

GW - 032

**ANNUAL GW
MONITORING
REPORT (2)**

2009

September 12, 2011

James P. Bearzi, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive, East, Building 1
Santa Fe, NM, 87505-6303

Re: **Approval with Modifications**
Annual Ground Water Monitoring Report:
Gallup Refinery 2009
Western Refining Company, Southwest, Inc., Gallup Refinery,
HWB-WRG-10-007
EPA ID # NMD000333211

Dear Mr. Kieling:

Western Refining Company has prepared the following response to your letter dated July 22, 2011.

Comment 1

Western will improve its QA procedures prior to submitting reports to NMED. Part of this will be to conduct data entry well in advance of report preparation. The Summary of General Chemistry Detected in NAPIS Wells (2008-2009) replacement page is included as *Attachment 1*.

Comment 2


Western received Approval with Modifications of the New Well Installation Report from NMED on June 4, 2010 and no reference was made regarding MW-2A boring log as incomplete or revising report to cross reference MW-2A and MW-1A to the correct well identification of OW-50 and OW-52 throughout the report. The Letter Report from AMEC has been revised to incorporate OW-50 and OW-52 as the designated well identifications. The revised report is included as *Attachment 2*.

Comment 3

In the future Western will collect ground water samples within two weeks after installation and development of new ground water monitoring wells or state reasons for not completing the activity in future submittals.

If you have any further questions please contact Cheryl Johnson of my staff at 505-722-0231.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ed Riege', with a stylized flourish at the end.

Ed Riege

Environmental Manager

cc: J. Kielling, NMED HWB
D. Cobrain, NMED HWB
K. Van-Horn, NMED HWB
C. Chavez, OCD
Cheryl Johnson, WNR-Gallup

/attachments

Attachment 1

Summary of General Chemistry detected in NAPIS Wells (2008-2009)

Sample ID	Collection Date	Method	FI (mg/L)	CI (mg/L)	Nitrate + Nitrate as N	Sulfate	pH	Specific Conductance (mmhos/cm)
Standards	NMWQS		1.6	250	10	600	6 to 9	NS
	EPA MCLS		4	250	10 Nitrate 1 Nitrite	250	6 to 9	10
	RRSL		NS	NS	58 / 3.7	NS	NS	NS
NAPIS 1	11/23/2009	GEN CHEM	1.4	170	1.8	100	7.39	2000
	8/11/2009	GEN CHEM	1.2	160	0.54	93	7.67	1800
	5/28/2009	GEN CHEM	1.2	150	0.31	71	7.82	1900
	3/24/2009	GEN CHEM	0.69	120	<1.0	38	7.69	2000
	11/10/2008	GEN CHEM	0.73	160	1.6	63	7.30	1900
	9/30/08	GEN CHEM	General Chemistry Parameters not requested					
	7/9/2008	GEN CHEM	1.4	180	<1.0	98	7.27	1900
	4/11/2008	GEN CHEM	0.79	170	0.55	<0.50	7.26	2000
NAPIS 2	11/23/2009	GEN CHEM	1.6	220	<1.0	13	7.16	1500
	8/11/2009	GEN CHEM	1.7	250	<1.0	17	7.56	1500
	5/28/2009	GEN CHEM	1.7	210	0.16	22	7.51	1400
	3/24/2009	GEN CHEM	1.5	240	<1.0	23	7.47	1800
	11/10/2008	GEN CHEM	1.4	200	<1.0	32	7.21	1600
	9/30/2008	GEN CHEM	General Chemistry Parameters not requested					
	7/9/2008	GEN CHEM	1.1	270	<1.0	33	7.18	2000
	4/11/2008	GEN CHEM	0.92	360	<1.0	42	7	2100
NAPIS 3	11/23/2009	GEN CHEM	0.49	1100	15	370	7.91	4400
	8/31/2009	GEN CHEM	0.47	1000	14	<10	8.07	4000
	6/15/2009	GEN CHEM	0.46	1200	18	330	8.23	4200
	3/25/2009	GEN CHEM	0.43	1200	<1.0/14	340	8.11	5200
	11/10/2008	GEN CHEM	1.1	1100	<1.0/2.6	310	8.05	4300
	9/30/2008	GEN CHEM	Not enough water to sample - DRY					
	7/9/2008	GEN CHEM	0.46	1100	9.1	270	8.29	4200
KA 3	11/23/2009	GEN CHEM	1.3	610	3.2	120	7.31	2900
	8/31/2009	GEN CHEM	2.4	230	<2.0	50	7.58	1500
	5/28/2009	GEN CHEM	1.6	260	0.22	66	7.71	1700
	3/25/2009	GEN CHEM	1.5	340	<1.0/0.90	76	7.64	2400
	11/10/2008	GEN CHEM	0.46	590	2.0/11	140	7.34	2700

Napis 1 & 2: Began sampling in second quarter of 2008. NAPIS 3 began sampling in third quarter 2008. KA-3 began sampling in fourth quarter of 2008.

Notes: NS = No Standards;

-- = No Detect;

Bold Values represent Values above the applicable standard.



12 September 2011
AMEC Project No. 9-517-000057

Ms. Michelle Young
Western Refining: Gallup Refinery
Route 3, Box 7
Gallup, NM 87301

Re: Letter Report for Monitoring Well Construction

Dear Ms. Young:

AMEC Earth and Environmental, Inc. (AMEC) is pleased to submit this letter report documenting groundwater monitoring well activities at the Western Refinery facility located near Gallup, New Mexico.

Site Background

The project site is located at the Gallup Refinery located north of I-40. The area to the north of the existing refinery consists of an open area. Access roads run through these open areas in the northeast portion of the property. Previously constructed monitor wells are located throughout the property.

Investigation Activities Conducted

AMEC drilled two (2) groundwater monitor wells MW-1A (OW-52) and MW-2A (OW-50) to depths of between 50 and 79 feet using a CME-75 truck mounted drill rig in the northeast corner of the property. A site plan showing the location of the new monitoring wells is attached.

The original two monitor wells (MW-1, MW-2) were abandoned due to difficult subsurface conditions. Two replacement wells were drilled (MW-1A, MW-2A). Soil samples from MW-1 and MW-2 were obtained at several depth intervals and tested for VOC's with a photo ionization detector (PID). Results are shown in Table 1 below.

Table 1
Photo Ionization Detector (PID) Results
Collected on October 1 and 2, 2009

Sample Depth (ft)	MW-1	Sample Depth (ft)	MW-2
60	ND**	5	ND
65	ND	10	ND
70	ND	15	ND
		20	ND
		25	ND
		30	ND
		35	1.1*
		40	1.1
		45	1.1

* Concentration in parts per million (ppm)

** ND = Not detected within limits of PID

Western Refining
Groundwater Monitoring Wells
Gallup Refinery
AMEC Project No. 9-517-000057
12 September 2011



If you have questions regarding the information contained within this letter report, please do not hesitate to contact us at 505.821.1801

Best Regards,

AMEC Earth and Environmental, Inc.

A handwritten signature in cursive script, appearing to read "Rosanne Klausner".

Lee J. Mitchell, P.E.
Project Engineer

A handwritten signature in cursive script, appearing to read "Ralph E. Crockett".

Ralph E. Crockett, P.E.
Senior Geotechnical Engineer

Copies: Addressee (3)

AMEC Earth & Environmental, Inc.
8519 Jefferson, N.E.
Albuquerque, New Mexico 87113
Telephone: 505/821-1801
Fax: 505/821-7371
www.amec.com

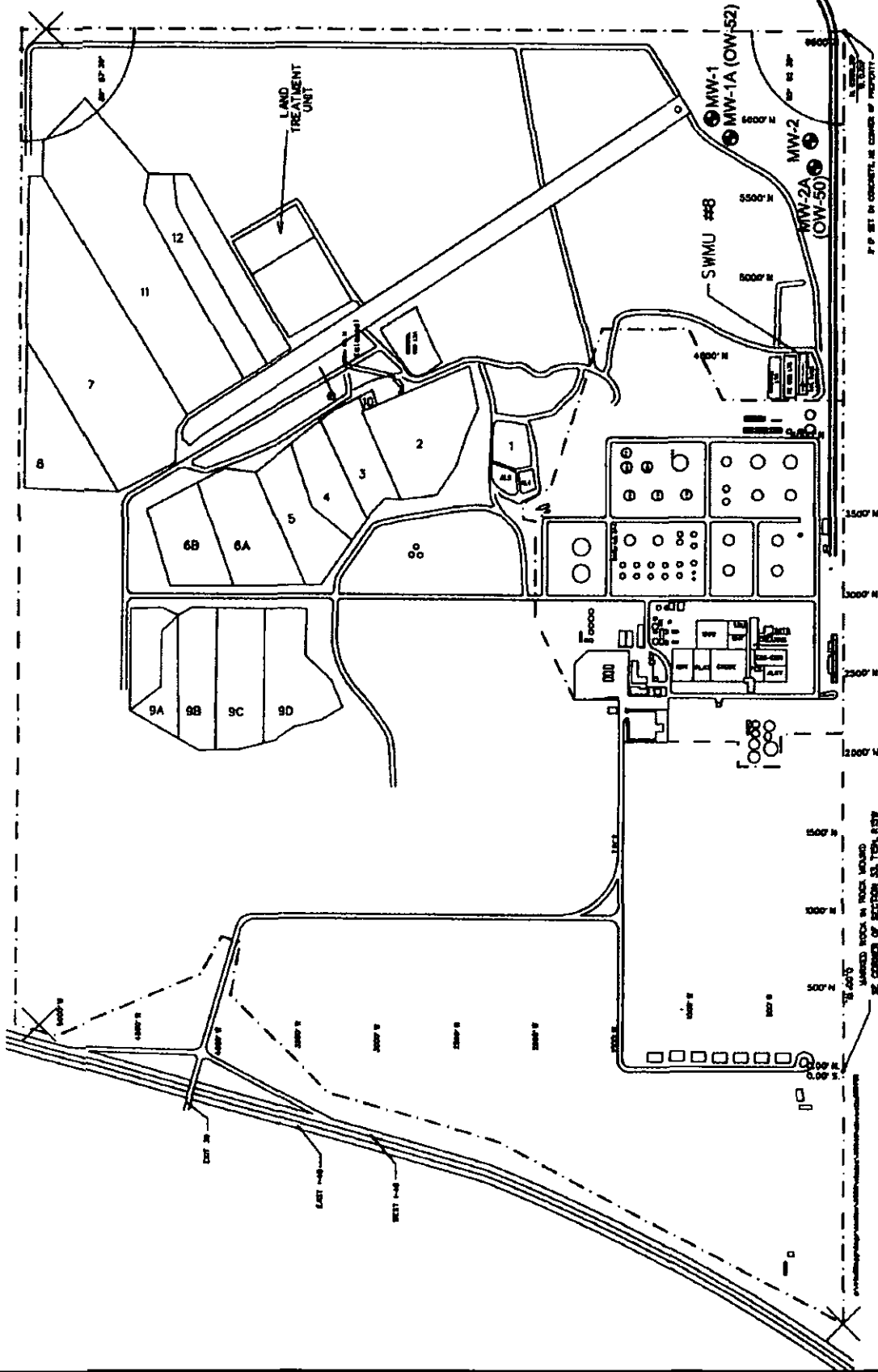



APPENDIX A

SITE PLAN

SOIL BORING LOGS

WELL CONSTRUCTION DIAGRAMS



CLIENT LOGO	CLIENT	WESTERN REFINERIES		PROJECT		REV. NO.: A	
AMEC Earth & Environmental 3519 Jefferson Rd NE Albuquerque, New Mexico 87113		DOWN BY:		BDP	GALLUP REFINERY	DATE:	NOV 2009
		CHKD BY:		N/A			
		DATUM:		N/A	TITLE	PROJECT NO:	9-517-000057
		PROJECTION:		N/A		FIGURE NO:	1
		SCALE:		AS SHOWN			

PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico
 DATE 10/5/09
 AMEC PROJECT NO. 9517-000057

Page 1 of 2

BORING NO. MW-1

LOCATION See Site Plan
 RIG TYPE CME-75
 BORING TYPE Air Rotary
 SURFACE ELEV. _____
 DATUM _____

Depth in Feet	Continuous Penetration Resistance	Graphical Log	Sample	Sample Type	Blows/ft. 140 lb. 30" free-fall drop hammer	Dry Density lbs. per cubic foot	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	VISUAL CLASSIFICATION
0								SM		SILTY SAND fine grained, reddish-brown
5				BS				CH	PID - 0	CLAY, high plasticity, red-brown, moist
10				BS						
15				BS						
20				BS						
25				BS						
30				BS						
35				BS						
40				BS				CH	PID - 0	CLAY, trace of silt and sand, high plasticity, dark brown, moist trace of gravel at 41', gravel up to 1/4"
45				BS				CH	PID - 0	CLAY, some silt, high plasticity, pink-brown, moist
50										

GROUNDWATER

DEPTH	HOUR	DATE
70.7	16:30	10/1/09
25.4	7:30	10/2/09

SAMPLE TYPE
 A-Auger cuttings; NR-No Recovery
 BS-Bulk Sample
 S-2" O.D. 1.38" I.D. tube sample.
 U-3" O.D. 2.42" I.D. tube sample.
 T-3" O.D. thin-walled Shelby tube.
 R-Ring Sample

AMEC Earth & Environmental

GEOTECH_BH_9517-057 GALLUP REFINERY.GPJ CINT STD US JANNEY GDT 9/12/11

PROJECT Gallup Refinery Monitoring Wells

Gallup, New Mexico

Page 2 of 2

DATE 10/5/09

BORING NO. MW-1

AMEC PROJECT NO. 9517-000057

LOCATION See Site Plan

RIG TYPE CME-75

BORING TYPE Air Rotary

SURFACE ELEV.

DATUM

Depth in Feet	Continuous Penetration Resistance	Graphical Log	Sample	Sample Type	Blows/ft. 140 lb. 30" free-fall drop hammer	Dry Density lbs. per cubic foot	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	VISUAL CLASSIFICATION
50				BS				CH	PID - 0.0	CLAY, some silt, high plasticity, pink-brown, moist trace of calcareous cementation nodules at 50' - 59'
55				BS						
60				BS				CH	PID - 0.0	CLAY, some silt, some calcareous cementation nodules, high plasticity, light purple
65									PID - 0.0	pink-brown at 64' - 67' light purple at 67'
70									PID - 0.0	SILTY SAND TO SAND fine grained, nonplastic, light purple and white, some calcareous cementation nodules, very moist at 72' - 74'
75										End of boring at 74'
80										
85										
90										
95										
100										

GROUNDWATER

DEPTH	HOUR	DATE
70.7	16:30	10/1/09
25.4	7:30	10/2/09

SAMPLE TYPE
 A-Auger cuttings; NR-No Recovery
 BS-Bulk Sample
 S-2" O.D. 1.38" I.D. tube sample.
 U-3" O.D. 2.42" I.D. tube sample
 T-3" O.D. thin-walled Shelby tube.
 R-Ring Sample

AMEC Earth & Environmental

GEOTECH. BH 9517-057 GALLUP REFINERY GPJ GINT STD US JANNEY GDT 9/12/11

PROJECT Gallup Refinery Monitoring Wells

Gallup, New Mexico

Page 1 of 2

DATE 10/5/09

AMEC PROJECT NO. 9517-000057

BORING NO. MW-1A
(OW-52)

LOCATION See Site Plan

RIG TYPE CME-75

BORING TYPE HSA

SURFACE ELEV. 6823.00

DATUM

Depth in Feet	Continuous Penetration Resistance	Graphical Log	Sample	Sample Type	Blows/ft. 140 lb. 30" free-fall drop hammer	Dry Density lbs. per cubic foot	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	VISUAL CLASSIFICATION
0								SM		SILTY SAND fine, reddish-brown, dry (0' - 3')
5								CH		CLAY, some silt, high plasticity, reddish-brown, dry (5' - 20')
10										
15										
20										some silt, dry (20' - 30')
25										
30										damp @ (30' - 40')
35										
40										CLAY, trace medium gravel, reddish-brown, high to medium plasticity, dry (40' - 50')
45										
50										

GROUNDWATER

SAMPLE TYPE

DEPTH	HOUR	DATE
72.0		

A-Auger cuttings, NR-No Recovery
 BS-Bulk Sample
 S-2" O.D. 1.38" I.D. tube sample.
 U-3" O.D. 2.42" I.D. tube sample.
 T-3" O.D. thin-walled Shelby tube
 R-Ring Sample

AMEC Earth & Environmental

GEOTECH_BH_9517-057 GALLUP REFINERY.GPJ GINT STD US JANNEY QDT 9/12/11

PROJECT Gallup Refinery Monitoring Wells

Gallup, New Mexico

Page 2 of 2

DATE 10/5/09

BORING NO. MW-1A
(OW-52)

AMEC PROJECT NO. 9517-000057

LOCATION See Site Plan

RIG TYPE CME-75

BORING TYPE HSA

SURFACE ELEV. 6823.00

DATUM

Depth in Feet	Continuous Penetration Resistance	Graphical Log	Sample	Sample Type	Blows/ft. 140 lb. 30" free-fall drop hammer	Dry Density lbs. per cubic foot	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	VISUAL CLASSIFICATION
50										
55										
60										CLAY< (shale), with calcareous cementation nodules, reddish-brown, dry (60' - 68')
65										CLAY< (shale), with calcareous cementation nodules, reddish-brown, dry (65' - 68')
70									split spoon sample	SHALE reddish-brown, calcareous cementation nodules, dry (BGS 68' - 70') fine to medium silty sand, fine gravel, gray, reddish-brown, wet at 70' bgs (70' - 72' 5") SILTY SAND gravel, calcareous cementation nodules, wet (72' 5" - 79')
75										
80										Stopped boring at 79'
85										
90										
95										
100										

GROUNDWATER

DEPTH	HOUR	DATE
72.0		

SAMPLE TYPE
 A-Auger cuttings; NR-No Recovery
 BS-Bulk Sample
 S-2" O.D. 1.38" I.D. tube sample
 U-3" O.D. 2.42" I.D. tube sample
 T-3" O.D. thin-walled Shelby tube
 R-Ring Sample

AMEC Earth & Environmental

GEOTECH. BH 9517-057 GALLUP REFINERY.GPJ GINI STD US JANNEY CDT 9/12/11

PROJECT Gallup Refinery Monitoring Wells

Gallup, New Mexico

Page 1 of 2

DATE 10/2/09

BORING NO. MW-2

AMEC PROJECT NO. 9517-000057

LOCATION N35° 29' 45.1", W 108° 25' 25"

RIG TYPE CME-75

BORING TYPE Air Rotary

SURFACE ELEV. 6748.00

DATUM

Depth in Feet	Continuous Penetration Resistance	Graphical Log	Sample	Sample Type	Blows/ft. 140 lb. 30" free-fall drop hammer	Dry Density lbs. per cubic foot	Moisture Content Percent of Dry Weight	Unified Soil Classification	REMARKS	VISUAL CLASSIFICATION
0								CH		CLAY, high plasticity, reddish-brown
5				BS					PID - 0.0	
10				BS					PID - 0.0	
15				BS					PID - 0.0	
20				BS					PID - 0.0	
25				BS					PID - 0.0	
30				BS					PID - 0.0	
35				BS					PID - 1.1 ppm	
40				BS					PID - 1.0 ppm	trace of calcareous cementation at 40', dark brown
45				BS					PID - 1.1 ppm	
50										

GROUNDWATER

SAMPLE TYPE

A-Auger cuttings; NR-No Recovery
 BS-Bulk Sample
 S-2" O.D. 1.38" I.D. tube sample
 U-3" O.D. 2.42" I.D. tube sample
 T-3" O.D. thin-walled Shelby tube
 R-Ring Sample

AMEC Earth & Environmental

DEPTH	HOUR	DATE
none		



GEOTECH_BH_9517-057 GALLUP REFINERY.GPJ GINT STD US JANNEY.GDT 9/12/11



SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

**NEW MEXICO
ENVIRONMENT DEPARTMENT**

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us



DAVE MARTIN
Secretary

RAJ SOLOMON, P.E.
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 22, 2011

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

**RE: APPROVAL WITH MODIFICATIONS
ANNUAL GROUNDWATER MONITORING REPORT:
GALLUP REFINERY 2009
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
HWB-WRG-10-007
EPA ID # NMD000333211**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the *Annual Groundwater Monitoring Report: Gallup Refinery 2009* (Report), dated August 31, 2010, and the Response to NMED's May 16, 2011 Notice of Disapproval (Response), dated June 30, 2011, submitted on behalf of Western Refining Company, Southwest Inc., Gallup Refinery (Western). Although the Response is incomplete, NMED hereby approves the Report with the following modifications.

1. Western's Response to Comment 8

Comment 8 from the May 16, 2011 Notice of Disapproval (NOD) discussed the mis-identification of well NAPIS-3 as KA-3. NMED directed Western to "[p]rovide corrected data sheets (e.g., laboratory data and chain of custodies) to replace the current data sheets in the Report and to verify that this discrepancy did not carry over to monitoring activities (e.g., water

Mr. Ed Riege
July 22, 2011
Page 2 of 4

level measurements and water chemistry measurements) in the response letter and to include corrected tables as necessary.”

Western’s Statement: “[a]ll field notes and lab data from 2008 to present have been re-checked for accuracy. The only samples that were labeled incorrectly were on August 31, 2009 [Order No. 0909044] in which the technician caught the error and notified Hall Laboratories that the NAPIS-3 and KA-3 sample labels had been switched and authorized Hall Laboratories to change the identification of the sample on the Chain of Custody before any analysis was run. Therefore Hall Laboratory Order #0909044, dated 9/11/09 has the correct information pertaining to the NAPIS-3 and KA-3 analysis. Hall Laboratory Order No. 0905544 dated 6/17/09, Hall Laboratory Order No. 0906335 dated July 2, 2009 and Hall Laboratory Order No. 0911470 dated December 10, 2009 hand corrected copies submitted with the 2009 Annual Ground Water Report should be removed and replaced with the original uncorrected reports (Attachment 1). Data Tables in Section 8 for NAPIS-3 and KA-3 have been corrected (copies attached as Attachment 2) and no changes are required on the Field Logs in Appendix C. Language has been changed to reflect correct data in Section 6.1, page 27 and Section 7.0, last paragraph, page 32. (Copies attached as Attachment 2 and are flagged as to where corrections have been made).”

NMED’s Comment: Western must improve its Quality Assurance (QA) procedures prior to submitting reports to NMED. It is unclear why Western did not investigate and correct the error with the sample labels prior to submitting the Report. Instead, all samples collected after August 31, 2009 were assumed to be incorrect and all laboratory analytical data for NAPIS-3 and KA-3 were hand corrected. Upon further review (as required by NMED), Western discovered that the only mistake made was on August 31, 2009 and that they did not have to correct the rest of the analytical laboratory reports.

As part of Western’s response to Comment 8, corrected data tables were submitted as Attachment 2. The table on page 43 titled, Summary of General Chemistry detected in NAPIS Wells (2008-2009), contains another error associated with the table. KA-3 and NAPIS-3 list the same results in most of the columns of the table. The old data table reported different results for each well. Western must submit another replacement page for this table to correct this discrepancy and ensure that the correct data are associated with the correct well.

In the future, Western must resolve these QA issues prior to submitting any and all work plans and reports to prevent the need for repeated NODs to correct these types of errors.

2. Western’s Response to Comment 25a

Comment 25a of the May 16, 2011 NOD states, “NMED reviewed this appendix and did not find drilling logs for the new wells. Provide the drilling logs and well construction diagrams for OW-50 and OW-52 with the response letter.”

Mr. Ed Riege
July 22, 2011
Page 3 of 4

Western's Statement: "[a] copy of the New Well Installation Report submitted in December 2009 is attached as Attachment 3."

NMED's Comment: NMED reviewed the New Well Installation Report (December 2009) and found that the report was missing information. Several of the appendices mentioned in the report were omitted and Western did not include the drilling logs or well construction diagrams for OW-50 and OW-52. Instead, Western submitted excerpts from the report that stated that MW-2A was renamed OW-50 and MW-1A was redesignated as OW-52, and drilling logs for MW-1 and MW-2 from a report by AMEC. This is another example of ongoing QA issues. Western must submit properly labeled replacement pages for the drilling logs and the well construction diagrams for OW-50 (MW-2A) and OW-52 (MW-1A). Figure No. 1 (Soil Boring Location Plan) from the AMEC Report must be revised to depict monitoring wells OW-50 and OW-52 with the original designations (MW-2A and MW-1A, respectively) in parenthesis on the figures. In addition, Figure 3 (General locations of wells OW-50 and OW-52, including other nearby existing monitoring wells at the Gallup Refinery) from the New Well Installation Report must be revised to scale and also must include the original designations for OW-50 and OW-52 in parenthesis.

NMED also reviewed the complete version of the New Well Installation Report and determined that the boring log for MW-2A is incomplete. The well construction diagram and the report state that the well was drilled to 63 feet but the boring log stops at 50 feet. Revise the boring log for MW-2A and submit a replacement page for the revised boring log.

3. Western's Response to Comment 25b

Comment 25 b from the May 16, 2011 NOD states that "[n]ew wells [were] drilled and installed on 10/5 and 10/7/2009 down gradient of OW-13 and OW-29. [The f]irst samples [were] collected by AMEC Earth and Environmental, Inc." These sample results were not included in this appendix. Include this data with the response letter (*see* Comment 5)."

Western's Statement: "[l]ab data was included in Appendix I of Report and is included in the New Well Installation Report as Attachment 3. [Response] to Comment 5a [states that w]ater samples for OW-50 and OW-52 were collected by AMEC Earth and Environmental, Inc. on November 16, 2009."

NMED's Comment: The phrasing of the Report states that AMEC collected the samples in October 2009. Western's Response to Comment 5a states that samples were not collected until November 16, 2009. It is common practice to collect groundwater samples after the development of a new groundwater monitoring wells. NMED's *Requirement to Install Monitoring Wells* (dated May 28, 2009) directed Western to develop and sample the monitoring wells within 10 days of installation. In the future, Western must collect groundwater samples

Mr. Ed Riege

July 22, 2011

Page 4 of 4

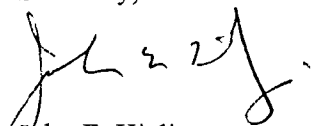
within two weeks after installation and development of new groundwater monitoring wells or state reasons for not completing the activity in future submittals.

Western also stated that the laboratory data was included in the New Well Installation Report, but only the field data sheet and Chain of Custody were provided. Western must perform QA checks for all submittals prior to submission to NMED to ensure that all data referenced are included in the Report.

The Permittee must address all comments included in this Approval with Modifications as directed and submit the required replacement pages by **September 6, 2011**.

If you have questions regarding this Approval with Modifications please contact Leona Tsinnajinnie of my staff at 505-476-6057.

Sincerely,



John E. Kielling

Acting Chief

Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
K. Van Horn, NMED HWB
L. Tsinnajinnie, NMED HWB
C. Chavez, OCD
T. Larson, Western Refining Company, Gallup Refinery
A. Haines, Western Refining Company, El Paso, Texas

File: Reading File and WRG 2011 File
HWB-WRG-10-007

RECEIVED OCD

Certified Mail #7010 0290 0002 7735 3448

2011 JUL -1 P 3: 37

June 30, 2011

John E. Kieling
NMED – HWB
2905 Rodeo Park Drive East
Building 1
Santa Fe, NM 87505-6303

Re: Notice of Disapproval – Annual Ground Water Monitoring Report:
Gallup Refinery 2009, Western Refining Company, Southwest, Inc.
Gallup Refinery.
HWB-WRG-10-007
EPA ID #NMD000333211

Dear Mr. Kieling:

In response to the Notice of Disapproval – 2009 Annual Ground Water Monitoring Report, Western Refining Company, Southwest, Inc., has prepared the following response to comments listed.

Comment 1

The format of the Ground Water Monitoring Report for the past four years (2006-2010) has made the review process difficult for several reasons. The Permittee failed to follow the monitoring schedule and analyze the samples according to the analytical suites in the OCD Discharge Permit (GW-032) and did not provide a discussion of deviations from the OCD Discharge Permit. Data table formatting is hard to follow making it difficult for NMED to review. Additionally, data (ground water data and elevation data) presented in tables are inconsistent and sometimes incorrect.

Response: The above comments have been noted. Western Refining has obtained Depauli Engineering & Surveying, LLC to survey all active wells for the following elevations: Top of casing elevations; steel lid; ground elevations inside steel sleeve, and ground elevations. Depth to bottom of well will also be rechecked on all active wells. Corrected Well Data Summary Table and survey information will be supplied on or before August 1, 2011 as directed by NMED correspondence "Requirement to Resurvey Groundwater Monitoring Wells and Recovery Wells, dated 6/6/2011.

Comment 2

The Permittee has not complied with all requirements included in NODs from previous Annual Groundwater Monitoring Reports:

a) Comment 10 in the NOD providing comments on the OCD 2006 Annual Ground water Report (January 16, 2008), states “[t]he Permittee must revise all tables in the Report to report all water/product measurements in units of hundredths of a foot. All future reports must report water/product measurements in hundredths of foot and not in inches.” Similarly, Comment 19 from the NOD dated March 26, 2009 described recovery well information that was presented in feet and inches and that were rounded. NMED responded that “[i]n future Annual reports, all measurements must be measured to an accuracy of 0.01 foot and be presented in the tables in feet...[i]f data are collected in inches, they must be converted to feet and the Permittee must explain how the conversions are completed and include any applicable equations or conversion factors.” The reported units for the well casing stick up lengths for the tables in Section 9.0 (Annual Well Data Summary Table) are presented in inches.

Response: All future applicable tables will be revised to reflect measurement units to the nearest hundredths of foot (0.01). See response to Comment 1 for well casing stick up lengths.

b) Comment 8 in the NOD providing comments on the OCD 2007 Annual Ground water Report (and OCD Addendum) dated March 26, 2009 states, “[i]f the Permittee did not sample Potable Well #3 [PW-3] in 2008; it must be sampled in 2009. The Discharge Plan states this well is to be sampled every 3 years starting in 2008. However, because samples from this well had detections of 2-methylnaphthalene exceeding the WQCC standard, the well must be sampled annually, unless otherwise directed by NMED.” PW-3 was not sampled in 2009. The Permittee must sample well PW-3 during the next monitoring event and annual thereafter until further notice.

Response: PW-3 was not sampled as required in 2009 because directive from NMED was not communicated to the field technician responsible for sampling. Annual sampling of PW-3 was conducted in 2010 and will continue annually as directed by NMED.

c) Comment 10 in the NOD providing comments on the OCD 2007 Annual Ground water Report (and OCD Addendum) dated March 26, 2009, states, “[t]he Permittee analyzed some samples for RCRA metals and other samples for the larger list of WQCC metals. The Discharge Permit requires all samples to be analyzed for the WQCC metals list.” According to the monitoring schedule in Section 2.0 (Scope of Activities 2009) RCRA 8 Metals are listed under the “Parameters of Analysis” for OW-50 and OW-52, KA-3, NAPIS-1, 2 and 3. The Permittee must analyze all water samples obtained from these wells for WQCC metals list.

Response: All future metals sampling will include the WQCC totals and dissolved metals list.

d) Comment 16 in the NOD providing comments on the Rejected Annual Ground water Report: Gallup Refinery – 2008 dated January 26, 2010 states, “[m]any of the tables are poorly organized and include inaccurate numbers and notes... [i]t is important to present the data in a clear and organized manner, because NMED uses the tables to review the Report and also as reference material.” Although there has been improvement in the presentation of the data in this Report, NMED continues to have difficulty reviewing the data (ground water data and well elevations and measurements) due to the substandard method of presentation.

Response: An example of the Data Table attached to “Rejection Annual Ground water Monitoring Report – Gallup Refinery 2008 was used as a template for all Data Tables as requested by NMED. See answer to Comment 1 for well elevations.

The Permittee continues to fail to comply with the requirements of the NODs issued by NMED. Review past NODs dating back to 2006 and submit all future reports that comply with those NOD comments in addition to the comments provided in this letter. The Permittee has access to the Bloomfield Refinery’s Annual Ground water Report which may be used as a template, especially in the formatting of the tables. Further noncompliance with NMED’s directions may result in an enforcement action.

Comment 3

Section 2.0 (Scope of Activities 2009), pages 15-16, provides a table of monitoring schedule for the wells and surface water locations sampled during the reporting period. It appears that there are several typographical errors on this table.

a) BW-1A is reported as being sampled on 7/6/2009, however, BW-1A was not sampled during this reporting period. BW-1C was sampled. Explain this discrepancy in the response letter.

Response: Section 2, Monitoring Schedule will be revised to show “Date Sampled” and “Date Inspected” as separate columns. BW-1A is normally a dry well and during the 2009 Annual inspection it was noted that there was a water level. However, the water level was 0.03 feet and there was not enough water to bail for sampling. The findings of BW-1A were noted on the Annual Well Sampling logs in Appendix C and again referenced in Section 6.6.2 Wells with Constituent Levels below Standards.

b) BW-2A and BW-3A are mentioned twice in the table. Correct this discrepancy in future reports.

Response: Future tables will be updated with correct information.

c) According to the laboratory analytical data, BW-1C, 2A, 2B, 2C, 3B, and 3C were sampled 7/6/2009 and 8/3/2009, but the table only mentions the July 2009 sample date. Explain this discrepancy in the response letter.

Response: During the initial annual sampling conducted on July 6, 2009 on the boundary wells General Chemistry parameters were inadvertently missed. NMED was contacted on July 31, 2009 regarding omission of General Chemistry parameters and the Gallup Refinery was instructed to sample for General Chemistry only which was conducted on August 6, 2009. A Well Sampling Log for August 6, 2009 re-sampling was completed and is included in Appendix C.

d) RCRA 8 Metals are listed under the "Parameters of Analysis" for OW-50 and OW-52, KA-3, NAPIS 1, 2 and 3. According to the OCD Discharge Permit, these wells must be analyzed for WQCC metals. Explain this discrepancy in the response letter (see Comment 2c).

Response: Sampling was conducted per letter received from NMED "Requirement to Install Monitoring Wells", dated May 28, 2009, paragraph 2 item e, states, "...initial sampling must analyze for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), RCRA 8 metals, gasoline range organics (GRO), diesel range organics (DRO) extended, and general chemistry parameters." On June 4, 2010, "Approval with Modification..." paragraph 2 lists WQCC metals (total and dissolved) as sampling requirements. Correct sample method has been implemented upon receipt of June 4, 2010 letter.

e) MW-2 is missing the sampling date, which is 7/16/2009. Add the sampling date to future reports.

Response: All future tables will be revised to reflect correct dates.

f) Under "Parameters of Analysis" for PW-2, PW-3 and PW-4, cyanide is misspelled. Correct this typographical error in future reports.

Response: All future reports will be checked for typographical errors and corrected.

g) PW-3 should have been sampled annually per Comment 8 of NMED's NOD Letter dated March 26, 2009. Explain this discrepancy in the response letter (see Comment 2b).

Response: See response to Comment 2b.

Comment 4

Section 2.0 (Scope of Activities 2009), pages 17, provides a table of the sampling frequency for the historical NAPIS spills. NMED has reviewed the OCD Discharge Permit and understands the table was directly copied from the OCD Discharge Permit. However, to provide consistency in the table formatting, revise future tables to present the list of analytes rather than the analytical method information. The analytical method

must be discussed in the appropriate section of future Work Plans and reports. No response required.

Response: All future tables will reflect list of analytes and discussed in appropriate sections of report.

Comment 5

Section 2.1 (New Monitoring Well Installations), page 17, states “[t]wo new shallow ground water observation wells (OW-50 and OW-52) were installed in October 2009, north of OW-13 and down gradient of OW-29 and PW-30. These wells were installed per NMED HWB request dated 5/28/09 ‘Requirement to Install Monitoring Wells’ to determine if any constituent has migrated north, northwest of the refinery and potentially offsite... [t]hese two wells were added to the annual update to the Refinery Wide Ground water Monitoring Plan to be sampled on a quarterly basis for the following parameters: VOC, SVOC, DRO/GRO, RCRA8 Metals, and General Chemistry.” According to the monitoring schedule, OW-50 and OW-52 were sampled on November 17, 2009 and note 11 states that the “[n]ew wells [were] drilled and installed on 10/5 and 10/7/2009 down gradient of OW-13 and OW-29. [The f]irst samples [were] collected by AMEC Earth and Environmental, Inc.”

- a) Clarify the date(s) samples were collected from OW-50 and OW-52.

Response: Water samples for OW-50 and OW-52 were collected by AMEC Earth and Environmental, Inc. on November 16, 2009.

- b) The results of the samples collected by AMEC Earth and Environmental, Inc. are not reported in Section 6.0 (Ground water Monitoring Results) or in the tables in Section 8.0 (Data Tables). The chemical analytical results for samples collected from these wells on November 17, 2009 also are not discussed in the Report. In future reports, all samples collected, including initial sampling results for newly installed wells must be discussed in the Report and all laboratory data must be submitted with the Report.

Response: A “New Monitoring Wells Installation Report and Initial Sampling Results: Gallup Refinery” was submitted to NMED in December 2009 for OW-50 and OW-52 and was therefore not included in 2009 Annual Report. In the future any and all information will be made a part of the Annual Report.

- c) The Permittee lists RCRA 8 metals as a parameter for analysis for OW-50 and OW-52. According to NMED’s NOD dated March 26, 2009, “[t]he Discharge Permit requires all samples to be analyzed for the WQCC metals list.” Explain this discrepancy in the response letter (see Comment 2c).

Response: See response to Comment 3d

Comment 6

Section 6.1 (Monitoring Wells That have Constituent Levels above Standards), OW-13, OW-14, OW-29, OW-30, page 25, paragraph 1 and 2, there are spelling errors with the following constituents: xylene, 1,2,4-trimethylbenzene and sec-butylbenzene. Correct these typographical errors in future reports.

Response: See response to Comment 3f.

Comment 7

Section 6.1 (Monitoring Wells That have Constituents Levels Above Standards), NAPIS-1, NAPIS-2, NAPIS-3, KA-3, page 26, states “[g]round water samples were analyzed for BTEX, 8021B plus MTBE, SVOC, DRO, GRO, RCRA8 Metals and General Chemistry.” According to the NMED’s NOD dated March 26, 2009, “[t]he Discharge Permit requires all samples to be analyzed for the WQCC metals list.” Explain this discrepancy in the response letter (see Comment 3d).

Response: Field technician used the 2007 approved Sample Schedule which lists WQCC metals and RCRA list constituents. Field technician was not fully informed that totals and dissolved was required for the WQCC analysis. This has been addressed and all future analysis for WQCC metals will include totals and dissolved.

Comment 8

Section 6.1 (Monitoring Wells That have Constituent Levels Above Standards), NAPIS-1, NAPIS-2, NAPIS-3, KA-3, page 27, paragraph 1, states, “[d]ue to the close proximity of NAPIS 3 and KA-3 these wells were mis-identified by the field technician. NAPIS 3 was identified as KA-3 and KA-3 was identified as NAPIS-3 when samples were labeled. As a result analytical lab data received for these wells did not correspond to the correct well. Analytical lab data received for these wells have been manually corrected on the data sheets with the correct well identification.” The laboratory data has been reviewed and all of the data sheets have not been corrected. Provide corrected data sheets (e.g., laboratory data and chain of custodies) to replace the current data sheets in the Report. Verify that this discrepancy did not carry over to monitoring activities (e.g., water level measurements and water chemistry measurements) in the response letter and include corrected tables as necessary.

Response: All field notes and lab data from 2008 to present have been re-checked for accuracy. The only samples that were labeled incorrectly were on August 31, 2009 in which the technician caught the error and notified Hall Laboratories that the NAPIS-3 and KA-3 sample labels had been switched and authorized Hall Laboratories to change the identification of the sample on the Chain of Custody before any analysis was run. Therefore Hall Laboratory Order #0909044, dated 9/11/09 has the correct information pertaining to the NAPIS-3 and KA-3 analysis. Hall Laboratory Order No.0905544 dated 6/17/09, Hall Laboratory Order No. 0906335 dated July 2, 2009 and Hall Laboratory

Order No. 0911470 dated December 10, 2009 hand corrected copies submitted with the 2009 Annual Ground Water Report should be removed and replaced with the original uncorrected reports (Attachment 1). Data Tables in Section 8 for NAPIS-3 and KA-3 have been corrected (copies attached as Attachment 2) and no changes are required on the Field Logs in Appendix C. Language has been changed to reflect correct data in Section 6.1, page 27 and in Section 7.0, last paragraph, page 32. (Copies attached as Attachment 2 and are flagged as to where corrections have been made).

Comment 9

Section 6.2 (Wells with Constituent Levels below Standards), pages 27-30, discusses the results from sampling and monitoring for the Report; however, the subsections are inconsistent when describing the analyses for each well. For example, on page 27, the section describing the activities at OW-11 lists the parameters for analyses as general chemistry, VOC, MTBE, SVOC, and WQCC metals. On page 30, there is no discussion of the analyses conducted for the samples collected from evaporation ponds 1-8. In future reports provide consistency by listing the analyses conducted for all ground water and surface impoundment samples.

Response: All future reports will have discussions on analyses found in all ground water and surface impoundment samples.

Comment 10

Section 6.2 (Wells with Constituent Levels below Standards), OW-11, page 27, paragraph 2, states, “[u]ranium was also present in this well at 0.216 ppm below the NMWQS and EPA MCLS but above the RRSL of 0.11 ppm.” The NMWQS and EPA MCL for uranium is 0.03 mg/L. The uranium concentration detected in the sample obtained from OW-11 exceeds all of the screening levels. The WQCC screening levels presented in Appendix B have recently been updated and the updated screening levels can be found in *Title 20: Environmental Protection, Chapter 6: Water Quality, Part 2: Ground and Surface Water Protection, Item: 3103 (20.6.2.3103)* with the following link: <http://www.nmcpr.state.nm.us/nmac/parts/title20/20.006.0002.htm>. Correct all tables that inaccurately report uranium screening levels in future Annual Reports.

Response: Corrections will be made in all future reports with the most current version of the standards at time of submittal.

Comment 11

Section 6.2 (Wells with Constituent Levels below Standards), BW-3B, BW-3C, page 28, discusses sampling and monitoring that was conducted at these two wells; however, there is no mention of the results for BW-3A. The monitoring schedule on page 15 in Section 2 reports that BW-3A was sampled on 7/6/2009. In the response letter, explain why this information is missing from Section 6.2 and the laboratory data and provide the data for BW-3A, if available.

Response: During the 2009 annual sampling event, BW-3A was found to be a dry well and was not included in Section 6, 6.2 Wells with Constituent Levels below Standards. No lab analysis is available as there was no water found in the well for sampling.

Comment 12

Section 6.2 (Wells with Constituent Levels below Standards), PW-2, PW-3, PW-4, page 29, paragraph 1, states, "PW-3 annual sampling was not done in 2009 as requested by NMED HWB, resulting from the detection of 2-methylnaphthalene in 2007 of 0.032ppm. PW-3 was sampled in 2008 and results were non-detect." Comment 8 from NMED's NOD dated March 26, 2009, states "[i]f the Permittee did not sample Potable Well #3 in 2008, it must be sampled in 2009. The Discharge Plan states this well is to be sampled every 3 years starting with 2008. However, because samples from this well had detections of 2-methylnaphthalene exceeding the WQCC standard, the well must be sampled annually, unless otherwise directed by NMED. This information must be included in future Annual Reports. Pending the sampling results, the sampling frequency for this well may be modified." NMED did not direct the Permittee to discontinue ground water sample collection from PW-3 in 2009. The Permittee was directed to collect a sample in 2009 if the sample was not collected in 2008. Further, the Permittee was also directed to sample this well annually. The Permittee must continue sampling at PW-3 annually until otherwise directed by NMED.

Response: See response to Comment 3g.

Comment 13

Section 7.0 (Conclusions), page 32, East Side Ground Water, states "[t]wo new wells (OW-50 and OW-52) were installed in October 2009 did not reveal the presence of MTBE and Benzene." The Permittee cannot draw any conclusions or make statements about the presence of constituents in the vicinity of OW-50 and OW-52 because all of the analytical results for OW-50 and OW-52 were not provided in the Report. Although laboratory data was provided for samples collected in November 2009, the laboratory data for October 2009 was not provided. The October 2009 laboratory data for these wells must be submitted with the response letter (see Comment 5).

Response: There were no samples collected in October 2009 by AMEC Environmental. Initial samples were collected on November 17, 2009 by AMEC Environmental.

Comment 14

The following comments pertain to Section 8.0 (Data Tables):

a) Several tables throughout this section have blank cells that are not explained in the "Notes" section. Also, there are some tables with asterisks (*) either with or without

numerical values in cells. In future reports provide a reference in the “Notes” section of the tables for all symbols.

Response: Future tables will be revised with notes for explanation of blank cells.

b) Several tables throughout this section contain text and numerical values that do not fit in the cell. In future reports, format the tables so that all text and numerical values are complete and legible.

Response: Future tables will be formatted to “Times New Roman” font, 12 pitch.

c) Several tables throughout this section are missing borders and dividers that separate the individual cells in the tables. In future reports, format the tables to include all cell borders and dividers.

Response: Future tables will be formatted with borders, dividers.

d) In future reports, number the data tables. Numbering the tables aids the review process and the tables can easily be referenced in the Report. For example, the tables on pages 36-37 can be numbered as tables 8.2: Ground water Data Tables – GWM-1, 8.2.1: Summary of BTEX detected in GWM-1 (2006-2009), 8.2.2: Summary of VOC & SVOC detected in GWM-1 (2007-2009), 8.2.3: Summary of Recoverable metals detected in GWM-1 (2006-2009), and 8.2.4: Summary of General Chemistry parameters in GWM-1 (2006-2009).

Response: Future tables will be identified with page numbers for easy reference.

e) Several tables throughout this section are inconsistent when reporting results and screening levels. For example, page 39, Summary of Recoverable Metals detected in SMW-2 and SMW-4 (2006-2009), reports the arsenic RSL of 0.000045 mg/l but the RSL for magnesium as 6E-05mg/L. In future reports, consistently report all screening levels and results as ordinary decimal notation up to 4 decimal places (e.g., 0.1234 mg/L) and provide in scientific notation if greater than 4 (e.g., 4.5E-06 mg/L).

Response: All future reports will be formatted up to four decimal places.

f) Several tables throughout this section are inconsistent with font size and font type. In future reports provide tables with consistent formatted font sizes and type. If the table does not fit on 8.5” x 11” paper, use 11” x 17” sized paper instead. Also provide page numbers on the tables (see attached example).

Response: See response to Comment 14b.

g) In the “Notes” section on page 36, Summary of BTEX detected in GWM-1 (2006-2009), states “2007 samples were taken on January 1, 2008 due to inclement weather condition in 2007.” This statement appears to be a typographical error because

the samples mentioned in the note are not in the table. In future reports provide the data mentioned in the "Notes" section or remove the statement.

Response: All future reports in the "Notes" section will be revised to reflect current data.

h) On page 38, Summary of BTEX detected in SWM-2 and SMW-4 (2005-2009), states "[t]hese wells were not sampled in 2006." It also appears that SMW-2 was not sampled in 2007. In the response letter, explain why sampling was not conducted in 2006 for both wells in 2007 only for SMW-2.

Response: SMW-2 was not required to be sampled in 2006. 2007 annual sampling activities were conducted on January 1, 2008 due to inclement weather conditions in December 2007.

i) On Page 39, Summary of Recoverable Metals detected in SMW-2 and SMW-4 (2006-2009), the reported SMW-4 results are from 10/28/2006. This result contradicts the statement from the previous table on page 38. In the response letter, explain why this sample was not analyzed for BTEX, SVOCs, VOCs, and general chemistry.

Response: Entry on Page 39, Table Summary of Recoverable Metals..., for SMW-4 date should read 10/12/2005. The date 10/28/2006 was carried over from another well. SMW-4 was not required to be sampled in 2006.

j) On Pages 40, 45, 52, and 58, Summary of DRO and GRO Detected, the table reports TPH screening levels. In future reports, reference which TPH screening guideline table (2a or 2b) was used as the source for the screening levels.

Response: TPH screening guideline reference will be identified in future reports.

k) On Page 44, Summary of Recoverable Metals in NAPIS Wells (2008-2009), the results for seven metals (Ca, Mg, K, Na, Ba, Dr, and Pb) are listed for wells GWM-1, SMW2, and SMW-4. However on page 37 and 39, the results for 12 or 13 metals are reported for GWM-1, SWM-2 and SWM-4. In future a report, consistently report all metals analyzed or note that only results with detects are presented in the subject table.

