

**3R - 258**

**3<sup>RD</sup> QUARTER  
MONITORING  
REPORT**

**11/10/2009**

RECEIVED

2009 NOV 16 PM 1 56

November 10, 2009

Glenn Von Gonten  
Hydrologist and Groundwater Remediation  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

**RE: Western Refining Southwest Inc. (Giant) Bloomfield Crude Station 3<sup>rd</sup>  
Quarter Soil Sampling Report**

**Certified Mail # 7009 0820 0000 0482 8613**

Dear Mr. Von Gonten;

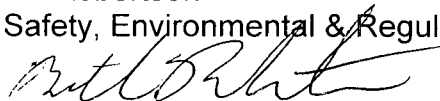
Please find enclosed, Western Refining Southwest's (Giant) Bloomfield Crude Station 3<sup>rd</sup> Quarter soil sampling and air monitoring report, prepared by Lodestar Services Incorporated.

If you have any questions or require additional information, please do not hesitate to contact me at (505) 632-4077 or at [Bill.Robertson@wnr.com](mailto:Bill.Robertson@wnr.com).

Sincerely,

**Western Refining**

Bill Robertson  
Safety, Environmental & Regulatory Manager



Attachments Soil Sampling Report

Cc: Brandon Powell, NMOCD  
Allen Hains, Western Refining  
WNR File

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

November 6, 2009

Mr. Bill Robertson  
Western Refining Southwest  
111 CR 4990  
Bloomfield, NM 87413

**RE: Bloomfield Crude Station Soil Sampling**

Dear Mr. Robertson,

On October 21, 2009, Lodestar Services, Incorporated (Lodestar) conducted quarterly gas monitoring and collected quarterly soil samples at Western Refining's (Western's) former Bloomfield Crude Station (BCS) to assess effectiveness of the bioventing system. The BCS 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  $\frac{1}{2}$ , NW  $\frac{1}{4}$ , NW  $\frac{1}{4}$  of Section 22, Township 29 North, Range 11 West. Bioventing was initiated in February 2003 and a site map showing location of monitoring and injection points is attached.

Subsurface airflow and oxygen/carbon dioxide concentrations were monitored for the third quarter of 2009. Oxygen and carbon dioxide were measured using a GEM 500 <sup>TM</sup> gas monitor. Each point was evacuated until the gas reading was stable. The results are listed in Table 1. The new measurements are comparable to the previous readings, indicating little change over the last quarter.

Soil samples were collected using a hand powered auger from a location approximately one foot or less away from where soil samples were collected during the initial subsurface investigation 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. TPH levels in the monitoring wells have generally decreased during bioventing operations, as shown in Table 2. 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. During the third quarter of 2009, two samples (IP-16 and MP-7) were over the NMOCD standard for TPH concentration. Sample IP-7 contained a TPH concentration of 97 ppm which is below the NMOCD standard. No concentration of TPH was detected in the other samples. All locations have been under NMOCD standards for BTEX concentrations since 2004. In October 2009 no BTEX concentrations were found in any of the samples.

Based on the above results, Lodestar recommends maintaining the current injection/monitoring point configuration and conducting the annual gas monitoring and soil sampling in January. Lodestar appreciates this opportunity to perform these services for Western. If you have any questions or require additional information, please do not hesitate to call me at (970) 946-1093.

Sincerely,  
**Lodestar Services, Inc.**

Ashley Ager

Attachments: Site Map  
Table 1: Results of Air Monitoring  
Table 2: April 2009 Soil Sampling Results  
Hall Environmental Lab Report

