1	19.7	96%	103%
IP21	20.9	20	19	20.3	20.3	21.1	20.2	97%	101%
IP22	20.9	20	19	20.3	20.6	21.3	20.3	97%	102%
IP23	20.9	20.2	19	20.5	20.5	21.1	20.3	97%	100%
MP1		17.9	19.5	16.1	21.2	21.1	19.5		109%
MP2		20.4	19.6	18.2	21.2	21.1	20.0		98%
MP3		17	18.9	18.3	16.4	20	18.4		108%
MP4	19	20.5	19.6	5.6		21.1	15.4	81%	75%
MP5		30.5	19.6	13.7	21.1	21.2	18.9		62%
MP6		15.7	19	18	21.3	21.1	19.9		126%
MP7	18.6	20.5	19.7	0.3	21	21	15.5	83%	76%
MP8		18.1	19	18.6	21.8	21	20.1		111%
MP9	20.5	19.6	19.6	19.8	20.1	20.9	20.1	98%	103%
MP10		16.8	19.5	19.9	21.5	21.2	20.5		122%
MP11		17.2	19.2	2	21.5	21.1	16.0		93%
MP12		19.7	19.2	1.1	21.4	21.1	15.7		80%
MP13		17.3	19	14.6	21	21.3	19.0		110%
MP14	19.2	19.1	19.1	17.5	17.4	21.3	18.8	98%	99%
MP15	20.9	19.2	19.1	20.2	21.3	21.3	20.5	98%	107%
MP16	20.9	19.3	19	19.9	18.8	21	19.7	94%	102%
Ave.		19.1	19.3	15.5	19.3	20.9	18.7	91%	99%

Blank data indicates the point was an injection point not a monitoring point at this time during the project

Appendix C

Summary of Groundwater Analyses

Summary of Groundwater Analytical Results for BTEX
September 1994 - January 2009

		Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards		10	750	750	620
MW-2	Sep-94	**640**	600	82	**690**
	Apr-95	**220**	280	53	430
	Sep-99	NSP	NSP	NSP	NSP
	Dec-99	NSP	NSP	NSP	NSP
	May-01	NSP	NSP	NSP	NSP
	May-02	NSP	NSP	NSP	NSP
	Jan-03	**1700**	ND	650	**3200**
	Jan-04	**1100**	ND	340	**1800**
	Jan-05	**430**	ND	360	**1000**
	Jan-06	**250**	ND	410	**790**
	Sep-06	**230**	50	290	**640**
	Jan-07	8.7	9.7	16	55
	Apr-07	7.8	6	61	110
	Jul-07	4.2	20	30	68
	Oct-07	0.87	18	120	180
	Jan-08	4.4	45	24	100
	May-08	0.86	12.3	**<0.5**	16.6
	Aug-08	1.1	7.3	14	28
	Nov-08	1.7	2	7.3	15
	Jan-09	1.6	ND	2.1	6.9
MW-3	Sep-94	ND	ND	ND	ND
	Apr-95	ND	ND	ND	ND
	Sep-99	ND	ND	ND	ND
	Dec-99	ND	ND	ND	ND
	May-01	ND	ND	ND	ND
	May-02	ND	ND	ND	ND
	Jan-03	ND	ND	ND	ND
	Jan-04	ND	ND	ND	ND
	Jan-05	ND	ND	ND	ND
	Jan-06	ND	ND	ND	ND
	Jan-07	0.8	ND	ND	ND
	Jan-08	ND	ND	ND	ND
MW-3	Jan-09	ND	ND	ND	ND

Summary of Groundwater Analytical Results for BTEX
September 1994 - January 2009

NMWQCC Standards		Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)
		10	750	750	620
MW-4	Sep-94	2.1	ND	ND	1.2
	Apr-95	ND	ND	ND	ND
	Sep-99	ND	ND	ND	ND
	Dec-99	ND	ND	ND	ND
	May-01	ND	ND	ND	ND
	May-02	ND	ND	ND	ND
	Jan-03	ND	ND	ND	ND
	Jan-04	ND	ND	ND	ND
	Jan-05	ND	ND	ND	ND
	Jan-06	ND	ND	ND	ND
	Jan-07	ND	ND	ND	ND
	Jan-08	ND	ND	ND	ND
	Jan-09	ND	ND	ND	ND
MW-5	Sep-94	NS	NS	NS	NS
	Apr-95	ND	ND	ND	ND
	Sep-99	ND	ND	ND	ND
	Dec-99	ND	ND	ND	ND
	May-01	ND	ND	ND	ND
	May-02	ND	ND	ND	ND
	Jan-03	ND	ND	ND	ND
	Jan-04	ND	ND	ND	1.1
	Jan-05	ND	ND	ND	ND
	Jan-06	ND	ND	ND	ND
	Jan-07	ND	ND	ND	ND
	Jan-08	ND	ND	ND	ND
	Jan-09	ND	ND	ND	ND
MW-6	May-01	**12**	15	13	83
	May-02	ND	ND	0.53	1.4
	Oct-02	ND	ND	ND	3.2
	Jan-03	6	20	87	350
	Jul-03	ND	2.7	3.2	16
	Sep-03	0.8	3.7	4	24
	Jan-04	0.9	1.6	2.9	16
MW-6	Jan-05	ND	ND	ND	ND
	Jan-06	ND	ND	14	32