Response: In future tables, results will be clearly identified and/or explained in the "Note" section.

l) On Page 50, Summary of Recoverable Metals Detected in Process Wells (2008), the EPA MCL for uranium is reported as 0 mg/L. This is a typographical error. The EPA MCL for uranium is 0.03 mg/L. In future reports ensure that all screening levels are correctly reported.

Response: See response to Comment 10.

m) Page 50, Summary of Recoverable Metals Detected in Process Wells (2004-2009), the results are presented in chronological order from previous sampling event to the current sampling event. In future reports, be consistent when reporting sample dates starting with the most recent sample date and sequentially to the oldest sample date in all tables. Also report all data for the past four years.

Response: All future reports will be listed with the most recent sampling date to oldest date for the past four years.

n) On page 51, Summary of Recoverable Metals in Monitoring Wells (2006-2009), "--" defines non-detect results. The barium result for MW-1 (8/4/2008) is reported as <0.02 mg/L which is also non-detect. In future reports, provide non-detect results using the "<" and the detection or reporting limit for the constituent that is included in the laboratory report.

Response: All future tables which show non-detect will be identified using the "<" and the reporting limit for the constituent included in the laboratory report.

o) On Page 53, Summary of BTEX detected in Outfalls (2009), there are several results that are greater than the RSL that are not bolded. In the benzene result column, samples collected for AL-2 to EP-1 on 12/2/2008 (0.012 mg/L) and 3/11/2008 (0.19 mg/L) are greater than the tap water RSL (0.00041 mg/L). In future reports provide consistency when highlighting results greater than applicable screening levels.

Response: All future tables will be bolded and highlighted accordingly.

p) On Page 53, Summary of BTEX detected in Outfalls (2009), there are several results that are italicized but there is no explanation for highlighting the result. In future reports provide foot notes that explain all highlighted results.

Response: All future tables will contain "notes" for explanation of highlighted, bolded, italicized entries.

Comment 15

The following comments pertain to Section 9.09 (Annual Well Date Summary Table – 2009):

a) Define all points of measurement for each elevation and depth measured (e.g., top of casing, ground surface) and define the measuring points in the Report, as well as identify them in the table.

Response: See response to Comment 1.

b) On Page 67, column "Total Well Depth (ft)," reports OW-12 (7/29/2009) as 145***. The corresponding note states, "OW-12 Annual inspection revealed well depth

measurement to be 126 feet instead of 145 feet as listed.” In the response letter, explain why the incorrect measurement was not replaced with the correct measurement in the table and provide the correct measurement in future reports.

Response: The language used may have been misleading. In 2008 during the annual inspection/sampling event, pump used to purge this well would only go down approximately 126 feet. Well may have collapsed or may have an obstruction in the well casing or sediment may have settled at the bottom of this well. This finding was not verified and therefore total well depth was left as is. This well will be re-evaluated to determine correct total depth of the well before corrections are made to the data table. See also response to Comment 1.

c) On Pages 67-70, it appears the measurements in the “Stick-up length (ft)” column are incorrect. The units of measure are defined as feet, but the measurements appear to be reported in inches. Verify the units of measurement and, if in inches, convert to feet. In future reports, all measurements must be reported in feet (see Comment 2a).

Response: See response to Comment 1.

d) On Page 67, column “Ground Level Elevations (ft)***,” the corresponding note states, “Western has determined that in the past, these ground level elevations have been incorrectly marked as well casing rim elevations. However, from a review of the well logs, we have determined that the elevation levels were in the table as rim casing levels when they should have been listed as ground surface elevations.” It appears that all of the elevations and depths reported in this table are still incorrect. The ground level elevations and the well casing rim elevations are reported as the same elevation for many of the wells. According to the stick-up length measurements, none of the wells were installed with the casing rims flush with the ground surface. It also appears that the accuracy of the total depth of the wells is incorrect for many of the wells. The well logs were reviewed by comparing the listed table elevations to those recorded in the well logs, but the elevations in the well logs also appear to be incorrect. The Permittee must provide a corrected well data summary table revised in accordance with the attached example table.

It appears that all the wells need to be resurveyed to provide accurate information. NMED will address resurveying all wells at the refinery in a separate letter.

Response: See response to Comment 1.

e) On Pages 67-70, it appears that the measurements in the “Well Casing Bottom Elevations” are incorrect. In the response letter, describe the method used to determine this elevation.

Response: Well casing bottom elevations were taken directly from the well logs. There will be a slight difference in total well depth as all wells have been re-surveyed. Depth to

bottom of well will be rechecked and correct information will be supplied on or before August 1, 2011 as directed by NMED correspondence "Requirement to Resurvey Ground water Monitoring Wells and Recovery Wells, dated 6/6/2011.

f) The measurements in the table are presented in chronological order from previous sampling to current sampling. In future reports, be consistent when reporting measurement dates starting with the most recent measurement date sequentially back to the oldest measurement date.

Response: All future tables will be reported with most recent data in chronological order.

g) Throughout this section, there are inconsistencies with font size and font type. In future reports provide tables with consistent formatted font sizes and type. If the table does not fit on 8.5" x 11" paper, use 11" x 17" sized paper instead. Also include page numbers on the tables (see the attached example).

Response: See response to Comment 14b.

Comment 16

On Pages 72-73, Figures 2 (Topographic Map 1. (Gallup Refinery Site)) and 3 (Aerial Photograph 1 (Gallup Refinery)), there is no scale or north indicator. Provide the scale and north indicator on all maps provided in future reports.

Response: All future maps will have the North indicator and scale information where applicable.

Comment 17

On Page 75, Figure 5 (Localized Scale 1), the north indicator is obscured and there are no arrows to indicate the direction of flow. Provide the north indicator and direction of flow on all appropriate figures in future reports.

Response: All future maps will have indicators, markers, arrows, clearly marked and visible.

Comment 18

On Figure 6 (Well Locations 1 (Active Wells)), the symbols for some of the monitoring wells are bolded (e.g., Sonsela wells) and some are not (e.g., Chinle/Alluvium interface wells and process wells). In future reports, bold all symbols representing monitoring wells to make their locations more visible.

Response: See response to Comment 16 and 17.

Comment 19

On Figure 6 (Well Locations 1 (Active Wells)), the numbered tanks within the vicinity of RW-5 and RW-6 are not legible. Provide a legible font for these tanks in future reports.

Response: See response to Comment 16 and 17.

Comment 20

Throughout the review process, NMED found it difficult to compare the data to the laboratory results because of inconsistencies with the sample IDs and their corresponding locations. When compared to the OCD Discharge Permit and the Facility Wide Ground water Monitoring Plan: Gallup Refinery (Ground water Monitoring Plan), dated June 2010, it was difficult to match up the sampling schedule sample IDs and Report Sample IDs to the laboratory data. In the future, the sampling schedule must be revised to provide the sample location description with the corresponding sample ID. The sample IDs must be consistently used throughout the monitoring period without modification to the names. The sample IDs must be consistent in the sampling schedule, the Ground Water Monitoring Plan, the Report, chain of custody forms, and analytical data. The sample locations must be easily be identified with corresponding sample ID on the chain of custody forms and all reported laboratory data.

Response: All sample IDs will be clearly identified.

Comment 21

The following comments pertain to the table in Appendix A (Separate Phase Hydrocarbons Recovered (RW-1)):

a) There are several measurements on the first page of the table that are in feet and inches. Convert all measurements to feet (to an accuracy of 0.01 foot) in future reports. For example, on the first page, date of measurement 2/22/2005 the depth to the product is 32'-5 1/2". Report the measurement as 32.46 feet.

Response: See response to Comment 2.

b) There are several notes with the measurement column (e.g., 3/11 to 3/19/05 "Started Pumping Well on 3/11/05"). Provide separate columns for the method of removing the product (Method) and status of removal (Status). See the attached example table. Revise the table in future reports. Additionally, the notes within the measurement columns do not provide information about the initial depth to product, depth to water, and product thickness prior to product removal. There are also instances where the pump is stopped to obtain measurements, but there is no information or indication if the measurement was collected the same day. For future monitoring events, record

measurements prior to starting product removal activities and upon ceasing removal activities.

Response: All purging activities will be reported in future reports.

c) When reporting the measurement time, “hrs” does not have to follow the time. Remove this from future reports.

Response: All future reports “hrs” will be removed.

d) The table contains different font types and sizes. Be consistent with font size and type in future reports. If the table does not fit on 8.5” x 11” paper use 11” x 17” sized paper instead. Also provide page numbers on the tables (see attached example).

Response: See response to Comment 14b.

e) It appears that there is a typographical error associated with the volume of product bailed/pumped for the RW-1 sample dated 10/28/2009 which is reported as 0.19 gallons. The recovery well inspection log for 10/28/2009 reports the volume of product bailed/pumped as 0.15 gallons. Correct the error in future reports.

Response: All future reports, data will be verified in each entry.

f) Currently, the table reports the total product and water removed for all reporting periods. Add another table to provide a total for each year (e.g., 2005, 2006, 2007, 2008, and 2009) and provide a combined total for all years. See the attached table as an example. Also, verify that the totals add up to the reported total volume of water and product removed and include this data in future reports.

Response: All future tables will be revised.

Comment 22

The following comments pertain to Appendix B (Listing of Applicable Standards):

a) Provide page numbers for all appendices in future reports.

Response: All future reports, page numbers will be applied to Appendices.

b) The WQCC screening levels presented in Appendix B have recently been updated and the updated screening levels can be found in Title 20: *Environmental Protection, Chapter 6: Water quality, Part 2: Ground and Surface Water Protection, Item: 3103* (20.6.2.3103). Report these standards in table format and include the table in future Annual Reports (See also Comment 10).

Response: See response to Comment 10.

c) Identify the TPH screening level table used to derive the comparison values (see Comment 14j).

Response: See response to Comment 14j.

d) Provide references for all tables in Appendix B.

Response: Future reports references will be listed for tables used in Appendix B.

Comment 23

The following comments pertain to Appendix C (Well and Field Logs):

a) Include the full name in the title "Annual Well Sampling, Inspection, and Field Logs."

Response: All future reports will include the full title.

b) According to Section 6.1 (Monitoring Wells that have Constituent Levels above Standards), NAPIS-1, NAPIS-2, NAPIS-3, KA-3, the field technician swapped the laboratory containers for the NAPIS-3 and KA-3 samples. NMED has reviewed the field notes/log and did not find any notes pertaining to the mix up. Verify that only the samples were switched and not the field measurements obtained during the sampling and provide a discussion in the response letter. Also, provide field notes/logs that support the discussion.

Response: See response to Comment 8.

c) Section 9.0 (Annual Well Date Summary Table – 2009), Appendix A (RW-1 Hydrocarbon Recovery Log), and the Recovery well inspection logs included in Appendix C all report the depth to product, depth to water, and product thickness. Appendix A and the recovery well inspection logs report the same measurements for all three parameters, but different values are reported in the data tables in Section 8.0. Provide the source of the measurements reported in Section 8.0. If all three sections are supposed to report the same measurements, explain the discrepancy in the response letter and provide replacement tables for Section 8.0 with the correct values.

Response: Typographical errors occurred when transferring numbers to the Well Data Summary Table in Section 9. There are no data tables generated for the recovery wells (RW-1, RW-2, RW-5, RW-6) as these wells are not sampled, only monitored for product recovery. See response to Comment 15e regarding the Well Data Summary Table.

d) According to the recovery well inspection logs, 0.23 gallons of product was recovered from RW-6 for 2009. Also, in the second, third, and fourth quarter, a thickness of at least 0.2 feet of product was reported but only a small amount of product was

removed from RW-6. RW-1 contained 0.19 feet of product in the fourth quarter and 0.15 gallons of product was bailed from the well, but 0.22 feet of product was detected in RW-6 and only 0.04 gallons was removed. In the response letter, explain the variation in product recovery in RW-1 and RW-6 and why the amount recovered for 2009 was not included in the Report.

Response: In RW-6 a submersible pneumatic bladder pump is used to remove product/water and collected into a 55 gallon drum. Visible layer of product on the top is then measured and calculated as best as possible for volume. In RW-1, the recovery well is hand bailed using a 3 foot disposable hand bailer and placed in a 5 gallon bucket. Before each bucket is emptied, the visible product layer is measured and calculated as best as possible for volume. There is no accurate, scientific method used for measurement on product recovery. Product recovery was mentioned in Section 7, East Side Ground Water, page 32.

Comment 24

NMED did not review Appendix D through H and J through L. These documents were submitted as a requirement for the OCD Discharge Permit and are subject to review by OCD.

Response: No response required.

Comment 25

The following comments pertain to Appendix I (New Well Drilling Logs, Survey and Lab Data):

a) NMED reviewed this appendix and did not find drilling logs for the new wells. Provide the drilling logs and well construction diagrams for OW-50 and OW-52 with the response letter.

Response: A copy of the New Well Installation Report submitted in December 2009 is attached as Attachment 3.

b) The monitoring schedule footnote for OW-50 and OW-52 in Section 2.0 (Scope of Activities 2009) states “[n]ew wells [were] drilled and installed on 10/5 and 10/7/2009 down gradient of OW-13 and OW-29. [The f]irst samples [were] collected by AMEC Earth and Environmental, Inc.” These sample results were not included in this appendix. Include this data with the response letter (see Comment 5).

Response: Lab data was included in Appendix I of Report and is included in the New Well Installation Report as Attachment 3. See also response to Comment 5a.

c) The data provided in this appendix reports barium concentrations detected in samples obtained from OW-50 and OW-52 as 0.042 mg/L and 0.027mg/L, respectively. Although these concentrations are less than the screening level for barium (1.0 mg/L, New Mexico Water Quality Standards (NMWQS)), they were not mentioned in the Report. All detected concentrations must be reported in the appropriate tables and discussed in future reports. Include the detected concentrations in the next annual report.

Response: All future reports will list all activities for the reporting year.

d) Provide photos of the new wells to show the well casing structure. Section 9.0 (Annual Well Data Summary Table) reports a stick up length of 32.50 feet (inches?) for OW-50 but the top of the casing elevation and ground surface elevation for OW-50 are the same value (6914.37 feet). The stick up length listed for OW-52 is 26.6 feet (inches?), the top of casing elevation is 6907.68 feet and the ground surface elevation is 6906.26 feet. Explain these discrepancies in the response letter.

Response: See response to Comment 1. Photos of OW-50 and OW-52 are enclosed as Attachment 4.

Comment 26

In Appendix M (Analytical Data), all of the data sheets for NAPS-3 and KA-3 have not been corrected. Section 6.1 (Monitoring Wells That have Constituent Levels above Standards), states, “[a]nalytical lab data received for [NAPIS-3 and KA-3] have been manually corrected on the data sheets with the correct well identification.” Provide the corrected data sheets (e.g., laboratory data and chain of custody forms) with the response letter (see also Comments 7 and 24b).

Response: See response to Comment 8.

Comment 27

NMED understands that the OCD Discharge Permit was followed to conduct the sampling and monitoring activities during 2009, however the Annual Ground water Monitoring Plan was approved August 25, 2010 and should have been implemented for the second sampling event in 2010. The approved Annual Groundwater Monitoring Plan must be implemented for the 2011 sampling and all future monitoring and sampling until a revision is approved by NMED.

Response: The approved Monitoring Plan was received August 25, 2010; First quarter and second quarter sampling events were already conducted prior to receipt of the approved Monitoring Plan on August 25, 2010. The Third quarter sampling event was conducted using the approved Plan and all future sampling events will be conducted according to the approved Monitoring Plan unless otherwise directed by NMED HWB.

OCD COMMENTS

Comment 1

The operator places responsibility on NMED to notify OCD when line testing activities are being conducted at the site. The operator must provide direct notification to OCD at least 72 hours in advance of line testing under the discharge permit.

Appendix I: New Well Drilling Logs, Survey, Lab Data

Response: NMED and OCD are notified via e-mail by Western Refining environmental specialist 72 hours in advance of any line testing scheduled.

Comment 2

Based on NMED's recent evaluation of survey datum and observations of the hydro geologic depiction of ground water flow direction and hydraulic gradients, OCD is in agreement with NMED that the wells need to be resurveyed to establish corrected datum for all future hydro geologic information (e.g., flow diagrams) based on each aquifer system (see NMED Comment 15d).

Response: See response to NMED Comment 1.

Comment 3

It has come to OCD's attention that Hall Environmental Laboratory appears to have low or unacceptable recovery for several constituents, such as phenols, pyrene, and other SVOCs. RPDs were not reported in this report, which is considered unacceptable by EPA QA/QC Lab Standards. The operator must work with the laboratory to ensure that acceptable standards are attained for the QA/QC analytical data results.

Appendix K: Temporary Landfarm Analytical Results.

Response: Hall Environmental has reviewed the two lab orders (0812512 and 0906596) and found no issues regarding QA/QC with the analytical lab reports referenced in Appendix K. Attached is an e-mail from Hall Laboratories addressing the QA/QC concern. (Attachment 5).

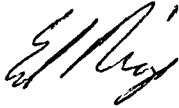
Comment 4

It has come to OCD's attention that the Central LF Cell 91 and 110 exhibited chloride concentrations of 1900 and 650 ppm, respectively on 12/22/2008. Currently, the operator is working with OCD to comply with the OCD discharge permit performance standards so that soil from the landfarm can be reused elsewhere at the facility. The operator is also currently working to develop background criteria under OCD DP by May of 2011.

Response: A report "A Proposed Background Soil Concentrations, Oil Conservation Division Landfarms" was submitted to OCD on May 16, 2011.

Please feel free to contact me if you have any questions or concerns.

Respectfully submitted,



Ed Riege
Environmental Manager

Attachments (1 – 5)

cc: C. Chavez, OCD w/attach.
K. Van Horn, NMED HWB w/attach.
M. Turri, WNR w/o attach.
C. Johnson, WNR w/o attach.

ATTACHMENTS 1 – 5



COVER LETTER

Wednesday, June 17, 2009

Gaurav Rajen
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: 2009 2nd Quarter NAPIS

Order No.: 0905544

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 5/29/2009 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,

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

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: 17-Jun-09

CLIENT: Western Refining Southwest, Gallup
Project: 2009 2nd Quarter NAPIS
Lab Order: 0905544

CASE NARRATIVE

Analytical Comments for METHOD 8021BTEX/ 8015GRO SAMPLE NAPIS-2: necessary dilution; due to surfactants present in sample.

Analytical Comments for METHOD 300_W, ALL SAMPLES: reporting NO3 and PO4 outside of EPA holdtime. Preserved values inconsistent with unpreserved values.

Hall Environmental Analysis Laboratory, Inc.

Date: 17-Jun-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0905544
Project: 2009 2nd Quarter NAPIS
Lab ID: 0905544-01

Client Sample ID: NAPIS-1
Collection Date: 5/28/2009 8:05:00 AM
Date Received: 5/29/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/2/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/2/2009
Surr: DNOP	114	58-140		%REC	1	6/2/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	6/5/2009 11:27:27 PM
Surr: BFB	81.1	59.9-122		%REC	1	6/5/2009 11:27:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	6/5/2009 11:27:27 PM
Benzene	ND	1.0		µg/L	1	6/5/2009 11:27:27 PM
Toluene	ND	1.0		µg/L	1	6/5/2009 11:27:27 PM
Ethylbenzene	ND	1.0		µg/L	1	6/5/2009 11:27:27 PM
Xylenes, Total	ND	2.0		µg/L	1	6/5/2009 11:27:27 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2009 11:27:27 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2009 11:27:27 PM
Surr: 4-Bromofluorobenzene	86.1	65.9-130		%REC	1	6/5/2009 11:27:27 PM
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	ND	2.0		µg/L	1	6/11/2009 10:23:13 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	6/11/2009 10:23:13 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	6/11/2009 10:23:13 PM
Acenaphthylene	ND	2.5		µg/L	1	6/11/2009 10:23:13 PM
Acenaphthene	ND	5.0		µg/L	1	6/11/2009 10:23:13 PM
Fluorene	ND	0.80		µg/L	1	6/11/2009 10:23:13 PM
Phenanthrene	ND	0.60		µg/L	1	6/11/2009 10:23:13 PM
Anthracene	ND	0.60		µg/L	1	6/11/2009 10:23:13 PM
Fluoranthene	ND	0.30		µg/L	1	6/11/2009 10:23:13 PM
Pyrene	ND	0.30		µg/L	1	6/11/2009 10:23:13 PM
Benz(a)anthracene	ND	0.070		µg/L	1	6/11/2009 10:23:13 PM
Chrysene	ND	0.20		µg/L	1	6/11/2009 10:23:13 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	6/11/2009 10:23:13 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	6/11/2009 10:23:13 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	6/11/2009 10:23:13 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	6/11/2009 10:23:13 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	6/11/2009 10:23:13 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	6/11/2009 10:23:13 PM
Surr: Benzo(e)pyrene	55.4	44.8-104		%REC	1	6/11/2009 10:23:13 PM
EPA METHOD 300.0: ANIONS						Analyst: TAF
Fluoride	1.2	0.10		mg/L	1	6/9/2009 10:17:40 AM
Chloride	150	1.0		mg/L	10	6/9/2009 10:35:04 AM

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

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

Hall Environmental Analysis Laboratory, Inc.

Date: 17-Jun-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0905544
Project: 2009 2nd Quarter NAPIS
Lab ID: 0905544-01

Client Sample ID: NAPIS-1
Collection Date: 5/28/2009 8:05:00 AM
Date Received: 5/29/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS Analyst: TAF						
Nitrogen, Nitrate (As N)	0.31	0.10	H	mg/L	1	6/9/2009 10:17:40 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/9/2009 10:17:40 AM
Sulfate	71	5.0		mg/L	10	6/9/2009 10:35:04 AM
EPA METHOD 7470: MERCURY Analyst: MMS						
Mercury	ND	0.00020		mg/L	1	6/3/2009 3:15:12 PM
EPA 6010B: TOTAL RECOVERABLE METALS Analyst: TES						
Arsenic	ND	0.020		mg/L	1	6/5/2009 3:55:58 PM
Barium	0.091	0.020		mg/L	1	6/5/2009 3:55:58 PM
Cadmium	ND	0.0020		mg/L	1	6/5/2009 3:55:58 PM
Calcium	57	1.0		mg/L	1	6/5/2009 3:55:58 PM
Chromium	ND	0.0060		mg/L	1	6/5/2009 3:55:58 PM
Lead	ND	0.0050		mg/L	1	6/5/2009 3:55:58 PM
Magnesium	11	1.0		mg/L	1	6/5/2009 3:55:58 PM
Potassium	ND	1.0		mg/L	1	6/5/2009 3:55:58 PM
Selenium	ND	0.050		mg/L	1	6/5/2009 3:55:58 PM
Silver	ND	0.0050		mg/L	1	6/5/2009 3:55:58 PM
Sodium	390	5.0		mg/L	5	6/9/2009 2:02:56 PM
EPA 120.1: SPECIFIC CONDUCTANCE Analyst: BDH						
Specific Conductance	1900	0.010		µmhos/cm	1	6/1/2009
SM4500-H+B: PH Analyst: BDH						
pH	7.82	0.1		pH units	1	5/29/2009

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 7

Hall Environmental Analysis Laboratory, Inc.

Date: 17-Jun-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0905544
Project: 2009 2nd Quarter NAPIS
Lab ID: 0905544-02

Client Sample ID: NAPIS-2
Collection Date: 5/28/2009 8:40:00 AM
Date Received: 5/29/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	3.4	1.0		mg/L	1	6/2/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/2/2009
Surr: DNOP	113	58-140		%REC	1	6/2/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	0.53	0.25		mg/L	5	6/6/2009 8:44:44 PM
Surr: BFB	86.4	59.9-122		%REC	5	6/6/2009 8:44:44 PM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	130	25		µg/L	10	6/6/2009 12:28:39 AM
Benzene	28	5.0		µg/L	5	6/6/2009 8:44:44 PM
Toluene	ND	5.0		µg/L	5	6/6/2009 8:44:44 PM
Ethylbenzene	5.3	5.0		µg/L	5	6/6/2009 8:44:44 PM
Xylenes, Total	ND	10		µg/L	5	6/6/2009 8:44:44 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/L	5	6/6/2009 8:44:44 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/L	5	6/6/2009 8:44:44 PM
Surr: 4-Bromofluorobenzene	94.9	65.9-130		%REC	5	6/6/2009 8:44:44 PM
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	30	2.0		µg/L	1	6/11/2009 10:43:29 PM
1-Methylnaphthalene	4.2	2.0		µg/L	1	6/11/2009 10:43:29 PM
2-Methylnaphthalene	2.3	2.0		µg/L	1	6/11/2009 10:43:29 PM
Acenaphthylene	ND	2.5		µg/L	1	6/11/2009 10:43:29 PM
Acenaphthene	ND	5.0		µg/L	1	6/11/2009 10:43:29 PM
Fluorene	ND	0.80		µg/L	1	6/11/2009 10:43:29 PM
Phenanthrene	ND	0.60		µg/L	1	6/11/2009 10:43:29 PM
Anthracene	ND	0.60		µg/L	1	6/11/2009 10:43:29 PM
Fluoranthene	ND	0.30		µg/L	1	6/11/2009 10:43:29 PM
Pyrene	ND	0.30		µg/L	1	6/11/2009 10:43:29 PM
Benz(a)anthracene	ND	0.070		µg/L	1	6/11/2009 10:43:29 PM
Chrysene	ND	0.20		µg/L	1	6/11/2009 10:43:29 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	6/11/2009 10:43:29 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	6/11/2009 10:43:29 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	6/11/2009 10:43:29 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	6/11/2009 10:43:29 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	6/11/2009 10:43:29 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	6/11/2009 10:43:29 PM
Surr: Benzo(e)pyrene	83.5	44.8-104		%REC	1	6/11/2009 10:43:29 PM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Fluoride	1.7	0.10		mg/L	1	6/9/2009 8:24:42 PM
Chloride	210	2.0		mg/L	20	6/9/2009 8:42:06 PM

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

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

Hall Environmental Analysis Laboratory, Inc.

Date: 17-Jun-09

CLIENT: Western Refining Southwest, Gallup
 Lab Order: 0905544
 Project: 2009 2nd Quarter NAPIS
 Lab ID: 0905544-02

Client Sample ID: NAPIS-2
 Collection Date: 5/28/2009 8:40:00 AM
 Date Received: 5/29/2009
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Nitrogen, Nitrate (As N)	0.16	0.10	H	mg/L	1	6/9/2009 8:24:42 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/9/2009 8:24:42 PM
Sulfate	22	0.50		mg/L	1	6/9/2009 8:24:42 PM
EPA METHOD 7470: MERCURY						Analyst: MMS
Mercury	ND	0.00020		mg/L	1	6/3/2009 3:17:00 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: TES
Arsenic	ND	0.020		mg/L	1	6/5/2009 4:00:15 PM
Barium	0.65	0.020		mg/L	1	6/5/2009 4:00:15 PM
Cadmium	ND	0.0020		mg/L	1	6/5/2009 4:00:15 PM
Calcium	51	1.0		mg/L	1	6/5/2009 4:00:15 PM
Chromium	ND	0.0060		mg/L	1	6/5/2009 4:00:15 PM
Lead	ND	0.0050		mg/L	1	6/5/2009 4:00:15 PM
Magnesium	9.9	1.0		mg/L	1	6/5/2009 4:00:15 PM
Potassium	ND	1.0		mg/L	1	6/5/2009 4:00:15 PM
Selenium	ND	0.050		mg/L	1	6/5/2009 4:00:15 PM
Silver	ND	0.0050		mg/L	1	6/5/2009 4:00:15 PM
Sodium	290	5.0		mg/L	5	6/9/2009 2:05:43 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: NSB
Specific Conductance	1400	0.010		umhos/cm	1	6/10/2009
SM4500-H+B: PH						Analyst: NSB
pH	7.51	0.1	H	pH units	1	6/10/2009

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: 17-Jun-09

CLIENT: Western Refining Southwest, Gallup
 Lab Order: 0905544
 Project: 2009 2nd Quarter NAPIS
 Lab ID: 0905544-03

Client Sample ID: KA-3
 Collection Date: 5/28/2009 9:30:00 AM
 Date Received: 5/29/2009
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/2/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/2/2009
Surr: DNOP	118	58-140		%REC	1	6/2/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	0.32	0.050		mg/L	1	6/6/2009 9:15:13 PM
Surr: BFB	95.3	59.9-122		%REC	1	6/6/2009 9:15:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	130	25		µg/L	10	6/6/2009 12:59:05 AM
Benzene	3.3	1.0		µg/L	1	6/6/2009 9:15:13 PM
Toluene	1.2	1.0		µg/L	1	6/6/2009 9:15:13 PM
Ethylbenzene	ND	1.0		µg/L	1	6/6/2009 9:15:13 PM
Xylenes, Total	ND	2.0		µg/L	1	6/6/2009 9:15:13 PM
1,2,4-Trimethylbenzene	1.1	1.0		µg/L	1	6/6/2009 9:15:13 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/6/2009 9:15:13 PM
Surr: 4-Bromofluorobenzene	97.4	65.9-130		%REC	1	6/6/2009 9:15:13 PM
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	47	2.0		µg/L	1	6/11/2009 11:03:43 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	6/11/2009 11:03:43 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	6/11/2009 11:03:43 PM
Acenaphthylene	ND	2.5		µg/L	1	6/11/2009 11:03:43 PM
Acenaphthene	ND	5.0		µg/L	1	6/11/2009 11:03:43 PM
Fluorene	ND	0.80		µg/L	1	6/11/2009 11:03:43 PM
Phenanthrene	ND	0.60		µg/L	1	6/11/2009 11:03:43 PM
Anthracene	ND	0.60		µg/L	1	6/11/2009 11:03:43 PM
Fluoranthene	ND	0.30		µg/L	1	6/11/2009 11:03:43 PM
Pyrene	ND	0.30		µg/L	1	6/11/2009 11:03:43 PM
Benz(a)anthracene	ND	0.070		µg/L	1	6/11/2009 11:03:43 PM
Chrysene	ND	0.20		µg/L	1	6/11/2009 11:03:43 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	6/11/2009 11:03:43 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	6/11/2009 11:03:43 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	6/11/2009 11:03:43 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	6/11/2009 11:03:43 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	6/11/2009 11:03:43 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	6/11/2009 11:03:43 PM
Surr: Benzo(e)pyrene	64.6	44.8-104		%REC	1	6/11/2009 11:03:43 PM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Fluoride	1.6	0.10		mg/L	1	6/9/2009 9:18:55 PM
Chloride	260	2.0		mg/L	20	6/9/2009 9:34:21 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: 17-Jun-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0905544
Project: 2009 2nd Quarter NAPIS
Lab ID: 0905544-03

Client Sample ID: KA-3
Collection Date: 5/28/2009 9:30:00 AM
Date Received: 5/29/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Nitrogen, Nitrate (As N)	0.22	0.10	H	mg/L	1	6/9/2009 9:16:55 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/9/2009 9:16:55 PM
Sulfate	66	10		mg/L	20	6/9/2009 9:34:21 PM
EPA METHOD 7470: MERCURY						Analyst: MMS
Mercury	ND	0.00020		mg/L	1	6/3/2009 3:18:47 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: TES
Arsenic	ND	0.020		mg/L	1	6/5/2009 4:04:12 PM
Barium	0.29	0.020		mg/L	1	6/5/2009 4:04:12 PM
Cadmium	ND	0.0020		mg/L	1	6/5/2009 4:04:12 PM
Calcium	71	1.0		mg/L	1	6/5/2009 4:04:12 PM
Chromium	ND	0.0060		mg/L	1	6/5/2009 4:04:12 PM
Lead	ND	0.0050		mg/L	1	6/5/2009 4:04:12 PM
Magnesium	11	1.0		mg/L	1	6/5/2009 4:04:12 PM
Potassium	ND	1.0		mg/L	1	6/5/2009 4:04:12 PM
Selenium	ND	0.050		mg/L	1	6/5/2009 4:04:12 PM
Silver	ND	0.0050		mg/L	1	6/5/2009 4:04:12 PM
Sodium	330	5.0		mg/L	5	6/9/2009 2:08:32 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: BDH
Specific Conductance	1700	0.010		umhos/cm	1	5/29/2009
SM4500-H+B: PH						Analyst: BDH
pH	7.71	0.1		pH units	1	5/29/2009

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 6 of 7

Hall Environmental Analysis Laboratory, Inc.

Date: 17-Jun-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0905544
Project: 2009 2nd Quarter NAPIS
Lab ID: 0905544-04

Client Sample ID: Trip Blank
Collection Date:
Date Received: 5/29/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	6/6/2009 1:29:39 AM
Surr: BFB	83.8	59.9-122		%REC	1	6/6/2009 1:29:39 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	6/6/2009 1:29:39 AM
Benzene	ND	1.0		µg/L	1	6/6/2009 1:29:39 AM
Toluene	ND	1.0		µg/L	1	6/6/2009 1:29:39 AM
Ethylbenzene	ND	1.0		µg/L	1	6/6/2009 1:29:39 AM
Xylenes, Total	ND	2.0		µg/L	1	6/6/2009 1:29:39 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/6/2009 1:29:39 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/6/2009 1:29:39 AM
Surr: 4-Bromofluorobenzene	90.5	65.9-130		%REC	1	6/6/2009 1:29:39 AM

Qualifiers:

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

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

Page 7 of 7

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
 Project: 2009 2nd Quarter NAPIS

Work Order: 0905544

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: 0905544-01DMSD		<i>MSD</i>	Batch ID: R34017 Analysis Date: 6/9/2009 11:27:18 AM						
Fluoride	1.692	mg/L	0.10	92.9	75.3	117	0.480	20	
Nitrogen, Nitrate (As N)	2.835	mg/L	0.10	101	82.4	109	4.49	20	
Phosphorus, Orthophosphate (As P)	4.989	mg/L	0.50	99.8	74.5	116	3.36	20	
Sample ID: MB		<i>MBLK</i>	Batch ID: R34017 Analysis Date: 6/9/2009 9:08:02 AM						
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB-2		<i>MBLK</i>	Batch ID: R34017 Analysis Date: 6/9/2009 8:44:27 PM						
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB		<i>MBLK</i>	Batch ID: R34021 Analysis Date: 6/9/2009 9:58:01 AM						
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB		<i>MBLK</i>	Batch ID: R34036 Analysis Date: 6/10/2009 6:34:04 AM						
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS		<i>LCS</i>	Batch ID: R34017 Analysis Date: 6/9/2009 9:25:26 AM						
Fluoride	0.5035	mg/L	0.10	101	90	110			
Chloride	4.837	mg/L	0.10	96.7	90	110			
Nitrogen, Nitrate (As N)	2.445	mg/L	0.10	97.8	90	110			
Phosphorus, Orthophosphate (As P)	4.853	mg/L	0.50	97.1	90	110			
Sulfate	9.700	mg/L	0.50	97.0	90	110			
Sample ID: LCS-2		<i>LCS</i>	Batch ID: R34017 Analysis Date: 6/9/2009 9:01:51 PM						
Fluoride	0.5140	mg/L	0.10	103	90	110			
Chloride	4.830	mg/L	0.10	96.6	90	110			
Nitrogen, Nitrate (As N)	2.457	mg/L	0.10	98.3	90	110			
Phosphorus, Orthophosphate (As P)	4.849	mg/L	0.50	97.0	90	110			
Sulfate	9.785	mg/L	0.50	97.9	90	110			
Sample ID: LCS		<i>LCS</i>	Batch ID: R34021 Analysis Date: 6/9/2009 10:15:26 AM						
Fluoride	0.4765	mg/L	0.10	95.3	90	110			
Chloride	4.816	mg/L	0.10	96.3	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, Gallup
 Project: 2009 2nd Quarter NAPIS

Work Order: 0905544

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: LCS		LCS							
					Batch ID: R34021	Analysis Date: 6/9/2009 10:15:26 AM			
Nitrogen, Nitrate (As N)	2.498	mg/L	0.10	99.8	90	110			
Phosphorus, Orthophosphate (As P)	4.682	mg/L	0.50	93.6	90	110			
Sulfate	9.763	mg/L	0.50	97.6	90	110			
Sample ID: LCS		LCS							
					Batch ID: R34036	Analysis Date: 6/10/2009 6:51:28 AM			
Fluoride	0.4943	mg/L	0.10	98.9	90	110			
Chloride	4.799	mg/L	0.10	96.0	90	110			
Nitrogen, Nitrate (As N)	2.507	mg/L	0.10	100	90	110			
Phosphorus, Orthophosphate (As P)	4.882	mg/L	0.50	97.2	90	110			
Sulfate	9.795	mg/L	0.50	97.9	90	110			
Sample ID: 0905544-01DMS		MS							
					Batch ID: R34017	Analysis Date: 6/9/2009 11:09:54 AM			
Fluoride	1.684	mg/L	0.10	91.2	75.3	117			
Nitrogen, Nitrate (As N)	2.711	mg/L	0.10	96.2	82.4	109			
Phosphorus, Orthophosphate (As P)	4.824	mg/L	0.50	96.5	74.5	116			
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-19231		MBLK							
					Batch ID: 19231	Analysis Date: 6/2/2009			
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-19231		LCS							
					Batch ID: 19231	Analysis Date: 6/2/2009			
Diesel Range Organics (DRO)	6.666	mg/L	1.0	133	74	157			
Sample ID: LCSD-19231		LCSD							
					Batch ID: 19231	Analysis Date: 6/2/2009			
Diesel Range Organics (DRO)	6.644	mg/L	1.0	133	74	157	0.335	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 5ML RB		MBLK							
					Batch ID: R33978	Analysis Date: 6/5/2009 8:52:07 AM			
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		LCS							
					Batch ID: R33978	Analysis Date: 6/6/2009 12:38:53 PM			
Gasoline Range Organics (GRO)	0.5664	mg/L	0.050	113	80	115			
Sample ID: 2.5UG GRO LCSD		LCSD							
					Batch ID: R33978	Analysis Date: 6/6/2009 1:09:14 PM			
Gasoline Range Organics (GRO)	0.5490	mg/L	0.050	110	80	115	3.12	8.39	

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, Gallup
 Project: 2009 2nd Quarter NAPIS

Work Order: 0905544

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		MBLK							
					Batch ID: R33978		Analysis Date:		6/5/2009 8:52:07 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: R33978		Analysis Date:		6/5/2009 7:23:20 PM
Methyl tert-butyl ether (MTBE)	18.36	µg/L	2.5	91.8	51.2	138			
Benzene	19.32	µg/L	1.0	96.6	85.9	113			
Toluene	19.52	µg/L	1.0	97.6	86.4	113			
Ethylbenzene	19.52	µg/L	1.0	97.6	83.5	118			
Xylenes, Total	59.44	µg/L	2.0	99.1	83.4	122			
1,2,4-Trimethylbenzene	20.87	µg/L	1.0	104	83.5	115			
1,3,5-Trimethylbenzene	19.57	µg/L	1.0	97.9	85.2	113			
Sample ID: 100NG BTEX LCSD		LCSD							
					Batch ID: R33978		Analysis Date:		6/5/2009 7:53:53 PM
Methyl tert-butyl ether (MTBE)	19.06	µg/L	2.5	95.3	51.2	138	3.72	28	
Benzene	19.61	µg/L	1.0	98.0	85.9	113	1.49	27	
Toluene	19.70	µg/L	1.0	98.5	86.4	113	0.918	19	
Ethylbenzene	19.64	µg/L	1.0	98.2	83.5	118	0.613	10	
Xylenes, Total	59.29	µg/L	2.0	98.8	83.4	122	0.253	13	
1,2,4-Trimethylbenzene	20.32	µg/L	1.0	102	83.5	115	2.71	21	
1,3,5-Trimethylbenzene	19.46	µg/L	1.0	97.3	85.2	113	0.594	10	
Method: EPA Method 7470: Mercury									
Sample ID: MB-19251		MBLK							
					Batch ID: 19251		Analysis Date:		6/3/2009 2:48:07 PM
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-19251		LCS							
					Batch ID: 19251		Analysis Date:		6/3/2009 2:49:56 PM
Mercury	0.004931	mg/L	0.00020	98.6	80	120			
Sample ID: LCS-19251		LCSD							
					Batch ID: 19251		Analysis Date:		6/3/2009 2:51:45 PM
Mercury	0.004947	mg/L	0.00020	98.9	80	120	0.335	0	

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, Gallup
 Project: 2009 2nd Quarter NAPIS

Work Order: 0905544

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA 8010B: Total Recoverable Metals

Sample ID: MB-19242

MBLK

Batch ID: 19242 Analysis Date: 6/5/2009 2:43:07 PM

Arsenic	ND	mg/L	0.020
Barium	ND	mg/L	0.010
Cadmium	ND	mg/L	0.0020
Calcium	ND	mg/L	0.50
Chromium	ND	mg/L	0.0060
Lead	ND	mg/L	0.0050
Magnesium	ND	mg/L	0.50
Potassium	ND	mg/L	1.0
Selenium	ND	mg/L	0.050
Silver	ND	mg/L	0.0050
Sodium	ND	mg/L	0.50

Sample ID: LCS-19242

LCS

Batch ID: 19242 Analysis Date: 6/5/2009 2:46:20 PM

Arsenic	0.4901	mg/L	0.020	98.0	80	120
Barium	0.4583	mg/L	0.010	91.7	80	120
Cadmium	0.4703	mg/L	0.0020	94.1	80	120
Calcium	49.57	mg/L	0.50	99.1	80	120
Chromium	0.4595	mg/L	0.0060	91.9	80	120
Lead	0.4750	mg/L	0.0050	95.0	80	120
Magnesium	49.91	mg/L	0.50	99.8	80	120
Potassium	53.49	mg/L	1.0	107	80	120
Selenium	0.4778	mg/L	0.050	95.6	80	120
Silver	0.5023	mg/L	0.0050	100	80	120
Sodium	53.05	mg/L	0.50	106	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 GALLU

Date Received:

5/29/2009

Work Order Number 0905544

Received by: ARS

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>	Not Shipped <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		
Water - VOA vials have zero headspace?	No VOA vials submitted <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - Preservation labels on bottle and cap match?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	

Number of preserved bottles checked for pH:

<2 >12 unless noted below.

1.5°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

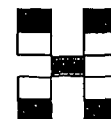
Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Western Refining
Gallup Refinery
Mailing Address: Box 7
Gallup, NM 87301
Phone #: 505-722-3833
email or Fax#: 505-722-0210
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 2009 2nd QTR NAPIS
Project #:
Project Manager: G. Rajen
Sampler: C. Johnson
On-site: Yes Yes
Sample Temperature: 5



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEALS NO	BTEX + MTBE + TMB's (8021B)	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)	Gen Chem	Air Bubbles (Y or N)
5/28/09	0805	H ₂ O	NAPIS-1	3VDA	HCl	-1	X												
				3VOA	HCl	-1		X											
				1-500ml	HNO ₃	-1						X	X						
				1L Amber	None	-1					X								
				1-500	None	-1												X	
				1-125	H ₂ SO ₄	-1												X	
				1-500	HNO ₃	-1												X	
5/28/09	0840		NAPIS-2	3VOA	HCl	-2	X												
				3VOA	HCl	-2		X											
				1-500ml	HNO ₃	-2							X						
				1L Amber	None	-2					X								
				1-500ml	None	-2												X	
5/28/09	1030	Relinquished by:	Received by:			Date	Time	Remarks:											
5/28/09	1030	Relinquished by:	Received by:			12:00	5/29/09	Gen Chem - Cations, Anions, pH Cond. 8015B - GRO-PRO extended.											

Chain-of-Custody Record		Turn-Around Time:
Client: <u>Western Refining</u>	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush _____	
<u>Gallup Refinery</u>	Project Name:	
Mailing Address: <u>pt 3 Box 7</u>	<u>2009 2nd QTR NAPIS</u>	
<u>Gallup, NM 87301</u>	Project #:	
Phone #: <u>505 722 3833</u>		
email or Fax#: <u>505 722 0210</u>	Project Manager:	
QA/QC Package:	<u>G. Rajen</u>	
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		
<input type="checkbox"/> Other _____		
<input type="checkbox"/> EDD (Type) _____		
	Sampler: <u>C. Johnson</u>	
	On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	Sample Temperature: _____	

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	FEALING
5/28/09	0840	H ₂ O	WAPIS-2	1-125ml	H ₂ SO ₄	-2
	"			1-500	HNO ₃	-2
5/28/09	0930		KA-3	3-VDA	HCl	-3
				3-VDA	HCl	-3
				1-500	HNO ₃	-3
				1-L Amb.	None	-3
				1-500	None	-3
				1-125	H ₂ SO ₄	-3
				1-500	HNO ₃	-3
			TRIP BLANK			-4

Date: 28/09	Time: 1030	Relinquished by: [Signature]	Received by: [Signature]	Date: 28/09	Time: 12:00
Date:	Time:	Relinquished by:	Received by:	Date:	Time:

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

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

Remarks: Gen Chem: Cations, Anions, pH
Conductivity
8015 B: GRO/PRO extended.