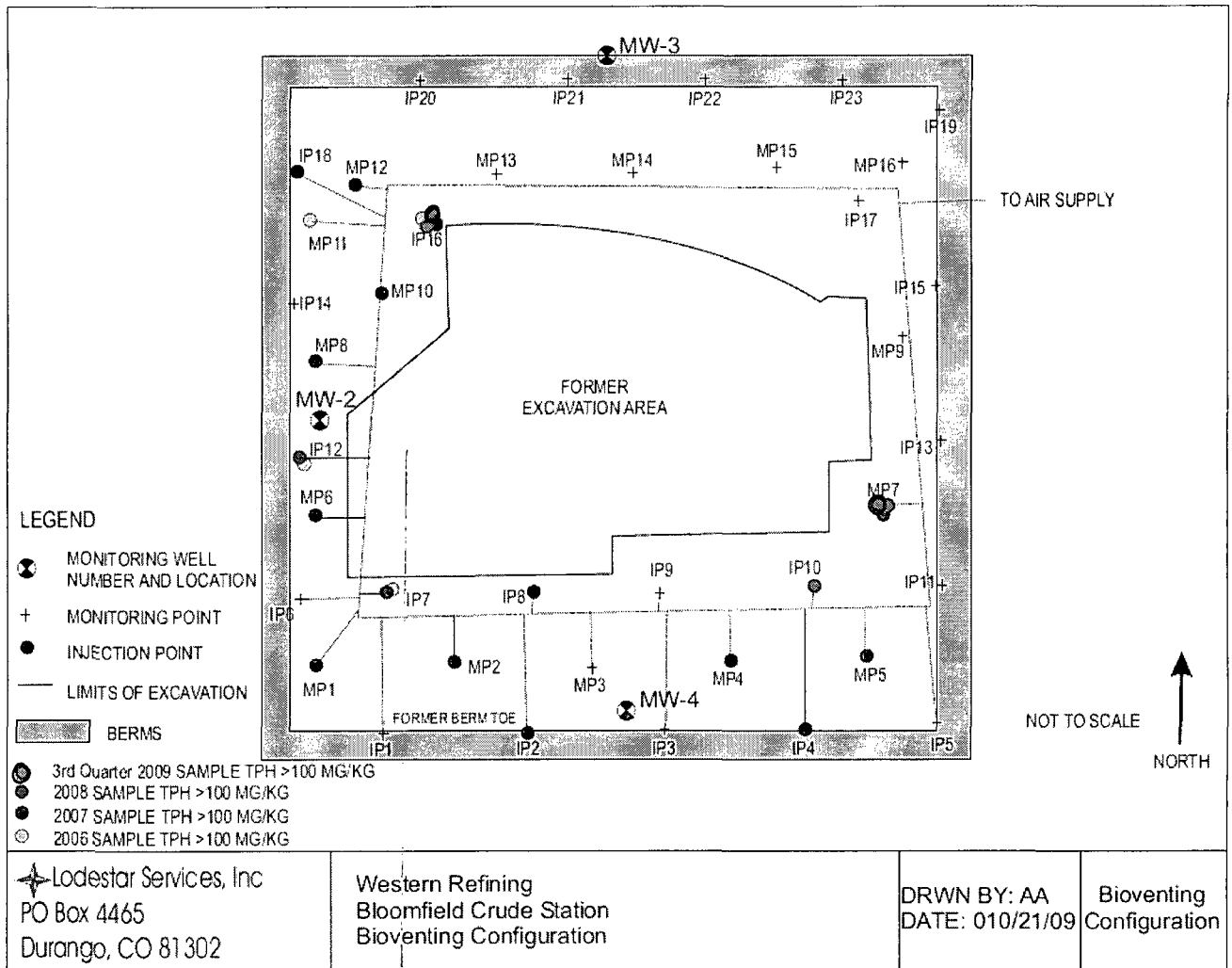


Table 1: Results of Air Monitoring

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	2009 October	2009 avg	Pre-test	2003 avg	2004 avg	2005 avg	2006 avg	2007 avg	2008 avg	2009 October	2009 avg		
IP1						17.1	19.1	18.2	18.1						2.8	0.93	3.1	2.1		
IP2						20.5	12.4	21.1	20.6						0	1.85	0	0		
IP3						20.2	20.2	15.0	17.8						0	0.37	1.4	0.8		
IP4						20.5	20.3	20.4	20.4						0	0.1	0	0		
IP5						19.2	20.3	21.1	19.9						1.1	0.05	0.2	0.3		
IP6						15.1	19.6	18.3	11.4						5.4	0.23	1.3	3.9		
IP7						18	20	20.9	20.5						2.5	0.13	0	0		
IP8	20.2	3.25	4.8	0.03	0	20.5	10.8	21.1	20.6	0.8	13.4	10.6	3.5	14.4	0	1.45	0	0		
IP9						18.1	20.2	21.9	20.9						0.2	0.13	0	0		
IP10	17.2	3.15	12.4	4.8	7.15	14.5	14.6	10.3	10.6	1.8	6.52	11	4.87	14.1	6.5	5.65	5.2	3.6		
IP11	20.9	9.51	8.63	13.5	19.6	20.4	20.4	11.5	17.3	0	1.03	11.9	4.47	1.3	0	0.17	0.0	0.2		
IP12						18.4	18.8	21.0	20.8						1.4	0.2	0	0		
IP13	20.9	8.62	19	18.3	17.9	19.5	18.9	13.6	18.0	0.2	1.74	1.38	2.07	2.18	0.45	1.4	2.1	0.9		
IP14	19.9	5.77	4.5	3.4	15.6	18.5	14.4	7.0	13.6	1	6.84	10.1	13.7	4.75	2.03	3.98	9.4	6.8		
IP15	20.9	0.07	19.9	20.3	20	20.3	20.2	20.5	20.0	0.8	1.21	0.33	0.47	0.55	0.1	0.13	0.9	0.3		
IP16						20.5	14.3	21.1	20.6						0	0.4	0	0		
IP17	20.9	0.44	19.2	19	19.4	17.6	20.4	19.4	19.6	1	1.1	1.25	2.13	1.03	0.23	0.28	2.1	0.7		
IP18						17.6	19.2	20.5	20.7						2.9	0.15	0	0		
IP19	20.9	9.27	16.2	18.1	19.4	19.1	19.7	20.3	20.1	0.4	1.24	3.5	2.37	0.93	1.38	0.95	4.3	4.3		
IP20	20.5	5.88	7.18	13.5	17.8	19	19.7	19.5	18.8	0.6	6.36	8.4	5.8	1.78	0.95	0.9	2.4	1.7		