Summary of Groundwater Analytical Results for BTEX
September 1994 - January 2009

NMWQCC Standards		Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)
		10	750	750	620
	Jan-07	ND	ND	3.6	9.1
	Jan-08	0.9	11	130	**930***
	Jan-09	ND	ND	66	510
MW-7	May-01	**2400**	ND	380	**2800**
	Jun-02	**2000**	ND	140	**1100**
	Oct-02	**1100**	ND	79	490
	Jan-03	**3200**	ND	400	**3100**
	Jan-04	**3300**	ND	460	**3300**
	Jan-05	**1600**	ND	220	**1500**
	Jan-06	**1400**	ND	280	**1500**
	Jan-07	**1200**	ND	450	**2500**
	Jan-08	**750**	ND	520	**3100**
	Jan-09	**570**	ND	450	**2800**

*Reported from a 5X dilution run on 01/28/08.

Notes:
□g/L = micrograms per liter
ND = not detected
NS = not sampled
NSP = not sampled due to product in well
*MW-1 was not screened within the aquifer
**MW-6 and MW-7 were installed in May 2001
NMWQCC = New Mexico Water Quality Control Commissi

Summary of Groundwater Analytical Results for General Water Chemistry

NMWQCC Standards		Lab pH (su)	Conductivity (mmhos/cm)	TDS (mg/L)	Alkalinity (CaCO3) (mg/L)	Hardness (CaCO3) (mg/L)	Sodium Absorption Ratio	Bicarbonate (HCO3) (mg/L)	Carbonate (CO3) (mg/L)	Hydroxide (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Nitrate/Nitrite (mg/L)
		6-9	No Std	1,000	No Std	No Std	No Std	No Std	No Std	No Std	250	600	No Std	No Std	No Std	No Std	No Std	No Std	No Std
MW-2	1994	6.6	4,920	**3,049**	957	NT	11.78	1,170	0	0	**1,050**	245	325	30	1.4	828	NA	NA	NA
	2001	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NA	NA	NA
	2002	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NA	NA	NA
	2003	7	3230	**3220**	1520	416	NT	1850	<1	<1	51	369	133	20	1	660	NA	NA	NA
	2004	7	3100	**2000**	1500	420	NT	1500	<1	<1	85	130	140	18	3	680	11	3.1	<0.10
	2005	7.6	3000	**2000**	1300	430	NT	1300	7	<1	110	58	140	19	3.8	620	11	3.1	<0.10
	2006	7.4	3400	**2000**	1400	440	NT	1400	4.3	<1	130	150	150	18	2.4	610	4	1.3	<0.10
	2007	7.4	5490	**4580**	726	1190	NT	724	2.57	<1	43.5	**2460**	476	59.5	12.5	869	16.3	5	
	2008	7.5	5100	**4350**	543	1220	NT	534	<1	<1	42.3	**2468**	463	49.5	2.93	739	10.7	6.76	ND
	2009	7.34	4300	**3900**	760			760	ND	NA	42	**2000**	380	42	2.3	720	BDL	0.25	ND
MW-3	1994	7.1	4,250	**3,413**	521	NT	8.14	635	0	0	48	**1920**	439	37	1.4	661	NA	NA	NA
	2001	7.3	4,500	**3,960**	459	1,220	NT	559	<1	<1	78	**2250**	423	40.4	2.5	711	NA	NA	NA
	2002	7	4,440	**3,820**	358	1,290	NT	437	<1	<1	46	**2520**	446	43	0.6	705	NA	NA	NA
	2003	7	4320	**3660**	560	1230	NT	683	<1	<1	56	**2330**	428	39.4	1.6	671	NA	NA	NA
	2004	7.3	4500	**4000**	560	1400	NT	560	1	<1	44	**2300**	320	44	3.6	780	3.9	0.79	<0.10
	2005	7.4	4700	**2000**	560	1400	NT	560	1	<1	37	**2100**	450	47	3.9	690	3.9	0.79	<0.10
	2006	7.5	5100	**3600**	580	1300	NT	580	1.5	<1	37	**2200**	450	47	3.7	680	4.4	0.38	0.36
	2007	7.5	4780	**3750**	565	1120	NT	563	1.92	<1	36.2	**1920**	449	43	10.3	649	1.28	0.41	
	2008	7.5	4330	**3600**	627	1090	NT	626	1.32	<1	34.8	**1690**	419	39.8	2.36	594	1.91	0.394	ND
	2009	7.33	4000	**3700**	580			580	ND		37	**2000**	390	37	2.2	600	3.2	6.6	3.1
MW-4	1994	7	5,420	**4,389**	576	NT	10.88	703	0	0	175	**2470**	439	53	3.5	907	NA	NA	NA
	2001	7.1	5,090	**4,630**	490	1,460	NT	597	<1	<1	77	**2680**	500	52.5	4.2	900	NA	NA	NA
	2002	6.9	5,140	**4,420**	358	1,310	NT	437	<1	<1	47	**2930**	449	47	2.6	873	NA	NA	NA