COVER LETTER

Thursday, July 02, 2009

Gaurav Rajen
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: 2009 2nd QTR NAPIS

Order No.: 0906335

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 6/17/2009 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,

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

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: 02-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906335
Project: 2009 2nd QTR NAPIS
Lab ID: 0906335-01

Client Sample ID: NAPIS-3
Collection Date: 6/15/2009 10:15:00 AM
Date Received: 6/17/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/22/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/22/2009
Surr: DNOP	123	58-140		%REC	1	6/22/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	6/20/2009 10:54:50 AM
Surr: BFB	77.5	59.9-122		%REC	1	6/20/2009 10:54:50 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	6/20/2009 10:54:50 AM
Benzene	ND	1.0		µg/L	1	6/20/2009 10:54:50 AM
Toluene	ND	1.0		µg/L	1	6/20/2009 10:54:50 AM
Ethylbenzene	ND	1.0		µg/L	1	6/20/2009 10:54:50 AM
Xylenes, Total	ND	2.0		µg/L	1	6/20/2009 10:54:50 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/20/2009 10:54:50 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/20/2009 10:54:50 AM
Surr: 4-Bromofluorobenzene	85.7	65.9-130		%REC	1	6/20/2009 10:54:50 AM
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	ND	2.0		µg/L	1	6/29/2009 6:45:47 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	6/29/2009 6:45:47 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	6/29/2009 6:45:47 PM
Acenaphthylene	ND	2.5		µg/L	1	6/29/2009 6:45:47 PM
Acenaphthene	ND	5.0		µg/L	1	6/29/2009 6:45:47 PM
Fluorene	ND	0.80		µg/L	1	6/29/2009 6:45:47 PM
Phenanthrene	ND	0.60		µg/L	1	6/29/2009 6:45:47 PM
Anthracene	ND	0.60		µg/L	1	6/29/2009 6:45:47 PM
Fluoranthene	ND	0.30		µg/L	1	6/29/2009 6:45:47 PM
Pyrene	ND	0.30		µg/L	1	6/29/2009 6:45:47 PM
Benz(a)anthracene	ND	0.070		µg/L	1	6/29/2009 6:45:47 PM
Chrysene	ND	0.20		µg/L	1	6/29/2009 6:45:47 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	6/29/2009 6:45:47 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	6/29/2009 6:45:47 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	6/29/2009 6:45:47 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	6/29/2009 6:45:47 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	6/29/2009 6:45:47 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	6/29/2009 6:45:47 PM
Surr: Benzo(e)pyrene	45.4	28.3-111		%REC	1	6/29/2009 6:45:47 PM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Fluoride	0.46	0.10		mg/L	1	6/25/2009 11:24:38 PM
Chloride	1200	10		mg/L	100	6/26/2009 12:39:46 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: 02-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906335
Project: 2009 2nd QTR NAPIS
Lab ID: 0906335-01

Client Sample ID: NAPIS-3
Collection Date: 6/15/2009 10:15:00 AM
Date Received: 6/17/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Nitrate (As N)+Nitrite (As N)	18	4.0		mg/L	20	6/26/2009 12:57:11 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/25/2009 11:24:38 PM
Sulfate	330	10		mg/L	20	6/25/2009 11:42:03 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: DAM
Specific Conductance	4200	0.010		µmhos/cm	1	6/19/2009
SM4500-H+B: PH						Analyst: DAM
pH	8.23	0.1		pH units	1	6/19/2009

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



ENVIRONMENTAL
SCIENCE CORP.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

June 26, 2009

Date Received : June 18, 2009
Description :
Sample ID : NAPIS-3
Collected By :
Collection Date : 06/15/09 10:15

ESC Sample # : L408295-01

Site ID :

Project # : 0906335

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	06/19/09	1
Arsenic	BDL	0.020	mg/l	6010B	06/25/09	1
Barium	0.14	0.0050	mg/l	6010B	06/25/09	1
Cadmium	BDL	0.0050	mg/l	6010B	06/25/09	1
Calcium	49.	0.50	mg/l	6010B	06/25/09	1
Chromium	BDL	0.010	mg/l	6010B	06/25/09	1
Lead	BDL	0.0050	mg/l	6010B	06/25/09	1
Magnesium	6.8	0.10	mg/l	6010B	06/25/09	1
Potassium	4.2	0.50	mg/l	6010B	06/25/09	1
Selenium	BDL	0.020	mg/l	6010B	06/25/09	1
Silver	BDL	0.010	mg/l	6010B	06/25/09	1
Sodium	840	0.50	mg/l	6010B	06/25/09	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 06/26/09 12:34 Printed: 06/26/09 12:34



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Hall Environmental Analysis Laboratory
Anne Thorne
4901 Hawkins NE

Quality Assurance Report Level II

Albuquerque, NM 87109

L408295

June 26, 2009

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Arsenic	< .02	mg/l			WG427956	06/25/09 15:05
Cadmium	< .005	mg/l			WG427956	06/25/09 15:05
Calcium	< .5	mg/l			WG427956	06/25/09 15:05
Lead	< .005	mg/l			WG427956	06/25/09 15:05
Magnesium	< .1	mg/l			WG427956	06/25/09 15:05
Selenium	< .02	mg/l			WG427956	06/25/09 15:05
Silver	< .01	mg/l			WG427956	06/25/09 15:05

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Arsenic	mg/l	0.00	0.00	0.00	20	L408277-06	WG427956
Cadmium	mg/l	0.00	0.00	0.00	20	L408277-06	WG427956
Calcium	mg/l	268.	268.	0.00	20	L408277-06	WG427956
Lead	mg/l	0.00	0.00	0.00	20	L408277-06	WG427956
Magnesium	mg/l	112.	116.	3.51	20	L408277-06	WG427956
Selenium	mg/l	0.00	0.00	0.00	20	L408277-06	WG427956
Silver	mg/l	0.00	0.00360	NA	20	L408277-06	WG427956

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Arsenic	mg/l	1.13	1.02	90.3	85-115	WG427956
Cadmium	mg/l	1.13	1.08	95.6	85-115	WG427956
Calcium	mg/l	11.3	10.7	94.7	85-115	WG427956
Lead	mg/l	1.13	1.07	94.7	85-115	WG427956
Magnesium	mg/l	11.3	10.5	92.9	85-115	WG427956
Selenium	mg/l	1.13	1.01	89.4	85-115	WG427956
Silver	mg/l	1.13	0.992	87.8	85-115	WG427956

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Arsenic	mg/l	1.01	0.00	1.13	89.4	75-125	L408277-06	WG427956

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Hall Environmental Analysis Laboratory
Anne Thorne
4901 Hawkins NE

Quality Assurance Report Level II

Albuquerque, NM 87109

L408295

June 26, 2009

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Calcium	mg/l	282.	268.	11.3	124.	75-125	L408277-06	WG427956
Chromium	mg/l	0.994	0.00	1.13	88.0	75-125	L408277-06	WG427956
Magnesium	mg/l	123.	116.	11.3	61.9*	75-125	L408277-06	WG427956
Potassium	mg/l	11.6	1.36	11.3	90.6	75-125	L408277-06	WG427956
Selenium	mg/l	0.933	0.00	1.13	84.5	75-125	L408277-06	WG427956
Silver	mg/l	0.154	0.00360	1.13	13.3*	75-125	L408277-06	WG427956
Sodium	mg/l	27.2	16.3	11.3	96.5	75-125	L408277-06	WG427956

Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Arsenic	mg/l	1.03	1.01	91.2	75-125	1.96	20	L408277-06	WG427956
Cadmium	mg/l	1.04	1.01	92.0	75-125	2.93	20	L408277-06	WG427956
Calcium	mg/l	284.	282.	141.593*	75-125	0.707	20	L408277-06	WG427956
Lead	mg/l	1.03	1.00	91.2	75-125	2.96	20	L408277-06	WG427956
Magnesium	mg/l	126.	123.	88.5	75-125	2.41	20	L408277-06	WG427956
Potassium	mg/l	11.7	1.36	90.6	75-125	0.185	20	L408277-06	WG427956
Selenium	mg/l	0.955	0.933	84.5	75-125	2.33	20	L408277-06	WG427956
Silver	mg/l	0.135	0.154	11.628*	75-125	13.1	20	L408277-06	WG427956

Batch number /Run number / Sample number cross reference

WG427240: R788395: L408295-01
WG427956: R794626: L408295-01

* * Calculations are performed prior to rounding of reported values .
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
 Project: 2009 2nd QTR NAPIS

Work Order: 0906335

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: MB		MBLK							
					Batch ID: R34247		Analysis Date:		6/25/2009 6:52:14 AM
Fluoride	ND	mg/L	0.10						
Chloride	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: R34272		Analysis Date:		6/26/2009 8:53:28 AM
Fluoride	ND	mg/L	0.10						
Chloride	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: MB2		MBLK							
					Batch ID: R34272		Analysis Date:		6/27/2009 5:46:59 AM
Fluoride	ND	mg/L	0.10						
Chloride	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		LCS							
					Batch ID: R34247		Analysis Date:		6/25/2009 7:09:38 AM
Fluoride	0.5127	mg/L	0.10	103	90	110			
Chloride	4.953	mg/L	0.10	99.1	90	110			
Nitrate (As N)+Nitrite (As N)	3.486	mg/L	0.20	99.9	90	110			
Phosphorus, Orthophosphate (As P)	5.025	mg/L	0.50	101	90	110			
Sulfate	9.953	mg/L	0.50	99.5	90	110			
Sample ID: LCS		LCS							
					Batch ID: R34272		Analysis Date:		6/26/2009 9:10:52 AM
Fluoride	0.5035	mg/L	0.10	101	90	110			
Chloride	4.834	mg/L	0.10	96.7	90	110			
Nitrate (As N)+Nitrite (As N)	3.400	mg/L	0.20	97.1	90	110			
Phosphorus, Orthophosphate (As P)	4.824	mg/L	0.50	96.5	90	110			
Sulfate	9.754	mg/L	0.50	97.5	90	110			
Sample ID: LCS2		LCS							
					Batch ID: R34272		Analysis Date:		6/27/2009 6:04:24 AM
Fluoride	0.4872	mg/L	0.10	97.4	90	110			
Chloride	4.831	mg/L	0.10	96.6	90	110			
Nitrate (As N)+Nitrite (As N)	3.403	mg/L	0.20	97.2	90	110			
Phosphorus, Orthophosphate (As P)	4.852	mg/L	0.50	97.0	90	110			
Sulfate	9.656	mg/L	0.50	96.6	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, Gallup
 Project: 2009 2nd QTR NAPIS

Work Order: 0906335

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-19416		MBLK							
					Batch ID: 19416	Analysis Date: 6/22/2009			
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-19416		LCS							
					Batch ID: 19416	Analysis Date: 6/22/2009			
Diesel Range Organics (DRO)	5.286	mg/L	1.0	106	74	157			
Sample ID: LCSD-19416		LCSD							
					Batch ID: 19416	Analysis Date: 6/22/2009			
Diesel Range Organics (DRO)	5.124	mg/L	1.0	102	74	157	3.12	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 5ML RB		MBLK							
					Batch ID: R34172	Analysis Date: 6/19/2009 9:36:06 AM			
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		LCS							
					Batch ID: R34172	Analysis Date: 6/20/2009 5:19:49 AM			
Gasoline Range Organics (GRO)	0.5442	mg/L	0.050	109	80	115			

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, Gallup
 Project: 2009 2nd QTR NAPIS

Work Order: 0906335

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	------	----------	-----------	------	----------	------

Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R34172 Analysis Date: 6/19/2009 9:36:06 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 41

MBLK

Batch ID: R34172 Analysis Date: 6/20/2009 7:21:32 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: R34172 Analysis Date: 6/19/2009 8:42:30 PM

Methyl tert-butyl ether (MTBE)	23.37	µg/L	2.5	117	51.2	138			
Benzene	23.42	µg/L	1.0	117	85.9	113			S
Toluene	22.19	µg/L	1.0	111	86.4	113			
Ethylbenzene	21.26	µg/L	1.0	106	83.5	118			
Xylenes, Total	62.13	µg/L	2.0	104	83.4	122			
1,2,4-Trimethylbenzene	19.01	µg/L	1.0	95.0	83.5	115			
1,3,5-Trimethylbenzene	18.78	µg/L	1.0	93.9	85.2	113			

Sample ID: 100NG GRO LCS-II

LCS

Batch ID: R34172 Analysis Date: 6/20/2009 6:51:05 AM

Methyl tert-butyl ether (MTBE)	22.18	µg/L	2.5	55.0	51.2	138			
Benzene	23.07	µg/L	1.0	114	85.9	113			S
Toluene	22.40	µg/L	1.0	110	86.4	113			
Ethylbenzene	21.38	µg/L	1.0	106	83.5	118			
Xylenes, Total	62.50	µg/L	2.0	104	83.4	122			
1,2,4-Trimethylbenzene	19.21	µg/L	1.0	94.3	83.5	115			
1,3,5-Trimethylbenzene	19.01	µg/L	1.0	94.2	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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
 Project: 2009 2nd QTR NAPIS

Work Order: 0906335

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8310: PAHs									
Sample ID: MB-19407	MBLK		Batch ID: 19407		Analysis Date: 6/29/2009 3:44:09 PM				
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	2.0						
2-Methylnaphthalene	ND	µg/L	2.0						
Acenaphthylene	ND	µg/L	2.5						
Acenaphthene	ND	µg/L	5.0						
Fluorene	ND	µg/L	0.80						
Phenanthrene	ND	µg/L	0.60						
Anthracene	ND	µg/L	0.60						
Fluoranthene	ND	µg/L	0.30						
Pyrene	ND	µg/L	0.30						
Benz(a)anthracene	ND	µg/L	0.070						
Chrysene	ND	µg/L	0.20						
Benzo(b)fluoranthene	ND	µg/L	0.10						
Benzo(k)fluoranthene	ND	µg/L	0.070						
Benzo(a)pyrene	ND	µg/L	0.070						
Dibenz(a,h)anthracene	ND	µg/L	0.070						
Benzo(g,h,i)perylene	ND	µg/L	0.080						
Indeno(1,2,3-cd)pyrene	ND	µg/L	0.080						
Sample ID: LCS-19407	LCS		Batch ID: 19407		Analysis Date: 6/30/2009 6:07:49 PM				
Naphthalene	27.21	µg/L	2.0	34.0	20.5	109			
1-Methylnaphthalene	30.10	µg/L	2.0	37.5	23.1	116			
2-Methylnaphthalene	30.24	µg/L	2.0	37.8	19.5	112			
Acenaphthylene	37.81	µg/L	2.5	47.1	27.5	119			
Acenaphthene	37.59	µg/L	5.0	47.0	31	117			
Fluorene	2.960	µg/L	0.80	36.9	17.1	109			
Phenanthrene	1.900	µg/L	0.60	47.3	25.5	112			
Anthracene	2.110	µg/L	0.60	52.5	25.8	119			
Fluoranthene	4.290	µg/L	0.30	53.5	27.2	122			
Pyrene	3.350	µg/L	0.30	41.8	24.1	118			
Benz(a)anthracene	0.4200	µg/L	0.070	52.4	31.1	125			
Chrysene	2.120	µg/L	0.20	52.7	32.8	119			
Benzo(b)fluoranthene	0.6700	µg/L	0.10	66.9	24.4	117			
Benzo(k)fluoranthene	0.2800	µg/L	0.070	56.0	28.4	132			
Benzo(a)pyrene	0.2600	µg/L	0.070	51.8	32.4	119			
Dibenz(a,h)anthracene	0.5500	µg/L	0.070	54.9	33.9	120			
Benzo(g,h,i)perylene	0.5100	µg/L	0.080	51.0	35.2	113			
Indeno(1,2,3-cd)pyrene	1.240	µg/L	0.080	61.9	33.6	115			
Sample ID: LCSD-19407	LCSD		Batch ID: 19407		Analysis Date: 6/29/2009 4:24:33 PM				
Naphthalene	27.75	µg/L	2.0	34.7	20.5	109	1.97	32.1	
1-Methylnaphthalene	30.78	µg/L	2.0	38.4	23.1	116	2.23	32.7	
2-Methylnaphthalene	30.92	µg/L	2.0	38.7	19.5	112	2.22	34	
Acenaphthylene	38.19	µg/L	2.5	47.6	27.5	119	1.00	38.8	
Acenaphthene	37.81	µg/L	5.0	47.3	31	117	0.584	38.6	
Fluorene	3.340	µg/L	0.80	41.6	17.1	109	12.1	29.3	

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, Gallup
 Project: 2009 2nd QTR NAPIS

Work Order: 0906335

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8310: PAHs									
Sample ID: LCSD-19407									
LCSD									
Batch ID: 19407									
Analysis Date: 6/29/2009 4:24:33 PM									
Phenanthrene	2.020	µg/L	0.60	50.2	25.5	112	6.12	25	
Anthracene	2.140	µg/L	0.60	53.2	25.8	119	1.41	23.9	
Fluoranthene	4.410	µg/L	0.30	55.0	27.2	122	2.76	15.7	
Pyrene	3.390	µg/L	0.30	42.3	24.1	118	1.19	15.3	
Benzo(a)anthracene	0.4100	µg/L	0.070	51.1	31.1	125	2.41	19	
Chrysene	2.010	µg/L	0.20	50.0	32.8	119	5.33	16.6	
Benzo(b)fluoranthene	0.5700	µg/L	0.10	56.9	24.4	117	16.1	21.7	
Benzo(k)fluoranthene	0.2900	µg/L	0.070	58.0	28.4	132	3.51	19.4	
Benzo(a)pyrene	0.2500	µg/L	0.070	49.8	32.4	119	3.92	16.7	
Dibenz(a,h)anthracene	0.5500	µg/L	0.070	54.9	33.9	120	0	17.3	
Benzo(g,h,i)perylene	0.5200	µg/L	0.080	52.0	35.2	113	1.94	18	
Indeno(1,2,3-cd)pyrene	1.260	µg/L	0.080	62.9	33.6	115	1.60	17.7	

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 GALLU

Date Received:

6/17/2009

Work Order Number 0906335

Received by: ARS

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/> Not Shipped <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA vials have zero headspace?	No VOA vials submitted <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Water - Preservation labels on bottle and cap match?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Container/Temp Blank temperature?	14.2°	<6° C Acceptable If given sufficient time to cool.	

Number of preserved
bottles checked for
pH:

3-2

<2 >12 unless noted
below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Western Refining
Gallup Refinery
Mailing Address: RT 3 BOX 7
Gallup, NM 87301
Phone #: 505-722-3833
email or Fax#: 505-722-0210

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

☐ Other _____

☐ EDD (Type) _____

Turn-Around Time: _____

☒ Standard ☐ Rush

Project Name:

2009 2nd QTR NAPIS

Project #:

NAPIS-3

Project Manager:

G. Rajen

Sampler:

C. Johnson

On Site: ☒ Yes ☐ No

Sample Temperature: 74.2



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEALING	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)	Gen Chem	Air Bubbles (Y or N)
6/15/09	10:58	H ₂ O	NAPIS-3	3-VOA	HCl	1	X												
				3-VOA	HCl	1			X										
				1-500	HNO ₃	1							X						
				1-L	None	1						X							
				1-500	HNO ₃	1												X	
				1-500	None	1												X	
				1-125	H ₂ SO ₄	1												X	

Date: 6/15/09 Time: 10:58 Relinquished by: [Signature]

Received by: [Signature] Date: 6/17/09 Time: 10:50

Remarks: Gen Chem: Cations, Anions
pH, COND.

8015B - GROUND extended

COVER LETTER

Thursday, December 10, 2009

Gaurav Rajen
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: 4th Qtr NAPIS

Order No.: 0911470

Dear Gaurav Rajen:

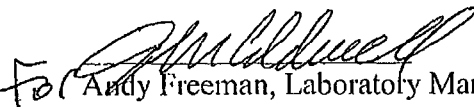
Hall Environmental Analysis Laboratory, Inc. received 5 sample(s) on 11/24/2009 for the analyses presented in the following report.

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,


For Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX



Hall Environmental Analysis Laboratory, Inc.

Date: 10-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911470
Project: 4th Qtr NAPIS
Lab ID: 0911470-01

Client Sample ID: NAPIS-1
Collection Date: 11/23/2009 1:15:00 PM
Date Received: 11/24/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/30/2009 9:41:28 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2009 9:41:28 AM
Surr: DNOP	105	58-140		%REC	1	11/30/2009 9:41:28 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/3/2009 1:16:29 PM
Surr: BFB	76.9	55.2-107		%REC	1	12/3/2009 1:16:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/3/2009 1:16:29 PM
Benzene	ND	1.0		µg/L	1	12/3/2009 1:16:29 PM
Toluene	1.6	1.0		µg/L	1	12/3/2009 1:16:29 PM
Ethylbenzene	ND	1.0		µg/L	1	12/3/2009 1:16:29 PM
Xylenes, Total	ND	2.0		µg/L	1	12/3/2009 1:16:29 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 1:16:29 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 1:16:29 PM
Surr: 4-Bromofluorobenzene	80.7	65.9-130		%REC	1	12/3/2009 1:16:29 PM
EPA METHOD 8310: PAHS						Analyst: JAT
Naphthalene	ND	2.0		µg/L	1	12/2/2009 9:13:38 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:13:38 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:13:38 PM
Acenaphthylene	ND	2.5		µg/L	1	12/2/2009 9:13:38 PM
Acenaphthene	ND	5.0		µg/L	1	12/2/2009 9:13:38 PM
Fluorene	ND	0.80		µg/L	1	12/2/2009 9:13:38 PM
Phenanthrene	ND	0.60		µg/L	1	12/2/2009 9:13:38 PM
Anthracene	ND	0.60		µg/L	1	12/2/2009 9:13:38 PM
Fluoranthene	ND	0.30		µg/L	1	12/2/2009 9:13:38 PM
Pyrene	ND	0.30		µg/L	1	12/2/2009 9:13:38 PM
Benz(a)anthracene	ND	0.070		µg/L	1	12/2/2009 9:13:38 PM
Chrysene	ND	0.20		µg/L	1	12/2/2009 9:13:38 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	12/2/2009 9:13:38 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	12/2/2009 9:13:38 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	12/2/2009 9:13:38 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	12/2/2009 9:13:38 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	12/2/2009 9:13:38 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	12/2/2009 9:13:38 PM
Surr: Benzo(e)pyrene	89.9	28.3-111		%REC	1	12/2/2009 9:13:38 PM
EPA METHOD 300.0: ANIONS						Analyst: LJB
Fluoride	1.4	0.10		mg/L	1	11/24/2009 8:17:29 PM
Chloride	170	2.0		mg/L	20	11/24/2009 8:34:53 PM

Qualifiers:

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

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

Hall Environmental Analysis Laboratory, Inc.

Date: 10-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911470
Project: 4th Qtr NAPIS
Lab ID: 0911470-01

Client Sample ID: NAPIS-1
Collection Date: 11/23/2009 1:15:00 PM
Date Received: 11/24/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Nitrogen, Nitrate (As N)	1.8	0.10		mg/L	1	11/24/2009 8:17:29 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/24/2009 8:17:29 PM
Sulfate	100	10		mg/L	20	11/24/2009 8:34:53 PM
EPA METHOD 7470: MERCURY						Analyst: IC
Mercury	ND	0.00020		mg/L	1	11/25/2009 5:11:47 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: RAGS
Arsenic	ND	0.020		mg/L	1	12/7/2009 6:37:11 PM
Barium	0.20	0.020		mg/L	1	12/7/2009 6:37:11 PM
Cadmium	ND	0.0020		mg/L	1	12/7/2009 6:37:11 PM
Calcium	58	1.0		mg/L	1	12/7/2009 6:37:11 PM
Chromium	0.0077	0.0060		mg/L	1	12/7/2009 6:37:11 PM
Lead	ND	0.0050		mg/L	1	12/7/2009 6:37:11 PM
Magnesium	13	1.0		mg/L	1	12/7/2009 6:37:11 PM
Potassium	3.7	1.0		mg/L	1	12/7/2009 6:37:11 PM
Selenium	ND	0.050		mg/L	1	12/7/2009 6:37:11 PM
Silver	ND	0.0050		mg/L	1	12/7/2009 6:37:11 PM
Sodium	390	5.0		mg/L	5	12/7/2009 7:53:15 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: MMS
Specific Conductance	2000	0.010		µmhos/cm	1	12/1/2009 1:21:43 PM
SM4500-H+B: PH						Analyst: MMS
pH	7.39	0.1		pH units	1	11/25/2009 12:27:15 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: 10-Dec-09

CLIENT: Western Refining Southwest, Gallup
 Lab Order: 0911470
 Project: 4th Qtr NAPIS
 Lab ID: 0911470-02

Client Sample ID: NAPIS-2
 Collection Date: 11/23/2009 11:40:00 AM
 Date Received: 11/24/2009
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	2.7	1.0		mg/L	1	11/30/2009 10:17:57 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2009 10:17:57 AM
Surr: DNOP	104	58-140		%REC	1	11/30/2009 10:17:57 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	0.78	0.050		mg/L	1	12/4/2009 12:20:27 PM
Surr: BFB	123	55.2-107	S	%REC	1	12/4/2009 12:20:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	94	2.5		µg/L	1	12/4/2009 12:20:27 PM
Benzene	32	1.0		µg/L	1	12/4/2009 12:20:27 PM
Toluene	1.0	1.0		µg/L	1	12/4/2009 12:20:27 PM
Ethylbenzene	9.3	1.0		µg/L	1	12/4/2009 12:20:27 PM
Xylenes, Total	ND	2.0		µg/L	1	12/4/2009 12:20:27 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/4/2009 12:20:27 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/4/2009 12:20:27 PM
Surr: 4-Bromofluorobenzene	107	65.9-130		%REC	1	12/4/2009 12:20:27 PM
EPA METHOD 8310: PAHS						Analyst: JAT
Naphthalene	46	2.0		µg/L	1	12/2/2009 9:33:48 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:33:48 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:33:48 PM
Acenaphthylene	ND	2.5		µg/L	1	12/2/2009 9:33:48 PM
Acenaphthene	ND	5.0		µg/L	1	12/2/2009 9:33:48 PM
Fluorene	9.0	0.80		µg/L	1	12/2/2009 9:33:48 PM
Phenanthrene	1.7	0.60		µg/L	1	12/2/2009 9:33:48 PM
Anthracene	ND	0.60		µg/L	1	12/2/2009 9:33:48 PM
Fluoranthene	ND	0.30		µg/L	1	12/2/2009 9:33:48 PM
Pyrene	ND	0.30		µg/L	1	12/2/2009 9:33:48 PM
Benz(a)anthracene	ND	0.070		µg/L	1	12/2/2009 9:33:48 PM
Chrysene	ND	0.20		µg/L	1	12/2/2009 9:33:48 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	12/2/2009 9:33:48 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	12/2/2009 9:33:48 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	12/2/2009 9:33:48 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	12/2/2009 9:33:48 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	12/2/2009 9:33:48 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	12/2/2009 9:33:48 PM
Surr: Benzo(e)pyrene	68.4	28.3-111		%REC	1	12/2/2009 9:33:48 PM
EPA METHOD 300.0: ANIONS						Analyst: LJB
Fluoride	1.6	0.10		mg/L	1	11/24/2009 8:52:18 PM
Chloride	220	2.0		mg/L	20	11/24/2009 9:09:43 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 3 of 9

Hall Environmental Analysis Laboratory, Inc.

Date: 10-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911470
Project: 4th Qtr NAPIS
Lab ID: 0911470-02

Client Sample ID: NAPIS-2
Collection Date: 11/23/2009 11:40:00 AM
Date Received: 11/24/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/24/2009 8:52:18 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/24/2009 8:52:18 PM
Sulfate	13	0.50		mg/L	1	11/24/2009 8:52:18 PM
EPA METHOD 7470: MERCURY						Analyst: IC
Mercury	ND	0.00020		mg/L	1	11/25/2009 5:13:31 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: RAGS
Arsenic	ND	0.020		mg/L	1	12/7/2009 6:41:19 PM
Barium	1.1	0.10		mg/L	5	12/7/2009 7:56:07 PM
Cadmium	ND	0.0020		mg/L	1	12/7/2009 6:41:19 PM
Calcium	56	1.0		mg/L	1	12/7/2009 6:41:19 PM
Chromium	ND	0.0060		mg/L	1	12/7/2009 6:41:19 PM
Lead	ND	0.0050		mg/L	1	12/7/2009 6:41:19 PM
Magnesium	11	1.0		mg/L	1	12/7/2009 6:41:19 PM
Potassium	ND	1.0		mg/L	1	12/7/2009 6:41:19 PM
Selenium	ND	0.050		mg/L	1	12/7/2009 6:41:19 PM
Silver	ND	0.0050		mg/L	1	12/7/2009 6:41:19 PM
Sodium	350	5.0		mg/L	5	12/7/2009 7:56:07 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: MMS
Specific Conductance	1500	0.010		µmhos/cm	1	12/1/2009 1:23:38 PM
SM4500-H+B: PH						Analyst: MMS
pH	7.16	0.1		pH units	1	11/25/2009 12:31:23 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: 10-Dec-09

CLIENT: Western Refining Southwest, Gallup
 Lab Order: 0911470
 Project: 4th Qtr NAPIS
 Lab ID: 0911470-03

Client Sample ID: NAPIS-3
 Collection Date: 11/23/2009 11:10:00 AM
 Date Received: 11/24/2009
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/30/2009 10:54:10 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2009 10:54:10 AM
Surr: DNOP	107	58-140		%REC	1	11/30/2009 10:54:10 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/3/2009 2:47:33 PM
Surr: BFB	81.4	55.2-107		%REC	1	12/3/2009 2:47:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/3/2009 2:47:33 PM
Benzene	ND	1.0		µg/L	1	12/3/2009 2:47:33 PM
Toluene	ND	1.0		µg/L	1	12/3/2009 2:47:33 PM
Ethylbenzene	ND	1.0		µg/L	1	12/3/2009 2:47:33 PM
Xylenes, Total	ND	2.0		µg/L	1	12/3/2009 2:47:33 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 2:47:33 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 2:47:33 PM
Surr: 4-Bromofluorobenzene	86.7	65.9-130		%REC	1	12/3/2009 2:47:33 PM
EPA METHOD 8310: PAHS						Analyst: JAT
Naphthalene	ND	2.0		µg/L	1	12/2/2009 9:54:02 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:54:02 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:54:02 PM
Acenaphthylene	ND	2.5		µg/L	1	12/2/2009 9:54:02 PM
Acenaphthene	ND	5.0		µg/L	1	12/2/2009 9:54:02 PM
Fluorene	ND	0.80		µg/L	1	12/2/2009 9:54:02 PM
Phenanthrene	ND	0.60		µg/L	1	12/2/2009 9:54:02 PM
Anthracene	ND	0.60		µg/L	1	12/2/2009 9:54:02 PM
Fluoranthene	ND	0.30		µg/L	1	12/2/2009 9:54:02 PM
Pyrene	ND	0.30		µg/L	1	12/2/2009 9:54:02 PM
Benz(a)anthracene	ND	0.070		µg/L	1	12/2/2009 9:54:02 PM
Chrysene	ND	0.20		µg/L	1	12/2/2009 9:54:02 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	12/2/2009 9:54:02 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	12/2/2009 9:54:02 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	12/2/2009 9:54:02 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	12/2/2009 9:54:02 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	12/2/2009 9:54:02 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	12/2/2009 9:54:02 PM
Surr: Benzo(e)pyrene	71.9	28.3-111		%REC	1	12/2/2009 9:54:02 PM
EPA METHOD 300.0: ANIONS						Analyst: LJB
Fluoride	0.49	0.10		mg/L	1	11/24/2009 9:27:08 PM
Chloride	1100	10		mg/L	100	11/25/2009 12:19:41 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: 10-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911470
Project: 4th Qtr NAPIS
Lab ID: 0911470-03

Client Sample ID: NAPIS-3
Collection Date: 11/23/2009 11:10:00 AM
Date Received: 11/24/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Nitrogen, Nitrate (As N)	15	2.0		mg/L	20	11/24/2009 9:44:33 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/24/2009 9:27:08 PM
Sulfate	370	10		mg/L	20	11/24/2009 9:44:33 PM
EPA METHOD 7470: MERCURY						Analyst: IC
Mercury	ND	0.00020		mg/L	1	11/25/2009 5:15:16 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: RAGS
Arsenic	ND	0.020		mg/L	1	12/7/2009 6:58:49 PM
Barium	0.15	0.020		mg/L	1	12/7/2009 6:58:49 PM
Cadmium	ND	0.0020		mg/L	1	12/7/2009 6:58:49 PM
Calcium	46	1.0		mg/L	1	12/7/2009 6:58:49 PM
Chromium	0.0072	0.0060		mg/L	1	12/7/2009 6:58:49 PM
Lead	ND	0.0050		mg/L	1	12/7/2009 6:58:49 PM
Magnesium	8.8	1.0		mg/L	1	12/7/2009 6:58:49 PM
Potassium	5.4	1.0		mg/L	1	12/7/2009 6:58:49 PM
Selenium	ND	0.050		mg/L	1	12/7/2009 6:58:49 PM
Silver	ND	0.0050		mg/L	1	12/7/2009 6:58:49 PM
Sodium	930	20		mg/L	20	12/8/2009 12:21:32 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: MMS
Specific Conductance	4400	0.010		µmhos/cm	1	12/1/2009 1:25:31 PM
SM4500-H+B: PH						Analyst: MMS
pH	7.91	0.1		pH units	1	11/25/2009 12:35:29 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: 10-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911470
Project: 4th Qtr NAPIS
Lab ID: 0911470-04

Client Sample ID: KA-3
Collection Date: 11/23/2009 12:45:00 PM
Date Received: 11/24/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/30/2009 11:30:56 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2009 11:30:56 AM
Surr: DNOP	108	58-140		%REC	1	11/30/2009 11:30:56 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	0.19	0.050		mg/L	1	12/3/2009 3:48:16 PM
Surr: BFB	93.9	55.2-107		%REC	1	12/3/2009 3:48:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	77	2.5		µg/L	1	12/3/2009 3:48:16 PM
Benzene	ND	1.0		µg/L	1	12/3/2009 3:48:16 PM
Toluene	ND	1.0		µg/L	1	12/3/2009 3:48:16 PM
Ethylbenzene	ND	1.0		µg/L	1	12/3/2009 3:48:16 PM
Xylenes, Total	ND	2.0		µg/L	1	12/3/2009 3:48:16 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 3:48:16 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 3:48:16 PM
Surr: 4-Bromofluorobenzene	100	65.9-130		%REC	1	12/3/2009 3:48:16 PM
EPA METHOD 8310: PAHS						Analyst: JAT
Naphthalene	33	2.0		µg/L	1	12/2/2009 10:14:13 PM
1-Methylnaphthalene	22	2.0		µg/L	1	12/2/2009 10:14:13 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 10:14:13 PM
Acenaphthylene	ND	2.5		µg/L	1	12/2/2009 10:14:13 PM
Acenaphthene	ND	5.0		µg/L	1	12/2/2009 10:14:13 PM
Fluorene	2.9	0.80		µg/L	1	12/2/2009 10:14:13 PM
Phenanthrene	2.5	0.60		µg/L	1	12/2/2009 10:14:13 PM
Anthracene	ND	0.60		µg/L	1	12/2/2009 10:14:13 PM
Fluoranthene	ND	0.30		µg/L	1	12/2/2009 10:14:13 PM
Pyrene	ND	0.30		µg/L	1	12/2/2009 10:14:13 PM
Benz(a)anthracene	0.070	0.070		µg/L	1	12/2/2009 10:14:13 PM
Chrysene	ND	0.20		µg/L	1	12/2/2009 10:14:13 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	12/2/2009 10:14:13 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	12/2/2009 10:14:13 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	12/2/2009 10:14:13 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	12/2/2009 10:14:13 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	12/2/2009 10:14:13 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	12/2/2009 10:14:13 PM
Surr: Benzo(e)pyrene	63.1	28.3-111		%REC	1	12/2/2009 10:14:13 PM
EPA METHOD 300.0: ANIONS						Analyst: LJB
Fluoride	1.3	0.10		mg/L	1	11/24/2009 10:01:58 PM
Chloride	610	5.0		mg/L	50	11/25/2009 12:37:05 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: 10-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911470
Project: 4th Qtr NAPIS
Lab ID: 0911470-04

Client Sample ID: KA-3
Collection Date: 11/23/2009 12:45:00 PM
Date Received: 11/24/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Nitrogen, Nitrate (As N)	3.2	0.10		mg/L	1	11/24/2009 10:01:58 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/24/2009 10:01:58 PM
Sulfate	120	10		mg/L	20	11/24/2009 10:19:23 PM
EPA METHOD 7470: MERCURY						Analyst: IC
Mercury	ND	0.00020		mg/L	1	11/25/2009 5:17:02 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: RAGS
Arsenic	ND	0.020		mg/L	1	12/7/2009 7:02:42 PM
Barium	0.55	0.020		mg/L	1	12/7/2009 7:02:42 PM
Cadmium	ND	0.0020		mg/L	1	12/7/2009 7:02:42 PM
Calcium	100	5.0		mg/L	5	12/7/2009 8:04:34 PM
Chromium	ND	0.0060		mg/L	1	12/7/2009 7:02:42 PM
Lead	ND	0.0050		mg/L	1	12/7/2009 7:02:42 PM
Magnesium	19	1.0		mg/L	1	12/7/2009 7:02:42 PM
Potassium	2.0	1.0		mg/L	1	12/7/2009 7:02:42 PM
Selenium	ND	0.050		mg/L	1	12/7/2009 7:02:42 PM
Silver	ND	0.0050		mg/L	1	12/7/2009 7:02:42 PM
Sodium	480	5.0		mg/L	5	12/7/2009 8:04:34 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: MMS
Specific Conductance	2900	0.010		µmhos/cm	1	12/1/2009 1:27:23 PM
SM4500-H+B: PH						Analyst: MMS
pH	7.31	0.1		pH units	1	11/25/2009 12:39:35 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 8 of 9

Hall Environmental Analysis Laboratory, Inc.

Date: 10-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911470
Project: 4th Qtr NAPIS
Lab ID: 0911470-05

Client Sample ID: Trip Blank
Collection Date:
Date Received: 11/24/2009
Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/3/2009 4:49:04 PM
Surr: BFB	85.3	55.2-107		%REC	1	12/3/2009 4:49:04 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/3/2009 4:49:04 PM
Benzene	ND	1.0		µg/L	1	12/3/2009 4:49:04 PM
Toluene	ND	1.0		µg/L	1	12/3/2009 4:49:04 PM
Ethylbenzene	ND	1.0		µg/L	1	12/3/2009 4:49:04 PM
Xylenes, Total	ND	2.0		µg/L	1	12/3/2009 4:49:04 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 4:49:04 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 4:49:04 PM
Surr: 4-Bromofluorobenzene	92.7	65.9-130		%REC	1	12/3/2009 4:49:04 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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup

Project: 4th Qtr NAPIS

Work Order: 0911470

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB		MBLK									
Batch ID:	R36326	Analysis Date:	11/24/2009 7:42:40 PM								
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.10								
Nitrogen, Nitrate (As N)	ND	mg/L	0.10								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		MBLK									
Batch ID:	R36344	Analysis Date:	11/25/2009 11:44:51 AM								
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.10								
Nitrogen, Nitrate (As N)	ND	mg/L	0.10								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS		LCS									
Batch ID:	R36326	Analysis Date:	11/24/2009 8:00:05 PM								
Fluoride	0.5089	mg/L	0.10	0.5	0	102	90	110			
Chloride	4.999	mg/L	0.10	5	0	100	90	110			
Nitrogen, Nitrate (As N)	2.548	mg/L	0.10	2.5	0	102	90	110			
Phosphorus, Orthophosphate (As P)	5.084	mg/L	0.50	5	0	102	90	110			
Sulfate	10.03	mg/L	0.50	10	0	100	90	110			
Sample ID: LCS		LCS									
Batch ID:	R36344	Analysis Date:	11/25/2009 12:02:16 PM								
Fluoride	0.5325	mg/L	0.10	0.5	0	107	90	110			
Chloride	5.149	mg/L	0.10	5	0	103	90	110			
Nitrogen, Nitrate (As N)	2.643	mg/L	0.10	2.5	0	106	90	110			
Phosphorus, Orthophosphate (As P)	5.289	mg/L	0.50	5	0	106	90	110			
Sulfate	10.47	mg/L	0.50	10	0	105	90	110			
Method: EPA Method 8015B: Diesel Range											
Sample ID: MB-20702		MBLK									
Batch ID:	20702	Analysis Date:	11/29/2009 7:23:03 PM								
Diesel Range Organics (DRO)	ND	mg/L	1.0								
Motor Oil Range Organics (MRO)	ND	mg/L	5.0								
Sample ID: LCS-20702		LCS									
Batch ID:	20702	Analysis Date:	11/29/2009 7:58:44 PM								
Diesel Range Organics (DRO)	5.932	mg/L	1.0	5	0	119	74	157			
Method: EPA Method 8015B: Gasoline Range											
Sample ID: 5ML RB		MBLK									
Batch ID:	R36424	Analysis Date:	12/3/2009 9:43:08 AM								
Gasoline Range Organics (GRO)	ND	mg/L	0.050								
Sample ID: 5ML RB		MBLK									
Batch ID:	R36448	Analysis Date:	12/4/2009 9:48:19 AM								
Gasoline Range Organics (GRO)	ND	mg/L	0.050								
Sample ID: 2.5UG GRO LCS		LCS									
Batch ID:	R36424	Analysis Date:	12/3/2009 7:50:57 PM								
Gasoline Range Organics (GRO)	0.4506	mg/L	0.050	0.5	0	90.1	80	115			

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, Gallup
 Project: 4th Qtr NAPIS

Work Order: 0911470

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB MBLK Batch ID: R36424 Analysis Date: 12/3/2009 9:43:08 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: R36448 Analysis Date: 12/4/2009 9:48:19 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: 100NG BTEX LCS Batch ID: R36424 Analysis Date: 12/3/2009 9:24:43 PM

Methyl tert-butyl ether (MTBE)	16.98	µg/L	2.5	20	0.144	84.2	51.2	138
Benzene	21.02	µg/L	1.0	20	0	105	85.9	113
Toluene	20.84	µg/L	1.0	20	0	104	86.4	113
Ethylbenzene	20.38	µg/L	1.0	20	0.088	101	83.5	118
Xylenes, Total	61.05	µg/L	2.0	60	0	102	83.4	122
1,2,4-Trimethylbenzene	19.63	µg/L	1.0	20	0.29	96.7	83.5	115
1,3,5-Trimethylbenzene	19.33	µg/L	1.0	20	0.12	96.1	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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
 Project: 4th Qtr NAPIS

Work Order: 0911470

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8310: PAHs

Sample ID: MB-20743

MBLK

Batch ID: 20743 Analysis Date: 12/2/2009 8:13:09 PM

Naphthalene	ND	µg/L	2.0								
1-Methylnaphthalene	ND	µg/L	2.0								
2-Methylnaphthalene	ND	µg/L	2.0								
Acenaphthylene	ND	µg/L	2.5								
Acenaphthene	ND	µg/L	5.0								
Fluorene	ND	µg/L	0.80								
Phenanthrene	ND	µg/L	0.60								
Anthracene	ND	µg/L	0.60								
Fluoranthene	ND	µg/L	0.30								
Pyrene	ND	µg/L	0.30								
Benz(a)anthracene	ND	µg/L	0.070								
Chrysene	ND	µg/L	0.20								
Benzo(b)fluoranthene	ND	µg/L	0.10								
Benzo(k)fluoranthene	ND	µg/L	0.070								
Benzo(a)pyrene	ND	µg/L	0.070								
Dibenz(a,h)anthracene	ND	µg/L	0.070								
Benzo(g,h,i)perylene	ND	µg/L	0.080								
Indeno(1,2,3-cd)pyrene	ND	µg/L	0.080								

Sample ID: LCS-20743

LCS

Batch ID: 20743 Analysis Date: 12/2/2009 8:33:18 PM

Naphthalene	60.57	µg/L	2.0	80	0	75.7	20.5	109			
1-Methylnaphthalene	67.54	µg/L	2.0	80.2	0	84.2	23.1	116			
2-Methylnaphthalene	61.70	µg/L	2.0	80	0	77.1	19.5	112			
Acenaphthylene	60.20	µg/L	2.5	80.2	0	75.1	27.5	119			
Acenaphthene	69.28	µg/L	5.0	80	0	86.6	31	117			
Fluorene	3.800	µg/L	0.80	8.02	0	47.4	17.1	109			
Phenanthrene	2.500	µg/L	0.60	4.02	0	62.2	25.5	112			
Anthracene	3.350	µg/L	0.60	4.02	0	83.3	25.8	119			
Fluoranthene	6.150	µg/L	0.30	8.02	0	76.7	27.2	122			
Pyrene	5.620	µg/L	0.30	8.02	0	70.1	24.1	118			
Benz(a)anthracene	0.6700	µg/L	0.070	0.802	0	83.5	31.1	125			
Chrysene	3.240	µg/L	0.20	4.02	0	80.6	32.8	119			
Benzo(b)fluoranthene	0.7200	µg/L	0.10	1.002	0	71.9	24.4	117			
Benzo(k)fluoranthene	0.8200	µg/L	0.070	0.5	0	124	28.4	132			
Benzo(a)pyrene	0.3800	µg/L	0.070	0.502	0	75.7	32.4	119			
Dibenz(a,h)anthracene	0.7800	µg/L	0.070	1.002	0	77.8	33.9	120			
Benzo(g,h,i)perylene	0.7300	µg/L	0.080	1	0	73.0	35.2	113			
Indeno(1,2,3-cd)pyrene	1.710	µg/L	0.080	2.004	0	85.3	33.6	115			

Method: EPA Method 7470: Mercury

Sample ID: MB-20729

MBLK

Batch ID: 20729 Analysis Date: 11/25/2009 4:41:21 PM

Mercury ND mg/L 0.00020

Sample ID: LCS-20729

LCS

Batch ID: 20729 Analysis Date: 11/25/2009 4:43:07 PM

Mercury 0.005101 mg/L 0.00020 0.005 0 102 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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
 Project: 4th Qtr NAPIS

Work Order: 0911470

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	--------	---------	------	----------	-----------	------	----------	------

Method: EPA 6010B: Total Recoverable Metals

Sample ID: MB-20747

MBLK

Batch ID: 20747 Analysis Date: 12/1/2009 1:49:50 PM

Arsenic	ND	mg/L	0.020
Cadmium	ND	mg/L	0.0020
Calcium	ND	mg/L	0.50
Chromium	ND	mg/L	0.0060
Lead	ND	mg/L	0.0050
Magnesium	ND	mg/L	0.50
Potassium	ND	mg/L	1.0
Selenium	ND	mg/L	0.050
Sodium	ND	mg/L	0.50

Sample ID: MB-SPLP #2

MBLK

Batch ID: 20747 Analysis Date: 12/1/2009 1:55:59 PM

Arsenic	ND	mg/L	0.020
Cadmium	ND	mg/L	0.0020
Calcium	ND	mg/L	0.50
Chromium	ND	mg/L	0.0060
Lead	ND	mg/L	0.0050
Magnesium	ND	mg/L	0.50
Potassium	ND	mg/L	1.0
Selenium	ND	mg/L	0.050
Sodium	ND	mg/L	0.50

Sample ID: MB-20747

MBLK

Batch ID: 20747 Analysis Date: 12/2/2009 4:28:58 PM

Barium	ND	mg/L	0.010
Cadmium	ND	mg/L	0.0020
Chromium	ND	mg/L	0.0060
Lead	ND	mg/L	0.0050

Sample ID: MB-20747

MBLK

Batch ID: 20747 Analysis Date: 12/7/2009 5:40:29 PM

Arsenic	ND	mg/L	0.020
Barium	ND	mg/L	0.010
Cadmium	ND	mg/L	0.0020
Calcium	ND	mg/L	0.50
Chromium	ND	mg/L	0.0060
Lead	ND	mg/L	0.0050
Magnesium	ND	mg/L	0.50
Potassium	ND	mg/L	1.0
Selenium	ND	mg/L	0.050
Silver	ND	mg/L	0.0050
Sodium	ND	mg/L	0.50

Sample ID: LCS-20747

LCS

Batch ID: 20747 Analysis Date: 12/1/2009 1:52:48 PM

Arsenic	0.5070	mg/L	0.020	0.5	0	101	80	120
Cadmium	0.4860	mg/L	0.0020	0.5	0	97.2	80	120
Calcium	50.34	mg/L	0.50	50	0	101	80	120
Chromium	0.4872	mg/L	0.0060	0.5	0	97.4	80	120
Lead	0.4802	mg/L	0.0050	0.5	0	96.0	80	120
Magnesium	50.59	mg/L	0.50	50	0	101	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, Gallup

Project: 4th Qtr NAPIS

Work Order: 0911470

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	--------	---------	------	----------	-----------	------	----------	------

Method: EPA 6010B: Total Recoverable Metals

Sample ID: LCS-20747		LCS				Batch ID: 20747		Analysis Date: 12/1/2009 1:52:48 PM	
Potassium	52.24	mg/L	1.0	50	0	104	80	120	
Selenium	0.4811	mg/L	0.050	0.5	0	96.2	80	120	
Sodium	53.74	mg/L	0.50	50	0	107	80	120	
Sample ID: LCS-20747		LCS				Batch ID: 20747		Analysis Date: 12/2/2009 4:31:54 PM	
Barium	0.4757	mg/L	0.010	0.5	0	95.1	80	120	
Cadmium	0.4823	mg/L	0.0020	0.5	0	96.5	80	120	
Chromium	0.4811	mg/L	0.0060	0.5	0	96.2	80	120	
Lead	0.4773	mg/L	0.0050	0.5	0	95.5	80	120	
Sample ID: LCS-20747		LCS				Batch ID: 20747		Analysis Date: 12/7/2009 5:43:26 PM	
Arsenic	0.5037	mg/L	0.020	0.5	0	101	80	120	
Barium	0.4784	mg/L	0.010	0.5	0	95.7	80	120	
Cadmium	0.4862	mg/L	0.0020	0.5	0	97.2	80	120	
Calcium	50.77	mg/L	0.50	50	0	102	80	120	
Chromium	0.4828	mg/L	0.0060	0.5	0	96.6	80	120	
Lead	0.4792	mg/L	0.0050	0.5	0	95.8	80	120	
Magnesium	51.01	mg/L	0.50	50	0	102	80	120	
Potassium	52.95	mg/L	1.0	50	0	106	80	120	
Selenium	0.4711	mg/L	0.050	0.5	0	94.2	80	120	
Silver	0.4968	mg/L	0.0050	0.5	0	99.4	80	120	
Sodium	54.24	mg/L	0.50	50	0	108	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 GALLU**

Date Received:

11/24/2009

Work Order Number **0911470**

Received by: **ARS**

Checklist completed by:

Signature

Sample ID labels checked by:

Initials

Matrix:

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/> Not Shipped <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA vials have zero headspace?	No VOA vials submitted <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Water - Preservation labels on bottle and cap match?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

Number of preserved bottles checked for pH:

12
<2 >12 unless noted below.