IP21	20.9	8.33	18.1	19.7	18.7	20	20.2	19.4	19.8	1.4	1.2	2.2	4.1	0.85	0.15	0.35	2.4	0.8		
IP22	20.9	0.14	17.5	18.3	19.2	20	20.3	18.2	19.4	0.4	0.94	1.85	2.33	1.13	0.43	0.18	2.8	0.9		
IP23	20.9	0.69	19.3	18.7	19.4	20.2	20.7	18.7	19.7	0.6	0.66	0.77	2.03	0.9	0.2	0.23	0.0	0.2		
MP1						17.9	19.5	21.1	20.6						2.1	0.28	0	0		
MP2						20.4	20.2	21.0	20.7						0.2	0.13	0	0		
MP3						17	18.2	15.8	17.1						0.5	1.63	4.6	2.9		
MP4	19	1.94	6.15	2	0	20.5	13.4	17.0	19.0	1.2	12.1	14.5	6.33	14.9	0	1.7	5.6	1.9		
MP5						30.5	18.7	21.0	20.6						0	0.23	0	0		

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	2009 October	2009 avg	Pre-test	2003 avg	2004 avg	2005 avg	2006 avg	2007 avg	2008 avg	2009 October	2009 avg
MP6						15.7	19.9	21.1	20.8						4.6	0.2	0	0
MP7	18.6	6.56	7.85	14.2	18.5	20.5	14.1	21.1	20.6	1.4	5.6	8.25	4.2	0.7	0.03	0.33	0	0
MP8						18.1	20.1	20.9	20.6						2.2	0.15	0	0
MP9	20.5	13.1	18.9	19.3	18.9	19.6	20.1	18.0	19.4	1	1.89	0.98	1.5	1.28	0.33	0.28	3.2	1.1
MP10						16.8	20.5	20.7	20.6						3.2	0.03	0	0
MP11						17.2	16	20.9	20.7						3.3	0.48	0	0
MP12						19.7	15.7	21.0	20.7						0.3	0.63	0	0
MP13						17.3	19	12.2	17.1						2.1	0.23	0.8	0.3
MP14	19.2	14.2	8.3	14.1	15.9	19.1	18.8	19.7	19.6	1	3.34	7.98	5.33	3.5	1.08	1.2	4.9	1.8
MP15	20.9	18.4	14.9	14.2	18.4	19.2	20.5	20.2	19.9	0.6	1.82	3.68	3.43	1.5	1.45	0.15	0.0	0.05
MP16	20.9	20.1	19	19.5	19.3	19.3	19.7	20.2	20	0.06	0.97	1.4	1.43	1.2	1.18	0.98	0.1	0.2
Average	20.2	13.9	13.4	13.9	15.8	19.1	18.4	18.6	19.7	0.79	3.77	5.55	3.53	3.72	1.3	0.74	1.46	0.93