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Western Refining, Inc.
March 2009

Summary of Groundwater Analytical Results for General Water Chemistry

		Lab pH (su)	Conductivity (mmhos/cm)	TDS (mg/L)	Alkalinity ($CaCO_3$) (mg/L)	Hardness ($CaCO_3$) (mg/L)	Sodium Absorption Ratio	Bicarbonate (HCO_3) (mg/L)	Carbonate (CO_3) (mg/L)	Hydroxide (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Nitrate/Nitrite (mg/L)
NMWQCC Standards		6-9	No Std	1,000	No Std	No Std	No Std	No Std	No Std	No Std	250	600	No Std	No Std	No Std	No Std	No Std	No Std	No Std
MW-4	2003	7	4460	**3850**	400	1070	NT	488	<1	<1	40	**2570**	361	40.8	2.8	667	NA	NA	NA
	2004	7.3	4500	**3900**	400	1200	NT	400	3	<1	27	**2500**	390	44	6.7	810	18	5.2	<0.10
	2005	7.3	4900	**4000**	420	1300	NT	420	1	<1	30	**2200**	450	49	10	740	18	NA	<0.10
	2006	7.4	5400	**3700**	450	1200	NT	450	5.9	<1	31	**2500**	410	47	7	790	3.8	5.4	<0.10
	2007	7.2	4700	**3690**	455	1020	NT	454	1.17	<1	54.5	**1730**	410	43.3	12.1	678	0.56	5.73	
	2008	7.6	4500	**3710**	458	1040	NT	457	<1	<1	**<5**	**1790**	394	41.2	3.55	637	2.72	5.41	ND
	2009	7.19	4400	**4000**	450			450	ND		36	**2400**	400	42	3.7	670	BDL	4.7	ND
MW-5	1994	6.9	6,000	**4,410**	775	NT	8.84	945	0	0	**996**	**1390**	634	51	6.6	861	NA	NA	NA
	2001	6.7	7,000	**5,230**	757	2,010	NT	923	<1	<1	**1,320**	**1,230**	700	63.2	5.6	924	NA	NA	NA
	2002	6.5	6,880	**4,810**	567	1,880	NT	692	<1	<1	**1,200**	**1,230**	661	55.3	4.9	855	NA	NA	NA
	2003	6.6	6910	**5080**	830	1780	NT	1010	<1	<1	**1090**	**1330**	616	58.1	4.8	829	NA	NA	NA
	2004	6.8	6700	**4600**	840	2000	NT	840	1	<1	**1300**	**1400**	690	57	11	1000	4.3	11	<0.10
	2005	7	6800	**4800**	870	1900	NT	870	<1	<1	**1100**	**1200**	670	60	10	910	4.3	11	<0.10
	2006	7.1	8000	**4300**	990	1800	NT	990	<1	<1	**1000**	**1200**	630	58	12	920	11	58	<0.10
	2007	7.3	6630	**4750**	915	1320	NT	914	1.11	<1	**884**	**1800**	621	57.6	16.6	896	0.5	10.8	
	2008	7.1	6750	**4780**	933	1510	NT	932	<1	<1	109	**1310**	585	51.5	5.11	834	1.32	10.7	ND
	2009	6.8	6200	**5700**	840			840	ND	840	**1000**	**1900**	570	50	5.6	860	BDL	10	ND
MW-6	2001	6.9	5,470	**4,580**	740	1,550	NT	903	<1	<1	80	**2780**	534	53.3	6.3	1,030	NA	NA	NA
	2002	6.8	4,460	**3,560**	669	932	NT	816	<1	<1	55	**1900**	319	33	2.5	830	NA	NA	NA
	2003	7	3070	**2180**	1140	602	NT	1390	<1	<1	79	540	203	23.1	2.1	514	NA	NA	NA
	2004	7.2	4100	**3000**	1000	1100	NT	1000	<1	<1	96	**1400**	390	63	29	870	23	4	<0.10
	2005	7.2	4100	**3000**	1100	670	NT	1100	2	<1	93	**940**	220	28	6.7	670	23	4	<0.10
	2006	7.2	7000	**4500**	800	1400	NT	800	3.6	<1	82	**2600**	440	68	24	1200	87	11	<0.10
MW-6	2007	7.1	7460	**6070**	678	1320	NT	676	2.23	<1	57.5	**3140**	529	65.1	17.3	1500	18.7	13.8	