1.6°

<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

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

4th QTR NAPIS

Project #:

Project Manager:

G Rajen

Sampler:

Chenel Johnson

Office: ☒ YES ☐ NO

Sample Temperature:

SEAL No: 091140



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

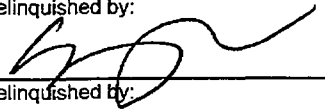
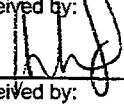
www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Client: Western Refining
Gallup Refinery
Mailing Address: Rt 3 Box A
Gallup NM 87301
Phone #: 505 722 3833
email or Fax#: 722 0210
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other _____
☐ EDD (Type) _____

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	SEAL No.	BTEX + MTE	BTEX + MTE	TPH Method	TPH (Method	EDB (Method	8310 (PNA c	RCRA 8 Met	Anions (F, Cl	8081 Pesticid	8260B (VOA	8270 (Semi-	Gen C	Air Bubbles
11/23/09	1315	H ₂ O	NAPIS-1	3-VOA	HCl	1			X										
				3-VOA	HCl	1	X												
				500ml	HNO ₃	1							X						
				1L Amb	None	1					X								
				1-500	HNO ₃	1												X	
				1-25	H ₂ SO ₄	1												X	
				1-500	None	1												X	
	1140		NAPIS-2	3-VOA	HCl	2	X												
				3-VOA	HCl	2			X										
				500ml	HNO ₃	2							X						
				1L Amber	None	2					X								
				1-500	HNO ₃	2												X	
Date:	Time:	Relinquished by:		Received by:		Date:	Time		Remarks:										
11/23/09	1438					8:45	11/24/09		Gen Chem - Anions, Cations OC, pH /A 11/24/09										
Date:	Time:	Relinquished by:		Received by:		Date:	Time												

Date: 11/23/09 Time: 1438 Relinquished by: [Signature]

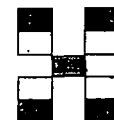
Received by: [Signature] Date: 11/24/09 Time: 8:45

Remarks: Gen Chem - Anions, Cations
EC, pH / 11/24/09

Chain-of-Custody Record

Client: Western Refinery
Gallup Refinery
 Mailing Address: Box 7
Gallup NM 87301
 Phone #: 505 722 3833
 email or Fax#: 722 0210
 QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush
 Project Name:
4th QTR NAPIS
 Project #:
 Project Manager:
G. Ragan
 Sampler: Cheryl Johnson
 Date: 11/23/09 11/24/09
 Sample Temperature: 16



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	SEAL No.	BTEX + MTE	BTEX + MTE	TPH Method	TPH (Method	EDB (Method	8310 (PNA o	RCRA 8 Met	Anions (F, Cl	8081 Pesticid	8260B (VOA	8270 (Semi-		Air Bubbles (
11/23/09	1140	H ₂ O	NAPIS 2	125 ml	H ₂ SO ₄	0911470	X	2										X		
				500 ml	None	10	X	2										X		
	1110		NAPIS 3	3 VOA	HCl	11/24	2	3	X											
				3 VOA	HCl	1	2	3		X										
				1/2 Amb	None	1	2	3				X								
				500 ml	HNO ₃	2	2	3					X							
				500 ml	HNO ₃	2	2	3										X		
				125 ml	H ₂ SO ₄	2	2	3										X		
				500 ml	None	2	2	3										X		
	1245		KA-3	3 VOA	HCl	2	3	4	X											
				3 VOA	HCl	2	3	4		X										
				1/2 Amb	None	2	3	4				X								

Date: 11/23/09 Time: 1438 Relinquished by: [Signature]
 Date: _____ Time: _____ Relinquished by: _____

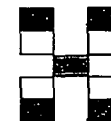
Received by: [Signature] Date: 11/24/09 Time: 8:45
 Received by: _____ Date: _____ Time: _____

Remarks:

Chain-of-Custody Record

Client: Western Refinery
Gallup Refinery
Mailing Address: Pt 3 Box 14
Gallup NM 87301
Phone #: 505 722 3833
email or Fax#: 722 0210
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4th QTR NAPPLS
Project #:
Project Manager: G Rayen
Sampler: Cheryl Johnson
On-site: ☒ Yes ☐ No
Sample Temperature: 16



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	SEAL No.	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)	Gen Chem	Air Bubbles (Y or N)
11/23/09	1245	H ₂ O	KA-3	500ml	HNO ₃	4							X						
				500ml	HNO ₃	4												X	
				125ml	H ₂ SO ₄	4												X	
				500ml	None	4												X	
			TRIP Blank			5													

Date: 11/23/09 Time: 1438 Relinquished by: [Signature]
Received by: [Signature] Date: 11/24/09 Time: 8:45
Date: _____ Time: _____ Relinquished by: _____
Received by: _____ Date: _____ Time: _____

Remarks:

These shallow wells are located around the NAPIS. NAPIS-1 is an up gradient well on the southeast side of the NAPIS. NAPIS-2 is located immediately down gradient on the southwest side of the NAPIS. KA-3 and NAPIS 3 are located on the west side at the north end. Due to the close proximity of NAPIS 3 and KA 3 these wells were mis-identified by the field technician. NAPIS 3 was identified as KA-3 and KA-3 was identified as NAPIS-3 when samples were taken during the third quarter sampling event on 8/31/2009. Samples only were mis-labeled and when field technician found the error, immediately notified Hall Laboratory to make correction on the Chain of custody before they ran the sample. Analytical lab data received for these wells correspond to the correct well identification.

NAPIS-1 has no detectable levels of contaminants. NAPIS-2 has shown elevated levels of benzene 0.019 ppm to a high of 0.032 ppm which are above the NMWQS of 0.01 ppm. MTBE levels of 0.09 ppm to a high of 0.13 ppm which is above the RRS� of 0.012 ppm). KA-3 shows a benzene level of 0.0033 ppm for the third quarter only and MTBE levels declining from 0.11 ppm first quarter to a low of 0.077 ppm in the fourth quarter. No contaminants have been detected in NAPIS 3. SVOCs were detected in NAPIS 2 and KA-3. In NAPIS 2 second quarter results showed 0.0042 ppm of 1-Methylnaphthalene above the RRS� of 0.0023 ppm; 0.03ppm of naphthalene exceeding the RRS� of 0.00014 ppm and trace levels of fluorene, 2-methylnaphthalene and phenanthrene. In the fourth quarter, KA-3, benz(a)anthracene was detected at 0.00007 ppm above the RRS� standard of 2.9E-05 ppm. High levels of chloride were also detected in KA-3 ranging from 340 ppm to 610 ppm. NAPIS 3 also showed levels of chloride ranging from 1200 ppm to 1100 ppm above the NMWQS of 250 ppm. NAPIS 2 also showed GRO level ranging from 4.3 ppm first quarter to 2.7 ppm fourth quarter, above the NM TPH screening level of 0.2 ppm. Constituent concentrations vs. time are depicted in figures 19 through 21.

6.2 Wells with Constituent Levels below Standards.¹

OW-11

OW-11 is sampled on an annual basis. Ground water samples were analyzed for General Chemistry, VOC, MTBE, SVOC, and WQCC Metals. Well was sampled on July 27, 2009.

BTEX plus MTBE were at non-detectable levels. SVOCs and VOCs also non-detect. Arsenic was detected at 0.00202 ppm above the 0.1 ppm NMWQS. Uranium was also present in this well at 0.216 ppm below the NMWQS and EPA MCLS but above the RRS� of 0.11 ppm. General chemistry results showed that fluoride (2.0 ppm) and sulfate (950 ppm) were present at levels greater than the NMWQS for fluoride (1.6 ppm) and sulfate (600 ppm).

OW-12

¹ These wells may have other contaminants present at levels greater than applicable standards, such as sulfates.

7.0 Conclusions

This section is an overview of conclusions for the monitoring program required by the permit.

Ground Water Monitoring

There are a total of thirty-nine monitoring wells distributed within the boundaries of the refinery of which, sixteen monitoring wells are located along the perimeter of the aeration lagoons and evaporation ponds. There are two major sections of the refinery which we have defined as the East and the West side for periodic monitoring.

East Side Ground Water

Ground water monitoring activities on the East side have shown that Methyl-Tert Butyl Ether (MTBE) is present in the four well locations (OW-13, OW-14, OW-29, and OW-30) on the northeast corner of the active refinery perimeter. In three wells OW-14, OW-29 and OW-30, the MTBE is in the range of 0.021 ppm to 1.3 ppm and at levels above the RRS� of 0.012 ppm. In OW-13 trace levels of MTBE was detected in the third quarter of 2009 (0.0023 ppm) which is below the RRS� (0.012ppm). Benzene detected in OW-14 (0.074 ppm) in the third quarter 2009 is above the NMWQS for drinking water (0.01 ppm). Down gradient wells (OW-13, OW-29, and OW-30) show non-detectable levels for benzene, (below levels of detection of analytical methods). Two new wells (OW-50 and OW-52) were installed in October 2009 did not reveal the presence of MTBE and Benzene.

Within the perimeter of the active refinery in this north-east section, there are several shallow recovery wells from which separate-phase hydrocarbons have been recovered and still continue to be recovered, of the order of 1.78 gallons total in 2009.

West Side Monitoring

The West side consists of ground water monitoring wells near the aeration lagoons and alongside a series of large evaporation ponds. Immediately down gradient of the refinery's oil/water separator, a sample from a shallow ground water monitoring well (NAPIS-2) had MTBE at a level ranging from 0.089 ppm to 1.3 ppm greater than the RRS� of 0.012 ppm. Benzene levels ranged from 1st quarter 0.019 ppm to fourth quarter results of 0.032 ppm, greater than the NMWQS of 0.01 ppm.

MTBE has also been detected in KA-3 with levels ranging between 0.077 ppm to 0.17 ppm for 2009. Elevated levels of arsenic and manganese have also been detected in GWM-1 above the NMWQS. Monitoring of well GWM-1 in 2009 has shown benzene concentrations (0.0089 ppm) above the US EPA's MCLs of 0.005 ppm and MTBE level of 0.085 ppm in 2009 greater than the RRS� standard of 0.012 ppm.

GROUND WATER DATA TABLES – NAPIS WELLS

BTEX plus MTBE detected in NAPIS wells. (2008-2009)

Sample ID	Collection Date	Method	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
Standards	NMWQS		0.01	0.75	0.75	0.62	NS
	EPA MCLS		0.005	1	0.7	10	NS
	RRSL		0.00041	2.3	0.0015	0.2	0.012
NAPIS 1	11/23/09	EPA 8260B	--	0.0016	--	--	--
	8/11/09	EPA 8260B	--	--	--	--	--
	5/28/2009	EPA 8260B	--	--	--	--	--
	3/24/2009	EPA 8260B	--	0.0001	--	--	--
	11/10/2008	EPA 8260B	--	--	--	--	--
	9/30/2008	EPA 8260B	--	--	--	--	Not Analyzed
	7/9/2008	EPA 8260B	--	--	--	--	--
KA-1R	4/11/2008	EPA 8260B	--	--	--	--	--
NAPIS 2	11/23/2009	EPA 8260B	0.032	0.001	0.0093	--	0.094
	8/11/2009	EPA 8260B	0.057	--	0.022	--	0.089
	5/28/2009	EPA 8260B	0.028	--	0.0053	--	0.13
	3/24/2009	EPA 8260B	0.019	0.0011	0.0081	--	0.09
	11/10/2008	EPA 8260B	0.025		0.011		0.18
	9/30/2008	EPA 8260B	0.016		0.0016	0.0041	Not Analyzed
	7/9/2008	EPA 8260B	0.013		0.011	0.0056	0.2
KA-2R	4/11/2008	EPA 8260B	0.91	0.019	0.051	0.12	0.32
NAPIS 3	11/23/2009	EPA 8260B	--	--	--	--	--
	8/31/2009	EPA 8260B	--	--	--	--	0.17
	6/15/2009	EPA 8260B	--	--	--	--	--
	3/25/2009	EPA 8260B	--	--	--	--	--
	11/10/2008	EPA 8260B	--	--	--	--	--
	9/30/2008	EPA 8260B	Not enough water to Sample – Dry				
	7/9/2008	EPA 8260B	--	--	--	--	--
KA 3	11/23/2009	EPA 8260B	--	--	--	--	0.077
	8/31/2009	EPA 8260B	--	--	--	--	0.17
	5/28/2009	EPA 8260B	0.0033	0.0012	--	--	0.13
	3/25/2009	EPA 8260B	--	--	--	--	0.11
	11/10/2008	EPA 8260B	--	--	--	--	0.13

Napis 1 and 2 – Third Quarter MTBE not analyzed.

Notes: NS = No Standards;

-- = No Detect;

Bold Values represent Values above the applicable standard

***Samples combined with Annual Sampling Event**

Summary of SVOCs in NAPIS wells (2008 – 2009)

Sample ID	Collection Date	Method	BENZ(A)ANTHRACENE (mg/L)	FLUORENE (mg/L)	1-METHYLNAPHTHALENE (mg/L)	2-METHYLNAPHTHALENE (mg/L)	NAPHTHALENE (mg/L)	PHENANTHRENE (mg/L)
Standards	NMWQS		NS	NS	NS	NS	NS	NS
	EPA MCLS		NS	NS	NS	NS	NS	NS
	RRSL		2.9E-05	1.5	0.0023	0.15	0.00014	NS
NAPIS 1	11/23/2009	EPA 8310	--	--	--	--	--	--
	8/11/2009	EPA 8310	--	--	--	--	--	--
	5/28/2009	EPA 8310	--	--	--	--	--	--
	3/24/2009	EPA 8310	--	--	--	--	--	--
NAPIS 2	11/23/2009	EPA 8310	--	0.009	--	--	0.046	0.0017
	8/11/2009	EPA 8310	--	0.0073	--	--	--	0.0037
	5/28/2009	EPA 8310	--	--	0.0042	0.0023	0.03	
	3/24/09	EPA 8310	--	--	--	--	--	--
	11/10/2008	EPA 8310		0.00099				
KA-3	11/23/2009	EPA 8310	0.00007	0.0029	0.022	--	0.033	0.0025
	8/31/2009	EPA 8310	--	--	--	--	--	--
	6/15/2009	EPA 8310	--	--	--	--	0.047	--
	3/24/2009	EPA 8310	--	--	--	--	--	--

Notes: NS = No Standards;

-- = No Detect;

Bold Values represent Values above the applicable standard.

*Samples combined with Annual Sampling Event

Summary of General Chemistry detected in NAPIS Wells (2008-2009)

Sample ID	Collection Date	Method	Fl (mg/L)	Cl (mg/L)	Nitrate + Nitrite as N	Sulfate	pH	Specific Conductance (mmhos/cm)
Standards	NMWQS		1.6	250	10	600	6 to 9	NS
	EPA MCLS		4	250	10 Nitrate 1 Nitrite	250	6 to 9	10
	RRSL		NS	NS	58 / 3.7	NS	NS	NS
NAPIS 1	11/23/2009	GEN CHEM	1.4	170	1.8	100	7.39	2000
	8/11/2009	GEN CHEM	1.2	160	0.54	93	7.67	1800
	5/28/2009	GEN CHEM	1.2	150	0.31	71	7.82	1900
	3/24/2009	GEN CHEM	0.69	120	--	38	7.69	2000
	11/10/2008	GEN CHEM	0.73	160	1.6	63	7.30	1900
	9/30/08	GEN CHEM	General Chemistry Parameters not requested					
	7/9/2008	GEN CHEM	1.4	180	--	98	7.27	1900
	4/11/2008	GEN CHEM	0.79	170	0.55		7.26	2000
NAPIS 2	11/23/2009	GEN CHEM	1.6	220	--	13	7.16	1500
	8/11/2009	GEN CHEM	1.7	250	--	17	7.56	1500
	5/28/2009	GEN CHEM	1.7	210	0.16	22	7.51	1400
	3/24/2009	GEN CHEM	1.5	240	--	23	7.47	1800
	11/10/2008	GEN CHEM	1.4	200		32	7.21	1600
	9/30/2008	GEN CHEM	General Chemistry Parameters not requested					
	7/9/2008	GEN CHEM	1.1	270	--	33	7.18	2000
	4/11/2008	GEN CHEM	0.92	360	--	42	7	2100
NAPIS 3	11/23/2009	GEN CHEM	0.49	1100	15	310	7.91	4400
	8/31/2009	GEN CHEM	0.47	1000	14	<10	8.07	4000
	6/15/2009	GEN CHEM	0.46	1200	18	330	8.23	4200
	3/25/2009	GEN CHEM	0.3	1200	<1.0-14	340	8.11	5200
	11/10/2008	GEN CHEM	1.1	1100	<1.0/2.6	310	8.05	4300
	9/30/2008	GEN CHEM	Not enough water to sample - DRY					
	7/9/2008	GEN CHEM	0.46	1100	9.1	270	8.29	4200
KA 3	11/23/2009	GEN CHEM	0.49	1100	15	370	7.91	4400
	8/31/2009	GEN CHEM	0.47	1000	14	--	8.07	4000
	5/28/2009	GEN CHEM	0.46	1200	18	330	8.23	4200
	3/25/2009	GEN CHEM	0.43	1200	14	340	8.11	5200
	11/10/2008	GEN CHEM	1.1	1100		310	8.05	4300

Napis 1 & 2: Began sampling in second quarter of 2008. NAPIS 3 began sampling in third quarter 2008. KA-3 began sampling in fourth quarter of 2008.

Notes: NS = No Standards;

-- = No Detect;

Bold Values represent Values above the applicable standard.

Summary of Recoverable Metals in NAPIS Wells (2008-2009)

Sample ID	Collection Date	Method	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Na (mg/L)	Ba (mg/L)	Cr (mg/L)	Pb (mg/L)
Standards	NMWQS		NS	NS	NS	NS	1	0.05	0.05
	EPA MCLS		NS	NS	NS	NS	2	0.1	0.015*
	RRSL		NS	6E-05	NS	NS	7.3	NS	NS
NAPIS 1	11/23/2009	EPA 6010B	58	13	3.7	390	0.2	0.0077	--
	8/11/2009	EPA 6010B	56	11	1.7	380	0.11	--	--
	5/28/2009	EPA 6010B	57	11	--	390	0.091	--	--
	3/24/2009	EPA 6010B	67	12	--	340	0.1	--	--
	11/10/2008	EPA 6010B	78	14	1.2	390	0.13		
	9/30/2008	EPA 6010B	6010B parameters not analyzed						
	7/9/2008	EPA 6010B	70	12	2.1	430			
KA-1R	4/11/2008	EPA 6010B	72	13	1.5	370			
NAPIS 2	11/23/2009	EPA 6010B	56	11	--	350	1.1	--	--
	8/11/2009	EPA 6010B	57	11	--	300	0.94	--	--
	5/28/2009	EPA 6010B	51	9.9	--	290	0.65	--	--
	3/24/2009	EPA 6010B	53	10	--	280	0.76	--	
	11/10/2008	EPA 6010B		50	0.0065	9.7	0.42		
	7/9/2008	EPA 6010B	70	13	--	360			
KA-2R	4/11/2008	EPA 6010B	110	19	1.3	380			
NAPIS 3	11/23/2009	EPA 6010B	46	8.8	5.4	930	0.15	0.0072	--
	8/31/2009	EPA 6010B	39	6.4	4.0	870	0.092	--	--
	6/15/2009	EPA 6010B	49	6.8	4.2	840	0.14	--	--
	3/25/2009	EPA 6010B	47	6.5	3.9	880	0.13	--	--
	11/10/2008	EPA 6010B	41	6.6	4.4	960			
	9/30/2008	EPA 6010B	Not Enough Water to Sample - Dry						
	7/9/2008	EPA 6010B	65	7.8	4.1	910			
KA 3	11/23/2009	EPA 6010B	53	8.9	0.73	330	0.22	--	--
	8/31/2009	EPA 6010B	100	19	2.0	480	0.55	--	--
	5/28/2009	EPA 6010B	71	11	--	330	0.29	--	--
	3/25/2009	EPA 6010B	67	10	--	360	0.22	--	--

Notes: NS = No Standards,

-- = No Detect,

Bold Values represent Values above the applicable standard.

Summary of DRO/GRO detected in NAPIS Wells (2008-2009)

Sample ID	Collection Date	Method	DRO (mg/L)	GRO (mg/L)
Standards	NMWQS			
	EPA MCLS			
	RRSL			
	NM TPH Screening Guidelines *		0.2	0.2
NAPIS 1	11/23/2009	EPA 8015B	--	--
	8/11/2009	EPA 8015B	--	--
	5/28/2009	EPA 8015B	--	--
	3/24/2009	EPA 8015B	--	--
	11/10/2008	EPA 8015B	--	--
	9/30/2008	EPA 8015B	--	--
	7/9/2008	EPA 8015B	--	--
KA-1R	4/11/2008	EPA 8015B	--	--
NAPIS 2	11/23/2009	EPA 8015B	2.7	0.78
	8/11/2009	EPA 8015B	2.9	0.62
	5/28/2009	EPA 8015B	3.4	0.53
	3/24/2009	EPA 8015B	4.3	0.37
	11/10/2008	EPA 8015B	4	0.59
	9/30/2008	EPA 8015B	3.9	0.45
	7/9/2008	EPA 8015B	2.4	0.74
KA-2R	4/11/2008	EPA 8015B	1.5	2.2
NAPIS 3	11/23/2009	EPA 8015B	--	--
	8/31/2009	EPA 8015B	--	--
	6/15/2009	EPA 8015B	--	--
	3/25/2009	EPA 8015B	--	--
	11/10/2008	EPA 8015B	--	--
	9/30/2008	EPA 8015B	Not enough water - Dry	
	7/9/2008	EPA 8015B	--	--
KA 3	11/23/2009	EPA 8015B	--	0.19
	8/31/2009	EPA 8015B	1.4	0.52
	5/28/2009	EPA 8015B	--	0.32
	3/25/2009	EPA 8015B	--	0.18
	11/10/2008	EPA 8015B	--	0.15

*Limit set by direct ingestion of ground water contaminated with unknown oil. When the exposure from ground water is via inhalation, and not direct ingestion, the TPH guideline for unknown oil is 50 ppm

Notes: NS = No Standards;

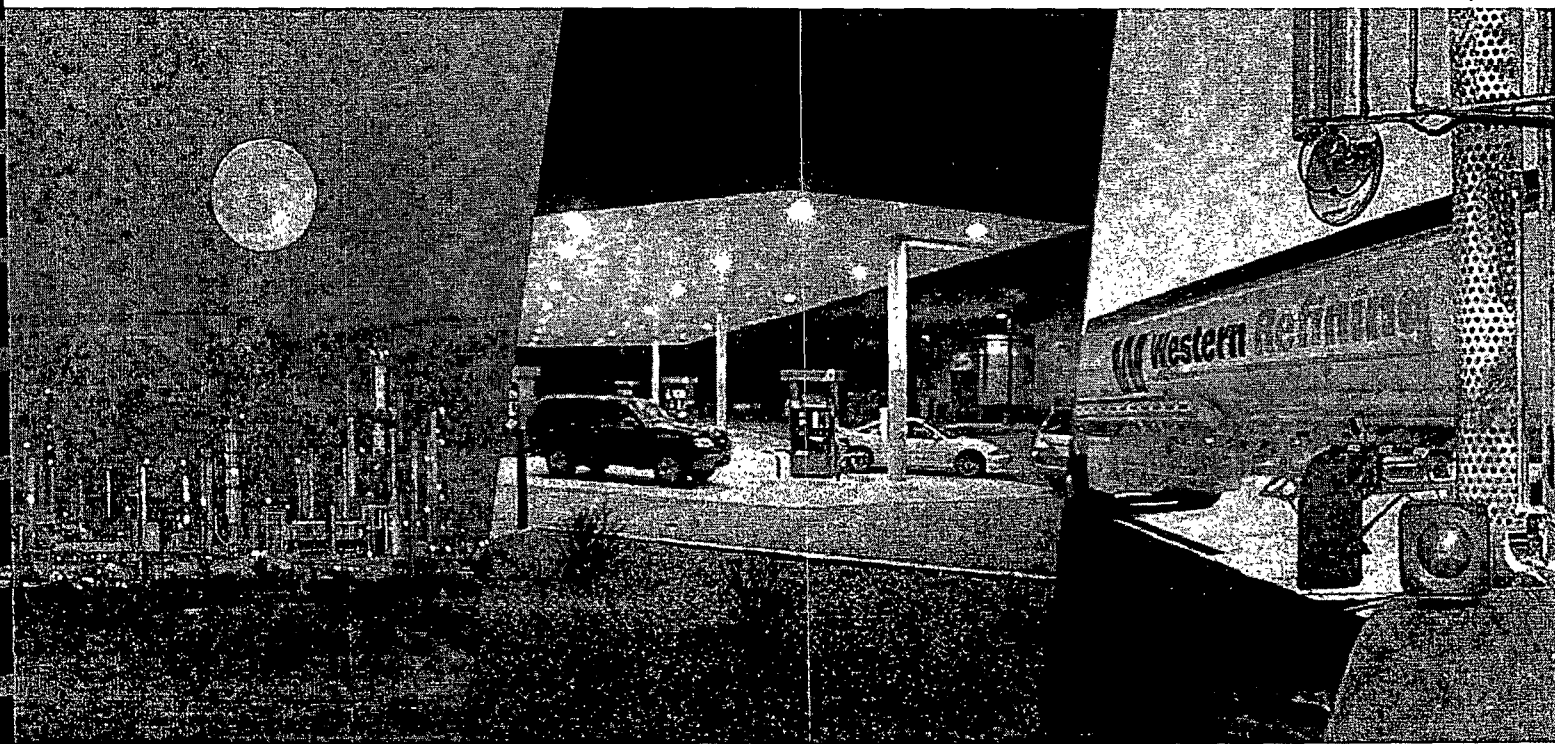
-- = No Detect;

Bold Values represent Values above the applicable standard.

New Monitoring Wells Installation Report and Initial Sampling Results: Gallup Refinery

**Western Refining
Gallup, New Mexico**

December 2009



New Monitoring Wells Installation Report and Initial Sampling Results: Gallup Refinery

**Western Refining
Gallup, New Mexico**

December 2009

Prepared by:

Gaurav Rajen, Ph.D.
Environmental Engineer

Reviewed by:

Ed Riege, M.P.H.
Environmental Manager

Executive Summary

This report, "New Monitoring Wells Installation Report and Initial Sampling results", has been prepared in response to requirements stated in a letter from the New Mexico Environment Department's Hazardous Waste Bureau dated May 28, 2009 (see Appendix A). This report contains the well logs, well construction details, survey data, and initial sampling results.

Well OW-50 is located north and slightly west of existing wells OW-29 and OW-30. This well is located at coordinates - **N 35° 29' 44.9"** and **W 108° 25' 25.0"** This well is constructed to a depth of 63 feet. The water-bearing sand and gravel layer (of interest to this project and as mandated by NMED/HWB) was encountered at approximately 53 feet below the ground surface. A screen of 15 feet in length (screen size of 0.01 inches) exists from a depth (below ground surface) of 48 feet to 63 feet. This screen is located from 5 feet above and 10 feet below the groundwater upper surface.

Well OW-52 is located farther west of OW-50, and almost due north from existing well OW-13. This well is located at coordinates - **N 35° 29' 47.0"** and **W 108° 25' 31.1"**. This well is constructed to a depth of 79 feet. The water-bearing sand and gravel layer (of interest to this project and as mandated by NMED/HWB) was encountered at approximately a little less than 70 feet below the ground surface. A screen of 15 feet in length (screen size of 0.01 inches) exists from a depth (below ground surface) of 64 feet to 79 feet. This screen is located from approximately 5 feet above and approximately 10 feet below the groundwater upper surface.

Water samples were obtained on November 17, 2009, and tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), RCRA 8 metals, gasoline range organics (GRO), diesel range organics (DRO) extended. The data are presented in the report. No VOCs, SVOCs, GRO, or DRO were detected. Only the metal Barium was detected in the samples.

Table 1 presents the current sampling schedule for these wells. These two wells have been added to the facility-wide groundwater monitoring plan.

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May 28, 2009 letter from NMED/HWB

Appendix B

Report from AMEC on drilling logs and well construction details

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Introduction

This report, "New Monitoring Wells Installation Report and Initial Sampling results", has been prepared in response to requirements stated in a letter from the New Mexico Environment Department's Hazardous Waste Bureau dated May 28, 2009 (see Appendix A).

This report contains the well logs, well construction details, survey data, and initial sampling results.

These two wells have been installed as a part of groundwater monitoring program at the Gallup Refinery to assess the nature and extent of potential impacts to groundwater from historic refinery operations, as well as become quickly aware of any levels of contaminants found in groundwater that exceed compliance standards.

1.1. Facility Ownership and Operation

This Plan pertains to the Western Refining Southwest Inc. Gallup Refinery located at Exit 39 on Interstate I-40. This refinery is known as the Gallup Refinery and is located at Jamestown New Mexico, approximately 17 miles east of Gallup. Figure 1 shows the regional location of the Gallup Refinery.

The owner is:

Western Refining (parent corporation)
123 W. Mills Avenue
El Paso, TX 79901

Operator: Western Refining Southwest Inc (postal address)
Route 3, Box 7
Gallup, New Mexico 87301
Western Refining Southwest Inc (physical address)
I-40, Exit 39
Jamestown, New Mexico 87347

SIC code 2911 (petroleum refining) applies to the Gallup Refinery.

The following regulatory identification and permit governs the Gallup Refinery:

- U.S. EPA ID Number NMD000333211
- OCD Discharge Permit No. GW-032

The facility status is corrective action/compliance. Annual and quarterly groundwater sampling is conducted at the facility to evaluate present contamination.

The refinery is situated on an 810 acre irregular shaped tract of land that is substantially located within the lower one quarter of Section 28 and throughout Section 33 of Township 15 North, Range 15 West of the New Mexico Prime Meridian. A small component of the property lies within the northeastern one quarter of Section 4 of

Township 14 North, Range 15 West. Figure 2 is a topographic map showing the general layout of the refinery in comparison to the local topography.

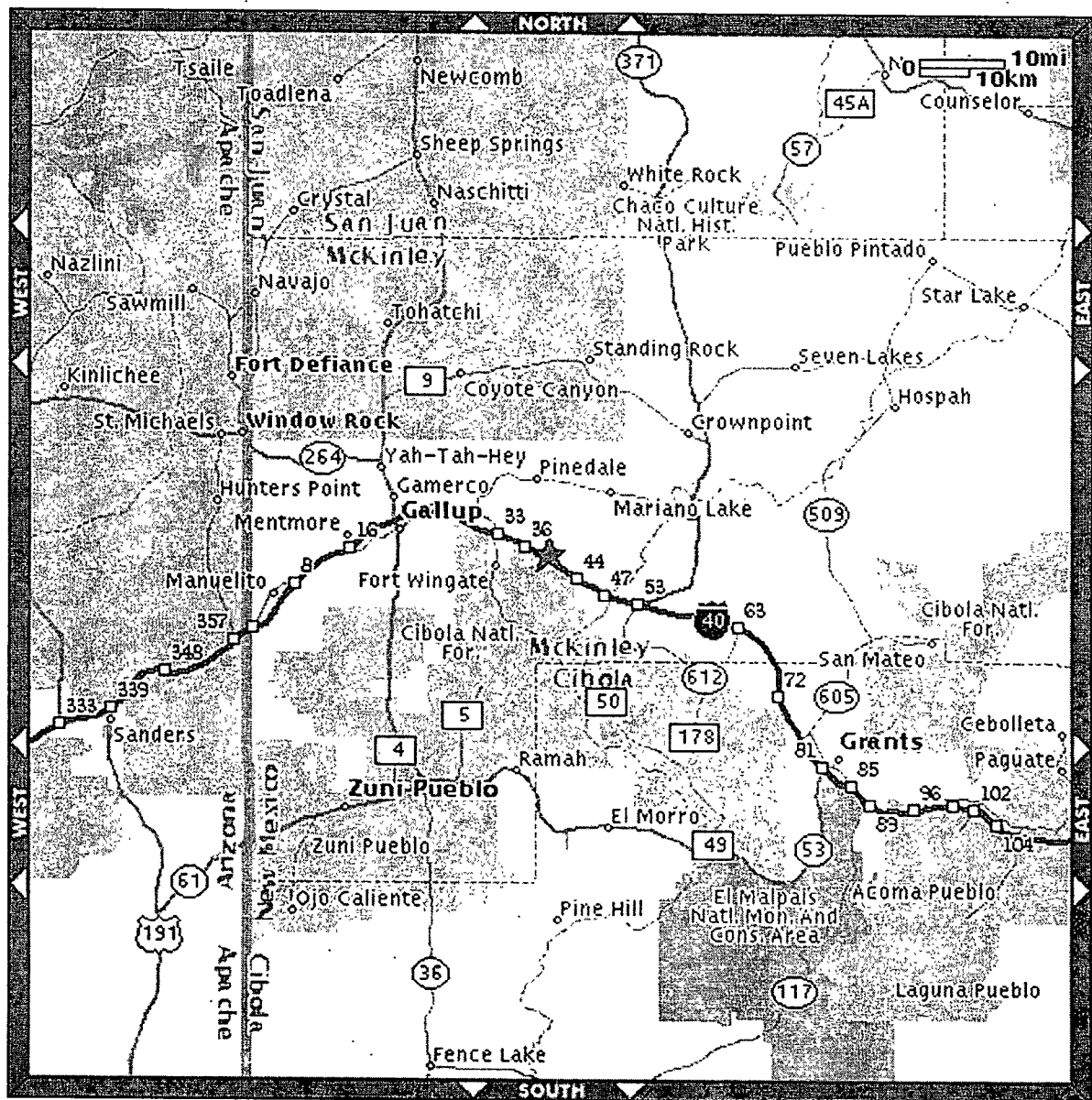
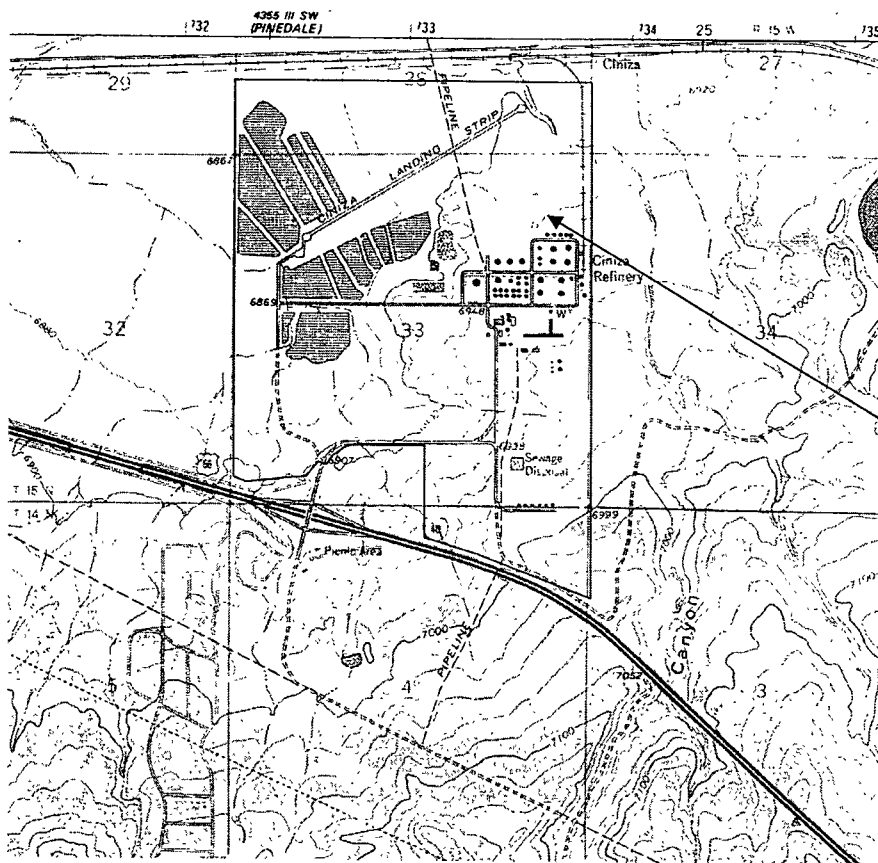


Figure 1: Regional map showing the location of the Gallup Refinery (red star along Interstate-40, 20 miles east of the City of Gallup).



General area
of wells

Figure 2: Topographic Map of the Gallup Refinery Site - USGS Topographical Map - Gallup Quadrangle (Revised 1980)

Well Locations, Installation and Construction Details

AMEC Earth and Environmental Inc. (AMEC) is the company contracted by Western Refining to carry out the well installation and initial sample collection. Two new monitoring wells have been installed. These wells have been designated as OW-50 and OW-52 (described below). A copy of the driller's logs and well construction details are provided in Appendix B in a report prepared by AMEC.¹

Initial drilling activities commenced on October 1, 2009. Drilling was completed on October 5, 2009, and the wells were fully developed within 10 days of being drilled (as mandated by the NMED/HWB) by October 9, 2009. Figure 3 depicts their locations. Adjacent to both of the completed wells, about 10 feet away, initial borings were abandoned because of difficulties encountered with swelling clay and the preliminary use of an air rotary drill with insufficient depth penetrating capability. Drilling was completed using a hollow stem auger and the CME-75 truck-mounted drill.

During drilling, cutting soils were tested with a photo-ionization detector (PID). There were non-detectable levels in all soils other than at the location of OW-50, at which location soils from 35-45 feet depth were found to give a vapor concentration of 1 ppm. As groundwater occurs at 53 feet it is possible that the PID was detecting methane from the decomposition of organic matter. The analytical results do not show any hydrocarbons, VOCs or SVOCs in groundwater. Given the low levels of hydrocarbons detected by the PID, soils were disposed on-site.

For both of these completed wells the casing is made of Schedule 40 PVC of 2 inches diameter. The backfill is an expansive grout, the seal is bentonite, and the filter pack is 10/20 silica sand.

Well OW-50 is located north and slightly west of existing wells OW-29 and OW-30. This well is located at coordinates - **N 35° 29' 44.9" and W 108° 25' 25.0"**. The ground surface elevation is 6929 feet. This well is constructed to a depth of 63 feet. The water-bearing sand and gravel layer (of interest to this project and as mandated by NMED/HWB) was encountered at approximately 53 feet below the ground surface. A screen of 15 feet in length (screen size of 0.01 inches) exists from a depth (below ground surface) of 48 feet to 63 feet. This screen is located from 5 feet above and 10 feet below the groundwater upper surface. Figure 4 shows some of the material from this location at 55 feet.

Well OW-52 is located farther west of OW-50, and almost due north from existing well OW-13. This well is located at coordinates - **N 35° 29' 47.0" and W 108° 25' 31.1"**. The ground surface elevation is 6823 feet. This well is constructed to a depth of 79 feet. The water-bearing sand and gravel layer (of interest to this project and as mandated by NMED/HWB) was encountered at approximately a little less than 70 feet below the

¹ The driller's log describes OW-50 as MW-2A, and OW-52 as MW-1A.

ground surface. A screen of 15 feet in length (screen size of 0.01 inches) exists from a depth (below ground surface) of 64 feet to 79 feet. This screen is located from approximately 5 feet above and approximately 10 feet below the groundwater upper surface.

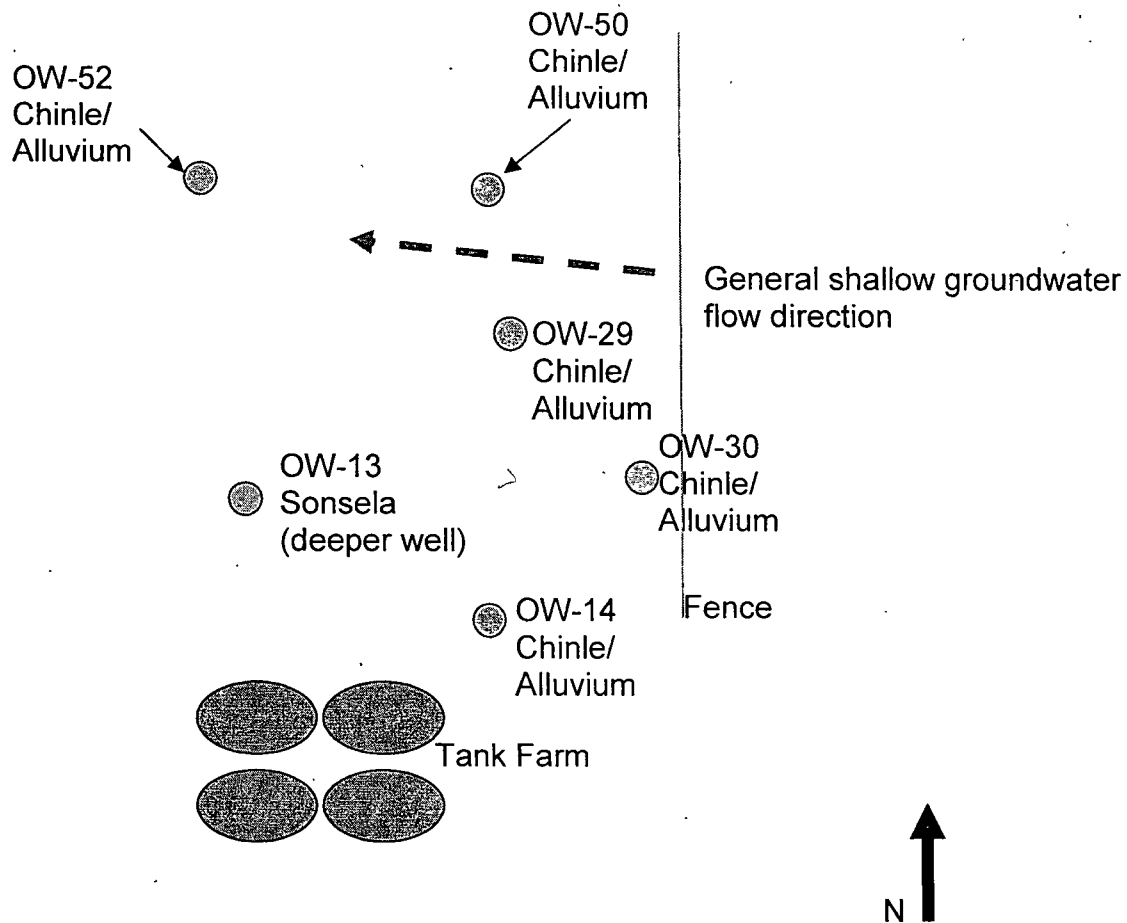


Figure 3: General locations of wells OW-50 and OW-52, including other nearby existing monitoring wells at the Gallup Refinery



Figure 4: A photograph of material from OW-50 of a water-bearing sandstone and gravel layer at 55 feet

Sampling Activities and Results

Groundwater sample collection was conducted on November 17, 2009, by AMEC personnel. Table 1 describes the analytical tests specified by the NMED/HWB. The field notes and logs are provided in Appendix C. Purged groundwater was assumed clean and disposed off at the well site by AMEC personnel. In the future, Western Refining will ensure that purged groundwater is disposed off in the refinery's wastewater treatment system if it is of unknown quality.

Table 1: Summary of sampling locations, frequencies, and tests required

LOCATION	FREQUENCY	TEST METHOD
OW-50	Quarterly	VOCs (8260B), SVOCs (8310), DRO extended, GRO(8015B), RCRA 8 metals, and GEN CHEM
OW-52	Quarterly	VOCs (8260B), SVOCs (8310), DRO extended, GRO(8015B), RCRA 8 metals, and GEN CHEM

The analytical results are attached in Appendix D. All the results have shown **non-detectable levels of hydrocarbons, VOCs, and SVOCs**. The only metal detected was **Barium – at 0.042 ppm in well OW-50, and 0.027 ppm in well OW-52**. **All other metals are at non-detectable levels**. Although AMEC personnel had planned to also test for general chemistry parameters, this was not specified as a required test due to an oversight. In the next quarter we will ensure that general chemistry parameters are also tested.

The levels of Barium are higher in OW-50 which is located at the edge of the refinery property and which is monitoring shallow groundwater flowing in from off-site. The levels of Barium are lower at OW-52 which is more within the refinery property. It is unlikely, therefore, that the trace levels of Barium we are finding are linked to the refinery's activities.

As stated by the US Environmental Protection Agency in a Technical fact Sheet on Barium², background levels in the US for soils range from 100-3000 ppm of barium. Barium occurs naturally in almost all (99.4%) surface waters examined, in concentrations of 0.002 to 0.340 ppm, with an average of 0.043 ppm. The drinking water Maximum Contaminant level is 2 ppm. The drinking water of many communities in New Mexico contains concentrations of barium that may be 10 times higher than the drinking water standard.

² US EPA, Technical fact Sheet – Barium
available at: <http://www.epa.gov/ogwdw000/pdfs/factsheets/ioc/tech/barium.pdf>

Conclusions

Two new monitoring wells have been established in a shallow sand and gravel layer as required by the NMED/HWB.

A set of sampling results have established that all levels of hydrocarbons, VOCs, and SVOCs are at non-detectable levels. All metals are at non-detectable levels, other than Barium at generally expected naturally-occurring levels.



9 December 2009
AMEC Project No. 9-517-000057

Ms. Michelle Young
Western Refining: Gallup Refinery
Route 3, Box 7
Gallup, NM 87301

Re: Letter Report for Monitoring Well Construction

Dear Ms. Young:

AMEC Earth and Environmental, Inc. (AMEC) is pleased to submit this letter report documenting groundwater monitoring well activities at the Western Refinery facility located near Gallup, New Mexico.

Site Background

The project site is located at the Gallup Refinery located north of I-40. The area to the north of the existing refinery consists of an open area. Access roads run through these open areas in the northeast portion of the property. Previously constructed monitor wells are located throughout the property.

Investigation Activities Conducted

AMEC drilled two (2) groundwater monitor wells (MW-1A, MW-2A) to depths of between 50 and 79 feet using a CME-75 truck mounted drill rig in the northeast corner of the property. A site plan showing the location of the new monitoring wells is attached.

The original two monitor wells (MW-1, MW-2) were abandoned due to difficult subsurface conditions. Two replacement wells were drilled (MW-1A, MW-2A). Soil samples from MW-1 and MW-2 were obtained at several depth intervals and tested for VOC's with a photo ionization detector (PID). Results are shown in Table 1 below.

Table 1
Photo Ionization Detector (PID) Results
Collected on October 1 and 2, 2009

Sample Depth (ft)	MW-1	Sample Depth (ft)	MW-2
60	ND**	5	ND
65	ND	10	ND
70	ND	15	ND
		20	ND
		25	ND
		30	ND
		35	1.1*
		40	1.1
		45	1.1

* Concentration in parts per million (ppm)

** ND = Not detected within limits of PID

Western Refining
Groundwater Monitoring Wells
Gallup Refinery
AMEC Project No. 9-517-000057
9 December 2009



If you have questions regarding the information contained within this letter report, please do not hesitate to contact us at 505.821.1801. AMEC appreciates the opportunity to provide Phase 2 investigation and reporting services to Vigil and Associates and looks forward to working with you again.

Best Regards,

AMEC Earth and Environmental, Inc.

A handwritten signature in black ink, appearing to read "Lee J. Mitchell for".

Lee J. Mitchell, P.E.
Project Engineer

A handwritten signature in black ink, appearing to read "Ralph E. Crockett".