### Table 2: April 2009 Soil Sampling 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
4/23/09								
MP-11	12	0.7	nd	nd	nd	nd	nd	0
IP-16	9	1.6	330	nd	nd	nd	nd	0
MP-8	9	0.4	nd	nd	nd	nd	nd	0
IP-12	12	0.2	nd	nd	nd	nd	nd	0
IP-7	12	0.2	97	nd	nd	nd	nd	0
MP-3	6	0.5	nd	nd	nd	nd	nd	0
MP-7	6	2.0	2,260	nd	nd	nd	nd	0
IP-10	6	2.4	nd	nd	nd	nd	nd	0

nd: not detected



## COVER LETTER

Thursday, October 29, 2009

Bill Robertson  
Western Refining Southwest, Inc.  
#50 CR 4990  
Bloomfield, NM 87413  
TEL: (505) 632-4161  
FAX (505) 632-3911

RE: Bloomfield Crude Station

Order No.: 0910410

Dear Bill Robertson:

Hall Environmental Analysis Laboratory, Inc. received 8 sample(s) on 10/22/2009 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](http://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,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001  
Texas Lab# T104704424-08-TX



**Hall Environmental Analysis Laboratory, Inc.**

Date: 29-Oct-09

**CLIENT:** Western Refining Southwest, Inc.  
**Lab Order:** 0910410  
**Project:** Bloomfield Crude Station  
**Lab ID:** 0910410-01

**Client Sample ID:** MP-8  
**Collection Date:** 10/21/2009 12:30:00 PM  
**Date Received:** 10/22/2009  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/27/2009 12:47:12 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/27/2009 12:47:12 PM
Surr: DNOP	89.6	61.7-135		%REC	1	10/27/2009 12:47:12 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/23/2009 4:11:56 PM
Surr: BFB	98.9	65.9-118		%REC	1	10/23/2009 4:11:56 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/23/2009 4:11:56 PM
Toluene	ND	0.050		mg/Kg	1	10/23/2009 4:11:56 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/23/2009 4:11:56 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/23/2009 4:11:56 PM
Surr: 4-Bromofluorobenzene	100	64.7-120		%REC	1	10/23/2009 4:11:56 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 29-Oct-09

**CLIENT:** Western Refining Southwest, Inc.  
**Lab Order:** 0910410  
**Project:** Bloomfield Crude Station  
**Lab ID:** 0910410-02

**Client Sample ID:** MP-3  
**Collection Date:** 10/21/2009 1:00:00 PM  
**Date Received:** 10/22/2009  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/27/2009 1:23:26 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/27/2009 1:23:26 PM
Surr: DNOP	90.5	61.7-135		%REC	1	10/27/2009 1:23:26 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/23/2009 4:42:26 PM
Surr: BFB	105	65.9-118		%REC	1	10/23/2009 4:42:26 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/23/2009 4:42:26 PM
Toluene	ND	0.050		mg/Kg	1	10/23/2009 4:42:26 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/23/2009 4:42:26 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/23/2009 4:42:26 PM
Surr: 4-Bromofluorobenzene	108	64.7-120		%REC	1	10/23/2009 4:42:26 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 2 of 8

**Hall Environmental Analysis Laboratory, Inc.**

Date: 29-Oct-09

**CLIENT:** Western Refining Southwest, Inc.  
**Lab Order:** 0910410  
**Project:** Bloomfield Crude Station  
**Lab ID:** 0910410-03