Summary of Groundwater Analytical Results for General Water Chemistry

NMWQCC Standards		Lab pH (su)	Conductivity (mmhos/cm)	TDS (mg/L)	Alkalinity (CaCO3) (mg/L)	Hardness (CaCO3) (mg/L)	Sodium Absorption Ratio	Bicarbonate (HCO3) (mg/L)	Carbonate (CO3) (mg/L)	Hydroxide (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Nitrate/Nitrite (mg/L)
		6-9	No Std	1,000	No Std	No Std	No Std	No Std	No Std	No Std	250	600	No Std	No Std	No Std	No Std	No Std	No Std	No Std
	2008	7.5	2840	**1920**	1140	533	NT	1140	1.25	1.25	**<1**	312	195	25.6	2.83	442	24.5	2.62	ND
	2009	7.14	2800	**1900**	1100			1100	ND		180	260	180	23	2.2	430	9.1	1.9	ND
MW-7	2001	6.7	2,160	**1,710**	600	843	NT	732	<1	<1	52	**642**	296	25.6	1.6	234	NA	NA	NA
	2002	6.8	1,870	**1,570**	432	758	NT	527	<1	<1	20	**700**	258	27.8	2.2	151	NA	NA	NA
	2003	6.7	1310	810	696	531	NT	849	<1	<1	35	57	152	36.8	1	126	NA	NA	NA
	2004	6.8	1400	920	720	520	NT	720	<1	<1	13	120	170	23	7	170	27	3	<0.10
	2005	7	1500	930	740	540	NT	740	1	<1	15	190	180	20	3.3	150	27	0.3	<0.10
	2006	7.4	1800	**1200**	750	660	NT	750	3.2	<1	16	310	220	23	3.3	170	49	2.9	<0.10
	2007	7.1	1460	858	638	402	NT	636	1.38	<1	22.4	127	161	20.2	8.84	124	32.7	2.34	
	2008	7.3	1320	810	748	369	NT	747	<1	<1	18.1	50.9	139	15.4	1.2	120	14.4	1.6	ND
	2009	7.03	1200	750	680			680	ND		22	6.8	150	17	0.9	140	11	1.5	ND

Notes:

s.u. = standard units

mmhos/cm = micromhos per centimeter

mg/L = milligrams per liter
NMWQCC = New Mexico Water Quality Control Commission

No Std = no standard
NS = not sampled; MW-1 was not screened within the aquifer
NSP = no sample collected due to product in the well

NT = not tested

Summary of Groundwater Analytical Results for Polynuclear Aromatic Hydrocarbons (EPA 610) - September 1994

Units: ug/L	MW-3	MW-2	MW-4
Naphthalene	<0.5	8.9	<0.50
Acenaphthylene	<1.0	<1.0	<1.0
Acenaphthene	<0.50	<0.50	<0.50
Fluorene	<0.10	1.2	<0.10
Phenanthrene	<0.05	1.8	<0.05
Anthracene	<0.05	<0.05	<0.05
Fluoranthene	<0.10	1.2	<0.10
Pyrene	<0.10	<0.10	<0.10
Benzo(a)Anthracene	<0.10	<0.10	<0.10
Chrysene	<0.10	0.17	<0.10
Benzo(b)Fluoranthene	>0.10	<0.10	<0.10
Benzo(k)Fluoranthene	<0.10	<0.10	<0.10
Benzo(a)Pyrene	<0.10	<0.10	<0.10
Dibenzo(a,h)Anthracene	<0.20	<0.20	<0.20
Benzo(g,h,I)Perylene	<0.10	<0.10	<0.10
Indeno(1,2,3-CD)Pyrene	<0.10	<0.10	<0.10
1-Methylnaphthalene	<0.30	5.9	<0.30
1-Methylnaphthalene	<0.30	5.8	<0.30