Ralph E. Crockett, P.E.
Senior Geotechnical Engineer

Copies: Addressee (3)

AMEC Earth & Environmental, Inc.
8519 Jefferson, N.E.
Albuquerque, New Mexico 87113
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www.amec.com

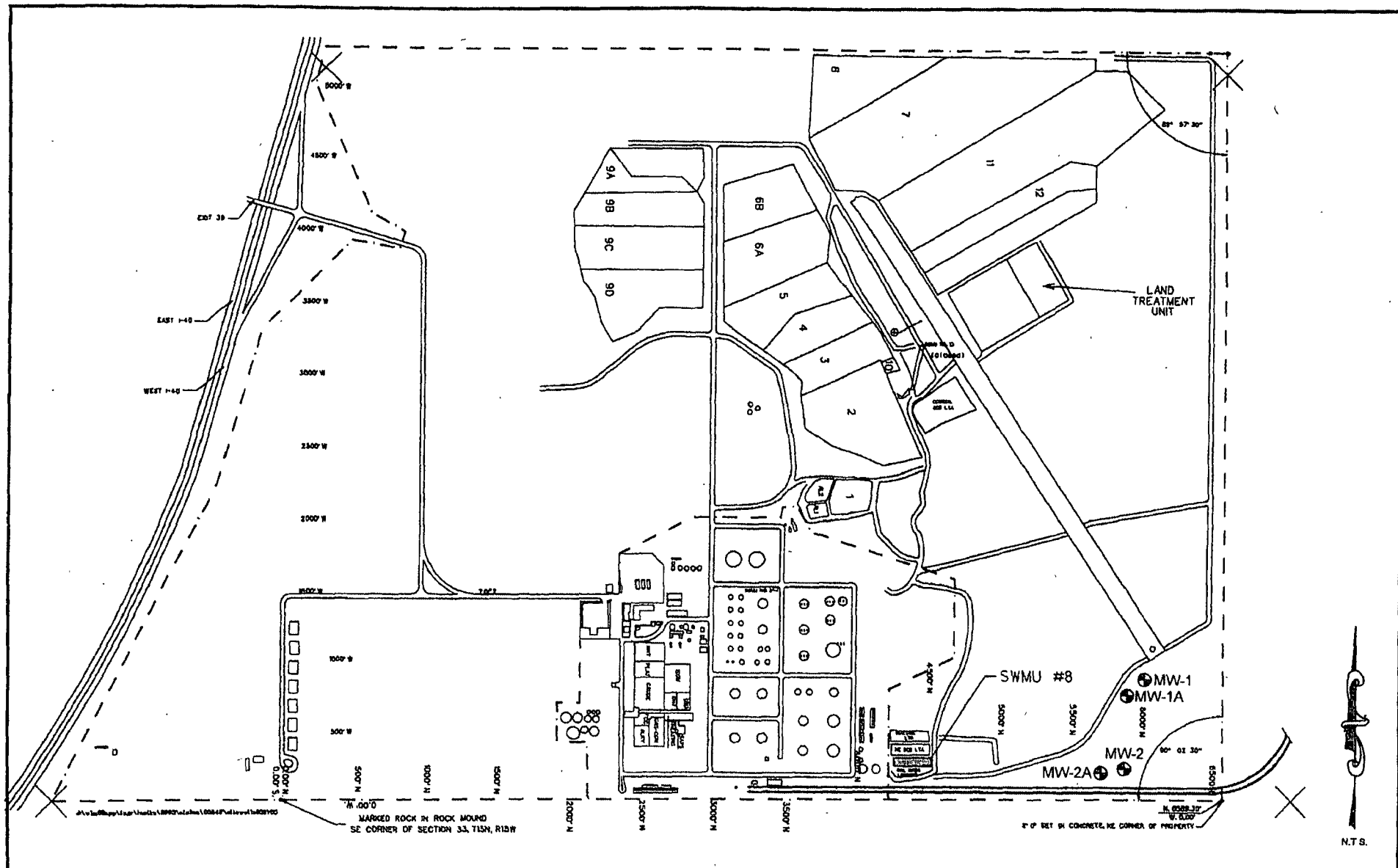



APPENDIX A

SITE PLAN

SOIL BORING LOGS

WELL CONSTRUCTION DIAGRAMS



CLIENT LOGO	CLIENT WESTERN REFINERIES	DWN BY: BDP	PROJECT GALLUP REFINERY	REV NO: A
		CHK'D BY: N/A		DATE: NOV 2009
		DATUM: N/A	TITLE	PROJECT NO.
AMEC Earth & Environmental 3519 Jefferson Rd NE Albuquerque, New Mexico 87113		PROJECTION: N/A	SOIL BORING LOCATION PLAN	9-517-000057
		SCALE: AS SHOWN		FIGURE No 1

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION Project Number: <u>9-517-057</u> Task Number: _____ Client: <u>Western Refinery</u> Project Location: <u>Western Refinery - GALINE</u>						WELL ID: OW-50 Date: <u>11/17/09</u> Time: <u>12:30</u> Personnel: <u>J. Cotter</u> Weather: <u>Clear 50°F</u>			
2. WELL DATA Casing Diameter: <u>2 1/2</u> inches Type of Casing: <u>PVC</u> Screen Diameter: <u>2 1/2</u> inches (d) Type of Screen: <u>PVC</u> Screen Length: <u>15</u> Total Depth of Well from TOC: <u>63</u> feet Depth to Static Water from TOC: <u>18.20</u> feet Depth to Product from TOC: <u>N.A.</u> feet Length of Water Column (h): <u>44.8</u> feet Calculated Casing Volume: <u>7.6</u> gal (3 to 5 times one well volume) Purge Volume Calculation (one casing volume = 0.041d³h): <div style="text-align: center; font-size: 1.2em;">23 9915</div> <div style="text-align: right; font-size: 0.8em;">Note: 2-inch well = 0.167 gal/ft 4-inch well = 0.667 gal/ft</div>									
3. PURGE DATA Purge Method: <u>Moonsoon Pump</u> Materials: Pump/Bailer _____ Materials: Rope/Tubing _____ Was well purged dry? <input type="checkbox"/> Yes <input type="checkbox"/> No Pumping Rate: _____ gal/min								Equipment Model(s) 1. _____ 2. _____	
Time	Cum. Gallons Removed	pH	Temp (Units)	Spec. Cond. (Units)	Eh (Units)	DO (Units)	Turbidity (NTU)	Other: <u>ORP</u>	Comments
12:56	3	7.79	12.47	638		0.56		-22.9	Purge Start
13:03	7	7.82	12.50	661		0.06		-23.3	Clear
13:08	12	7.83	12.50	668		0.04		-22.2	mostly clear
13:18	22	7.84	12.50	674		0.03		-21.3	clear
13:19	23	7.84	12.50	674		0.03		-21.3	Sample
									END.
4. SAMPLING DATA Method(s): <u>Moonsoon + Flowcell</u> Materials: Pump/Bailer _____ Materials: Tubing/Rope: <u>2014 tubing</u> Depth to Water at Time of Sampling: _____ Field Filtered? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Sample ID: <u>OW-50</u> Sample Time: <u>13:20</u> # of Containers: <u>8</u> Duplicate Sample Collected? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ID: _____								Analyses Requested: <u>6010C</u> <u>8260B</u> <u>8270</u> <u>8015B - GRO</u> <u>DRD</u>	
5. COMMENTS _____ _____									

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION										WELL ID: OW-52	
Project Number: 9-517-057 Task Number: _____										Date: 11/17/09	
Client: Western Refinery										Time: 11:17	
Project Location: Gallup, NM										Personnel: J. Corter	
Weather: Clear 40°F											

2. WELL DATA									
Casing Diameter: 2" inches					Type of Casing: PVC				
Screen Diameter: 2" inches (d)					Type of Screen: 20/10 PVC				
Screen Length: 15'									
Total Depth of Well from TOC: 79' feet									
Depth to Static Water from TOC: 16.75 feet									
Depth to Product from TOC: NA feet									
Length of Water Column (h): 62.25 feet									
Calculated Casing Volume: 10 gal (3 to 5 times one well volume)									
Purge Volume Calculation (one casing volume = 0.041d³h):									
319915									
Note: 2-inch well = 0.167 gal/ft 4-inch well = 0.667 gal/ft									

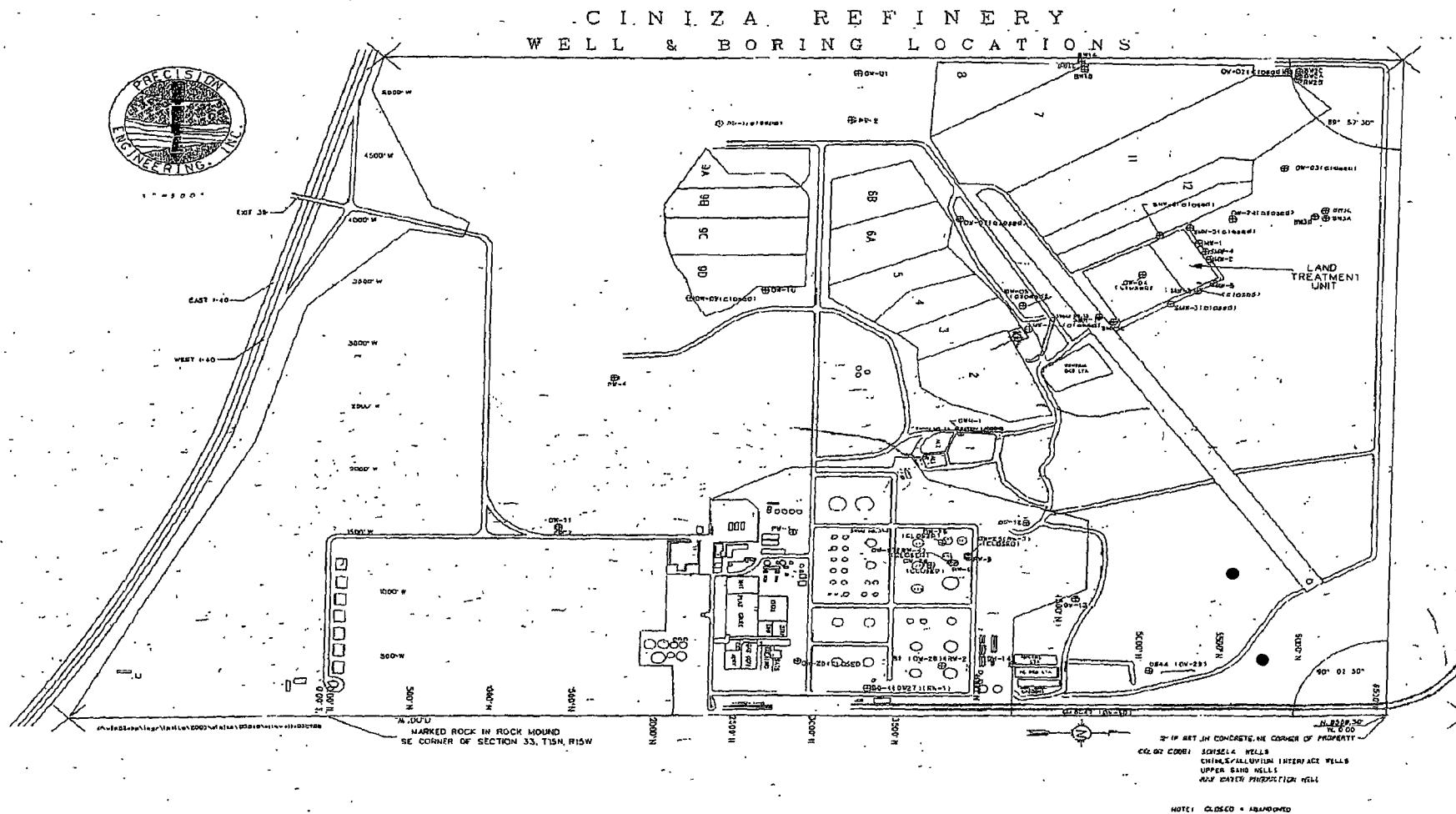
3. PURGE DATA										Equipment	
Purge Method: Monsoon Pump										Model(s): _____	
Materials: Pump/Bellows _____										1. _____	
Materials: Rope/Tubing _____										2. _____	
Was well purged dry? <input type="checkbox"/> Yes <input type="checkbox"/> No										Pumping Rate: 1.5 gal/min	

Time	Cum. Gallons Removed	pH	Temp (Units)	Spec. Cond. (Units)	Eh (Units)	DO (Units)	Turbidity (NTU)	Other: ORP	Comments
11:45	5	7.97	12.24	665		0.20		-87.5	Muddy START
11:55	15	7.89	12.21	667		0.05		-60.6	Clear
12:05	25	7.84	12.19	471		0.03		-58.1	Clear
12:10	30	7.83	12.19	674				-56.5	" End Purge

4. SAMPLING DATA										Analyses Requested:	
Method(s): Monsoon + Flow Cell										8260 B-VOCs	
Materials: Pump/Bellows _____										8270-SVOCs	
Materials: Tubing/Rope POLY-Tubing										RCRA Metals 6000	
Depth to Water at Time of Sampling: _____										Field Filtered? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Sample ID: OW-52										Sample Time: 12:30	
Duplicate Sample Collected? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										# of Containers: 8	
ID: _____										ORP 620 8015	

5. COMMENTS 1.6 AMBER = 8270 SVOCs											
---	--	--	--	--	--	--	--	--	--	--	--

Figure 1
Monitoring Well Location ●
Monitoring well locations are approximate



PROJECT Gallup Refinery Monitoring Wells

Page 1 of 2

Gallup, New Mexico

LOG OF TEST BORING NO. MW-1

JOB NO. 9517-000057

DATE 10/5/09

LOCATION See Site Plan

RIG TYPE CME-75

BORING TYPE Air Rotary

SURFACE ELEV.

DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
0								SM		SILTY SAND, fine grained, reddish-brown
5				BS				CH	PID - 0	CLAY, high plasticity, red-brown, moist
10				BS						
15				BS						
20				BS						
25				BS						
30				BS						
35				BS						
40				BS				CH	PID - 0	CLAY, trace of silt and sand, high plasticity, dark brown, moist trace of gravel at 41', gravel up to 1/4"
45				BS				CH	PID - 0	CLAY, some silt, high plasticity, pink-brown, moist
50										

GROUNDWATER

SAMPLE TYPE

DEPTH	HOUR	DATE
70.7	16:30	10/1/09
25.4	7:30	10/2/09

A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

ENV/BH NO WELL 9517-057 GALLUP REFINERY GPJ AGRA_ALB.GDT 12/3/09

PROJECT Gallup Refinery Monitoring Wells

Page 2 of 2

Gallup, New Mexico

LOG OF TEST BORING NO. MW-1

JOB NO. 9517-000057 DATE 10/5/09

LOCATION See Site Plan

RIG TYPE CME-75

BORING TYPE Air Rotary

SURFACE ELEV.

DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
50				BS				CH	PID - 0.0	CLAY, some silt, high plasticity, pink-brown, moist trace of calcareous cementation nodules at 50' - 59'
55				BS						
60				BS				CH	PID - 0.0	CLAY, some silt, some calcareous cementation nodules, high plasticity, light purple
65									PID - 0.0	pink-brown at 64' - 67' light purple at 67'
70									PID - 0.0	SILTY SAND TO SAND, fine grained, nonplastic, light purple and white, some calcareous cementation nodules, very moist at 72' - 74'
75										End of boring at 74'
80										
85										
90										
95										
100										

GROUNDWATER

SAMPLE TYPE

DEPTH	HOUR	DATE
70.7	16:30	10/1/09
25.4	7:30	10/2/09

A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

ENV/BH NO WELL 9517-057 GALLUP REFINERY GPJ AGRA ALB GOT 12/9/09

PROJECT Gallup Refinery Monitoring Wells

Page 1 of 2

Gallup, New Mexico

LOG OF TEST BORING NO. MW-2

JOB NO. 9517-000057

DATE 10/2/09

LOCATION N35° 29' 45.1", W 108° 25' 25"

RIG TYPE CME-75

BORING TYPE Air Rotary

SURFACE ELEV. 6748.00

DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
0								CH		CLAY, high plasticity, reddish-brown
5			BS						PID - 0.0	
10			BS						PID - 0.0	
15			BS						PID - 0.0	
20			BS						PID - 0.0	
25			BS						PID - 0.0	
30			BS						PID - 0.0	
35			BS						PID - 1.1 ppm	
40			BS						PID - 1.0 ppm	trace of calcareous cementation at 40', dark brown
45			BS						PID - 1.1 ppm	
50										

GROUNDWATER

SAMPLE TYPE

DEPTH	HOUR	DATE
none		

A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

ENV BH NO WELL 9517-057 GALLUP REFINERY GPJ AGRA ALB GDT 12/2/09

PROJECT Gallup Refinery Monitoring Wells

Page 2 of 2

Gallup, New Mexico

LOG OF TEST BORING NO. MW-2

JOB NO. 9517-000057

DATE 10/2/09

LOCATION N35° 29' 45.1", W 108° 25' 25"

RIG TYPE CME-75

BORING TYPE Air Rotary

SURFACE ELEV. 6748.00

DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
50										Borehole plugged at 50' due to swelling clay
55										
60										
65										
70										
75										
80										
85										
90										
95										
100										

GROUNDWATER

SAMPLE TYPE

DEPTH	HOUR	DATE
none		

A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

ENV/BH NO WELL 9517-057 GALLUP REFINERY GPJ AGRA_ALB GDT 12/9/09

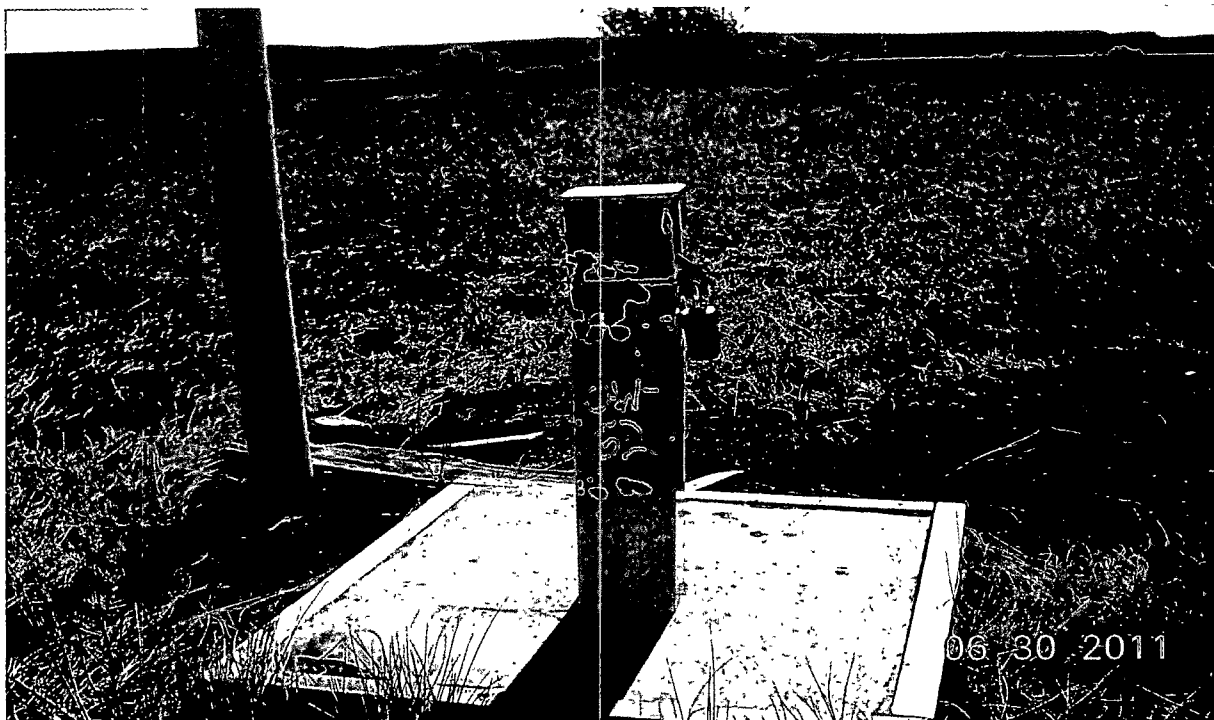


Figure 1: OW-52 – looking east

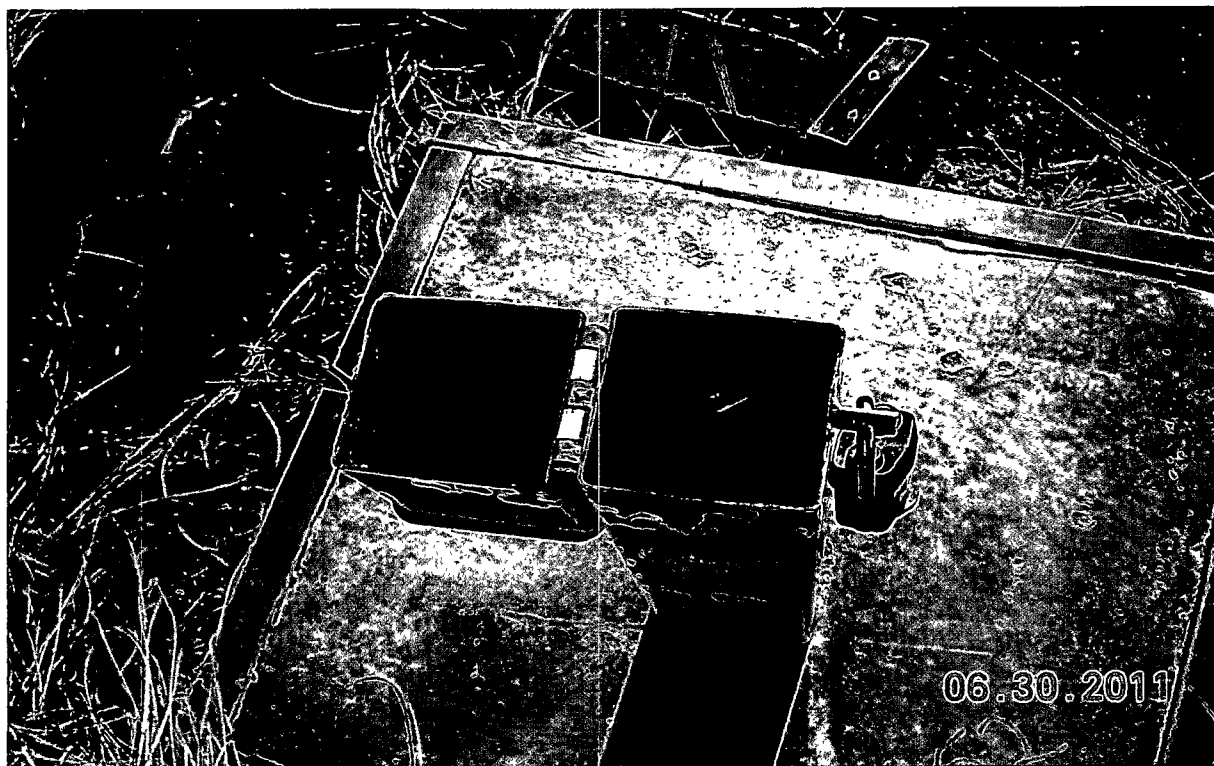


Figure 2: OW-52 with cover off.

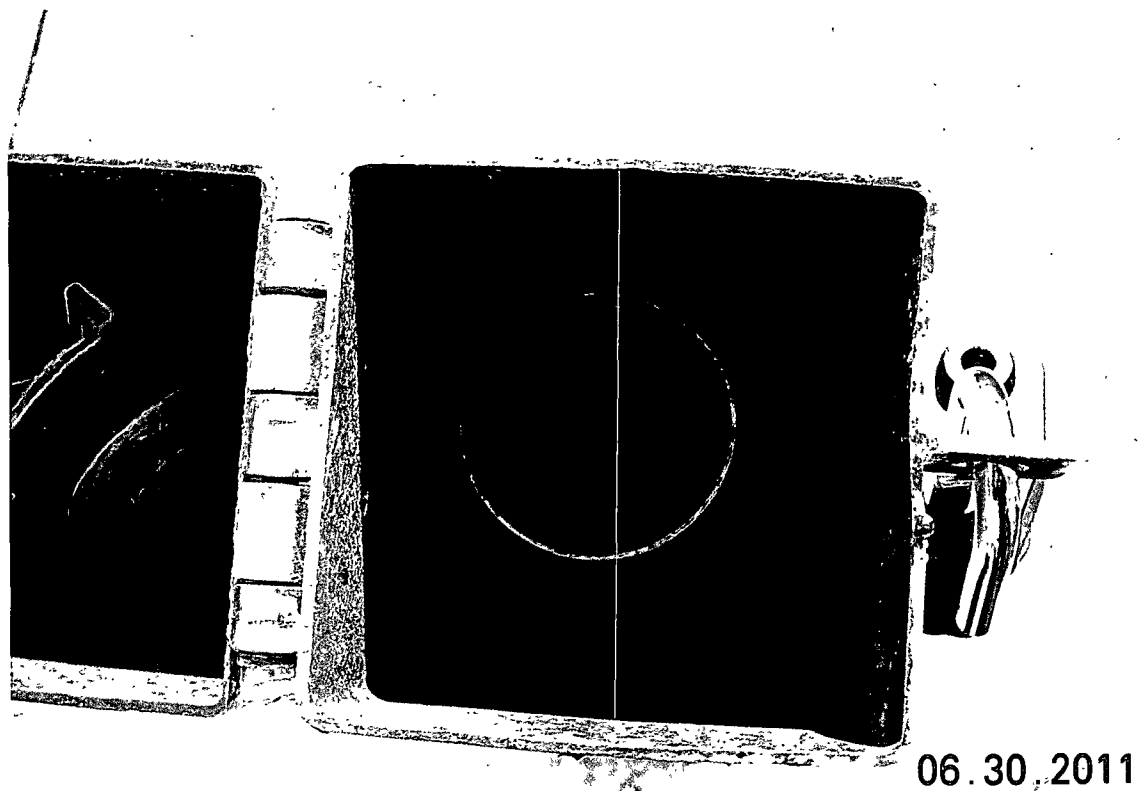


Figure 3: OW-52 pipe plug off.

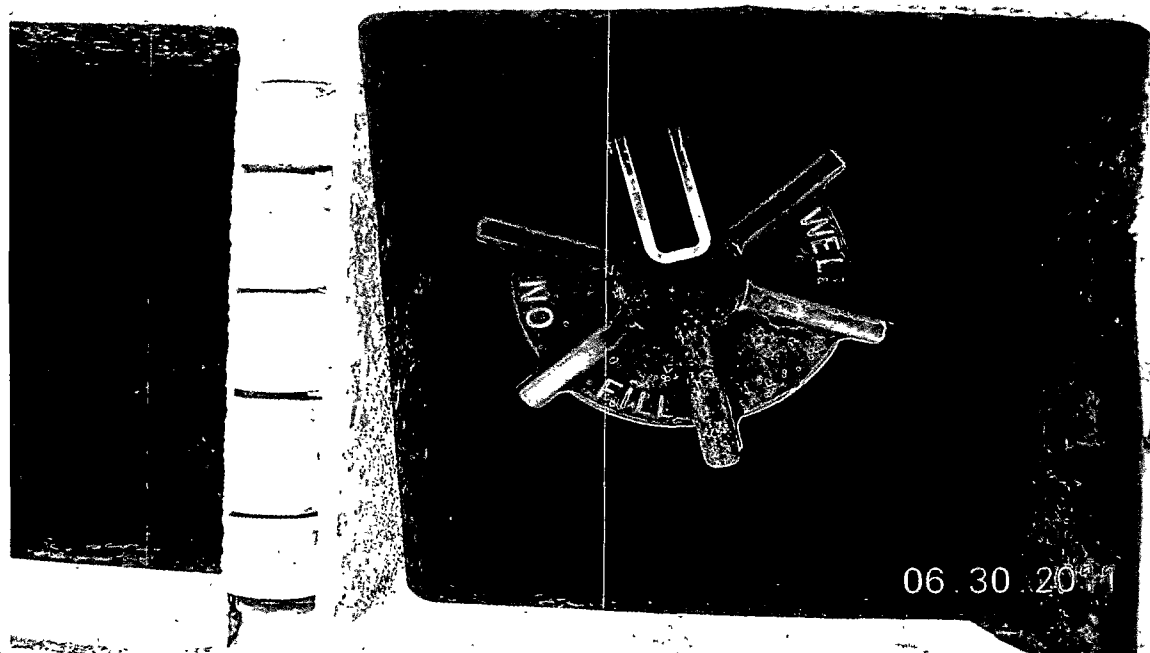


Figure 4: OW-52 with pipe plug on.

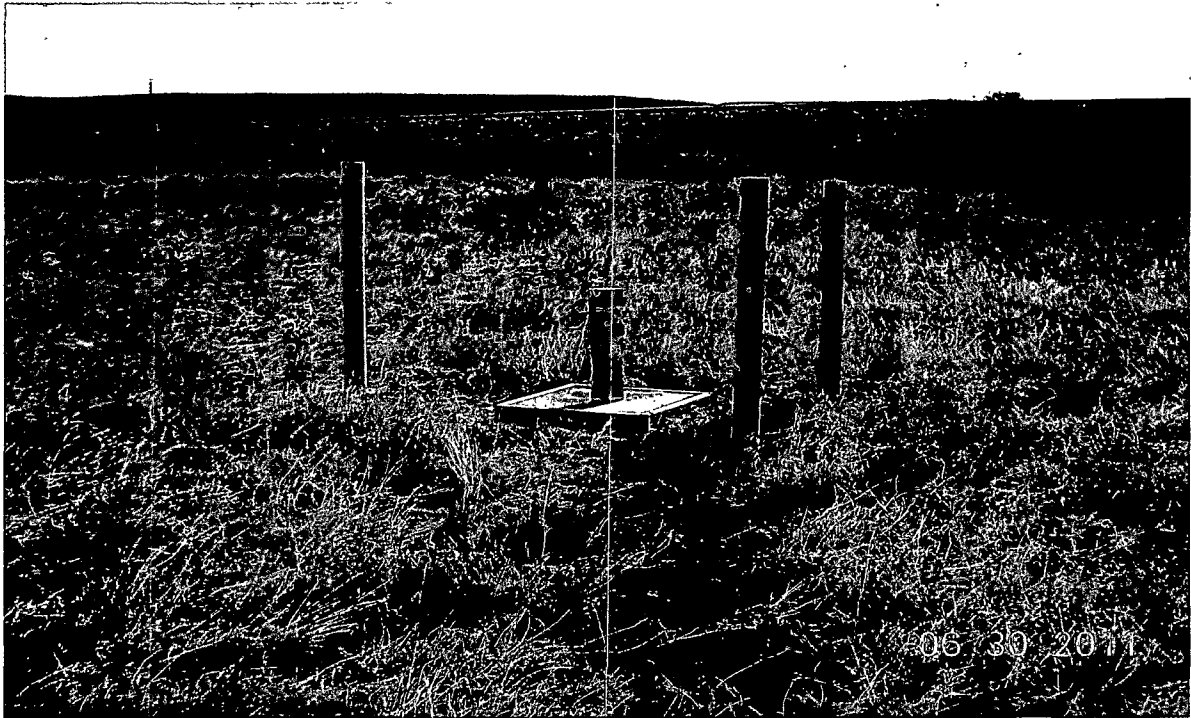


Figure 5: OW-50 – looking northeast.

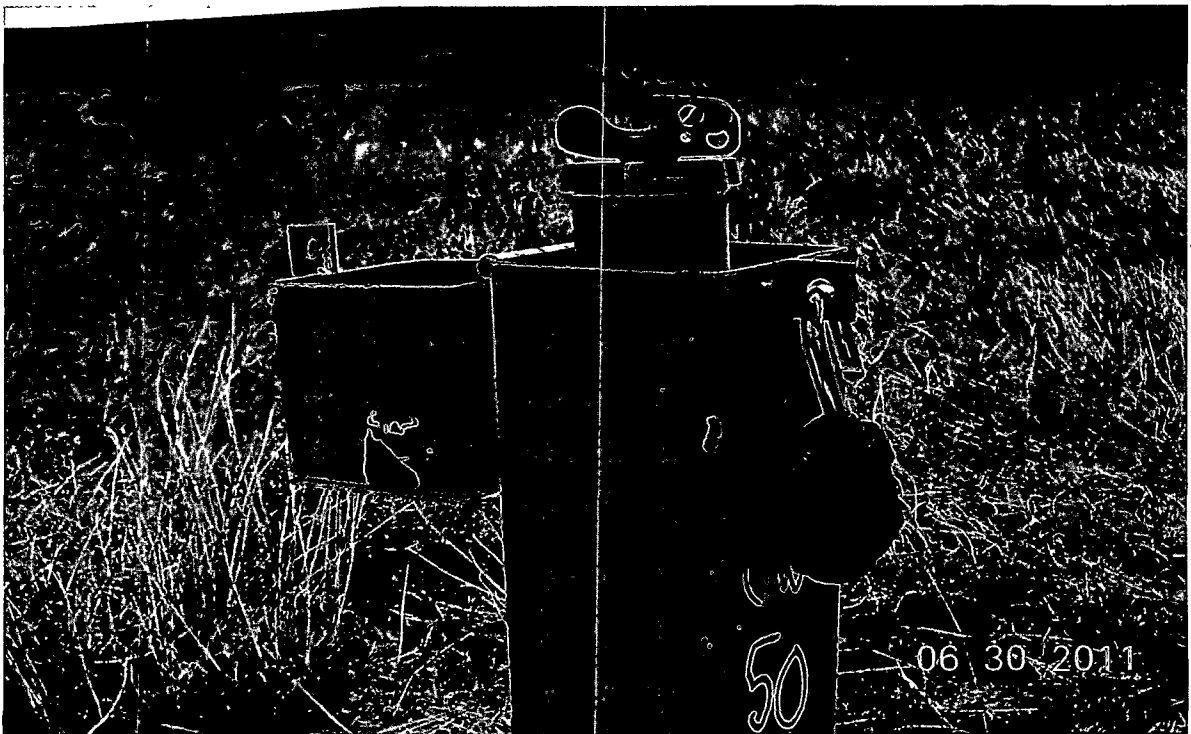


Figure 6: OW-50 – looking northeast uncovered.

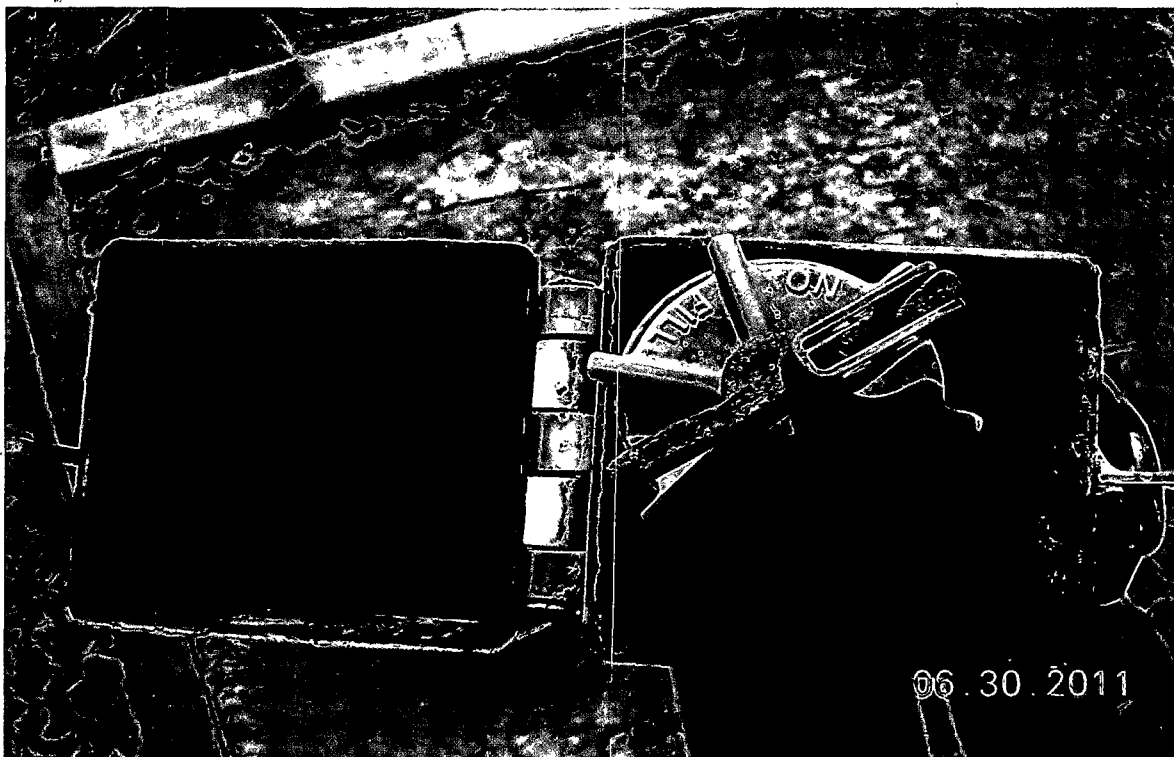


Figure 7: OW-50 top view

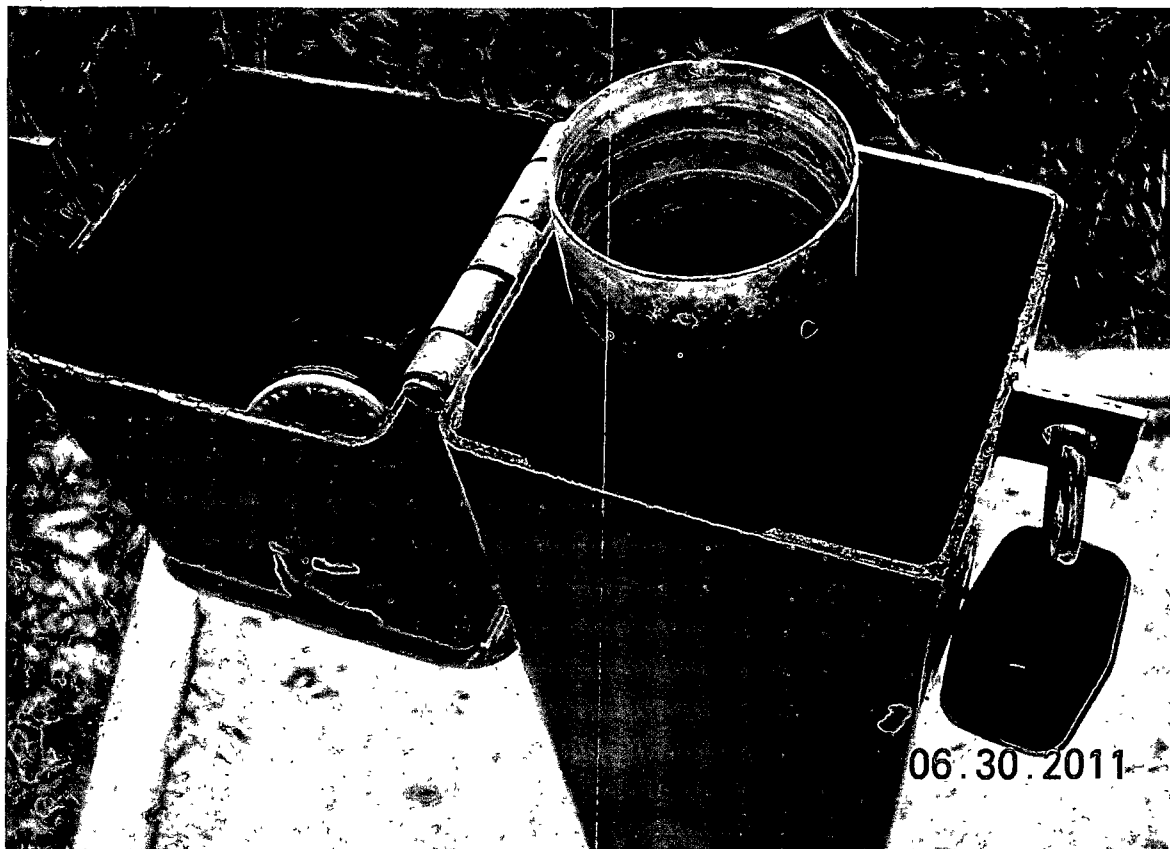


Figure 8: OW-50 with cap off

Johnson, Cheryl

From: Andy Freeman [andy@hallenvironmental.com]
Sent: Wednesday, May 18, 2011 9:40 AM
To: Johnson, Cheryl; Riege, Ed
Cc: Larsen, Thurman
Subject: RE: OCD Comments

Ed,

Hall Environmental has reviewed the two lab orders (0812512 and 0906596) and we find no issues regarding QA/QC with these two reports. According to Cheryl Johnson, these are the only two lab order #'s listed in appendix K. If OCD or Western Refining would like us to review any other lab order #'s please let us know. Hall Environmental follows strict QA/QC guidelines. Hall Environmental just completed its 2011 NELAC on-site audit and received the following comments from the auditors:

"We would like to thank the management and staff for their hospitality, openness, and honesty during the on-site assessment conducted at Hall Environmental Analysis Laboratory located in Albuquerque, NM on April 5-7th. The on-site assessment was conducted to fulfill the NELAC requirement following a renewal application."

"We found Hall to have an excellent Quality System with analysts and managers that are truly dedicated to quality data. The training files were very complete; the sample receiving personnel were impeccable in their documentation of conversations and changes made by customers over the phone. The internal audits and management reviews were thorough and done with a true spirit of improvement of the lab's processes. All of the analysts went out of their way to be fully available for interviews and that was greatly appreciated given our time constraints. We know how much an audit can disrupt a lab's work flow, and we are grateful for your efforts."

Thank you,

Andy Freeman
Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
505-345-3975
505-345-4107 fax

andy@hallenvironmental.com
www.hallenvironmental.com

** Hall Environmental is now testing for BOD, total coliform, and E.coli enumeration in-house.

-----Original Message-----

From: Johnson, Cheryl [mailto:Cheryl.Johnson@wnr.com]
Sent: Wednesday, May 18, 2011 8:39 AM
To: Andy Freeman; Riege, Ed
Cc: Larsen, Thurman
Subject: RE: OCD Comments

Morning Andy: Order #s are 0812512 dated 1-5-09 and 0906596 dated 7-10-09.

Thanks, cj

Cheryl Johnson
Environmental Specialist

Western Refining - Gallup Refinery
Route 3 Box 7

6/29/2011

Gallup, NM 87301
505 722 0231 Direct
505 722 0210 Fax
505 722 3833 Main
cheryl.johnson@wnr.com

-----Original Message-----

From: Andy Freeman [mailto:andy@hallenvironmental.com]
Sent: Wednesday, May 18, 2011 8:32 AM
To: Riege, Ed
Cc: Johnson, Cheryl; Larsen, Thurman
Subject: RE: OCD Comments

Hi Ed,

I will certainly prepare a response for you on this. Could you provide the lab order #?

Thank you,

Andy Freeman
Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
505-345-3975
505-345-4107 fax
andy@hallenvironmental.com
www.hallenvironmental.com

** Hall Environmental is now testing for BOD, total coliform, and E.coli enumeration in-house.

-----Original Message-----

From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Wednesday, May 18, 2011 7:31 AM
To: Andy Freeman
Cc: Johnson, Cheryl; Larsen, Thurman
Subject: OCD Comments

Andy,

We received a letter yesterday addressing our 2009 Groundwater Annual Report. Please see OCD Comment 3 on the attached pg 15 of this report. Please prepare a response for Gallup to use to address this with OCD.

Thanks
Ed

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

6/29/2011

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, April 27, 2011 7:57 AM
To: Tsinnajinnie, Leona, NMENV
Cc: Cobrain, Dave, NMENV; VanHorn, Kristen, NMENV; VonGonten, Glenn, EMNRD
Subject: RE: NOD Draft for Western Refinery - Gallup, Groundwater Monitoring Report 2009

Leona:

OCD looked over the appendices and has the following comments and/or observations for NMED consideration of the above subject letter to the operator:

Appendix E: Summary Underground Waste Water Lines Tested

- 1) Operator places responsibility for line testing notification to OCD on the NMED, but the operator is supposed to provide notification to OCD at least 72 hrs in advance of line testing under the discharge permit.
- 2) Operator shall remove NMED from this section as the sanitary waste water is under OCD jurisdiction because the waste water is mixed with treated effluent and evaporated in evaporation ponds as part of OCD refinery waste water treatment system.

Appendix H: Summary of All Leaks, Spills , Releases

- 1) OCD expects to see no more API overflows in future annual reports based on the upgrades that are being made to the waste water treatment system under the RCRA Compliance Order.

Appendix I: New Well Drilling Logs, Survey, Lab Data

- 1) Based on NMED recent evaluation of survey datums and NMED observations with concerns about the hydrogeologic illustration of ground water flow direction and hydraulic gradients, a resurvey of datums to 0.01 ft. MSL (i.e., ground and top of well casing) appears to be needed to double check past datums and to establish corrected datums for all future hydrogeologic information, flow diagrams, etc. based on each aquifer system.
- 2) OCD notices Hall Environmental Laboratory appears to have low or unacceptable recovery for several for phenols, pyrene, and other SVOCs. Also, there were no RPDs displayed, but would also be considered unacceptable by EPA QA/QC Lab Standards. The operator should contact Hall Environmental to determine whether their lab test analyses capabilities can be improved to acceptable standards or the operator shall find a laboratory with better precision instrumentation and laboratory analytical capabilities for any parameters the lab falls short of meeting acceptable QA/QC analytical data results.

Appendix K: Temporary Landfarm Analytical Results

- 1) OCD notices Central LF Cell 91 and 110 exhibited 1900 and 650 ppm Chlorides respectively on 12/22/2008, which explain why the operator is currently working with the OCD to meet OCD discharge permit limits or background (whichever is greater) in order to remove filled up landfarm and put removed soils to beneficial use. The operator is currently working to develop background criteria under OCD DP by May of 2011.

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>

"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
<http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental>)

From: Tsinnajinnie, Leona, NMENV
Sent: Monday, April 25, 2011 1:17 PM
To: Chavez, Carl J, EMNRD
Cc: Cobrain, Dave, NMENV; VanHorn, Kristen, NMENV
Subject: RE: NOD Draft for Western Refinery - Gallup, Groundwater Monitoring Report 2009

Carl-

I was just following up with you to make sure you received the copies of Appendices D through L for Western Refinery-Gallup Groundwater Monitoring Report 2009. I would like to have your comments by Wednesday, April 27th to get the NOD to the facility so they can incorporate our comments in the next monitoring report.

Thanks,
Leona

From: Tsinnajinnie, Leona, NMENV
Sent: Tuesday, April 19, 2011 3:51 PM
To: Chavez, Carl J, EMNRD
Cc: Cobrain, Dave, NMENV; VanHorn, Kristen, NMENV; Martinez, Cynthia, NMENV
Subject: RE: NOD Draft for Western Refinery - Gallup, Groundwater Monitoring Report 2009

Hi Carl-

We do not have an electronic copy of the appendices for the Groundwater Monitoring Report and only received one full copy of the entire report. We will be sending you photocopies of Appendices D through L so you can complete your review of the report. Please have any comments to me by next Wednesday, April 27th. The photocopies should go out today or tomorrow.

I will be including an additional comment that will direct Gallup to make sure that complete copies of the report are sent to NMED and OCD.