**Client Sample ID:** IP-10  
**Collection Date:** 10/21/2009 1:01:00 PM  
**Date Received:** 10/22/2009  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/27/2009 1:59:21 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/27/2009 1:59:21 PM
Surr: DNOP	80.6	61.7-135		%REC	1	10/27/2009 1:59:21 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/23/2009 5:12:51 PM
Surr: BFB	102	65.9-118		%REC	1	10/23/2009 5:12:51 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/23/2009 5:12:51 PM
Toluene	ND	0.050		mg/Kg	1	10/23/2009 5:12:51 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/23/2009 5:12:51 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/23/2009 5:12:51 PM
Surr: 4-Bromofluorobenzene	104	64.7-120		%REC	1	10/23/2009 5:12:51 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 29-Oct-09

**CLIENT:** Western Refining Southwest, Inc.  
**Lab Order:** 0910410  
**Project:** Bloomfield Crude Station  
**Lab ID:** 0910410-04

**Client Sample ID:** MP-7  
**Collection Date:** 10/21/2009 1:14:00 PM  
**Date Received:** 10/22/2009  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	960	100		mg/Kg	10	10/28/2009 2:34:11 AM
Motor Oil Range Organics (MRO)	1300	500		mg/Kg	10	10/28/2009 2:34:11 AM
Surr: DNOP	109	61.7-135		%REC	10	10/28/2009 2:34:11 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/23/2009 5:43:14 PM
Surr: BFB	105	65.9-118		%REC	1	10/23/2009 5:43:14 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/23/2009 5:43:14 PM
Toluene	ND	0.050		mg/Kg	1	10/23/2009 5:43:14 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/23/2009 5:43:14 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/23/2009 5:43:14 PM
Surr: 4-Bromofluorobenzene	107	64.7-120		%REC	1	10/23/2009 5:43:14 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 29-Oct-09

**CLIENT:** Western Refining Southwest, Inc.  
**Lab Order:** 0910410  
**Project:** Bloomfield Crude Station  
**Lab ID:** 0910410-05

**Client Sample ID:** MP-11  
**Collection Date:** 10/21/2009 1:30:00 PM  
**Date Received:** 10/22/2009  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/28/2009 9:20:36 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/28/2009 9:20:36 AM
Surr: DNOP	148	61.7-135	S	%REC	1	10/28/2009 9:20:36 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/23/2009 6:13:36 PM
Surr: BFB	93.9	65.9-118		%REC	1	10/23/2009 6:13:36 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/23/2009 6:13:36 PM
Toluene	ND	0.050		mg/Kg	1	10/23/2009 6:13:36 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/23/2009 6:13:36 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/23/2009 6:13:36 PM
Surr: 4-Bromofluorobenzene	94.6	64.7-120		%REC	1	10/23/2009 6:13:36 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

Page 5 of 8

**Hall Environmental Analysis Laboratory, Inc.**

Date: 29-Oct-09

**CLIENT:** Western Refining Southwest, Inc.  
**Lab Order:** 0910410  
**Project:** Bloomfield Crude Station  
**Lab ID:** 0910410-06

**Client Sample ID:** IP-12  
**Collection Date:** 10/21/2009 1:40:00 PM  
**Date Received:** 10/22/2009  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>SCC</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/27/2009 2:35:19 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/27/2009 2:35:19 PM
Surr: DNOP	99.1	61.7-135		%REC	1	10/27/2009 2:35:19 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/23/2009 10:49:36 PM
Surr: BFB	102	65.9-118		%REC	1	10/23/2009 10:49:36 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	10/23/2009 10:49:36 PM
Toluene	ND	0.050		mg/Kg	1	10/23/2009 10:49:36 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/23/2009 10:49:36 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/23/2009 10:49:36 PM
Surr: 4-Bromofluorobenzene	105	64.7-120		%REC	1	10/23/2009 10:49:36 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 29-Oct-09

**CLIENT:** Western Refining Southwest, Inc.  
**Lab Order:** 0910410  
**Project:** Bloomfield Crude Station  
**Lab ID:** 0910410-07