Notes:
ug/L = micrograms per liter

Summary of Groundwater Results for Priority Pollutant Metals
September 1994

Metal	NMWQCC Standards	MW-2	MW-3	MW-4
Silver (mg/L)	0.05	<0.01	<0.01	<0.01
Arsenic (mg/L)	0.1	<0.005	<0.005	<0.005
Beryllium (mg/L)	No Std	<0.004	<0.004	<0.004
Cadmium (mg/L)	0.01	<0.0005	<0.0005	<0.0005
Chromium (mg/L)	0.05	0.010	<0.01	<0.01
Copper (mg/L)	1	0.012	<0.01	<0.01
Mercury (mg/L)	0.002	<0.0002	<0.0002	<0.0002
Nickel (mg/L)	0.2	<0.02	<0.02	<0.02
Lead (mg/L)	<0.05	<0.002	<0.002	<0.002
Antimony (mg/L)	No Std	<0.05	<0.05	<0.05
Selenium (mg/L)	0.05	<0.005	<0.005	<0.005
Thallium (mg/L)	No Std	<0.005	<0.005	<0.005
Zinc (mg/L)	10	0.032	0.023	0.026

Notes:
mg/L = milligrams per liter
NMWQCC = New Mexico Water Quality Control Commission
No Std = no standard

Appendix D

MW-2 Product Thickness and Manual Purge Data

MW-2 Product Thickness and Manual Purge Data

Date	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed (gal) (includes purge water)
4-May-95	NA	NA	NA	9
30-Sep-99	15	17.48	2.47	2.75
16-Nov-99	14.65	17	2.35	2
14-Dec-99	14.66	16.76	2.1	5
11-May-01	14.69	16.77	1.96	2.5
21-May-01	15.1	15.65	0.55	0
23-May-01	15.13	15.69	0.56	0
3-Jul-01	15.48	16.32	0.84	0
9-Jul-01	15.54	16.43	0.89	1.1
13-May-02	14.7	15.51	0.81	1.4
22-May-02	14.64	15.29	0.65	1.2
30-May-02	14.7	15.14	0.44	1.1
5-Jun-02	14.76	15	0.24	1.1
13-Jun-02	14.75	14.91	0.15	0.6
19-Jun-02	14.7	14.78	0.08	0.6
26-Jun-02	14.68	14.73	0.05	0.3
5-Jul-02	14.63	14.69	0.05	0.2
12-Jul-02	14.56	14.61	0.05	0.2
18-Jul-02	14.53	14.59	0.06	0.2
25-Jul-02	14.51	14.56	0.05	0.2
31-Jul-02	14.43	14.47	0.04	0.1
16-Aug-02	14.25	14.32	0.06	0.2
6-Sep-02	14.18	14.3	0.12	0.1
19-Sep-02	14.22	14.38	0.16	0.2
21-Oct-02	-	13.87	0	0
30-Jan-03	-	12.53	0	0
26-Mar-03	-	13.75	0	0
16-May-03	-	14.3	0	0
27-Jul-03	14.06	14.08	0.02	2
18-Aug-03	-	14.07	0	0
15-Sep-03	-	14.08	0	0
20-Jan-04	14.2	14.24	0.04	2.5
29-Apr-04	15.04	15.1	0.06	2
27-May-04	15.38	15.51	0.13	2
24-Jun-04	15.6	15.65	0.05	2
26-Jul-04	15.5	15.54	0.04	1
25-Aug-04	15.12	15.13	0.01	1
30-Sep-04	-	14.72	0	1
19-Oct-04	-	14.58	0	-
16-Nov-04	-	14.4	0	0.5
14-Dec-04	-	14.38	0	-

MW-2 Product Thickness and Manual Purge Data

Date	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Volume Removed (gal) (includes purge water)
13-Jan-05	-	14.52	0	-
27-Apr-05	-		0	-
28-Jul-05	-	15.12	0	-
25-Oct-05	-	13.82	0	-
26-Jan-06	-	14.67	0	-
25-Sep-06	-	13.85	0	-
25-Jan-07	-	12.63	0	-
22-Jan-08	-	11.81	0	-
15-May-08	-	13.33	0	-
13-Aug-08	-	18.68	0	-
12-Nov-08	-	11.57	0	-
9-Jan-09	-	11.75	0	-
Total Gallons of Product and Purge Water Removed Since 1995				44.05