Thanks,
Leona

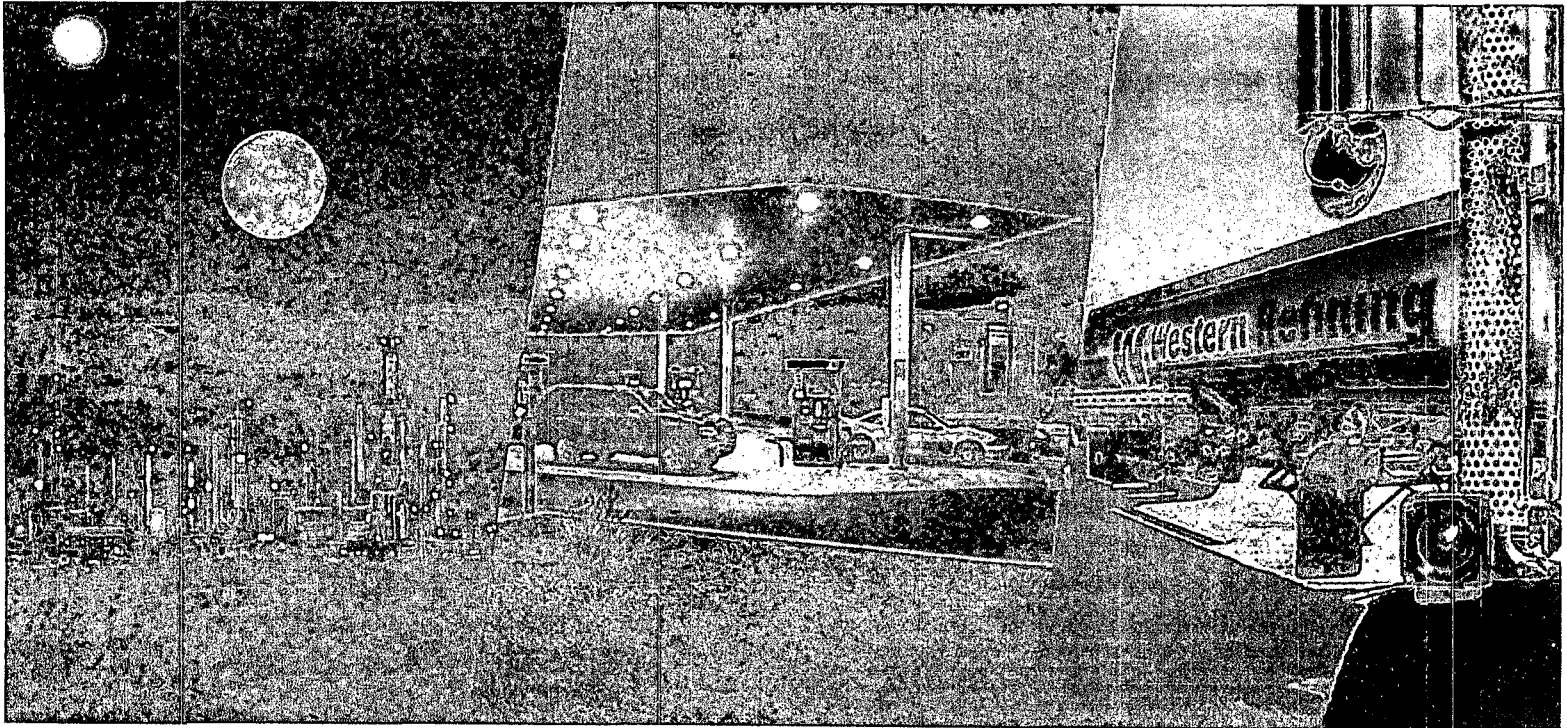
RECEIVED OCD **BINDER 2 - Appendices**

2011 APR 26 P 12: 34

Annual Groundwater Monitoring Report: Gallup Refinery - 2009

**Western Refining
Gallup, New Mexico**

August 31, 2010



A	SEPARATE PHASE HYDROCARBONS RECOVERED (RW-1)
B	APPLICABLE STANDARDS
C	WELL AND FIELD LOGS
D	SUMMARY WASTE WATER TREATED & WATER BALANCE
E	SUMMARY UNDERGROUND WASTE WATER LINES TESTED
F	SUMMARY OF EPA/NMED/RCRA ACTIVITY
G	MAJOR REFINERY ACTIVITIES AND EVENTS
H	SUMMARY OF ALL LEAKS, SPILLS, RELEASES
I	NEW WELL DRILLING LOGS, SURVEY, LAB DATA
J	PERIMETER INSPECTIONS
K	TEMPORARY LAND FARM ANALYTICAL RESULTS
L	MONTHLY FLOW RATE TO NAPIS
M	ANALYTICAL DATA (BINDER 3)
N	
O	
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W	
X	
Y	
Z	



WESTERN REFINING - GALLUP REFINERY

JAMESTOWN, NEW MEXICO
SNOW MACHINES by Ponds 3 & 4

MONTH	YEAR	NORTH Z-84-B25 S/N		TOTAL HR	SOUTH Z-84-B24		TOTAL HR	TOTAL GAL/YR
		2842 (7/2002)			S/N 2843 (7/2002)			
		HOUR METER			HOUR METER			
		START	END		START	END		
MAR-OCT	2003	0	2928	2928	0	2928	2928	14,054,400
MAR-OCT	2004	2928	4052	1124	2928	4137	1209	5,599,200
APR-AUG	2005	4052	4754	702	4137	4839	702	3,369,600
MAY-JUL	2006	6188	6190	2	6273	6296	23	60,000
AUG-OCT	2007	6190	8059	1869	6296	8079	1783	8,764,800
JAN-MAR	2008	8059	8059	0	8079	8079	0	0
MAR-JUN	2008	8059	8060	1	8079	8080	1	4,800
JUN-JUL	2008	8060	8516	456	8080	8726	646	2,644,800
JUL-OCT	2008	8516	9500	984	8726	8800	74	2,539,200
JAN-MAR	2009	9500	9500	0	8800	8800	0	0
APR-JUN	2009	9500	10940	1440	8800	10200	1400	6,816,000
JUL-SEP	2009	10940	12356.3	1416.3	10200	12557.5	2357.5	9,057,120
OCT-DEC	2009	12356.3	12418	61.7	12557.5	12595.1	37.6	238,320

2009 WASTE WATER BALANCE / EVAPORATION POND RATES

PONDS	GALLONS/YR	
Discharged to Ponds (measured at V notch)	134,632,440	
RAINFALL TO PONDS	24,386,790	24386790
TOTAL TO PONDS	159,019,230	
POND EVAPORATION (150 GPM)	78,840,000	
SNOW MACHINES EVAPORATION(80GPM)	16,111,440	
TOTAL BALANCE IN PONDS	64,067,790	

2009 WASTE WATER SUMMARY

DATE	TOTAL FLOW TO PONDS			RAIN GAUGE INCHES	FREEBOARD AT PONDS											Comments
	TEMP	DEGREE V NOTCH "INCHES"	FLOW GPM		2	3	4	5	6	8	7	11	12a	12b	9	
					feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	
1/2/2009	32	7	284		1.5	1.33	1.25	0.08	OM	OM	O	3	BM	1.25	0.67	
1/5/2009	35	7	284		2	1.33	1.83	1.75	OM	1.75	1.75	1.83	BM	1.5	0.67	
1/6/2009	34	7	284		2	1.5	1.83	1.83	OM	1.83	1.83	1.83	BM	1.5	0.67	
1/7/2009	33	7	284		2	1.5	1.75	1.83	OM	1.83	1.83	1.75	BM	1.5	0.67	
1/8/2009	33	7	284		2	1.5	1.75	1.75	OM	1.83	1.83	1.75	BM	1.5	0.67	
1/9/2009	32	7	284		2	1.5	1.75	1.75	OM	1.83	1.83	1.75	BM	1.5	0.67	
1/12/2009	33	8	397		2	1.5	1.83	1.83	OM	1.75	1.75	1.75	BM	1.5	0.67	
1/13/2009	43	7	284		2	1.5	1.83	1.83	OM	1.75	1.75	1.75	BM	1.5	0.67	
1/14/2009	53	7	284		2	1.5	1.67	1.67	OM	0.5	2.42	2.42	BM	1.42	0.67	
1/15/2009	41	7	284		2	1.5	1.5	1.17	OM	0.5	2.42	2.42	BM	1.42	0.67	
1/16/2009	47	7	284		1.67	1.58	1.67	1.25	OM	0.5	2.42	2.42	BM	1.33	0.58	
1/19/2009	40	7	284		2	1.67	1.67	1.17	OM	0.5	2.42	2.42	BM	1.42	0.58	
1/20/2009	46	7	284		1.67	1.58	1.67	1.25	OM	0.5	2.42	2.42	BM	1.33	0.58	
1/21/2009	44	7	284		1.67	1.58	1.67	1.25	OM	0.5	2.42	2.42	BM	1.33	0.58	
1/22/2009	39	7	284		1.67	1.58	1.67	1.25	OM	0.58	2.42	2.42	BM	1.33	0.67	
1/23/2009	40	7	284		1.58	1.58	1.67	1.25	OM	0.58	2.42	2.42	BM	1.25	0.67	
1/26/2009	40	7	284		1.58	1.58	1.67	1.25	OM	0.58	2.42	2.42	BM	1.25	0.67	
1/27/2009	41	7	284		1.75	1.58	1.75	1.5	OM	0.58	2.42	2.42	BM	1.25	0.67	
1/28/2009	39	7	284		1.75	1.58	1.75	1.5	OM	0.58	2.42	2.42	BM	1.25	0.67	
1/29/2009	40	7	284		1.75	1.58	1.75	1.5	OM	0.58	2.42	2.42	BM	1.25	0.67	
1/30/2009	41	7	284		1.75	1.58	1.75	1.5	OM	0.58	2.42	2.42	BM	1.25	0.67	
2/3/2009	36	7	284		1.67	1.5	1.5	1.25	OM	0.08	2.42	2.42	BM	1.58	0.08	
2/4/2009	32	6.5	236		1.75	1.58	1.5	1.25	OM	0.08	2.58	2.42	BM	1.25	0.08	
2/5/2009	34	7	284		1.75	1.67	1.58	1.5	OM	0.08	2.42	2.42	BM	1.25	0.08	
2/6/2009	46	7	284		1.67	1.58	1.33	1.08	OM	0.08	1.75	2.08	BM	1.5	0.08	
2/9/2009	46	7	284		1.67	1.58	1.33	1.08	OM	0.08	1.75	2.08	BM	1.5	0.08	
2/10/2009	44	7	284		1.83	1.58	1.42	1.25	OM	0.08	1.75	2	BM	1.42	0.08	
2/11/2009	41	7	284		1.83	1.58	1.42	1.25	OM	0.08	1.75	2	BM	1.42	0.08	
2/12/2009	38	6.5	236		2	1.58	1.5	1.17	OM	0.08	2	2	BM	1.5	0.08	
2/13/2009	42	6.5	236		2	2	2	1.17	OM	0.08	2	2.25	BM	1.5	0.08	
2/17/2009	32	6.5	236		2	1.58	1.5	1.25	OM	0.08	1.58	2	BM	1.5	0.08	
2/18/2009	30	6.5	236		2	1.67	1.58	1.42	OM	0.08	2	2.42	BM	1.25	0.08	
2/19/2009	29	6.5	236		2	1.67	1.58	1.42	OM	0.08	2	2.17	BM	1.5	0.08	
2/20/2009	30	6.5	236		2	1.67	1.58	1.42	OM	0.08	2	2.08	BM	1.5	0.08	
2/23/2009					1.42	1.42	2.42	2.42	OM	3	3	2.42	BM	2	0.67	
2/24/2009					1.42	1.42	2.42	2.42	OM	3	3	2.42	BM	2	0.67	
2/25/2009					1.42	1.42	2.42	2.42	OM	3	3	2.42	BM	2	0.67	
3/2/2009					1.42	1.42	2.42	2.42	OM	3	3	2.42	BM	2	0.67	
3/3/2009	58	7	284		1.58	1.42	1.5	1.42	2	4.42	2	2.42	BM	1.25	3	
3/4/2009	58	6.5	236		1.58	1.42	1.5	1.42	2	4.42	2	2.42	BM	1.25	3	
3/5/2009	50	5.5	156		1	1.08	1.83	1.75	OM	OM	1.58	2	BM	1.33	OM	Marker missing 6, 8, 9
3/6/2009	42	1	2.5		2	1.5	1.5	1.67	OM	0.08	2	2.33	BM	1.58	0.08	
3/7/2009	83	1	2.5		1.67	1.5	1.5	1.83	OM	0.42	2	2.17	BM	1.17	1	
3/8/2009	60	6.5	236		2	1.5	1.5	1.67	OM	0.5	1.92	2.33	BM	1.33	OM	
3/9/2009	52	6.5	236		1.5	1.42	1.5	1.67	OM	0.5	1.5	0.33	2.42	1.25	0.08	
3/10/2009	42	6.5	236		1.58	1.42	1.5	1.75	3	0.5	2	0.25	2.42	1.33	0.08	
3/11/2009	40	6	123		1.58	1.42	1.5	1.75	3	0.5	2	0.25	2.42	1.25	1.83	
3/12/2009	46	5.5	174		1.58	1.42	1.5	1.75	3	0.5	2	2	2.42	1.25	0.08	
3/13/2009	45	9	533		1.5	1.5	1.5	OM	OM	OM	2.42	2	BM	1	OM	
3/15/2009	58	7	284	0.01	1.5	1.5	1.5	OM	OM	OM	2.25	2	BM	1	OM	
3/16/2009	71	6.5	236		1.5	1.5	1.5	OM	OM	OM	2.25	2	BM	1	OM	
3/17/2009	52	6	193		2.5	1.5	1.5	0.83	OM	2	1	1.42	BM	0.92	OM	
3/18/2009	54	6	193		1.5	1.5	1.5	0.83	OM	2	1	1.5	BM	0.83	OM	
3/19/2009	49	6.5	236		1.5	1.5	1.5	0.83	OM	2	1	1.5	BM	0.83	OM	
3/20/2009	49	6.5	236		1.5	1.5	1.5	1	OM	2	1	1	BM	0.92	OM	
3/21/2009	77	6	193		2	1.67	1.33	1.92	OM	0.5	1.83	2.17	BM	1.33	OM	

DATE	TOTAL FLOW TO PONDS			RAIN GAUGE INCHES	FREEBOARD AT PONDS											Comments
	TEMP	DEGREE V NOTCH "INCHES"	FLOW GPM		2	3	4	5	6	8	7	11	12a	12b	9	
					feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	
3/22/2009	69	6	193		2	1.67	1.33	1.92	OM	0.5	1.67	2.08	BM	1.33	OM	
3/23/2009	57	5.5	156		1.58	11.4	1.33	1.5	OM	0.58	1.67	2	BM	1.17	OM	
3/24/2009	58	6	193		1.58	1.5	1.33	1.42	OM	0.5	1.67	2	BM	1.17	OM	
3/25/2009	54	6.5	236		1.67	1.5	1.33	1.42	OM	0.5	1.67	2.5	BM	1.5	OM	
3/26/2009	63	6.5	236		1.83	1.17	1.5	2	OM	0.5	1.67	2.08	BM	2	OM	
3/27/2009	43	6	193	0.05	1.5	1.25	1.58	2	OM	0.5	1.67	2.08	BM	1.33	OM	
3/28/2009	62	6.5	236		1.58	1.33	1.67	2	OM	0.5	1.67	2.08	BM	1.42	OM	
3/29/2009	52	6.5	236	0.09	1.5	1.5	1.5	2	OM	0.5	2	2	BM	1.5	OM	
3/30/2009	43	7.5	338	0.07	1.5	1.5	1.5	1.75	OM	0.67	2	2.5	BM	1.25	OM	
3/31/2009	47	6.5	236	0.01	1.5	1.5	1.5	1.75	OM	0.67	2	2.33	BM	1.25	OM	
4/1/2009	51	8.5	462		1.67	1.5	1.5	1.75	OM	0.58	2	2.75	BM	1.33	OM	
4/2/2009	48	6.5	236		1.5	1.5	1.5	1.67	OM	0.67	1.83	2.17	BM	1.17	OM	
4/3/2009	50	6	193	0.01	1.5	1.5	1.5	1.67	OM	0.67	1.83	2.17	BM	1	OM	
4/4/2009	47	6.75	260		1.5	1.5	1.5	1.67	OM	0.67	1.83	2.17	BM	1	OM	
4/5/2009	38	6.75	260		1.5	1.5	1.5	1.67	OM	0.67	1.83	1.33	BM	1	OM	
4/6/2009	50	6	193		1.5	1.42	1.42	1.75	OM	0.67	2	2.75	BM	1.25	OM	
4/7/2009	67	6.5	236		1.67	1.5	1.5	1.67	OM	0.67	1.75	2.75	BM	1.25	OM	
4/8/2009	58	6	193		1.83	1.58	1.42	2	OM	0.83	2	2.83	BM	1.25	OM	
4/10/2009	42	7.25	310		1.92	1.42	1.33	1.92	OM	0.83	2	2.33	BM	1.33	OM	
4/11/2009	32	6.5	236	0.19	2	1.33	1.42	1.92	OM	0.92	2.08	2.25	BM	1.42	OM	
4/12/2009	38	7	284	0.02	1.5	1.17	1.25	2	OM	0.5	2	2.5	BM	1.17	OM	
4/13/2009	46	9	533		1.5	1.33	1.42	1.83	OM	0.75	2.17	2.75	BM	1.25	OM	
4/14/2009	55	9	533		1.83	1.33	1.42	1.67	OM	0.75	1.83	2.83	BM	1.33	OM	
4/15/2009	56	6.5	236		1.92	1.5	1.5	1.67	OM	0.75	2.17	2.83	BM	1.33	OM	
4/16/2009	25	6.75	260		1.92	1.33	1.5	1.67	OM	0.75	2.17	2.83	BM	1.33	OM	
4/17/2009	33	6.75	260	0.04	1.5	1.5	1.33	1.5	OM	0.75	2	2.83	BM	1.33	OM	
4/18/2009	48	6.5	236	0.03	1.5	1.5	1.33	1.5	OM	0.75	2	2.83	BM	1.33	OM	
4/19/2009	46	6.5	236		1.5	1.5	1.33	1.33	OM	0.83	1.92	2.67	BM	1.25	OM	
4/20/2009	53	6	193		1.17	1.25	1.5	1.33	OM	0.75	1.5	2.17	BM	1.25	OM	
4/21/2009	54	6	193		1.5	1.33	1.33	1.33	OM	0.83	1.83	2.17	BM	1.17	OM	
4/22/2009	54	5.5	156		1.83	1.33	1.5	1.25	OM	0.67	2.33	3	BM	1.25	OM	
4/23/2009	53	6	193		1.83	1.33	1.58	1.33	OM	0.67	2.33	3	BM	1.25	OM	
4/24/2009	52	6	193		1.83	1.33	1.58	1.33	OM	0.67	2.33	2.92	BM	1.25	OM	
4/25/2009	55	5	123		1.67	1.58	1.58	1.83	OM	2.67	2.67	3.08	BM	1.25	OM	
4/26/2009	48	6.5	236		1.67	1.42	1.5	1.42	OM	1	2.17	3	BM	1.17	OM	
4/27/2009	56	7	284		1.5	1.42	1.33	1.5	OM	1.08	2	3	BM	1.25	OM	
4/28/2009	52	6.75	260		1.5	1.5	1.42	1.5	OM	1.17	2	3.08	BM	1.25	OM	
4/29/2009	53	6.75	260		1.58	1.5	1.42	1.42	OM	1.33	2.08	3.17	BM	1.33	OM	
4/30/2009	55	6	193		1.5	1.33	1.42	1.5	OM	1	2.08	3	BM	1.33	OM	
5/1/2009	55	6	193		1.5	1.17	1.5	1.83	OM	1	2	3	BM	1.33	OM	
5/2/2009	54	6	193		1.5	1.17	1.5	1.83	OM	1	2	3	BM	1.33	OM	
5/3/2009	61	6	193		1.5	1.33	1.33	1.83	OM	1	2.17	3	BM	1.33	OM	
5/4/2009	54	6	193		1.33	1.33	1.17	1.5	OM	1	2	2.33	BM	1.17	OM	
5/5/2009	53	6.5	236		1.5	1.17	1.08	1.5	OM	1	2.33	3	BM	1.17	OM	
5/6/2009	57	6	193		1.5	1.17	1.17	1.33	OM	1.17	2.17	BM	BM	1.17	0.17	
5/7/2009	60	6.5	236		1.33	1.17	1.33	1.5	OM	1.17	2.17	3	BM	1.17	0.17	
5/8/2009	59	6	193		2	1.33	1.5	1.75	OM	1.5	2.17	3	BM	1.25	OM	
5/9/2009	74	6	193		1.67	1.25	1.42	1.67	OM	1.25	3	3.08	BM	1.25	OM	
5/10/2009	72	6	193		1.67	1.25	1.42	1.83	OM	1.33	3	3	BM	1.25	OM	
5/12/2009	56	6	193		1.67	1.33	1.5	1.92	OM	1.17	3	BM	BM	1.17	OM	
5/13/2009	64	5	123		1.33	1.25	1.25	1.5	OM	1.17	3	BM	BM	1.17	OM	
5/14/2009	60	6.75	260		1.5	1.33	1.33	1.33	OM	1	2.67	BM	BM	1.17	0.33	
5/15/2009	81	6.5	236		1.25	1.42	BM	1.58	OM	1.17	2.67	BM	BM	1.17	0.33	
5/16/2009	73	5	123		1.33	1.67	1.58	2	OM	1.42	3.17	BM	1.25	1.25	OM	
5/17/2009	71	5	123		1.33	1.58	1.58	2	OM	1.5	3.33	BM	BM	1.33	OM	
5/18/2009	59	5	123		1	1.5	1.67	2	OM	1.67	3.17	BM	BM	1.42	OM	
5/19/2009	71	5	123		1	1.67	2	2	OM	1.83	3.33	BM	BM	BM	OM	
5/20/2009	66	5	123		2	1.5	1.33	2.67	OM	1.17	2.5	BM	BM	1.17	0.33	
5/21/2009	59	5.5	156	0.06	2	1.33	1.17	15	OM	1.33	2.67	BM	BM	1.17	0.33	

DATE	TOTAL FLOW TO PONDS			RAIN GAUGE INCHES	FREEBOARD AT PONDS											Comments
	TEMP	DEGREE V NOTCH "INCHES"	FLOW GPM		2	3	4	5	6	8	7	11	12a	12b	9	
					feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	
5/22/2009	58	6	193		2	1.33	1.17	1.5	OM	1.17	2.5	BM	BM	1.17	0.33	
5/23/2009	54	7	284	0.12	3	1.17	1.17	1.33	OM	1.17	2.5	BM	BM	1.17	0.33	
5/24/2009	60	7	284	0.65	0.83	1.17	1.17	2	OM	1.83	3	BM	BM	1.17	OM	
5/25/2009	62	7	284	0.01	1	1.17	1.17	2	OM	1.42	3	BM	BM	BM	OM	
5/26/2009	64	7	284		0.83	1.17	0.83	1.33	OM	1.42	3.17	BM	BM	1.33	OM	
5/27/2009	64	6.5	236		0.83	1.25	0.83	1.5	OM	1.33	3	BM	BM	1.33	OM	
5/28/2009	58	6.25	214	0.12	1.08	0.83	0.75	1.42	OM	1.42	3	BM	BM	1.33	0.58	
5/29/2009	65	6.5	236	0.04	1.17	1.08	1.08	0.83	OM	BM	3	BM	2.33	1.17	0.33	
5/30/2009	86	6.5	236		1.17	1.08	1.08	0.83	OM	BM	3	BM	2.33	1.25	0.33	
5/31/2009	68	7.75	367		1.08	1.08	1.17	0.67	OM	BM	3	BM	2.33	1.25	0.33	
6/1/2009	67	6.75	260		1.83	1.33	1.25	0.92	OM	1.83	3.17	BM	2.33	1.33	0.08	
6/2/2009	66	7	284		1.67	1.33	1.25	0.92	OM	1.83	3.33	BM	2.33	1.33	0.08	
6/3/2009	58	5	123		1.17	1.33	1.33	1	OM	2.17	3.33	BM	2.42	1.5	0.17	
6/4/2009	61	5	123		1.17	1.33	1.33	0.83	OM	2	3.33	BM	2.5	1.5	0.17	
6/5/2009	63	5.5	156		1.5	1.17	1.33	0.92	OM	1.08	2.33	BM	BM	1.17	0.33	
6/6/2009	56	5	123		1.33	1.17	1.25	0.83	OM	1.17	2.33	BM	BM	1.17	0.33	
6/7/2009	61	5	123		2	1.17	1.33	0.92	OM	1.17	2.33	BM	BM	1.33	0.33	
6/8/2009	56	5	123		2	1.33	1.17	1.17	OM	1.33	2.33	BM	BM	1.33	0.33	
6/9/2009	61	5	123	0.08	1	1	1	1.17	OM	1.5	3.17	BM	2	1.17	0.17	
6/10/2009	56	6.5	236	0.76	0.92	1.08	1	1.17	OM	1.83	3.33	BM	2.17	1.17	0.17	
6/13/2009	83	7.25	310		0.83	0.92	1.25	1.08	OM	1.83	2.5	BM	3	1.25	0.67	
6/14/2009	78	7	284		2	1.17	1.33	1.33	OM	1.33	2.5	BM	BM	1.17	0.33	
6/15/2009	63	7	284		2	1.17	1.08	1.17	OM	1.17	2.5	BM	BM	1.17	0.5	
6/16/2009	80	7	284		0.75	1.25	1.08	1.17	OM	1.17	2.42	BM	BM	1.17	0.5	
6/17/2009	59	6	193		1.17	1.08	1.17	0.92	OM	1.5	3.17	BM	3.17	1.33	OM	
6/18/2009	62	5	123		0.83	1.08	1.17	0.83	OM	1.5	3.33	BM	3.17	1.33	OM	
6/19/2009	76	5	123		0.83	1.17	1.25	0.83	OM	1.5	3.33	BM	BM	1.42	OM	
6/20/2009	72	5	123	0.11	0.83	1.17	1.25	0.83	OM	1.5	3.33	BM	BM	1.25	OM	
6/21/2009	60	5	123		0.83	1.17	1.17	1	OM	1.33	2.83	BM	BM	1.25	0.83	
6/22/2009	63	5.75	174		0.83	1.17	1.17	1.25	OM	1.33	2.83	BM	BM	1.17	0.92	
6/23/2009	61	5.75	174		0.92	1.17	1.17	1.08	OM	1.33	2.83	BM	BM	1.17	0.92	
6/24/2009	65	6.5	236		1.08	1.17	1.17	1.17	OM	BM	3.33	BM	BM	1.08	0.67	
6/25/2009				0.03	0.83	0.92	1.08	0.75	OM	BM	3.33	BM	BM	1.25	0.33	
6/26/2009	74	7.5	338	0.01	0.83	1	1	0.75	OM	BM	3.33	BM	BM	1.25	0.25	
6/27/2009	67	6.5	236	0.3	0.83	1	0.75	0.58	OM	BM	3	BM	BM	1.25	0.33	
6/28/2009	62	7	284	0.1	0.83	1	1	0.83	OM	BM	2.83	BM	BM	1.25	0.33	
6/29/2009	82	6.75	260		0.5	0.75	1.17	0.25	OM	BM	2.33	BM	3	1.17	0.33	
6/30/2009	82	7	284		0.58	0.83	1.25	0.42	OM	BM	2.25	BM	BM	1.25	0.33	
7/1/2009	78	6.75	260		0.58	0.75	1.25	0.5	OM	BM	2.17	BM	BM	1.25	0.42	
7/2/2009	72	6.75	260		0.58	0.67	1.17	0.5	OM	BM	2.08	BM	BM	1.25	0.42	
7/3/2009	73	6	193	0.03	0.67	1.08	1.5	0.5	OM	1.5	BM	BM	BM	1.25	0.33	
7/4/2009	72	6	193		0.5	1.08	1.33	0.5	OM	BM	3.17	BM	BM	1.25	OM	
7/5/2009	71	6	193		0.58	1.08	1.33	0.5	OM	2	3	BM	BM	1.33	OM	
7/6/2009		7	284		0.67	1.08	1.33	0.58	OM	1.83	2.5	BM	BM	1.33	OM	
7/7/2009	65	7	284		2.17	1.17	1.5	1.17	OM	1.33	2.33	BM	BM	1.17	0.83	
7/8/2009	46	6.75	260		0.92	1.08	1.17	0.67	OM	1.33	2	BM	BM	1.17	0.83	
7/9/2009	67				1.17	1.17	1.25	1.17	OM	BM	2.17	BM	BM	1.33	1.25	
7/10/2009	75	7.5	338		1.25	1.33	1.33	1.25	OM	BM	2.25	BM	BM	1.33	1.17	
7/11/2009	72	8	397		1.25	1.25	1.33	1.08	0.5	BM	2.67	BM	BM	1.33	0.33	
7/12/2009	72	8	397		1.25	1.33	1.5	1	0.83	BM	2.67	BM	BM	1.25	0.67	
7/13/2009	68	8	397		1.17	1.25	1.33	1	1	BM	2.5	BM	BM	1.17	0.67	
7/14/2009	69	7	284		1.33	1.67	1.42	1	1	BM	2.42	BM	BM	1.25	0.83	
7/15/2009	82	7.25	310		1.08	1.17	0.92	0.83	1	BM	2.33	BM	BM	1.33	0.83	
7/16/2009	81	7.25	310		1.17	1.17	1.5	0.92	1.17	BM	2.08	BM	BM	1.42	0.83	
7/17/2009	84	7.25	310		1.25	1.17	1.5	0.92	1.33	BM	2	BM	BM	1.42	0.92	
7/18/2009	83	7.25	310		1.33	1.25	1.5	1	1.42	BM	1.67	BM	BM	1.42	1	
7/19/2009	74	7	284		1.17	1.25	1.33	1.17	OM	2	2	BM	BM	1.25	OM	
7/20/2009	74	6.5	236		1.5	1.67	1.5	1.33	OM	2	2.17	BM	BM	1.33	OM	
7/21/2009	60	6.5	236	0.02	1.5	1.33	1.5	1.5	OM	2	2.17	BM	BM	1.33	OM	

DATE	TOTAL FLOW TO PONDS			RAIN GAUGE INCHES	FREEBOARD AT PONDS											Comments
	TEMP	DEGREE V NOTCH "INCHES"	FLOW GPM		2	3	4	5	6	8	7	11	12a	12b	9	
					feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	
7/22/2009	74	6.5	236	0.15	1.5	1.33	1.42	1.33	OM	2	2	BM	BM	1.33	OM	
7/23/2009	70	6.5	236		1.5	1.17	1.17	1.33	2	BM	1.67	BM	BM	1.17	1	
7/24/2009	66	6.5	236		1.5	1.17	1.33	1.33	2	BM	1.67	BM	BM	1.17	1	
7/25/2009	64	6.5	236	0.17	1.5	1.17	1.33	1.17	2.5	BM	1.67	BM	BM	1.17	1	
7/26/2009	66	6.25	214		1.5	1.17	1.33	1.17	2.5	BM	2	BM	BM	1.17	1.17	
7/27/2009		6.5	236	0.12	1.5	1.25	1.33	1.33	2	BM	1.67	BM	BM	1.17	0.83	
7/29/2009	68	6.5	236		1.58	1.5	1.33	1.33	2	BM	1.67	1.5	BM	1.25	0.83	
7/30/2009	67	6.5	236	0.17	1.75	1.33	1.25	1.5	2	BM	1.5	BM	BM	1.25	0.83	
7/31/2009	82	6.75	260		1.33	1.17	1.33	1.17	2.83	BM	2	BM	BM	1.17	1.33	
8/1/2009	68	6.75	260		1.25	1.17	1.25	1.25	2.75	BM	1.92	BM	BM	1.17	1.33	
8/2/2009	79	7	284		1.25	1.17	1.33	1	2.92	BM	1.42	BM	BM	1.17	1.42	
8/3/2009	82	6.75	260		1.17	1.25	1.25	1.25	3.08	BM	1.33	BM	BM	1.17	1.5	
8/4/2009	84	7	284		1.67	1.33	1.42	1.17	OM	1.42	1.75	BM	BM	1.25	OM	
8/5/2009	64	7	284		1.58	1.17	1.42	1.08	OM	1.58	1.75	BM	BM	1.25	OM	
8/6/2009	61	7	284		1.92	1.17	1.42	1.33	OM	1.08	2.17	BM	BM	1.25	OM	
8/7/2009	61	7	284		2	1.17	1.42	1.33	OM	1	2.08	BM	BM	1.33	OM	
8/8/2009	62	6.5	236	0.02	1.5	1.17	1.17	1.33	OM	1	1.83	BM	BM	1.33	1.33	
8/9/2009	62	6.5	236		1.5	1.17	1.33	1.17	OM	1.33	1.83	BM	BM	1.33	1.33	
8/10/2009	60	6.25	214		1.33	1.17	1.17	1.17	OM	0.92	1.83	BM	BM	1.33	1.33	
8/11/2009	60	6.25	214		1.33	1.17	1.17	1.33	OM	0.83	1.67	BM	BM	1.17	1.17	
8/12/2009	67	6.5	236		2	1.17	1.42	1.33	OM	0.83	1.67	BM	BM	1.25	1.17	
8/13/2009	67	7	284		2	1.17	1.5	1.33	OM	0.83	2.17	BM	BM	1.25	1	
8/14/2009	67	7	284	0.18	2	1.08	1.42	1.58	OM	0.75	2	BM	BM	1.25	1	
8/15/2009	65	6.5	236		2.17	1.17	1.42	1.67	OM	BM	2	BM	BM	1.67	1	
8/16/2009		6.5	236		2	1.08	1.42	1.58	OM	0.75	2	BM	BM	1.33	1	
8/17/2009	73	6	193		2	1.08	1.42	1.58	OM	0.75	2	BM	BM	1.25	1	
8/18/2009	61	6	193		1.5	1.33	1.42	1.25	OM	0.67	2	3.17	2.5	1.33	1.67	
3/19/2009	63	6	193		1.5	1.33	1.5	1.33	OM	0.75	2.08	3.17	2.5	1.33	1.67	
8/20/2009	77	6.25	214		2	1.33	1.42	1.17	OM	0.83	2.17	BM	BM	1.33	OM	
8/21/2009	58	6.25	214		1.67	1.25	1.33	1.25	OM	0.5	1.67	BM	BM	1.33	OM	
8/22/2009	69	6.25	214		1.67	1.17	1.25	1.58	OM	0.58	1.67	BM	BM	1.25	OM	
8/23/2009	60	6.25	214		1.67	1.25	1.33	1.58	OM	0.67	1.67	BM	BM	1.33	OM	
8/24/2009	62	6	193	0.02	1.5	1.17	1.17	1.33	OM	0.83	2	BM	BM	1.33	OM	
8/25/2009	67	6	193		1.67	1.25	1.33	1.42	OM	0.83	1.75	3.17	2.42	1.25	1.58	
8/26/2009	64	6	193		1.33	1.17	1.17	1.33	OM	0.83	2	BM	BM	1.17	OM	
8/27/2009	67	6	193		1.5	1.17	1.17	1.33	OM	0.83	2	BM	BM	1.17	OM	
8/28/2009	67	5	123		1.5	1.17	1.17	1.33	OM	0.83	2	BM	BM	1.17	OM	
8/29/2009	68	5	123		2	1.5	1.67	1.67	OM	1	2.08	BM	BM	1.33	1.67	
8/30/2009	67	5	123		2	1.5	1.67	1.67	OM	1	2.08	BM	BM	1.42	1.67	
8/31/2009	60	6	193		2	1.25	1.42	1.5	OM	0.92	2	3.17	1.67	1.25	1.58	
9/1/2009	72	6.25	214		1.42	1.25	1.33	1.33	OM	0.92	1.92	BM	BM	1.17	1.5	
9/2/2009	89	7	284		1.67	1.08	1.33	1.17	OM	0.92	1.42	BM	BM	1.25	1.67	
9/3/2009	86	7.25	310		1.58	1.17	1.25	1.08	OM	0.92	1.42	BM	BM	1.33	1.67	
9/4/2009	52	7.25	310	0.04	1.33	1.17	1.25	1.25	OM	0.92	1.58	BM	BM	1.25	1.75	
9/5/2009	62	6	193		2.08	1.17	1.25	1.42	OM	0.92	2	BM	BM	1.42	OM	
9/6/2009	61	6	193	1.5	1	0.83	1.08	1.08	OM	0.67	1.5	BM	BM	1.25	OM	
9/7/2009	66	6	193		1	1.08	1.25	1.08	OM	0.67	1.83	BM	BM	1.33	OM	
9/8/2009	64	6	193	0.02	1	1.08	1.25	0.83	OM	0.67	1.83	BM	BM	1.33	OM	
9/9/2009	67	6	193		2	1.08	1.17	1	OM	0.92	2	BM	BM	1.17	OM	
9/10/2009	68	6	193	0.01	2	1	1.17	1.17	OM	1	2	BM	BM	1.17	OM	
9/11/2009	68	6.5	236	0.2	2	1.08	1.33	1	OM	1.33	1.25	BM	BM	1.17	OM	
9/12/2009	67	6.25	214	0.24	2	1.08	1.17	1	OM	1	2	BM	BM	1.17	OM	
9/13/2009	71	6	193		1.17	1.08	1.25	1	OM	1	2.17	BM	BM	1.25	1.58	
9/14/2009	66	7	284	0.12	1.17	1.08	1.42	1	OM	1	2	BM	BM	1.25	2.08	
9/15/2009	66	6.5	236	0.01	1.25	1.08	1.58	1	OM	1	2.17	BM	BM	1.33	2.17	
9/17/2009	72	6.5	236		1.33	1.17	1.25	1.08	OM	1.08	2	BM	BM	1.42	2.17	
9/18/2009	72	6.5	236		1.25	1.08	1.25	1.17	OM	1.17	1.92	BM	BM	1.25	2.25	
3/19/2009	68	6.75	260	0.04	0.83	1.08	1.33	0.83	OM	1.08	1.92	BM	BM	1.25	2.25	
9/20/2009	78	6.75	260		0.92	1.17	1.33	1	OM	1.08	1.83	BM	BM	1.25	2.33	

DATE	TOTAL FLOW TO PONDS			RAIN GAUGE INCHES	FREEBOARD AT PONDS											Comments
	TEMP	DEGREE V NOTCH "INCHES"	FLOW GPM		2	3	4	5	6	8	7	11	12a	12b	9	
					feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	
9/21/2009	69	7	284	0.1	1	1	1.33	0.83	OM	1	1.83	BM	BM	1.08	OM	
9/22/2009	39	7	284	0.01	1	1	1.25	0.83	OM	1	1.83	BM	BM	1.25	OM	
9/23/2009	39	7	284		1.08	1	1.25	0.75	OM	1	1.83	BM	BM	1.25	OM	
9/24/2009	41	7	284		1.08	1	0.08	0.75	OM	1	1.83	BM	BM	1.25	OM	
9/25/2009					1.25	1	1.17	0.5	OM	1	1.42	BM	BM	1.25	OM	
9/26/2009					1.25	1	1.25	0.5	OM	1	1.5	BM	BM	1.25	OM	
9/27/2009					1.25	1.08	1.25	0.67	OM	1.08	1.67	BM	BM	1.25	OM	
9/28/2009	31	11	880		1.25	1.08	1.25	0.75	OM	1.08	1.58	BM	BM	1.25	OM	
9/29/2009	67	7	284		1.83	1.08	1.33	0.67	OM	1.08	1.83	BM	BM	1.33	1.17	
9/30/2009	60	6.5	236		2	1.08	1.5	0.83	OM	1.08	2.17	BM	BM	1.42	1.5	
10/1/2009	60	6.5	236		2	1	1.5	0.83	OM	1.08	2.17	BM	BM	1.42	1.5	
10/2/2009	62	6.5	236		2.17	1.17	1.42	1	OM	1.17	2.25	BM	BM	1.33	1.5	
10/3/2009	65	6.75	260		1.25	1.17	1.33	1.08	OM	1.17	2.08	BM	BM	1.33	1.5	
10/4/2009	64	6.5	236		1.33	1.08	1.25	1.25	OM	1.17	2	BM	BM	1.25	1.33	
10/5/2009	65	7	284		1.33	1.08	1.25	1.25	OM	1.17	2	BM	BM	1.25	1.33	
10/6/2009	57	6	193		2.25	1.25	1.67	1.08	OM	1.17	2.17	BM	BM	1.42	1.33	
10/7/2009	51	6	193		1.83	1.08	1.33	0.67	OM	1.17	2	BM	BM	1.25	OM	
10/8/2009	51	6.5	236		1.83	1.08	1.42	0.83	OM	1.33	2	BM	BM	1.25	OM	
10/9/2009	61	6.5	236		1.83	1.08	1.42	0.67	OM	1.42	2	BM	BM	1.33	OM	
10/10/2009	47	6.5	236		1.83	1.08	1.42	0.67	OM	1.42	2	BM	BM	1.33	OM	
10/11/2009	72	7.5	338		1.67	1.17	1.33	1	OM	1.17	2	BM	BM	1.33	OM	
10/12/2009					1.75	1.08	1.33	1.08	OM	1.17	2	BM	BM	1.25	1.25	
10/13/2009					1.75	1.08	1.33	1.08	OM	1.17	1.83	BM	BM	1.17	1.25	
10/14/2009					1.75	1.08	1.25	1.08	OM	1.17	1.83	BM	BM	1.17	1.17	
10/15/2009					1.75	1.08	1.25	1.08	OM	1.17	1.83	BM	BM	1.17	1.17	
10/16/2009	66	7	284		2.5	1.17	1.58	1.25	OM	1.33	2.67	BM	BM	1.25	0.58	
10/17/2009	66	7	284		2.5	1.17	1.58	1.25	OM	1.33	2.67	BM	BM	1.25	0.58	
10/18/2009	66	7	284		2.08	1.17	1.67	1.33	OM	1.83	2.33	BM	BM	1.25	0.83	
10/19/2009		7	284		1.25	1.17	1.42	1.25	OM	1.67	2.08	BM	BM	1.25	0.75	
10/20/2009		7	284		1.25	1.25	1.33	1.25	OM	1.67	2.17	BM	BM	1.25	0.67	
10/21/2009		7	284	0.11	1.25	1.25	1.33	1.25	OM	1.58	2.08	BM	BM	1.25	0.67	
10/22/2009		7	284		1.25	1.08	1.33	1.67	OM	1.17	1.42	BM	BM	1.25	0.58	
10/23/2009		7.25	310		1.33	1.17	1.42	1.75	OM	1.17	1.42	BM	BM	1.25	0.5	
10/24/2009		7	284		1.33	1.17	1.42	1.75	OM	1.17	1.42	BM	BM	1.25	0.5	
10/25/2009		6.25	214		1.67	1.17	1.42									
10/26/2009		8	397		1.42	1.17	1.5	0.83	OM	1.58	12.3	2.75	BM	1.5	0.83	
10/27/2009					1.25	1.17	1.33	1.67	OM	1.25	1.5	2.67	BM	1.17	0.58	
10/28/2009					1.25	1.08	1.33	1.67	OM	1.25	1.5	2.67	BM	1.25	0.58	
10/29/2009				0.125	1.25	1.08	1.25	1.75	OM	1.25	1.42	2.67	BM	1.17	0.58	
10/30/2009					1.25	1.08	1.33	1.67	OM	1.25	1.5	2.67	BM	1.25	0.42	
10/31/2009	56	7	284		2.17	1.08	1.42	0.83	OM	2	2.67	BM	BM	1.33	0.42	
11/1/2009	58	7	284		2.25	1.08	1.33	0.75	OM	2	2.83	2.67	BM	1.42	0.17	
11/2/2009	57	7	284		2.17	1.08	1.42	1.33	OM	2	2.83	BM	BM	1.58	0.17	
11/3/2009	57	7	284		2.25	1.08	1.5	0.67	OM	1.92	2.67	BM	BM	1.58	0.17	
11/4/2009	64	7	284		1.25	1.17	1.42	0.67	OM	1.83	2.5	2.75	BM	1.5	0.17	
11/5/2009	62	7	284		1.25	1.17	1.33	0.67	OM	1.75	2.42	2.67	BM	1.58	0.17	
11/6/2009	48	7	284		1.25	1.08	1.33	1.42	OM	1.17	1.83	BM	BM	1.25	0.17	
11/7/2009	69	7.25	310		1.25	1.17	1.33	1.33	OM	1.17	1.83	BM	BM	1.33	0.17	
11/8/2009	68	7.25	310		1.67	1.08	1.33	0.5	OM	1.67	2.5	BM	BM	1.33	OM	
11/9/2009	48	6.5	236		1.83	1.08	1.33	0.67	OM	1.33	2.67	BM	BM	1.33	OM	
11/10/2009	58	7	284		1.83	1.08	1.33	0.67	OM	1.33	2.67	BM	BM	1.33	OM	
11/11/2009	57	7	284		1.83	1.08	1.33	0.83	OM	1.42	2.67	BM	BM	1.58	OM	
11/12/2009	66	7.5	338		1.75	1.08	1.25	0.92	OM	1.17	2	BM	BM	1.25	0.08	
11/14/2009	62	7.5	338	0.18	1.25	1.08	1.25	0.92	OM	1.17	2	BM	BM	1.25	0.08	
11/15/2009		7	284	0.18	1.92		1.25		OM		BM	BM	BM	1.25	0.08	
11/16/2009	52	8	397	0.02	2.08	1	1.42	0.92	OM	1.17	2	BM	BM	1.33	OM	
11/17/2009	52	8	397		2.08	1	1.42	0.92	OM	1.17	2	BM	BM	1.33	OM	
11/18/2009	52	7.5	338		2.17	1	1.42	0.92	OM	1.25	2	BM	BM	1.33	OM	
11/19/2009	52	7.5	338		2.25	1	1.42	0.92	OM	1.33	1.92	BM	BM	1.33	OM	

DATE	TOTAL FLOW TO PONDS			RAIN GAUGE INCHES	FREEBOARD AT PONDS											Comments
	TEMP	DEGREE V NOTCH "INCHES"	FLOW GPM		2	3	4	5	6	8	7	11	12a	12b	9	
					feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	feet	
11/20/2009	58	7	284		1.33	1	1.17	1.33	OM	BM	2.25	BM	BM	1.25	OM	
11/21/2009	68	7	284		1.17	1	1.33	1.42	OM	BM	2.25	BM	BM	1.25	OM	
11/22/2009	62	7	284		1.17	1	1.25	1.42	OM	BM	2.17	BM	BM	1.17	OM	
11/23/2009	59	7	284		1.25	1	1.25	1.42	OM	BM	2.17	BM	BM	1.17	OM	
11/24/2009	56	7	284		1.25	1	1.25	0.67	OM	BM	2.17	BM	BM	1.17	OM	
11/25/2009	57	7	284		1.25	1	1.25	0.67	OM	BM	2.17	BM	BM	1.17	OM	
11/26/2009	38	7	284		1.5	0.92	1.33	0.58	OM	BM	2.33	BM	BM	1.33	OM	
11/27/2009	39	7	284		1.5	0.92	1.33	0.58	OM	BM	2.33	BM	BM	1.33	OM	
11/30/2009					2	1	1.25	0.58	OM	BM	2.17	BM	BM	1.25	OM	
12/1/2009					2.08	1.33	1.33	0.58	OM	BM	2.25	BM	BM	1.25	OM	
12/2/2009		7.5	338		2.08	1.33	1.33	0.58	OM	BM	2.17	BM	BM	1.5	OM	
12/3/2009		7.5	338		2.08	1.25	1.33	0.58	OM	BM	2.25	BM	BM	1.5	OM	
12/4/2009	14.1	8	397		2.08	1.08	1.42	0.67	OM	1.25	2.67	BM	BM	1.33	OM	
12/5/2009	15.6	8	397		2.08	1.08	1.42	0.67	OM	1.25	2.67	BM	BM	1.33	OM	
12/6/2009	38.4	8	397		1.25	1	1.33	0.42	OM	1.25	2.08	BM	BM	1.25	OM	
12/7/2009	35.7	8	397	0.02	1.25	0.92	1.33	0.42	OM	1.25	2	BM	BM	1.25	OM	
12/6/2009	38.4	8	397		1.25	1	1.33	0.42	OM	1.25	2.08	BM	BM	1.25	OM	
12/7/2009	35.7	8	397	0.02	1.25	0.92	1.33	0.42	OM	1.25	2	BM	BM	1.25	OM	
12/8/2009	33.1	8	397	0.12	1.17	0.92	1.25	0.42	OM	1.25	2	BM	BM	1.25	OM	
12/9/2009	34.4	8	397	0.12	1.25	0.92	1.25	0.42	OM	1.25	2	BM	BM	1.25	OM	
12/11/2009	39.7	7	284	0.01	1.83	1.08	1.25	0.5	OM	BM	2.5	BM	BM	1.33	OM	
12/12/2009	40.3	7	284		1.83	1.08	1.25	0.5	OM	BM	2.5	BM	BM	1.33	OM	
12/13/2009	40.8	7	284		1.83	1.08	1.25	0.5	OM	BM	2.5	BM	BM	1.33	OM	
12/14/2009	37.1	7	284		1.58	1.08	1.25	0.5	OM	BM	2.42	BM	BM	1.33	OM	
12/15/2009	36.4	7	284		1.58	1.08	1.25	0.5	OM	BM	2.33	BM	BM	1.33	OM	
12/16/2009	33.8	7.5	338		1.5	1.08	1.25	0.5	OM	BM	2.33	BM	BM	1.33	OM	
12/17/2009	33.7	7	284		1.5	1.08	1.25	0.5	OM	BM	2.33	BM	BM	1.33	OM	
12/18/2009	19	6	193		1.83	1.08	1.25	0.75	OM	1.5	2.92	BM	2.83	1.33	OM	
12/19/2009	17	6	193		1.83	1.08	1.25	0.75	OM	1.5	2.92	BM	2.83	1.33	OM	
12/20/2009	21	6	193		1.83	1.08	1.25	0.75	OM	1.5	2.92	BM	2.83	1.33	OM	
12/21/2009	17	6.5	236		1.83	1.08	1.25	0.67	OM	1.5	2.83	BM	2.92	1.33	OM	
12/22/2009	39.2	7.75	367		1.17	1.08	1.25	0.33	OM	BM	2.33	BM	BM	1.17	OM	
12/23/2009	46.1	8	397	0.03	1.25	1.08	1.25	0.33	OM	BM	2.25	BM	BM	1.17	OM	
12/24/2009	46.8	8	397		1.08	1	1.25	0.33	OM	BM	2.25	BM	BM	1.25	OM	
12/25/2009	40.6	8	397		1.17	1	1.25	0.33	OM	BM	2.25	BM	BM	1.33	OM	
12/26/2009	37.6	7	284	0.01	1.83	1	1.25	0.5	OM	BM	3.17	BM	BM	1.42	OM	
12/27/2009	37.8	7	284		1.83	1	1.25	0.5	OM	BM	3.17	BM	BM	1.42	OM	
12/28/2009	37.6	7	284		1.83	1	1.25	0.5	OM	BM	3.17	BM	BM	1.42	OM	
12/29/2009	39	7	284		1.83	1	1.25	0.5	OM	BM	3.17	BM	BM	1.42	OM	
12/30/2009		7	284	0.17	1.58	1	1	0.42	3.25	4.5	2.25	BM	BM	1.25	OM	
12/31/2009		8	397	0.21	1.58	1	1	0.42	3.25	4.5	2.25	BM	BM	1.25	OM	

* BM denotes Below Marker (Marker ~ 3 Feet)

AVG	AVG	AVG	TOTAL	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	
56.28	6.63	256.15	7.41	1.54	1.27	1.37	1.24	2.09	1.16	2.23	2.36	BM	1.29	0.77		

2009 TOTAL FLOW TO PONDS

256.15 134,632,440 GAL/YR

Rainfall = 27154 gal/inch/acre:

Pond Evaporation = 150gal/min, then 150 gal/min X 60 min/hr X 24 hr/day X 365 day/year = 78,840,000 gal/year

24386790

Gallup Refinery
Underground Process/Wastewater Lines Test Procedure

Water Leakage Test

- a. Preparation for Test: Notify the Environmental Department at least 4 days (96 hours) prior to all testing. Environmental will then give OCD (Oil Conservation Division) the required 72 hour notification. The sewer line to be tested shall be plugged at the downstream manhole. All openings in the upstream manhole shall be plugged except the downstream opening for the line to be tested. All branch sewers running from wye connections on the mains shall be plugged at their upper ends if the test head would cause them to overflow. The Test section shall then be filled with water.
- b. Test Procedure: The water level in the upstream manhole or test tee shall be brought to a height approximately 7 feet above the sewer line being tested, to achieve 3 pounds per square inch greater than normal operating pressure. The test shall consist of measuring the loss of water during a 30 minute period. Test should be witnessed by an environmental employee or assigned representative who will sign the Sewer Test Form.
- c. Allowable Leakage: The allowable leakage in 30 minutes time based on an average hydrostatic head of 7 feet for the entire test section shall not exceed more than a 1% loss/gain in pressure. All leaks or loss of integrity shall be reported to the Environmental Department and the maintenance manager within 48 hours and environmental will then provide OCD with the required notification within 15 calendar days of discovery.
- d. Sewer Test Form: Complete the attached Sewer Test Form for all lines being tested. Submit form to the Environmental Department within 48 hours of testing. Environmental will maintain the results of all tests at the Gallup Refinery and they shall be made available for OCD inspection upon request. A summary of this work is also included in the OCD annual groundwater report.