**Client Sample ID:** IP-7  
**Collection Date:** 10/21/2009 1:53:00 PM  
**Date Received:** 10/22/2009  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	16	10		mg/Kg	1	10/29/2009 9:01:14 AM
Motor Oil Range Organics (MRO)	81	50		mg/Kg	1	10/29/2009 9:01:14 AM
Surr: DNOP	93.2	61.7-135		%REC	1	10/29/2009 9:01:14 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/23/2009 11:19:55 PM
Surr: BFB	88.3	65.9-118		%REC	1	10/23/2009 11:19:55 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/23/2009 11:19:55 PM
Toluene	ND	0.050		mg/Kg	1	10/23/2009 11:19:55 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/23/2009 11:19:55 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/23/2009 11:19:55 PM
Surr: 4-Bromofluorobenzene	86.8	64.7-120		%REC	1	10/23/2009 11:19:55 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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**Hall Environmental Analysis Laboratory, Inc.**

Date: 29-Oct-09

**CLIENT:** Western Refining Southwest, Inc.  
**Lab Order:** 0910410  
**Project:** Bloomfield Crude Station  
**Lab ID:** 0910410-08

**Client Sample ID:** IP-16  
**Collection Date:** 10/21/2009 2:03:00 PM  
**Date Received:** 10/22/2009  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	130	10		mg/Kg	1	10/29/2009 9:36:49 AM
Motor Oil Range Organics (MRO)	200	50		mg/Kg	1	10/29/2009 9:36:49 AM
Surr: DNOP	97.1	61.7-135		%REC	1	10/29/2009 9:36:49 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/23/2009 11:50:16 PM
Surr: BFB	100	65.9-118		%REC	1	10/23/2009 11:50:16 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/23/2009 11:50:16 PM
Toluene	ND	0.050		mg/Kg	1	10/23/2009 11:50:16 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/23/2009 11:50:16 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/23/2009 11:50:16 PM
Surr: 4-Bromofluorobenzene	103	64.7-120		%REC	1	10/23/2009 11:50:16 PM

**Qualifiers:** \* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
RL Reporting Limit

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## QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Inc.

Project: Bloomfield Crude Station

Work Order: 0910410

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8015B: Diesel Range Organics

Sample ID: MB-20405 MBLK

Batch ID: 20405 Analysis Date: 10/27/2009 10:23:08 AM

Diesel Range Organics (DRO) ND mg/Kg 10

Motor Oil Range Organics (MRO) ND mg/Kg 50

Sample ID: LCS-20405 LCS

Batch ID: 20405 Analysis Date: 10/27/2009 10:59:07 AM

Diesel Range Organics (DRO) 32.47 mg/Kg 10 50 0 64.9 64.6 116

Method: EPA Method 8015B: Gasoline Range

Sample ID: MB-20396 MBLK

Batch ID: 20396 Analysis Date: 10/24/2009 2:52:20 AM

Gasoline Range Organics (GRO) ND mg/Kg 5.0

Sample ID: LCS-20396 LCS

Batch ID: 20396 Analysis Date: 10/24/2009 1:51:37 AM

Gasoline Range Organics (GRO) 28.21 mg/Kg 5.0 25 1.51 107 64.4 133

Method: EPA Method 8021B: Volatiles

Sample ID: MB-20396 MBLK

Batch ID: 20396 Analysis Date: 10/24/2009 2:52:20 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-20396 LCS

Batch ID: 20396 Analysis Date: 10/24/2009 2:22:02 AM

Benzene 0.9124 mg/Kg 0.050 1 0.0154 89.7 78.8 132

Toluene 0.9116 mg/Kg 0.050 1 0.0111 90.1 78.9 112

Ethylbenzene 0.9562 mg/Kg 0.050 1 0 95.6 69.3 125

Xylenes, Total 2.881 mg/Kg 0.10 3 0 96.0 73 128

## Qualifiers:

E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name **WESTERN REFINING SOUT**

Date Received:

10/22/2009

Work Order Number **0910410**

Received by: **TLS**

Checklist completed by:

Signature

Sample ID labels checked by:

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 ☒

Number of preserved  
bottles checked for  
pH:

<2 >12 unless noted  
below.

Container/Temp Blank temperature?

5.9°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