UNDERGROUND PROCESS AND WASTEWATER LINES

SATS UNIT Update 7-21-09

Re-test on or before due date	ID Number (Sewer Box or Catch Basin)	Lateral Drains and/or Headers	Date Installed	Drawing Reference	Test Date	Pass/Fail/Repair Information	Test Water Column (Feet)	Test Duration (Minutes)	Signature	Investigation Results
	Catch Basin by S-C1	Drain near S-V9 flows S then W to Catch Basin by S-C1 to C11	1995	95103-CC-105, Z-35-104, EC-09-125, ES-09-113, ES-09-114 & ES-09-112	07/21/09	Pass	2	30	Sean Walters	
41821	Catch Basin just SW of S-V2	Drain by S-P2B, drain by S-E4, drain by S-E5, 2 drains by S-V3, & drain by S-V2	1995?	No Drawing, Based on Visual Sight	07/21/09	Pass	2	30	Sean Walters	
41821	Catch Basin just W of S-V2	Drains on either side of SV-13, 3 drains by S-V4, & other drain	1995?	No Drawing, Based on Visual Sight	07/21/09	Pass	2	30	Sean Walters	
41821	Catch Basin & drain by S-11B	2 drains by S-E10, other drain, & drain by Z-85-P1	1995?	No Drawing, Based on Visual Sight	07/21/09	Pass	2	30	Sean Walters	
41821	Catch Basin & Drain by S-V6	DBR-490 5 ft in front of S-V6, S-V11B 6 ft away from S-V7 and Z-85P1		Visual	07/21/09	Pass	2	30	Sean Walters	

NOTE TO SHEET: SATS DRAINS ARE ALSO KNOWN AS FOLLOWING FROM SATS BI-MONTHLY DRAIN SEAL INSPECTION SHEETS: 2006

DRAIN #	LOCATION
1	Near Z-85-V1
2	Near S-V15
3	Near S-V9
4	Near Z-85-V1
5	Near S-V19
6	Between JB S2 and S3
7	Near S-V6
8	Near S-V8
9	Near S-V4
10	North of S-E10
11	Near S-V13
12	Near south end of S-V3
13	Near middle of S-V3
14	Near S-P3A
15	Near S-P2B
16	Near S-P2A
17	Near S-E5
18	Near S-V12
19	Near S-C2
20	Near S-V10
21	Near S-V6

Ciniza Refinery Sewer Test Form

Test Data for Main Line Upstream of Listed Manhole

Unit & Line #: 100-AP10
Test Fluid: Water
Test Water Column (ft.): 2'
Test Duration (min.): 30 min
Manhole Number: DNR-490
Date: 7-21-09

Were all process sewer cup branches from the above manholes filled with water to verify that branch lines held level? Yes

Did all branch lines hold level? Yes

List any branch lines and location of branch lines that did not hold level (if any): None / All held

Tested lines from Manhole DNR 490, and all branch lines, S^W in front of S-V6, in front of SV-11B, SV-11A, SV-9, SV-7, SV-19, one 6ft away from SV-7, and one by Z-85P1. This line is not on drawings.

Test Witness Signatures:

[Signature]

Environmental:

[Signature]

Western Representative:

[Signature]

Ciniza Refinery Sewer Test Form

Test Data for Main Line Upstream of Listed Manhole

Unit & Line #: 01-A90, 102-A90, 100-A90
Test Fluid: Water: Yes
Test Water Column (ft.): 2'
Test Duration (min.): 30 min
Manhole Number: DN# 492
Date: 7-20-09

Were all process sewer cup branches from the above manholes filled with water to verify that branch lines held level? Yes

Did all branch lines hold level? Yes

List any branch lines and location of branch lines that did not hold level (if any): N/A All held

Test lines from Manhole #492 and branch lines, SP-3A, SV-15, near south end of SV-3,
near middle of SV-3, near SP-2b, near SE-5, near SV-12, near SC-2, near SV-10, and SP-2H
all of them held

Test Witness Signatures: Sean Mathis

Environmental: Alan A

Western Representative: Stephen Sandoval

Ciniza Refinery Sewer Test Form

Test Data for Main Line Upstream of Listed Manhole

Unit & Line #: 104-A90, 100-A90
Test Fluid: Water
Test Water Column (ft.): 2'
Test Duration (min.): 30 min
Manhole Number: DRN 491
Date: 7-21-09

Were all process sewer cup branches from the above manholes filled with water to verify that branch lines held level? YES

Did all branch lines hold level? YES

List any branch lines and location of branch lines that did not hold level (if any): N/A All held

Test lines from Manhole DRN-491 and branch lines
near S-V4, N.E. of SE-10 and N. of SV-4, under SV-8 and under
SV-6. branch lines under SV-8 & SV-6, showed on old drawings tied into
main drain line they actually cut across and tie into pipe # 104-A90

Test Witness Signatures:

Sean Waller

Environmental:

Alan [Signature]

Western Representative:

Stephen [Signature]

7-21-09

Ciniza Refinery Sewer Test Form

Test Data for Main Line Upstream of Listed Manhole

Unit & Line #:

Test Fluid:

Test Water Column (ft.):

Test Duration (min.):

Manhole Number:

Date:

Water:

100-A90

YPS

1-2'

30 min

DWR-493

7-21-09

Were all process sewer cup branches from the above manholes filled with water to verify that branch lines held level? Yes

Did all branch lines hold level? Yes

List any branch lines and location of branch lines that did not hold level (if any): N/A

Tested Line 100-A90 out on DWR-493, and branch line
from SV-1

Test Witness Signatures:

Sean Wadden

Environmental:

Alan

Western Representative:

Hehndorff

EPA/NMED/RCRA ACTIVITY

January 16, 2009

Mr. James P. Bearzi
New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Dear Mr. Bearzi:

This letter is a response to your letter dated December 19, 2008, re: Revision of the Part A Permit Application and Additional Facility requirement pertaining to the Wastewater Treatment System, Western Refining Southwest Inc., Gallup Refinery, EPA ID# NMD000333211, HWB-GRCC-MISC. On January 12, 2009, we responded to the information requests due on that day. In this letter we are responding to your request of point (f) in your December 19, 2008 letter.

We have gone through archived daily API Separator records maintained by our staff and have compiled the shifts in which overflows occurred. You will note that we have some missing months in our records. Days on which no overflows occurred are not listed. The compiled data are presented in Attachment A.

Using this available information found to date, we have estimated the amounts of overflows. Our estimation procedure is as follows:

- The flow rate has been estimated as approximately 5 gallons per minute (gpm) on average for all overflow events. Please note that overflows occurred when our pumps were not able to handle the entire load to the API Separator, not with the entire API Separator system by-passed. There are two pumps, with any one pump capable of handling the normal load, with the other serving as a back-up to handle rapidly increasing flow rates. If any one pump was out of service, the other pump was working. Therefore, overflows only accounted for excess flows above what either one or two pumps could manage. There were times when the level indicators within the API Separator were not working properly, and this resulted in a simple manual override on the automatic pump switches to stop overflows – a matter that would have only taken a few minutes to resolve. We believe that for much of the time that overflows occurred, the overflow rate would have been much lower than 5 gpm, perhaps as low as 1 gpm. These estimates were made using best professional judgment. We also used estimates of the geometry of the arc made by a falling jet of water and the estimated percentage of fill in the overflow pipe to arrive at our value of 5 gpm. Therefore we believe that assuming

a consistent average flow rate of 5 gpm is a reasonable estimate for flow rates out of our overflow pipe.

- To estimate the duration of overflow events, we have interpreted the daily records as follows: if overflow was marked as having occurred only in one shift by itself, we have assumed that this overflow occurred for a 1/2-hour period. Our experience has been that overflows that stopped within a one four-hour shift period are usually of the kind that could be fixed by the local operator and usually within about 15 minutes. Therefore, assuming that a 1/2-hour overflow occurred in a shift that had overflows only during that shift is a reasonable estimate of the duration of the overflow. For all shifts that are marked contiguously as having had overflows, we have assumed that overflows would have occurred intermittently for about half the time of the entire 4-hours of each contiguous shift, as support personnel would have had to come out and assist the local operator. Thus, a 4-hour shift by itself would have had a total overflow of 150 gallons (at 5 gpm for 30 minutes); and, two or more contiguous 4-hour shifts marked as having overflows would have had total overflows of 600 gallons for each shift period (at 5 gpm for 120 minutes).

Please do not hesitate to contact me at 505-722-0217 if you (or your staff) have any further questions.

Best regards,

Ed Riege
Environmental Manager

Days of Overflow of API Separator into Aeration Lagoon 1
2008

Date	Shift - Overflow occurring						Overflow gallons
	12:00 AM	4:00 AM	8:00 AM	12:00 PM	4:00 PM	8:00 PM	
1/2/2008	N	Y	N	N	N	N	150
1/5/2007			Y	Y	N		1200
1/6/2008	N	N	Y	Y	Y	Y	2400
1/8/2008	N	N	N	Y	N	N	150
1/14/2008	Y	N	N	N	N	Y	200
1/17/2008			N	Y	Y		1200
1/18/2008	Y	Y				Y	1350
1/19/2008	Y	N	N	N	N	N	150
1/20/2008	N	Y	N	N	N	N	150
1/21/2008			Y	Y	Y		1800
1/22/2008	Y	N	N	N	N	Y	300
1/24/2008	N	N	N	N	Y	N	150
1/25/2008	N	N	Y	N	N	N	150
2/11/2008			Y	N	N	Y	300
March - July	Records being located.						
8/4/2008	N	N	N	N	Y	N	150
8/5/2008	Y	Y	Y	N	N	N	1800
8/6/2008	Y	Y	Y	N	N	N	1800
8/7/2008	Y	Y	Y	Y	Y	Y	3600
8/8/2008	Y	Y	N	N	N	N	1200
8/9/2008	Y	Y	Y	N	N	N	1800
8/10/2008	Y	Y	Y	Y	Y	Y	3000
8/11/2008	Y	Y	Y	N	N	N	1800
8/12/2008	Y	Y	Y	N	N	N	1800
8/13/2008	Y	Y	Y	Y	Y	Y	3600
8/14/2008	Y	Y	Y	N	N	N	1800
8/15/2008	Y	Y	Y	Y	Y	N	3000
8/16/2008	Y	Y	Y	Y	Y	Y	3600
8/17/2008	Y	Y	Y	Y	Y	Y	3600
8/18/2008	Y	Y	Y	Y	Y	Y	3600
8/19/2008	Y	Y	Y	Y	Y	Y	3600
8/20/2008	Y	Y	Y	Y	Y	Y	3600
8/21/2008	Y	Y	Y	Y	Y	Y	3600
8/22/2008	Y	Y	Y	Y	Y	Y	3600
8/23/2008	N	N	Y	Y	N	Y	1350
8/24/2008	N	N	N	Y	Y	Y	1800
8/26/2008	Y	Y	Y	Y	Y	Y	3600
8/28/2008	Y	Y	Y	Y	Y	Y	3600
8/29/2008	Y	Y	Y	Y	Y	Y	3600
8/30/2008	Y	Y	Y	Y	Y	Y	3600
8/31/2008	Y	Y	Y	Y	Y	Y	3600

Days of Overflow
2006

Date	Shift - Overflow occurring						Overflow gallons
	12:00 AM	4:00 AM	8:00 AM	12:00 PM	4:00 PM	8:00 PM	
1/8/2006	N	Y	N	N	N	N	150
1/22/2006	N	N	N	N	N	Y	150
1/25/2006	N	N	Y	Y	Y	N	1800
1/26/2006	N	N	N	N	Y	N	150
1/30/2006	N	N	N	N	N	Y	150
2/3/2006	Y	Y	N	N	N	Y	1350
2/8/2006	N	N	N	Y	Y	N	1200
2/15/2006	Y	N	N	N	N	Y	300
2/18/2006	N	N	N	N	Y	N	150
2/20/2006	N	N	Y	N	N	N	150
3/3/2006	N	N	Y	N	N	N	150
3/14/2006	N	N	N	N	Y	N	150
							0
4/15/2006	N	Y	N	N	N	N	150
4/21/2006	N	Y	Y	Y		N	1800
4/25/2006	N	N	N	N/Y	N	N	150
5/1/2006	N	N	Y	Y	Y	N	1800
5/3/2006	N	N	N	Y	N	N	150
5/8/2006	N	Y	N	N	N	N	150
5/10/2006	Y	Y	N	N	N	N	1200
6/1/2006	Y	N	N	N	N	N	150
6/14/2006	Y	Y	N	N	Y/N	Y	2400
6/20/2006	N	N	N	N	Y	N	150
7/6/2006	N	N	N/Y	N	N	N	150
7/14/2006	Y/N	N	N	N	N	N	150
7/19/2006	N	N	N	N	Y/N	Y	1200
7/20/2006	N	Y	N	N	Y/N	N	300
7/21/2006	Y	Y	N	N	N	Y	1350
7/24/2006	N	N	N	N	Y	N	150
7/25/2006	N	N	N	N	Y	N	150
7/26/2006	N	N	Y	N	N	N	150
7/30/2006	N	N	N	Y/N	N	N	150
8/10/2006	N	N	N	N	Y	N	150
8/28/2006	N	N	N	N	Y	N	150
8/29/2006	N	N	N	Y/N	Y	N	1200
9/2/2006	N	Y	N	N	N	N	150
9/4/2006	N	N	Y	N	N	N	150
9/9/2006	N	N	Y	Y	Y	N	1800
9/11/2006	N	Y	Y	Y	Y/N	N	2400

9/1/2008	Y	Y	Y	Y	Y	Y	3600
9/2/2008	Y	Y	Y	Y	Y	Y	3600
9/3/2008	Y	Y	Y	Y	Y	Y	3600
9/4/2008	N	N	Y	Y	Y	N	1800
9/5/2008	Y	Y	Y	N	N	N	1800
9/14/2008	Y	N	N	N	N	N	150
9/16/2008	N	N	N	N	Y	Y	1200
9/24/2008	N	N	N	Y	N	N	150
10/1/2008	N	N	N	N	N	Y	150
10/2/2008	N	Y	N	N	N	N	150
10/7/2008	N	Y	N	N	N	N	150
10/16/2008	N	Y	Y	N	N	N	1200
10/29/2008	Y	Y	Y	N	N	N	1800
10/30/2008	Y	N	N	N	N	N	150

Nov-08

No days of overflow to the lagoons

0

12/11/2008	N	N	Y	N	N	N	150
12/15/2008	N	N	Y	N	N	N	150
12/17/2008	N	N	N	Y	Y	N	300
12/18/2008	N	N	Y	Y	N	N	300

9/12/2006	Y/N	Y/N	Y	Y	Y	N	2400
9/16/2006	N	N	N	Y	Y	N	1200
9/17/2006	Y	Y	Y/N	N	N	Y	1350
9/18/2006	N	Y/N	Y/N	N	N	N	1200
9/19/2006	N	N	N	Y	N	N	150
9/23/2006	N	N	N	Y	N	Y/N	300
9/24/2006	N	N	Y	Y	Y	N	1800
9/25/2006	N	N	Y	Y	Y	Y/N	2400
9/26/2006	N	N	Y	Y	Y	N	1800
9/27/2006	N	N	N	N	Y	N	
9/28/2006	N	N	Y	Y/N	Y	N	1800
9/29/2006	N	Y	Y	Y	Y	Y	3000
9/30/2006	N	N	Y	Y	Y	N	1800
10/1/2006	Y	Y	N	N	Y	Y	2400
10/2/2006	N	N	Y	N	N	N	150
10/4/2006	N	N	Y	N	N	N	150
10/5/2006	Y	Y	Y	Y	Y		3000
10/6/2006	N	N	Y	Y	Y	N	1800
10/11/2006	Y	Y	N	Y/N	Y	Y	1950
10/12/2006	Y	Y	Y	Y	Y	Y	3000
10/13/2006	Y	Y	Y	Y	Y	Y	3000
10/14/2006	N	N	N	Y	Y	N	1200
10/15/2006	N	N	N	Y	N	N	150
10/16/2006	Y	N	Y	N	N	N	150
10/19/2006	Y	Y	N	N	N	N	150
10/23/2006	N	N	N	Y	N	N	150
10/24/2006	N	N	N	Y	N	N	150
10/25/2006	N	N	N	N	N	Y	150
10/29/2006	N	N	Y	Y	N	N	1200
11/4/2006	N	N	Y	Y	N	N	1200
11/5/2006	Y	Y	Y	Y	Y	Y	3600
11/6/2006	N	Y	N	N	N	N	150
11/11/2006	N	N	Y	Y	N	N	1200
11/12/2006	Y	Y	N	N	N	N	1200
11/15/2006	N	N	N	N	Y	N	150
11/16/2006	Y	Y	Y	Y	Y	Y	3600
11/17/2006	Y	Y	Y	Y	Y	Y	3600
11/18/2006	Y	Y	N	N	N	Y	1350
11/19/2006	N	N	N	N	Y	N	150
11/20/2006	N	N	Y	Y	Y	N	1800
11/22/2006	N	N	N	Y	Y	N	1200
11/27/2006	N	Y	N	N	Y	N	150
11/28/2006	Y	Y	Y	Y	Y	Y	3600
11/29/2006	Y	Y	Y	Y	Y	Y	3600
11/30/2006	Y	Y	Y	Y	Y	Y	3600
12/1/2006	N	N	Y	Y	Y	N	1800
12/4/2006	N		Y	N	N	N	150
12/5/2006	N	N	N	N	Y	N	150
12/6/2006	Y	Y	N	N	N	N	1200

12/9/2006	N	Y	N	N	Y	N
12/12/2006	Y	Y	N	Y	Y	N
12/13/2006	N	N	Y	Y	Y	N
12/17/2006	Y	Y	Y	Y	Y	Y
12/24/2006	N	Y	N	N	N	N

300
2400
1800
3600
150

Days of Overflow
2007

Date	Shift - Overflow occurring						Overflow gallons
	12:00 AM	4:00 AM	8:00 AM	12:00 PM	4:00 PM	8:00 PM	
1/2/2007	N	N	Y	Y	N	N	1200
1/3/2007	N	N	N	Y	Y	N	1200
1/4/2007	N	N	Y	N	N	N	150
1/13/2007	N	Y	N	N	N	N	150
1/14/2007	N	N	Y	Y	Y	N	1800
1/15/2007	Y	Y	Y	Y	Y	Y	3600
1/16/2007	Y	Y	Y	Y	Y	Y	3600
1/17/2007	Y		Y	Y	Y	Y	3000
1/18/2007	Y	Y	Y	Y	Y	Y	3600
1/19/2007	Y	Y	Y	Y	Y	Y	3600
1/20/2007	N	N	N	N	Y	Y	1200
1/21/2007	N	N	N	Y	N	N	150
1/22/2007	Y	N	Y	Y	Y	N	1950
1/23/2007	Y	N	N	N	N	Y	300
1/24/2007	N	N	N	N	Y	Y/N	1200
1/26/2007	N	N	N	N	Y	N	150
1/27/2007	N	N	N	N	Y	N	300
1/28/2007	N	Y	N	N	N	Y	300
1/29/2007	N	N	Y	N	N	N	150
1/30/2007	N	N	Y	Y	Y	N	1800
2/8/2007	N	N	N	Y/N	N	N	150
						Average	150
3/5/2007	N	N	N	N	N	Y	150
3/6/2007	Y	N	N	N	N	N	150
3/9/2007	N	N	N	Y	Y	N	1200
3/25/2007	Y	N	N	N	N	Y	300
3/26/2007	N	N	N	N	N	N	
3/27/2007	N	N	N	N	N	N	
3/28/2007			N	N	N		
3/29/2007	N	N	N	Y/N	Y/N	N	1200
3/30/2007			N	N	Y		150
3/31/2007	N	N	N	N	N	N	
4/2/2007	N	N	Y			N	150
4/4/2007	N	N	Y/N	N	N	N	150
4/9/2007	N	N	Y	N	N	N	150
4/16/2007	N	N	N	Y	N	N	150
4/21/2007	N	N	N	N	Y	N	150
4/26/2007	N	Y	N	N	N	N	150
4/27/2007	N	N	Y	Y	Y	N	1800
5/3/2007	N	N	Y/N	Y/N	N	N	1200
5/4/2007	N	Y	N	N	N	Y	300

5/8/2007	N	N	N	Y	Y	N	1200
5/9/2007	N	N	Y	Y	Y	N	1800
5/10/2007	N	N	N	Y	N	N	150
5/15/2007	N	N	N	N	Y/N	N	150
5/20/2007	N	N	Y/N	N	N	N	150
5/26/2007	N	N	N	Y/N	N	N	150
6/8/2007	Y/N	N	N	N	N	N	150
6/14/2007	N	N	N	N	N	Y	150
6/19/2007	N	N	Y/N	N	N	N	150
6/23/2007	Y	N	N	N	Y	Y	1350
6/24/2007	N	N	Y	Y	Y	N	1800
6/25/2007	N	N	N	N	N	N	
6/26/2007	Y	N	N	N	N	Y	300
6/28/2007	N	N	N	N	N	Y/N	
6/29/2007	N	N	N	Y/N	N	N	150
7/1/2007	N	N	N	Y/N	N	N	150
7/2/2007	N	N	Y	N	N	N	150
7/3/2007	Y		N	N	N	N	150
7/7/2007	N	N	Y	Y	N	N	1200
7/9/2007	Y/N	N	N	N	Y	N	300
7/14/2007	N		N	N	N	Y	150
7/15/2007	N	N	Y/N	N	N	N	150
7/16/2007	N	N	N	Y	N	N	150
7/19/2007	N	Y	N	N	N	N	150
7/20/2007	N	Y	N	N	Y	N	300
7/22/2007	N	Y	N	N	N	N	300
7/25/2007	N	Y/N	N	N	N	N	150
7/26/2007	Y	N	N	Y/N	N	Y	300
7/27/2007	N	Y	Y/N	N	N	Y	1350
7/28/2007	Y	Y	N	N	N	Y	1350
7/29/2007	N	N	N	N	Y/N	N	150
7/30/2007	N	N	Y	Y	N	N	1200
7/31/2007	N	N	N	Y	N	N	150
8/2/2007	N	N	N	Y	N	N	150
8/6/2007	N	N	N	N	N	Y	150
8/8/2007	N	Y	Y/N	N	Y/N	N	1350
8/9/2007	Y	Y	N	N	N	Y	1350
8/10/2007	Y	N	N	N	N	Y	300
8/12/2007	N	N	Y	Y	N	Y	1350
8/13/2007	N	N	Y	N	N	N	150
8/14/2007	Y/N	N	Y	N	Y/N	N	450
8/18/2007	N	N	Y/N	N	Y/N	N	300
8/19/2007	N	N	N	Y	Y/N	N	1200
8/20/2007	N	N	N	N	N	Y	150
8/21/2007	N	N	N	N	N	Y	150
8/24/2007	N	N	N	N	Y	N	150
8/27/2007	Y	N	N			Y	150
8/28/2007	N	N	N	Y	N	N	150
8/29/2007	N	N	Y	Y	N	N	1200

9/2/2007	N	Y	N	N	N	N	150
9/3/2007	N	N	N	N	N	Y	150
9/5/2007	N	Y	N	N	N	N	150
9/6/2007	N	N	N	N	N	Y	150
9/12/2007	Y	Y	N	N	N	N	150
9/13/2007	Y	N	N	N	Y	Y	1350
9/17/2007	N	N	Y	Y	N	N	1200
9/18/2007	N	N	N	N	N	N	
9/19/2007	N	N	N	N	N	N	
9/20/2007	N		N	N	N	Y	150
9/23/2007	N	N	N	N	Y	N	150
9/28/2007	Y	N				N	150
9/29/2007	Y	Y				N	1200
9/30/2007	N	Y	N	N	N	N	150
10/1/2007	N	N	Y	Y	N	N	1200
10/2/2007	N	Y	N	Y	Y	N	1350
10/4/2007	Y	N	N	N	N	Y	300
10/5/2007	N	N				Y	150
10/6/2007	N	Y	N	N	N	N	150
10/7/2007	N	N	N	Y	Y	N	1200
10/8/2007	N	N	N	Y	Y	N	1200
10/9/2007	N	N	Y	Y	Y	N	1800
10/10/2007	N	N	Y	Y	Y	N	1800
10/11/2007	Y	Y	Y	Y		Y	3000
10/12/2007	Y	Y	Y	Y	Y	Y	3600
10/13/2007	Y	Y	N	N	N	Y	1850
10/14/2007	Y	Y	Y	Y	Y	Y	3600
10/15/2007	Y	Y	Y	Y	Y	Y	3600
10/16/2007	N	N	Y	N	N	N	150
10/17/2007	N	N				N	
10/18/2007	Y	N	N	Y	N	N	300
10/19/2007	N	N	N	N		Y	150
10/23/2007	N	N	N	Y	Y	N	1200
10/24/2007	N	N	N	Y	Y	N	1200
11/10/2007	N	N	Y	Y	Y	N	1800
11/11/2007	Y	Y	Y	Y	Y	Y	3600
11/12/2007	Y	Y	Y	Y	Y	Y	3600
11/13/2007	Y	Y	Y	Y	Y	Y	3600
11/14/2007	N	N	N	Y	N	N	150
11/16/2007	N	N	N	Y	N	N	150
11/18/2007	N	N	N	Y	Y	N	1200
11/19/2007	N		N	N	Y	N	150
11/25/2007	N	N	N	N	N	Y	600
11/29/2007	Y	Y	Y	Y	Y	Y	3600
11/30/2007	Y					Y	750
12/1/2007	Y	Y	Y	Y	Y	Y	3600
12/4/2007	N	N	N	N	N	N	
12/5/2007	Y	N	Y	N	Y	Y	1500

12/6/2007	Y		Y	N	Y	Y	1500
12/7/2007	N	N	Y	N	N	N	150
12/8/2007	N	N	Y	Y	N	N	1200
12/9/2007	Y	Y	N	N	N	N	1200
12/12/2007	N	N	Y	Y	Y	N	1800
12/13/2007	N	N	N	N	N	N	150
12/14/2007	Y	Y	N	N	N	Y	1850
12/18/2007	N	Y	N	N	N	N	150
12/20/2007	Y		N	N	N	Y	300
12/21/2007	N	N	Y	N	N	N	150
12/22/2007				Y	Y	Y	1800
12/29/2007	Y	N	N	N	N	N	600
12/30/2007	N	Y	N	N	N	N	150

12/6/2007	Y		Y	N	Y	Y	1500
12/7/2007	N	N	Y	N	N	N	150
12/8/2007	N	N	Y	Y	N	N	1200
12/9/2007	Y	Y	N	N	N	N	1200
12/12/2007	N	N	Y	Y	Y	N	1800
12/13/2007	N	N	N	N	N	N	150
12/14/2007	Y	Y	N	N	N	Y	1850
12/18/2007	N	Y	N	N	N	N	150
12/20/2007	Y		N	N	N	Y	300
12/21/2007	N	N	Y	N	N	N	150
12/22/2007				Y	Y	Y	1800
12/29/2007	Y	N	N	N	N	N	600
12/30/2007	N	Y	N	N	N	N	150

12/6/2007	Y		Y	N	Y	Y	1500
12/7/2007	N	N	Y	N	N	N	150
12/8/2007	N	N	Y	Y	N	N	1200
12/9/2007	Y	Y	N	N	N	N	1200
12/12/2007	N	N	Y	Y	Y	N	1800
12/13/2007	N	N	N	N	N	N	150
12/14/2007	Y	Y	N	N	N	Y	1850
12/18/2007	N	Y	N	N	N	N	150
12/20/2007	Y		N	N	N	Y	300
12/21/2007	N	N	Y	N	N	N	150
12/22/2007				Y	Y	Y	1800
12/29/2007	Y	N	N	N	N	N	600
12/30/2007	N	Y	N	N	N	N	150

Certified Mail 7008 2810 0000 4726 0560

January 30, 2009

New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Dear Hope Monzeglio,

This letter is in response to your emails dated January 15, 2009 and January 21, 2009 requesting additional information. NMED reviewed Gallup's January 12, 2009 letter which responded to NMED's December 19, 2008 letter. In the January 15, 2009 email NMED requested additional information identified below.

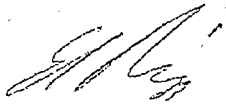
1. Item (e) of NMED's December 19, 2008 letter stated "[s]ubmit monthly flow rates into the new API separator and into the third benzene stripper to NMED on the seventh day of each month. If the seventh day falls on a weekend, then the data must be submitted on the next business day. This must begin January 1, 2009." Gallup responded stating that "[f]low into the new API separator and to the third benzene stripper is not currently monitored."

NMED responded in the January 15, 2009 email stating "Since the flow rate into the new API separator (NAPI) is not monitored; NMED is assuming flow rates are monitored leaving the NAPI. If this is the case, Gallup must provide NMED with monthly flow rates leaving the NAPI and adhere to the same reporting requirements in item (e) of the December 19, 2008 letter. If any of this information is estimated, the information must still be submitted but include how the estimates are derived. Pertaining to the third benzene stripper: Gallup must have some idea or estimate of flow into or out of the third benzene stripper. Therefore, Gallup must submit any estimates of flow into or out of the third benzene stripper and provide how the estimates are derived. This must also be submitted on a monthly basis in accordance with item (e) of NMED's 12/19/08 letter."

The total outflow of the API Separator is measured by taking the outflow from the benzene strippers 1 & 2 (flume depth readings are taken approximately six times in a 24-hour period) plus the overflow into our temporary Baker tank (if any). Gallup will provide these data on the 7th of each month for the previous month starting from January 1, 2009 as requested.

Please do not hesitate to contact me at 505-722-3833 if you (or your staff) have any further questions.

Best regards,

A handwritten signature in dark ink, appearing to read 'Ed Riege', with a stylized flourish at the end.

Ed Riege
Environmental Manager

Regarding the third benzene stripper flow, the refinery does have estimates of the likely flows from all major sources into Benzene Stripper 3 and Gallup will provide these on the 7th of each month for the previous month starting from January 1, 2009 as requested.

2. NMED also stated in the January 15, 2009 email "From a brief review of Gallup's air quality permits; volatile organic compounds (VOCs) and benzene, toluene, ethyl benzene, xylenes (BTEX) emissions emitted from the benzene strippers are calculated monthly and/or quarterly. Gallup must submit to NMED all VOC and BTEX emissions data and calculations pertaining to benzene strippers one and two, and three for the past year (2008). The information must include how the emission data is calculated."

Attached is the 2008 emission calculation. The calculations are based on the following requirements from NSR Permit No. 0633M17. Condition 3.s. reads "Once per calendar month, the permittee shall monitor the BTEX concentration in the pipe feeding the benzene stripper and discharging from the benzene stripper using Method 8260B." Condition 4.p. reads "Monthly, the permittee shall calculate the amount of BTEX that is emitted monthly and the 12 month rolling BTEX emission rate (TPY) from the benzene stripper using the data collected in Specific Condition 3." Condition 3.r. reads "Once per calendar quarter, the permittee shall measure the total VOC emissions from the benzene strippers or shall measure the total VOC concentration in the pipe feeding the benzene strippers and discharging from the benzene strippers using a method that tests, at a minimum, total VOCs." Condition 4.q. reads "Quarterly, the permittee shall calculate the amount of VOC emitted during the quarter, and the quarterly rolling 4 -quarter (annual) VOC emissions (TPY) from the benzene stripper and the API oil water separator using the data collected in Specific Condition 3."

3. In the January 21, 2009 email NMED requested additional information from the meeting with Western Refining, OCD and NMED in Santa Fe the morning of January 21, 2009 to discuss the design of the new above ground wastewater treatment system as shown below:

- 1) If Gallup were to remove the third benzene stripper from service, would the wastewater treatment system (WWTS) design be changed at all or could the presented WWTS be able to handle the increased benzene levels?

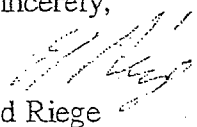
The design as presented only took into account the shutdown of benzene strippers 1 and 2. Additional modifications would be necessary if the third stripper was required to be taken out of service.

- 2) This may have been covered in the meeting; what will be the flow rate from the Travel Center into the wastewater treatment system?

The flow rate from the Travel Center is usually about 20 gpm; our contract with the Travel Center allows for sanitary wastewater up to a maximum of approximately 50 gpm.

Please contact me if further clarification is required.

Sincerely,



Ed Riege
Environmental Manager

Compliance Determination Method For VOC Emission Limits
MONTHLY SAMPLING BTEX

Month	benzene Z84-V7 inlet	benzene Z84-V1-2 outlet	benzene Z84-V7 outlet	benzene Z84-V1-2 inlet	benzene Z84-V7 inlet	benzene Z84-V1-2 inlet	toluene Z84-V7 inlet	toluene Z84-V1-2 outlet	toluene Z84-V7 outlet	toluene Z84-V1-2 inlet	toluene Z84-V7 inlet	toluene Z84-V1-2 outlet	toluene Z84-V7 outlet	ethylbenzene Z84-V7 inlet	ethylbenzene Z84-V1-2 inlet	ethylbenzene Z84-V7 outlet	ethylbenzene Z84-V1-2 outlet	ethylbenzene Z84-V7 inlet	ethylbenzene Z84-V1-2 inlet	ethylbenzene Z84-V7 outlet	ethylbenzene Z84-V1-2 outlet	xylylene Z84-V7 inlet	xylylene Z84-V1-2 inlet
Feb-08	35000	7200	9100	25900	36000	9300	24000	1600	7700	12000	2500	3100	430	600	11000	600	3100	230	660	2500	3100	600	11000
Mar-08	25000	6400	520	24480	24000	1400	1400	1600	8100	22800	2500	410	2090	2090	12000	2090	410	400	1200	2500	410	2090	12000
Apr-08	29000	9100	1500	27500	32000	910	910	1600	7700	12000	2500	3100	430	600	11000	600	3100	230	660	2500	3100	600	11000
May-08	28000	28000	150	27850	25000	110	110	1600	8100	22800	2500	410	2090	2090	12000	2090	410	400	1200	2500	410	2090	12000
Jun-08	29000	15000	1900	27100	28000	1400	1400	1600	8100	22800	2500	410	2090	2090	12000	2090	410	400	1200	2500	410	2090	12000
Jul-08	22000	3700	1100	20900	25000	1900	1900	1600	8100	22800	2500	410	2090	2090	12000	2090	410	400	1200	2500	410	2090	12000
Aug-08	23750	8675	591	8084	28000	20000	20000	950	9050	28545	28545	8425	9050	9050	12000	9050	8425	9050	9050	12000	9050	8425	12000
Sep-08	28000	10000	10455	28545	24000	14000	14000	1600	8100	22800	2500	410	2090	2090	12000	2090	410	400	1200	2500	410	2090	12000
Oct-08	39000	9700	1275	8425	24000	14000	14000	1600	8100	22800	2500	410	2090	2090	12000	2090	410	400	1200	2500	410	2090	12000
Nov-08	50000	50000	910	49090	21000	700	700	1600	8100	22800	2500	410	2090	2090	12000	2090	410	400	1200	2500	410	2090	12000
Dec-08	9400	67000	380	66620	19000	240	240	1600	8100	22800	2500	410	2090	2090	12000	2090	410	400	1200	2500	410	2090	12000
	5200	5200	1500	3700	12000	3500	3500	1600	8100	22800	2500	410	2090	2090	12000	2090	410	400	1200	2500	410	2090	12000

QUARTERLY S	ING TOTAL VOC				Str	VOC
1st QTR 08	Z84-V7 inlet	86750	Z84-V7 outlet	50882	Z84-V7 emitted	35868
	Z84-V1-2 inlet	36368	Z84-V1-2 outlet	6312	Z84-V1-2 emitted	30056
2nd QTR 08	Z84-V7 inlet	63020	Z84-V7 outlet	1002.2	Z84-V7 emitted	62017.8
	Z84-V1-2 inlet	37190	Z84-V1-2 outlet	23614	Z84-V1-2 emitted	13576
3rd QTR 08	Z84-V7 inlet	120100	Z84-V7 outlet	37070	Z84-V7 emitted	83030
	Z84-V1-2 inlet	135790	Z84-V1-2 outlet	11069	Z84-V1-2 emitted	124721
4th QTR 08	Z84-V7 inlet	96290	Z84-V7 outlet	2429	Z84-V7 emitted	93861
	Z84-V1-2 inlet	29070	Z84-V1-2 outlet	11952	Z84-V1-2 emitted	17118

API OIL WATER SEPARATOR Z84-T5

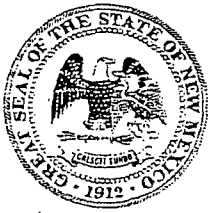
	Flow (gal)
1st QTR 08	3,382,502
2nd QTR 08	20,528,000
3rd QTR 08	18,277,000
4th QTR 08	18,876,800

	Strippers V1-2, 7 TPY	Total
	VOC Mass	VOC Mass
	12 months rolling	12 months rolling
1st QTR 08	0.84	0.84
2nd QTR 08	6.72	6.72
3rd QTR 08	21.09	21.09
4th QTR 08	29.02	29.02

NOTE: We had anomalously high BTEX levels for Stripper 1 & 2 (Z-84-V1-2) and 3 (Z-84-V7) for October. These were not physically possible as the output of Stripper 3 becomes a part of the inflow of Strippers 1 and 2, and the data did not match. Therefore, we used an average of the September and November results for the month of October.

ppb xylene Z84-V7 outlet	ppb xylene Z84-V7 emitted	ppb total BTEX Z84-V7 emitted	A mass fraction	Gallons (G) TOTAL FLOW/month	B TONS/month	tons BTEX Mass A X B	tons BTEX Mass all strippers	TPY BTEX Mass 12 months rolling	ppb total Benzene
13000	0	37300	0.0000373	970,002	3671.7	0.1			25900
Z84-V1-2 outlet	Z84-V1-2 emitted	Z84-V1-2 emitted							
1400	5300	19430	0.00001943	3,880,006	14687.0	0.3	0.4	0.8	6000
Z84-V7 outlet	Z84-V7 emitted	Z84-V7 emitted							
1900	10100	59270	0.00005927	952,500	3605.5	0.2			24480
Z84-V1-2 outlet	Z84-V1-2 emitted	Z84-V1-2 emitted							
2500	4300	18970	0.00001897	3,810,000	14422.0	0.3	0.5	0.91	5770
Z84-V7 outlet	Z84-V7 emitted	Z84-V7 emitted							
220	9780	70170	0.00007017	1,460,000	5526.5	0.4			27500
Z84-V1-2 outlet	Z84-V1-2 emitted	Z84-V1-2 emitted							
5200	6800	30130	0.00003013	5,840,000	22106.2	0.1	0.5	1.36	7100
Z84-V7 outlet	Z84-V7 emitted	Z84-V7 emitted							
53	7547	61777.8	6.17778E-05	2,137,500	8091.1	0.5			27850
Z84-V1-2 outlet	Z84-V1-2 emitted	Z84-V1-2 emitted							
2500	2300	14090	0.00001409	8,550,000	32364.3	0.5	1.0	2.32	4000
Z84-V7 outlet	Z84-V7 emitted	Z84-V7 emitted							
530	7470	62586	0.000062586	1,534,500	5808.5	0.4			27100
Z84-V1-2 outlet	Z84-V1-2 emitted	Z84-V1-2 emitted							
3500	5500	37630	0.00003763	6,138,000	23234.2	0.9	1.2	3.56	13400
Z84-V7 outlet	Z84-V7 emitted	Z84-V7 emitted							
1800	12200	58180	0.00005818	1,449,750	5487.7	0.3			20900
Z84-V1-2 outlet	Z84-V1-2 emitted	Z84-V1-2 emitted							
1400	5400	13490	0.00001349	5,799,000	21951.0	0.3	0.6	4.17	1500
Z84-V7 outlet	Z84-V7 emitted	Z84-V7 emitted							
1400	12600	63950	0.00006395	1,400,500	5301.3	0.3			21650
Z84-V1-2 outlet	Z84-V1-2 emitted	Z84-V1-2 emitted							
280	9020	45641	0.000045641	5,602,000	21205.3	1.0	1.3	5.48	8084
Z84-V7 outlet	Z84-V7 emitted	Z84-V7 emitted							
8100	3900	21600	0.0000216	1,719,000	6506.9	0.1			8000
Z84-V1-2 outlet	Z84-V1-2 emitted	Z84-V1-2 emitted							
740	4460	26950	0.00002695	6,876,000	26027.7	0.7	0.8	6.32	9050
Z84-V7 outlet	Z84-V7 emitted	Z84-V7 emitted							
4650	4050	47865	0.000047865	1,837,500	6955.5	0.3			28545
Z84-V1-2 outlet	Z84-V1-2 emitted	Z84-V1-2 emitted							
1220	5730	27340	0.00002734	7,350,000	27822.0	0.8	1.1	7.42	8425
Z84-V7 outlet	Z84-V7 emitted	Z84-V7 emitted							
1200	4200	74210	0.00007421	1,440,850	5454.0	0.4			49090
Z84-V1-2 outlet	Z84-V1-2 emitted	Z84-V1-2 emitted							
1700	7000	27730	0.00002773	5,763,400	21816.2	0.6	1.0	8.43	7800
Z84-V7 outlet	Z84-V7 emitted	Z84-V7 emitted							
170	2830	88629	0.000088629	1,440,850	5454.0	0.5			66620
Z84-V1-2 outlet	Z84-V1-2 emitted	Z84-V1-2 emitted							
1900	3300	16220	0.00001622	5,763,400	21816.2	0.4	0.8	9.26	3700

Total VOC ppb		tons	
Z84-V7 emitted	35868	VOC Mass	0.46
Z84-V1-2 emitted	30056		0.38
	62017.8		4.82
	13576		1.05
	83030		5.74
	124721		8.63
	93861		6.71
	17118		1.22



BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 · Fax (505) 476-6030
www.nmenv.state.nm.us



RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 9, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: FACILITY WIDE GROUNDWATER MONITORING WORK PLAN
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-GRCC-09-001

Dear Mr. Riege:

The New Mexico Environment Department (NMED) requires Western Refining Company, Southwest Inc., Gallup Refinery (Permittee) to submit a Facility Wide Groundwater Monitoring Plan (Monitoring Plan). The purpose of this Monitoring Plan is to characterize the nature and extent of groundwater contamination at, and migrating from the facility and provide one plan that contains all groundwater monitoring activities that will satisfy both NMED and the New Mexico Energy Minerals and Natural Resource Department Oil Conservation Division (OCD) requirements. The Monitoring Plan must be revised on an annual basis to accommodate monitoring changes at the facility and to alleviate the need to update NMED and OCD permits.

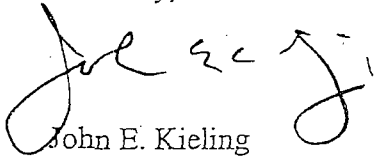
Currently, the groundwater monitoring requirements are established in the OCD Discharge Plan dated August 23, 2007, specifically items 16 (the Sampling Schedule Resulting from historical New API Separator Spills), 19, 20 (A & B), and 25.

Ed Riege
Gallup Refinery
February 9, 2009
Page 3

Once this Monitoring Plan is approved, this plan will include and replace the requirements of the OCD Discharge Plan. The information gathered per the Monitoring Plan will then be included in the Annual Groundwater Monitoring Report. The Annual Groundwater Monitoring Report is considered a Periodic Monitoring Report for the purpose of compliance with NMED requirements and the OCD Discharge Plan items 20 (A and B) and 25. Attachment 2 provides general guidance for the preparation of Periodic Monitoring Reports.

The Permittee must submit the Monitoring Plan to NMED and the OCD on or before May 11, 2009. If you have questions regarding this letter please contact Hope Monzeglio of my staff at 505-476-6045.

Sincerely,



John E. Kieling
Program Manager
Permits Management Program
Hazardous Waste Bureau

cc: D. Cobrain NMED HWB
H. Monzeglio, NMED HWB
W. Price, OCD
B. Jones, OCD
G. Rajen, Gallup
File: Reading File and GRCC 2009 File
HWB-GRCC-09-001

ATTACHMENT 1

GENERAL GUIDE FOR COMPOSING THE MONITORING PLAN

- An Executive Summary (Abstract) must be included to provide a brief summary of the purpose and scope of the Monitoring Plan. This section must include the facility name and portions of the facility including any areas of concern (AOCs), Solid Waste Management Units (SWMUs) or other locations that the Monitoring Plan will be addressing.
- A Table of Contents must be included that lists all text sections, subsections, tables, figures, and appendices or attachments included in the Monitoring Plan.
- An Introduction must be included in the Monitoring Plan to include general information on the current facility and a brief description of the purpose of the proposed groundwater monitoring and the types of activities that will be conducted.
- A Background section must be added that briefly describes relevant general background information, including historical site uses, potential receptors, the type and characteristics of the waste or contaminants and any known and possible source(s), and a summary of the history of contaminant releases which could be contributing to groundwater contamination.
- The Permittee must include a Site Conditions section to provide a detailed description of current site topography and locations of natural features and manmade structures. This section must include a description of drainages, vegetation types, erosional features, and current site uses, in addition to, descriptions of features located in surrounding sites (i.e. SWMUs, AOCs) that may have an impact on the subject site regarding recharge sediment transport, surface water runoff, or contaminant fate and transport. A description of subsurface conditions must also be included that provides a discussion of the conditions observed during previous subsurface investigations, including but not limited to soil types and associations, stratigraphy, and the presence and flow direction of groundwater.
- A Scope of Activities section must include a list of all anticipated activities to be performed during the facility-wide groundwater monitoring sampling events.
- A section must be included that provides a description of all anticipated locations to be sampled and methods for conducting the activities during the facility wide groundwater monitoring events. This section must include, but is not limited to, descriptions of: sampling methods, sample handling procedures, procedures for collecting field water quality measurements, any field equipment and calibration procedures, water level measurement, purging activities, and decontamination procedures. This section must also address Investigation Derived Waste (IDW).

ATTACHMENT 2
GENERAL OUTLINE FOR THE PERIODIC MONITORING REPORT
(For the Facility Wide Groundwater Monitoring Report)

Periodic monitoring Report

The Permittee shall use the following guidance for preparing periodic monitoring reports. The reports shall present the reporting of periodic groundwater, vapor, and remediation system monitoring at the Facility. The following sections provide a general outline for monitoring reports, and also provide the minimum requirements for reporting within each subsection when preparing periodic monitoring reports for groundwater monitoring. All data collected during each monitoring and sampling event in the reporting period shall be included in the reports. In general, interpretation of data shall be presented only in the Background, Conclusions, and Recommendations sections of the reports. The other text sections of the reports shall be reserved for presentation of facts and data without interpretation or qualifications. The general report outline is provided below.

Title Page

The title page shall include the type of document; Facility name and the submittal date. A signature block providing spaces for the name, title, and organization of the preparer and the responsible Permittee representative shall be provided on the title page in accordance with 20.4.1.900 NMAC incorporating 40 CFR 270.11(d)(1).

Executive Summary

The executive summary shall provide a brief summary of the purpose, scope, and results of the monitoring conducted at the subject site during the reporting period. The Facility, unit, SWMU, and AOC names and location shall be included in the executive summary. In addition, this section shall include a brief summary of conclusions based on the monitoring data collected.

Table of Contents

The table of contents shall list all text sections, subsections, tables, figures, and appendices or attachments included in the report. The corresponding page numbers for the titles of each section of the report shall be included in the table of contents.

Introduction

The introduction section shall include the Facility name, unit name and location and unit status (e.g. active operations, closed, corrective action). General information on the site usage and status shall be included in this section. A brief description of the purpose of the monitoring, type of monitoring conducted, and the type of results presented in the report also shall be provided in this section.

reporting period shall also be included in this section. A summary table may be substituted for this section.

Summary

A summary section shall provide a discussion and conclusions of the monitoring conducted at the site. In addition, this section shall provide a comparison of the results to applicable cleanup levels, and to relevant historical monitoring and chemical analytical data. An explanation shall be provided with regard to data gaps. A discussion of remediation system performance, monitoring results, modifications if applicable, and compliance with discharge requirements shall be provided in this section. Recommendations and explanations regarding future monitoring, remedial actions, or site closure shall also be included in this section.

Tables

With prior approval from the NMED, the Permittee may combine one or more of the tables. Data presented in the tables shall include the current data plus data from the three previous monitoring events or, if data from fewer than three monitoring events is available, data acquired during previous investigations and vapor, groundwater, and remediation system monitoring. The dates of data collection shall be included in the tables. Summary tables may be substituted for portions of the text. All data tables shall include only detected analytes and data quality exceptions that could potentially mask detections. A section shall provide the following summary tables:

1. A table summarizing the regulatory criteria (a Regulatory Criteria text section may be substituted for this table or the applicable cleanup levels may be included in the analytical data tables),
2. A table summarizing groundwater elevations, SPH thickness, and depths to groundwater data. The table shall include the monitoring well depths, SPH thickness, casing elevations, the screened intervals in each well, and the dates and times of measurements,
3. A table summarizing field measurements of surface water quality data, if applicable,
4. A table summarizing field measurements of vapor monitoring data (including historical vapor monitoring data as described above),
5. A table summarizing field measurements of groundwater quality data (including historical water quality data as described above),
6. A table summarizing vapor sample chemical analytical data, if applicable (including historical vapor sample analytical data as described above),
7. A table summarizing surface water chemical analytical data, if applicable (including historical surface water analytical data as described above),

Field Methods

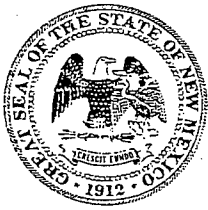
An appendix shall include the methods used to acquire field measurements of groundwater elevations, SPH thickness, vapor and water quality data, and vapor and groundwater samples. It shall include the methods and types of instruments used to measure depths to water, air or headspace parameters, and water quality parameters. In addition, decontamination, well purging techniques, well sampling techniques, and sample handling procedures shall be provided in this appendix. Methods of measuring and sampling remediation systems shall be reported in this section, if applicable. Purge and decontamination water storage and disposal methods shall also be presented in this appendix. Copies of purge and decontamination water disposal documentation shall be provided in a separate appendix.

Chemical Analytical Program

An appendix shall discuss the analytical program. It shall include the analytical methods, a summary of data quality objectives, and data quality review procedures. A summary of data quality exceptions and their effect on the acceptability of the analytical data with regard to the monitoring event and the site status shall be included in this appendix along with references to case narratives provided in the laboratory reports.

Chemical Analytical Reports

This appendix shall include all laboratory chemical analytical data generated for the reporting period. The data may be submitted electronically on a compact disc in Microsoft Excel format. The reports shall include all chain-of-custody records and QA/QC results provided by the laboratory. Hard (paper) copies of all chain-of-custody records shall be submitted as part of this appendix.



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RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 26, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: NOTICE OF DISAPPROVAL
OIL CONSERVATION DIVISION (OCD) 2007 ANNUAL GROUNDWATER
REPORT (AND OCD ADDENDUM)
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
HWB-GRCC-08-005
EPA ID # NMD000333211

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the *Oil Conservation Division 2007 Annual Groundwater Report (and OCD Addendum)* (Report), dated August 28, 2008, submitted on behalf of Western Refining Company, Southwest Inc., Gallup Refinery (Permittee). NMED hereby issues this Notice of Disapproval (NOD). NMED does not require the submittal of a revised report. However, all comments contained in this NOD must be applied and corrected in future groundwater monitoring reports (Annual Report) due to NMED and the Oil Conservation Division on September 1, 2009.

Comment 1

On page 2 of the Executive Summary and in Section 4.0 (Groundwater Monitoring Results), page 17, the Permittee addresses Methyl Tetra-Butyl Ether (MTBE) detections in monitoring wells (MTBE is also addressed in other Sections of the Report) and applied the Water Quality

included in all future Annual Reports.

- d. The Permittee must ensure that the water levels in monitoring wells GWM-2 and GWM-3 are checked quarterly and all four dates and the associated water levels (or absence of water) are presented in future Annual Reports. The Table in Section 2 states "Dry" for these wells under "Date Sampled;" it is not clear how often these wells were checked.
- e. According to the Discharge Permit, the inlet to Pond 1 is to be sampled semi-annually. The Table in Section 2 identified the Pond 1 inlet as being sampled once. The Permittee must ensure that the inlet to Pond 1 is sampled according to the Discharge Permit, and that all sampling information is included in future Annual Reports.
- f. NMED assumes that the November 29, 2007 sampling of Ponds 1-8 was considered to be in the first quarter. The Permittee must ensure that the data for all four quarters are included in future Annual Reports.
- g. NMED stated in its January 16, 2008 NOD to the Annual Groundwater Report that "[t]he Permittee must ensure the next annual groundwater monitoring report incorporates OCD's Discharge Permit requirements, including the most current groundwater sampling schedule." This task was not completed. The Permittee must complete all sampling requirements in the Discharge Permit.

Comment 4

The following sampling locations required by the Discharge Permit were not found in Section 2 (Scope Activities) of the Report: NAPIS -1, NAPIS-3, NAPIS-3D, OW-1, OW-10, OW-29, OW-30, PW-2, Effluent from the Pilot Station to Aeration Lagoon, Effluent from the new API separator, and boiler water inlet to EP-2. NMED is aware that the sampling data for the NAPIS wells may not have been included in the Report because the sampling requirements were not established until late 2007. However, the Permittee must ensure that all sampling requirements are completed, and that if sampling did not occur, an explanation must be included. Future Annual Reports must be revised accordingly.

Comment 5

The Permittee compared the analytical data to the WQCC standards and the MCLs. The Permittee must apply the RSLs for tap water for those constituents where a WQCC Standard or a MCL has not been established. This must be implemented in future Annual Reports.

Comment 9

Some of the tables provided in Section 4 (Groundwater Monitoring Results) do not include a WQCC standard or MCL where one exists (e.g., Table 2 did not include a WQCC or MCL standard for iron, manganese, zinc, and phenols). In addition, the RSLs should have been applied to some constituents in Table 2 as well (e.g., 2,4, dimethylphenol). For the tables provided in Section 4.0, where diesel range organics (DRO) are present, the Permittee must apply NMED's TPH Screening Guideline of 0.2 mg/l for "unknown oil" found in Table 2a. In future Annual Reports, the Permittee must revise the tables found in Section 4.0 to include the appropriate standards and include data from the previous three sampling events.

Comment 10

The Permittee analyzed some samples for RCRA metals and other samples for the larger list of WQCC metals (e.g., GWM-1 analyzed for RCRA metals; the Evaporation Ponds analyzed for WQCC metals). The Discharge Permit requires all samples to be analyzed for the WQCC metals list. The Permittee must ensure the samples are analyzed for the correct constituents. This must be reflected in future Annual Reports. If different analyses are used, the Permittee must provide an explanation for the deviations from the Discharge Permit.

Comment 11

The difference between Section 5 (Groundwater Chemical Analytical Data) in binder 1 and Section 3b (Results of all Sampling and Monitoring Events) in binder 2 is not clear; both contain analytical laboratory reports. In future Annual Reports, the Permittee must include all laboratory reports in one section. Only laboratory reports that apply to the groundwater monitoring requirements found in the Discharge Permit need to be included. The Permittee must ensure the entire laboratory report is included; some laboratory reports found in Section 3b were missing pages (e.g., sample location AL-1 Inlet only included the last page of SVOC data, (Lab ID 0705252-02, collection date 5/17/07)).

Comment 12

This comment pertains to Section 6 (Summary of Groundwater Testing), OW-11. The Permittee states "[t]he sample was analyzed for Mercury (EPA Method 7470), Total Recoverable Metals (EPA Method 6010B), and Volatiles (EPA Method 8260B).....In 2006, the general chemistry results showed that fluoride (2.5 mg/l) and sulfate (1,100 mg/l) were present at levels greater than the NMWQS for fluoride (1.6 mg/l) and sulfate (600 mg/l). However, these analyses could not be conducted in 2007, as the sample was frozen by the time it reached the analytical laboratory."

It is not clear how the frozen groundwater sample could be analyzed for mercury, total recoverable metals and volatile organic compounds, but not fluoride and sulfate. The Permittee must clarify this type of discrepancy in future Annual Reports.

Permit (Item 19) must be included in this section. The Permittee must revise future Annual Reports accordingly.

Comment 17

There are discrepancies between when PW-2, PW-3, and PW-4 are to be sampled, the schedule presented in Section 6, and what is identified in the Discharge Permit. The Permittee must apply the sampling schedule found in the Discharge Permit dated August 23, 2007. This must be updated in future Annual Reports.

Comment 18

The information provided by the Permittee in Section 7 (List of Tables) is not organized and does not correlate with the headings identified on the first page of this Section. In future Annual Reports, the Permittee must revise this Section as follows:

- a. The Permittee must only provide relevant information and remove random pages that do not pertain to the headings provided on the first page of the Section. For example, the page after the "Well Data Summary Table" states "Well Closures." This information is not relevant. The second page of this Section is "Ground Water Depth to Water 2007." This information is already present in the "Well Data Summary Table." Relevant information should be included together.
- b. Revise page 2 of the "Well Data Summary Table" to include the 2007 data; the table provides 2006 data.
- c. Include the total well depth of recovery wells 1, 2, 5, and 6 in the "Well Data Summary Table."
- d. The "Ground Water Depth to Water 2007" table contains hand written information. This information must be included in the Well Data Summary Table, and the page removed from the Report.
- e. If the Permittee includes their field notes, this information should be included in a separate section (e.g., an appendix) of the Report, and removed from the Tables section of the Report.

Comment 19

In Section 7, the Permittee provides tables that contain recovery well information and state "Condition Permit ID: OCD Sect., 9, Item 4". The table contains three columns entitled "Depth to Product (feet)", "Depth to Water (Feet)" and "Product Level Thickness (feet)." The values presented in these columns are listed in both feet and inches and appear to be rounded numbers.

wells is drained onto the ground.”

In future Annual Reports, the Permittee must clearly state that the analytical data for the purge water from historically non-contaminated wells is reviewed for detections before it is discharged to the ground.

Comment 25

The Permittee must revise future Annual Reports to include the accuracy to which depth to groundwater and separate phase hydrocarbons (SPH) water levels are measured (e.g., to the nearest 0.01 foot). See Section 8 (List of Figures), Appendix A, under Groundwater Elevation and Well Evacuation.

Comment 26

In Section 8 (List of Figures), Appendix A, under Well Evacuation, the Permittee states “[t]he water level in the well, total depth of well and thickness of floating product (if any) will be measured using the Dipper T electric[onic] water depth tape. A transparent bailer will be used to check for the presence and measure the thickness of floating product.”

In future Annual Reports, the Permittee must revise the above paragraph to indicate if the floating product is measured using the Dipper T or a bailer.

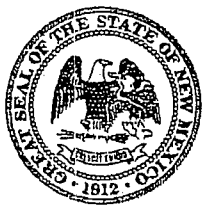
Comment 27

In Section 8 (List of Figures), Appendix A, under Well Evacuation, page 50 and 51, the Permittee uses the term “should” (e.g., the Permittee states the first sample *should* be tested for pH, temperature...). It is unclear what the Permittee actually did. In future Annual Reports, the Permittee must revise these pages to state what the Permittee actually did, not what they should do.

Comment 28

In Section 3e (Summary of all Leaks, Spills & Releases & Corrective Actions), the Permittee provides dates and descriptions of spills that occurred during the year at the refinery.

In future Annual Reports, the Permittee must provide more detail concerning the descriptions of the spills. Some of the explanations are vague and do not indicate if the spill was cleaned up. The cleanup and what measures the refinery implemented when the spill occurred must be included. For example, on 7/19/07, the API weir box ran over. The last sentence states “[e]stimate 5-10 bbls of oil/water spilled to the ground.” The Permittee did not mention anything about the cleanup. In any event, the cleanup must be addressed in detail, including the volumes recovered, the amount of soil removed, if removed, and where waste was disposed.



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JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

April 15, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: NOTICE OF DISAPPROVAL
PROCESS DESIGN REPORT FOR WASTEWATER TREATMENT
PLANT UPGRADE
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-GRCC-09-002

Dear Mr. Riege:

The New Mexico Environment Department (NMED) and the New Mexico Energy Minerals, and Natural Resource Department, Oil Conservation Division (OCD) have completed their review of the *Process Design Report For Wastewater Treatment Plan Upgrade* (Report), dated February 26, 2009, submitted on behalf of Western Refining Company, Southwest Inc., Gallup Refinery (the Permittee). The Permittee must provide additional information before NMED and OCD can complete their technical review and hereby issues this Notice of Disapproval (NOD) and provides comments below. Comments 5 through 10 are not directly related to the system design

but are part of the wastewater treatment plan upgrade. The Permittee may choose to address these comments in an appendix of the revised Report.

Comment 1

In Section 3.3 (Biological Treatment), the Permittee states "[t]he biological treatment technology selected for [Wastewater Treatment Plant] WWTP upgrade project was a Bioreactor without sludge (biomass) recycle. This technology is akin to an aerated lagoon, but in an above-ground steel tank."

The Permittee currently does not have a National Pollutant Discharge Elimination System (NPDES) Permit. Therefore, the wastewater treatment system (WWTS) upgrade is subject to the Resource Conservation Recovery Act (RCRA) and the New Mexico Hazardous Waste Act (HWA). The bioreactors, tank-based separator, and any future tanks must comply with 20.4.1.500, incorporating 40 CFR 264 Subpart J. The Permittee must revise the Report to show that the tanks comply with the Subpart J design requirements. The Permittee must revise the text and attachments as necessary.

Comment 2

In Section 3.3 (Biological Treatment), page 3-3, the Permittee states "[t]he shutdown of Benzene Stripper No. 3 will increase the benzene loading in the NAPIS effluent above current levels. In the detailed engineering phase, Brown and Caldwell will evaluate the impact of this change on the design conditions and evaluate whether or not MBBR media addition to the Bioreactors will be required as a result."

The Permittee must revise the Report to include all changes to the WWTS to account for the increased benzene load resulting from the removal of Benzene Stripper 3.

Comment 3

In Section 4.5 (Secondary Containment and Leak Detection), page 4-5, the Permittee states "[t]he proposed design does not include leak detection or containment berms for the Bioreactors (T11 and T12)...However, the Bioreactors will be situated such that a potential leak would flow into EP-1, which is the destination of the Bioreactor effluent."

If the system has a leak, the discharge may not be completely treated and therefore may potentially be characteristic for benzene and/or be a F037/F038 listed waste, which would then enter EP-1. Hazardous waste must not be discharged to EP-1 since it is not permitted by NMED to receive hazardous waste and requirements in the OCD Discharge Plan. Because the Permittee does not have a NPDES Permit for the wastewater treatment system, the tank systems within the WWTS are subject to the requirements of 20.4.1.500 NMAC, incorporating 40 CFR 264 Subpart J. The Permittee must revise this Report to reflect compliance with the requirements of 40 CFR 264 Subpart J and revise the attachments as applicable. The Permittee

must also revise the Report to comply with Condition 9 (Above Ground Tanks) of the OCD Discharge Permit (GW-32), dated August 23, 2007. The WWTS cannot be retrofitted and does not qualify for the exemption (tanks that contain fresh water or fluids that are gases at atmospheric temperature and pressure are exempt) under Condition 9 of the OCD Permit.

Comment 4

The Permittee must revise the Report to include the following modifications:

- a. The WWTS must contain influent and effluent sampling ports to accommodate sampling at the new API separator, the tank based separator, and the bioreactors.
- b. The WWTS must include air vents for the Tank Based Separator and the Bioreactors. These locations must be constructed to allow for emissions sampling.

The text and attachments must be revised as necessary to address items a and b above.

Comment 5

In Section 2.2 (Refinery Wastewaters), page 2-1, the Permittee states "[t]he sanitary wastewater generated at the Refinery and the seven adjacent homes owned by the Refinery currently discharges to septic systems and not the WWTP. However, the WWTP upgrades will include the option for these sanitary sources to be redirected to the WWTP at a future date at Western Refining's discretion."

If and when the sanitary sources are redirected to the WWTS, the Permittee must notify the OCD and the Gallup Field Office (http://www.nmenv.state.nm.us/NMED/field_op.html) prior to implementing this change over and comply with all requirements. No revision is necessary.

Comment 6

In Section 3.3 (Biological Treatment), page 3-3, the Permittee states "[b]iomass will exit the Bioreactors by being carried out in the Bioreactor effluent. The biomass will settle out in the downstream evaporation ponds, primarily [Evaporation Pond] EP-1. Over time, the settled biomass may accumulate in EP-1 to the extent that dredging will be required."

The Permittee has allowed upsets with the current wastewater treatment system resulting in hazardous waste being discharged to EP-1. Therefore the following requirements apply and the Permittee must revise the Report to address these requirements.

- a. Within 30 days of demonstration that the new wastewater treatment system is achieving cleanup criteria, the Permittee must dredge EP-1. The dredged material must be properly characterized and managed for proper disposal. All dredging and waste disposal activities must be approved by both NMED and OCD prior to

implementation. The Report must be revised to describe the dredging process, alternatively, the Permittee may submit a separate work plan to NMED and OCD for approval that addresses the dredging activities.

- b. After the initial dredging of EP-1, the Permittee must dredge the biomass from EP-1 anytime the biomass accumulation is greater than one foot. The dredged biomass must be properly characterized as nonhazardous if considered for placement in the OCD landfarm to assist the remediation of contamination soils, pending OCD approval. NMED must be included on all correspondence.

Comment 7

In Section 4.2.1 (Stormwater/Diversion tanks), page 4-1, the Permittee states "[i]n the new system, stormwater will flow by gravity to two Stormwater/Diversion Tanks. These tanks are existing with a numerical designation of Z84-T27 and T-28....Stormwater that collects in the tanks will be pumped at a rate of 50 to 200 gpm to the process sewer that feeds to the NAPIS."

Since the stormwater and process wastewater at the refinery comingle, any sludge removed from the bottom of the Stormwater/Diversion tanks must be managed as hazardous waste.

Comment 8

In Section 4.2.1 (Stormwater/Diversion tanks), page 4-1, the Permittee states "[c]leanouts will be installed on the conveyance pipelines to and from the Stormwater/Diversion Tanks. Cleaning events will be scheduled on a regular, recurring basis."

Any sludge removed during the cleanouts of the pipelines must be managed as hazardous waste. The Permittee must revise the Report to address the management of this sludge.

Comment 9

In Section 4.2.5 (Bioreactors), page 4-3 and 4-4 the Permittee states "[t]here will be provisions for diverting the Bioreactor effluent away from EP-1 in the event that the treated water quality is not acceptable. A diversion line will be connected to the combined Bioreactor effluent, with its valve normally closed. To divert, this valve would be opened and the valve to EP-1 closed" and the Permittee later states in Section 4.4 (Management of Off-Spec Wastewater), page 4-5, that "[i]f at anytime the Bioreactor effluent were deemed unsuitable for discharge to EP-1, it could be diverted to the new Stormwater/Diversion Tanks as described in Section 4.2.5."

The Permittee must provide a sampling plan that explains how the Permittee will characterize the effluent from the bioreactors entering EP-1. The sampling plan must identify the location of samples that will be collected and address sampling frequency, water quality parameters, and test methods. The effluent must comply with the Water Quality Control Commission standards found in 20.6.2.3103.

Ed Riege
Gallup Refinery
April 15, 2009
Page 5

Comment 10

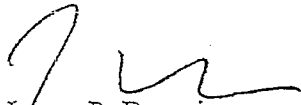
In Section 4.3.3 (OAPIS), page 4-5, the Permittee states "the [Old API Separator] OAPIS will no longer be required and can be decommissioned."

The OAPIS is Solid Waste Management Unit (SWMU) No. 14. This SWMU is subject to corrective action under the Refinery's RCRA Permit. In the response letter, the Permittee must provide a schedule for the submittal of an investigation work plan to assess releases from the OAPIS.

The Permittee must address all comments contained in this NOD. The revised Report must be submitted with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. In addition, an electronic version of the revised Report must be submitted that identifies where all changes made in red-line strikeout format. The Permittee must submit the revised Report to NMED, OCD, and EPA on or before May 30, 2009.

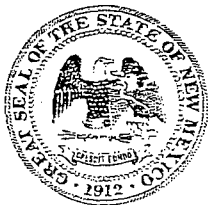
If you have questions regarding this letter please contact Hope Monzeglio of my staff at 505-476-6045.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
D. Cobrain NMED HWB
H. Monzeglio, NMED HWB
B. Jones, OCD
C. Chavez, OCD
G. Rajen, Gallup
J. Dougherty, EPA Region 6
File: Reading File and GRCC 2009 File.
HWB-GRCC-09-002



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RON CURRY
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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 6, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: NOTICE OF DISAPPROVAL
CLOSURE PLAN AERATION LAGOONS
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-GRCC-09-003

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the *Closure Plan Aeration Lagoons* (Plan), dated February, 2009, submitted on behalf of Western Refining Company, Southwest Inc., Gallup Refinery (Permittee). The Permittee has not provided sufficient information for NMED to complete a technical review. NMED hereby issues this Notice of Disapproval (NOD) and provides comments below.

Ed Riege
Gallup Refinery
May 6, 2009
Page 3

(incorporating 40 CFR 264.101) of the Hazardous Waste Management Regulations. In the revision to the Plan, the Permittee must revise the above paragraph to reference the Permit and the correct regulations. See also Comment 1.

Comment 5

In Section 2.2 (Surface Impoundment Operations), page 4, paragraph 1, the Permittee states "[t]he refinery process wastewater generated (approximately 100 gallons per minute (gpm)) as measured in March 2006) at the Gallup Refinery is managed first by physical treatment in an API separator..."

The refinery's wastewater flow rates at times likely exceed 100 gallons per minute. Therefore, the Permittee must revise the Plan to provide an average flow rate of the process wastewater produced over the last year (2008) and include details pertaining to how the average was derived.

Comment 6

In Section 2.2 (Surface Impoundment Operations), page 4, paragraph 2, the Permittee states "[a]n investigation of the aeration lagoons was conducted in April 2008 to characterize the volume and nature of sediments in each basin. A copy of the report of the investigation prepared by Trihydro Corporation is included in Appendix A." (Appendix A was also referenced on page 5)

Appendix A was not included in the Plan, nor was it identified in the Table of Contents. The Permittee's revision to the Plan must include Trihydro's investigation report, and any other investigation information related to AL-1 and AL-2.

Comment 7

In Section 2.3 (Assessment Activities), page 5, paragraph 1, the Permittee states "[c]opies of EPA's letter dated January 7, 1994 and a subsequent facsimile dated March 15, 1996, which notes the changed monitoring frequency to five years, are included in Appendix B."

Appendix B was not included in the Plan nor was it identified in the Table of Contents. EPA's letter, fax, and the sampling that was conducted in 1990's (paragraph 1 and 2 of Section 2.3) will not affect the investigation or remediation activities for AL-1 and AL-2 because these units have received and treated hazardous waste characteristic for benzene and also likely generated F037 and F038 listed wastes since 1996. The Permittee must re-evaluate the information provided in Section 2.3 (Assessment Activities) and determine if the information is relevant to the cleanup activities for AL-1 and AL-2 and revise the Plan accordingly. The Permittee must also revise the text as it addresses Appendix B where appropriate.

The Permittee should consider the following when choosing the cleanup standards for AL-1 and AL-2. If the Permittee chooses to clean up AL-1 and AL-2 using the industrial/occupational NMED Soil Screening Levels (SSLs), then AL-1 and AL-2 will be closed as corrective action complete with controls (CACWC) (i.e., no additional remedial activity is required but the unit requires continued operation and maintenance, monitoring actions for engineering controls, or institutional controls; the unit will stay on the Permit and annual fees will continue to be incurred) or AL-1 and AL-2 can be cleaned to meet the residential NMED SSLs and AL-1 and AL-2 will be closed as corrective action complete without controls (CACWOC) (no additional remedial activity is required at the unit and the Permittee can petition for a corrective action complete determination). In light of this, the Permittee may wish to revise the target cleanup levels referenced in the Plan. (The definitions for CACWC and CACWOC can be found at NMAC 20.4.2.7 (Definitions) J and K)

If NMED determines the Permittee is unable to achieve residential cleanup standards, the Permittee will be directed to submit a Corrective Measures Study to evaluate remedial alternatives. NMED will select a remedy based on the information provided in the CMS. The remedy selection is subject to public participation in accordance with 20.4.1.901 NMAC. Upon selection of a remedy, NMED will establish a due date for submittal of a Corrective Measures Implementation Work Plan that shall include the details for implementation of the selected remedy and a schedule for completion of such implementation.

Comment 11

In Section 4 (Proposed Closure Procedures), page 7, paragraph 3, the Permittee states “[i]t is anticipated that excavation will extend into the upper portion of the natural clay liner with a goal to remove all waste materials and impacted soil with concentrations of constituents exceeding the applicable industrial/occupational NMED Soil Screening Levels, which satisfies any “contained-in” concerns.”

Cleaning up to the industrial/occupational NMED SSLs does not satisfy “contained-in concerns.” If the Permittee seeks a “no longer contained in” determination for a listed hazardous waste, it must request it in writing and obtain approval by NMED. The Permittee must revise the last sentence of this paragraph to remove reference to “contained-in concerns” because this term and reference to the NM SSLs are used incorrectly. The Permittee must also address how it will determine that all waste materials and contaminated soils have been removed. The Plan must be revised accordingly.

Comment 12

In Section 4 (Proposed Closure Procedures), page 7, paragraph 3, the Permittee states “[t]he excavated materials will be sampled for hazardous characteristics in accordance with 40 CFR 261, Subpart C – Characteristics of Hazardous Waste. Samples of the sludge and soil will be

Petroleum Hydrocarbon Screening Guidelines (October 2006) (this applies to all analytical data collected).

- d. The Permittee must collect the samples from the base and sidewalls of the excavations of AL-1 and AL-2 every 20 feet instead of every 50 feet.

Comment 15

In Section 4 (Proposed Closure Procedures), page 8, paragraph 3, the Permittee states "[t]he dikes surrounding the aeration lagoon will be leveled and clean fill material imported, as necessary, to bring the land surface to final grade."

Because the dikes will be used to fill in the aeration lagoons, the Permittee must revise the Plan to include the collection of dike samples. In addition, the surface soil samples must be collected at 25 foot intervals from the center of the dike. At each sample location, a sample must be collected from the surface and at the one to two foot interval. All samples collected must be analyzed for VOCs, SVOCs, DRO extended, GRO, iron, manganese and the Skinner List (organics and inorganics). The Permittee must include a figure showing the proposed dike sample locations. If the dike material is to be used as backfill in AL-1 and AL-2, any residual contaminant concentrations must meet NMED's residential SSLs. The Permittee must obtain NMED and OCD permission before backfilling AL-1 and AL-2 with the dike material.

Comment 16

As part of the wastewater treatment system upgrade, the Permittee will be removing from service benzene strippers one and two at the aeration lagoons. Since the benzene strippers discharged to AL-1 as part of the aeration lagoon closure process, the benzene strippers must be dismantled and this area investigated and remediated in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.101). The Permittee must revise the Plan to include the process to remove the benzene strippers and proposed sampling and remediation of this area as necessary.

Comment 17

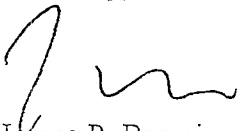
The Permittee must revise the Plan to include and address the items listed below:

- a. Provide a scope of services.
- b. Discuss site conditions.
- c. Discuss the history of operation of AL-1 and AL-2.
- d. Discuss if AL-1 and AL-2 have ever been dredged in the past and, if so, the volumes of sediment removed.

Ed Riege
Gallup Refinery
May 6, 2009
Page 9

The Permittee must address all comments contained in this NOD and submit a revised Plan (see Comment 1) to NMED on or before July 31, 2009. The revised Plan must be submitted with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. In addition, an electronic version of the revised Plan must be submitted that identifies where all changes have been made in red-line strikeout format. If you have questions regarding this letter please contact Hope Monzeglio of my staff at 505-476-6045.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
D. Cobrain NMED HWB
H. Monzeglio, NMED HWB
B. Jones, OCD
C. Chavez, OCD
G. Rajen, Gallup
J. Dougherty, EPA Region 6
A. Allen, Western El Paso
File: Reading File and GRCC 2009 File
HWB-GRCC-09-003

Exhibit 3CONSTITUENTS OF CONCERN FOR WASTES FROM PETROLEUM PROCESSESInorganics

Antimony	Lead
Arsenic	Mercury
Barium	Nickel
Beryllium	Selenium
Cadmium	Silver
Chromium	Vanadium
Cyanide	Zinc

Organics

Acenaphthene	2,4-Dinitrotoluene
Benzene	Di-n-octyl phthalate
Benzo(a)anthracene	1,4-Dioxane
Benzo(b)fluoranthene	Ethylbenzene
Benzo(a)pyrene	Ethylene dibromide
Bis(2-ethylhexyl)phthalate	Fluoranthene
Butyl benzyl phthalate	Fluorene
Carbon disulfide	Indeno(1,2,3-cd)pyrene
Chlorobenzene	Methyl ethyl ketone
Chloroform	Naphthalene
Chrysene	Nitrobenzene
Cresols	Phenol
Dibenz(a,h)anthracene	Pyrene
Di-n-butyl phthalate	Pyridine
1,2-Dichlorobenzene	Styrene
1,4-Dichlorobenzene	Tetrachloroethylene
1,2-Dichloroethane	Toluene
1,1-Dichloroethylene	1,1,1-Trichloroethane
7,12-Dimethylbenz(a)anthracene	Trichloroethylene
2,4-Dimethylphenol	Xylenes (total)

May 11, 2009

James Bearzi, Chief
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, BLDG 1
Santa Fe NM 87505

**Re: Facility Wide Groundwater Monitoring Work Plan, Western Refining Company
Southwest, Inc., EPA ID# NMD000333211, HWB-GRCC-09-001**

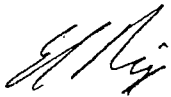
Dear Mr. Bearzi:

The purpose of this letter is to submit our Facility Wide Groundwater Monitoring Plan as required in your letter dated February 9, 2009.

Many thanks to Ms. Hope Monzeglio of your staff, who was kind enough to share her thoughts, give us direction and share a similar plan developed for the Fort Wingate Army Depot.

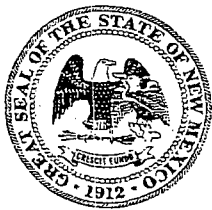
If you have any questions, or if we can be of further service to you, please do not hesitate to call Dr. Gaurav Rajen at (505) 722-0227, or myself at (505) 722-0217.

Sincerely,



Ed Riege
Environmental Manager

Cc: Hope Monzeglio, HWB/NMED
Brad Jones, OCD
Mark Turri, Western Refining
Ann Allen, Western Refining
Gaurav Rajen, Western Refining



BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

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RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 28, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: REQUIREMENT TO INSTALL MONITORING WELLS
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
HWB-GRCC-MISC
EPA ID # NMD000333211

Dear Mr. Riege:

The New Mexico Environment Department (NMED) requires Western Refining Southwest Inc., (the Permittee) to install two monitoring wells. This requirement was addressed in Comment 14 of NMED's March 26, 2009 Notice of Disapproval (NOD) to the *Oil Conservation Division 2007 Annual Groundwater Report (and OCD Addendum)*, dated August 28, 2008. In Comment 14, NMED stated "[t]he Permittee must install another well(s) downgradient of OW-13 and OW-29 to determine if contamination has migrated north, northwest of the refinery and potentially offsite. NMED will address the installation of additional well(s) in a separate letter."

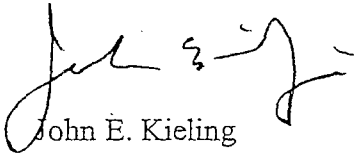
The Permittee must install two monitoring wells at the Gallup Refinery to meet the specifications described below:

- a. The Permittee must locate the extension of the sand/gravel water bearing layer that extends north of OW-29 and install one monitoring well at the approximate location specified in the attached Figure 1.

Ed Riege
Gallup Refinery
May 28, 2009
Page 3

If you have questions regarding this letter please contact Hope Monzeglio of my staff at 505-476-6045.

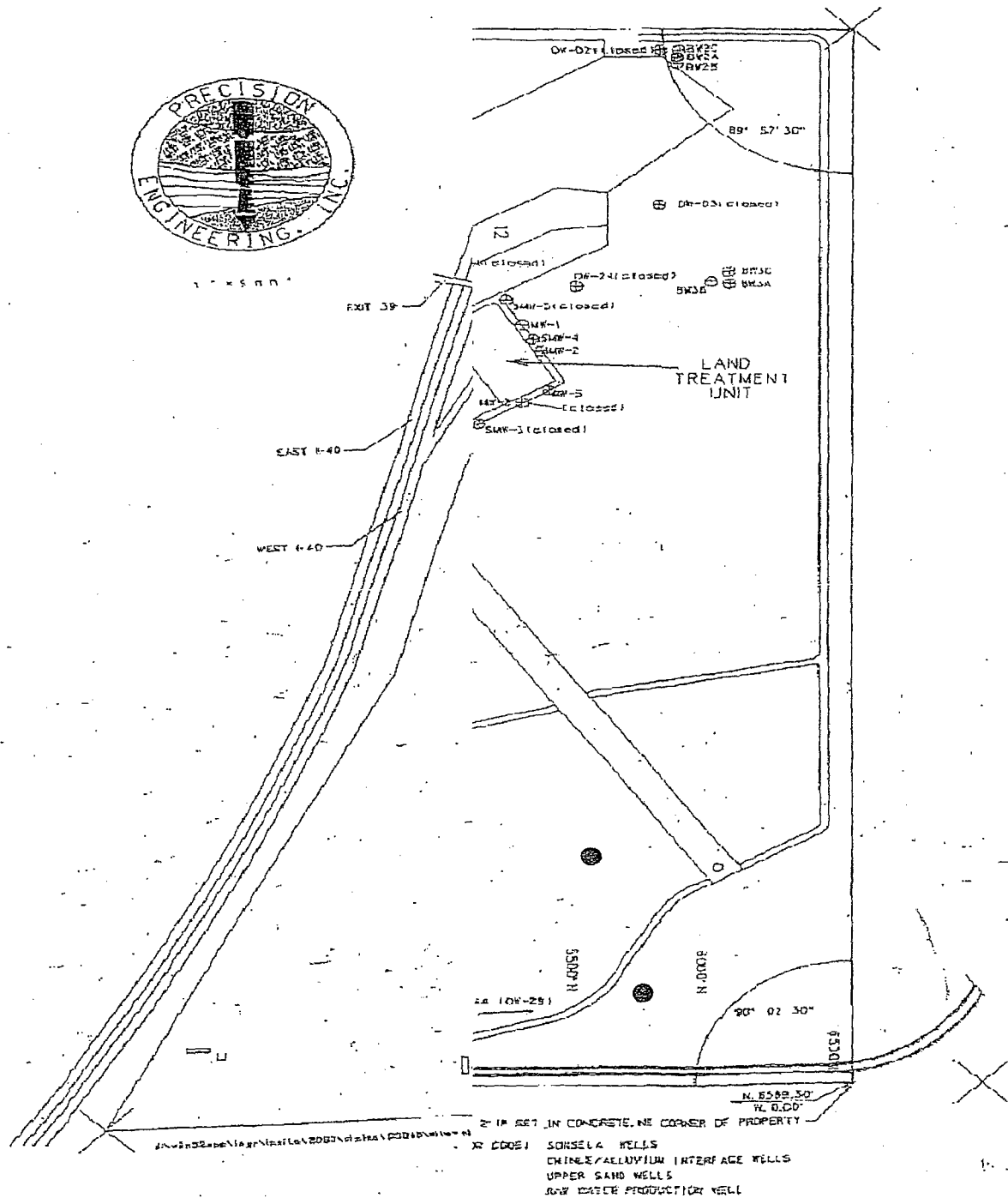
Sincerely,

A handwritten signature in black ink, appearing to read "John E. Kieling", with a stylized flourish at the end.

John E. Kieling
Program Manager
Permits Management Program
Hazardous Waste Bureau

cc: D. Cobrain NMED HWB
H. Monzeglio NMED HWB
B. Jones, OCD
C. Chavez, OCD
R. Gaurav, Gallup
File: Reading File and GRCC 2009 File
HWB-GRCC-MISC

Figure 1
Monitoring Well Location
Monitoring well locations are at



May 28, 2009

135741.021.300

Mr. James P. Bearzi
Chief, Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

**Subject: Response to Notice of Disapproval
Process Design Report for Wastewater Treatment Plant Upgrade
Western Refining Company Southwest, Inc. (Gallup Refinery)
EPA ID# NMD000333211
HWB-GRCC-09-022**

Dear Mr. Bearzi:

This letter is in response to the Notice of Disapproval (NOD) for Western Refining's Process Design Report for Wastewater Treatment Plant Upgrade (Report). The comments from the NOD and the responses addressing those comments are included below. In addition, the Report has been revised and is being re-submitted with this response.

Comment 1: "In Section 3.3 (Biological Treatment), the Permittee states '[t]he biological treatment technology selected for [Wastewater Treatment Plant] WWTP upgrade project was a Bioreactor without sludge (biomass) recycle. This technology is akin to an aerated lagoon, but in an above-ground steel tank.'

The Permittee currently does not have a National Pollutant Discharge Elimination System (NPDES) Permit. Therefore, the wastewater treatment system (WWTS) upgrade is subject to the Resource Conservation Recovery Act (RCRA) and the New Mexico Hazardous Waste Act (HWA). The bioreactors, tank-based separator, and any future tanks must comply with 20.4.1.500, incorporating 40 CFR 264 Subpart J. The Permittee must revise the Report to show that the tanks comply with the Subpart J design requirements. The Permittee must revise the text and attachments as necessary."

Response 1: Western Refining is in the process of preparing a NPDES permit application to be submitted to USEPA Region 6. We have assumed that the permit will be approved and in-place by the time the upgraded WWTS is operational. Therefore, the design basis for the Report assumes that the upgraded WWTS is not subject to HWA 20.4.1.600 (incorporating 40 CFR 265 Subpart J). The NPDES permit should be issued within the next 9 months. Should at any time it become evident that a NPDES permit will not be issued prior to WWTS start-up, the tank design will then be modified to comply with 20.4.1.600 and 40 CFR 265 Subpart J and the Report will be resubmitted to NMED/OCD for approval. Contingencies will be built into the design approach to accommodate these potential modifications such that the schedule presented in Section 5 of the Report will not be jeopardized. Sections 4.2.4 and 4.2.5 of the Report have been modified to reflect this approach.

Note: The Refinery is an interim status facility so the correct regulatory citations are HWA 20.4.1.600

and 40 CFR 265 as indicated in the response, rather than 20.4.1.500 and 40 CFR 264 stated in the original comment.

Comment 2: "In Section 3.3 (Biological Treatment), page 3-3, the Permittee states '[t]he shutdown of Benzene Stripper No. 3 will increase the benzene loading in the NAPIS effluent above current levels. In the detailed engineering phase, Brown and Caldwell will evaluate the impact of this change on the design conditions and evaluate whether or not MBBR media addition to the Bioreactors will be required as a result.' The Permittee must revise the Report to include all changes to the WWTS to account for the increased benzene load resulting from the removal of Benzene Stripper 3."

Response 2: Section 3.3 has been modified to reflect this comment. The design approach for the upgraded WWTS will be to add MBBR media to the Bioreactors in order to accommodate the higher benzene loading from the shutdown of Benzene Stripper No. 3. However, Western Refining reserves the right to conduct further wastewater treatability studies that may prove media addition is not required.

The modeling of benzene removal efficiency in the Bioreactors was based on a conservative benzene biodegradation rate. The biodegradation rate was taken as the default value from the USEPA WATER9 modeling. Brown and Caldwell's experience is that the WATER9 default biodegradation rates for individual volatile organic compounds typically under predict actual biodegradation rates observed in full-scale systems with acclimated biomass. USEPA recognizes the potential for this underestimation by allowing for the site-specific measurement of biodegradation rates through BOX testing as prescribed in 40 CFR 63 Appendix C.

Should Western Refining elect to perform BOX testing, and should that testing indicate that the addition of MBBR media is not required, then Western Refining will seek approval from OCD to modify the Bioreactor design to exclude media.

Comment 3: "In Section 4.5 (Secondary Containment and Leak Detection), page 4-5, the Permittee states '[t]he proposed design does not include leak detection or containment berms for the Bioreactors (T11 and T12)...However, the Bioreactors will be situated such that a potential leak would flow into EP-1, which is the destination of the Bioreactor effluent.' If the system has a leak, the discharge may not be completely treated and therefore may potentially be characteristic for benzene and/or be a F037/F038 listed waste, which would then enter EP-1. Hazardous waste must not be discharged to EP-1 since it is not permitted by the NMED to receive hazardous waste and requirements in the OCD Discharge Plan. Because the Permittee does not have a NPDES Permit for the WWTS, the tank systems within the WWTS are subject to the requirements of 20.4.1.500 NMAC, incorporating 40 CFR 264 Subpart J. The Permittee must revise this Report to reflect compliance with the requirements of 40 CFR 264 Subpart J and revise the attachments as applicable. The Permittee must also revise the Report to comply with Condition 9 (Above Ground Tanks) of the OCD Discharge Permit (GW-32), dated August 23, 2007. The WWTS cannot be retrofitted and does not qualify for the exemption (tanks that contain fresh water or fluids that are gases at atmospheric temperature and pressure are exempt) under Condition 9 of the OCD Permit."

Response 3: Section 4.5 of the Report has been modified to incorporate this comment. Leak

detection will be provided by installing channels in the concrete foundation under the tank or by an alternative method that is suitable to OCD. The secondary containment for the Bioreactors will be an earthen secondary containment berm (or by an alternative method that is suitable to OCD) and will meet the requirements of Condition 9 of GW-32. As discussed in Response 1, the leak detection and secondary containment for the Bioreactors will not be intended to meet 40 CFR 265 Subpart J requirements, unless it is later determined that a NPDES permit cannot be obtained.

Comment 4: "The Permittee must revise the Report to include the following modifications:

- a. The WWTS must contain influent and effluent sampling ports to accommodate sampling at the new API separator, the tank-based separator, and the bioreactors.
- b. The WWTS must include air vents for the tank-based separator and the bioreactors. These locations must be constructed to allow for emissions sampling.

The text and attachments must be revised as necessary to address items a and b above."

Response 4: Item (a) of Comment 4 has been addressed by the addition of Section 6.0 Sampling and Analysis to the Report. This new section includes the identification of sampling locations as well as the anticipated parameters and measurement frequencies. The process flow diagrams in Attachment A and Attachment C also include notations to indicate sampling locations.

Item (b) of Comment 4 has been addressed in Section 4.2.4 of the Report for the Tank-based Separator and in Section 4.2.5 of the Report for the Bioreactors. The Tank-based Separator will have an external floating roof that will maintain a condition of no air headspace above the liquid. Further, the roof will have appropriate primary and secondary seals per 40 CFR 60.693-2 (NSPS Subpart QQQ standards), which are designed to prevent a venting situation. Therefore, T10 will have near-zero air emissions and an air emission sampling point is not applicable. The roof will be equipped with pressure and vacuum vents for non-routine start-up/shutdown events. The roofs of the Bioreactors will be equipped with vents to allow the aeration air a means of exiting the tank. A mechanism for sampling the air emissions from the roofs will be included.

Comment 5: "In Section 2.2 (Refinery Wastewaters), page 2-1, the Permittee states '[t]he sanitary wastewater generated at the Refinery and the seven adjacent homes owned by the Refinery currently discharges to the septic systems and not the WWTP. However, the WWTP upgrades will include the option for these sanitary sources to be redirected to the WWTP at a future date at Western Refining's discretion.' If and when the sanitary sources are redirected to the WWTS, the Permittee must notify the OCD and the Gallup Field Office (http://www.nmenv.state.nm.us/NMED/field_op.html) prior to implementing this change over and comply with all requirements. No revision is necessary."

Response 5: The text of Section 2.2 has been revised to affirm Western Refining's intent to implement this change. Ed Riege of Western Refining sent an e-mail to OCD and NMED HWB staff members on April 1, 2009 informing them of this change. Mr. Riege also included drawings for review. As requested above, the same information was emailed to Charles Lundstrom of the Gallup Field Office on April 29, 2009. Please advise if additional notification is required per Comment 5.

Comment 6: "In Section 3.3 (Biological Treatment), page 3-3, the Permittee states '[b]iomass will exit the Bioreactors by being carried out in the Bioreactor effluent. The biomass will settle out in the downstream evaporation ponds, primarily [Evaporation Pond] EP-1. Over time, the settled

biomass may accumulate in EP-1 to the extent that dredging will be required.' The Permittee has allowed upsets with the current WWTS resulting in hazardous waste being discharged to EP-1. Therefore the follow requirements apply and the Permittee must revise the Report to address these requirements.

- a. Within 30 days of demonstration that the new WWTS is achieving cleanup criteria, the Permittee must dredge EP-1. The dredged material must be properly characterized and managed for proper disposal. All dredging and waste disposal activities must be approved by both NMED and OCD prior to implementation. The Report must be revised to describe the dredging process, alternatively, the Permittee may submit a separate work plan to NMED and OCD for approval that addresses the dredging activities.
- b. After the initial dredging of EP-1, the Permittee must dredge the biomass from EP-1 anytime the biomass accumulation is greater than one foot. The dredged biomass must be properly characterized as nonhazardous if considered for placement in the OCD landfarm to assist the remediation of contamination soil, pending OCD approval. NMED must be included on all correspondence."

Response 6: Dredging of EP-1 will be addressed in the Corrective Measures Implementation Work Plan due to NMED on July 31, 2009. Western Refining will take the position that the initial dredging is not warranted and that the frequency a future dredging events can allow for more than one foot of accumulation.

Comment 7: "In Section 4.2.1 (Stormwater/Diversion tanks), page 4-1, the Permittee states '[i]n the new system, stormwater will flow by gravity to two Stormwater/Diversion Tanks. These tanks are existing with a numerical designation of Z84-T27 and T-28...Stormwater that collects in the tanks will be pumped at a rate of 50 to 200 gpm to the process sewer that feeds to the NAPIS.' Since the stormwater and process wastewater at the refinery comeingle, any sludge removed from the bottom of the Stormwater/Diversion tanks must be managed as hazardous waste."

Response 7: Section 4.2.1 of the Report has been revised in to address this comment. This material will normally be recycled to an off-site refining process. If recycling to a refining process is not available, the material removed from the bottom of the Stormwater/Diversion tanks will be managed as a hazardous waste.

Comment 8: "In Section 4.2.1 (Stormwater/Diversion tanks), page 4-1, the Permittee states '[c]leanouts will be installed on the conveyance pipelines to and from the Stormwater/Diversion Tanks. Cleaning events will be scheduled on a regular, recurring basis.' Any sludge removed during the cleanouts of the pipelines must be managed as hazardous waste. The Permittee must revise the Report to address the management of this sludge."

Response 8: Section 4.2.1 of the report has been revised to address this comment. This material will normally be recycled to an off-site refining process. If recycling to a refining process is not available, the cleanout sludge will be managed as a hazardous waste.

Comment 9: "In Section 4.2.5 (Bioreactors), page 4-3 and 4-4 the Permittee states '[t]here will be provisions for diverting the Bioreactor effluent away from EP-1 in the event that the treated water quality it not acceptable. A diversion line will be connected to the combined Bioreactor effluent, with its valve normally closed. To divert, this valve would be opened and the valve to EP-1 closed' and the Permittee later states in Section 4.4 (Management of Off-Spec Wastewater),

Mr. James Bearzi
Response to Notice of Disapproval
November 28, 2008
Page 5

page 4-5, that '[i]f at anytime the Bioreactor effluent were deemed unsuitable for discharge to EP-1, it could be diverted to the new Stormwater/Diversion Tanks as described in Section 4.2.5' The Permittee must provide a sampling plan that explains how the Permittee will characterize the effluent from the bioreactors entering EP-1. The sampling plan must identify the location of samples that will be collected and address sampling frequency, water quality parameters, and test methods. The effluent must comply with the Water Quality Control Commission standards found in 20.6.2.3103."

Response 9: Section 6.0 Sampling and Analysis has been added to the Report to provide a sampling plan for the Bioreactor effluent/EP-1 influent.

Meeting the 20.6.2.3103 standards is not a stated treatment objective of the upgraded WWTS. The treatment objectives (as stated in Section 1.4 of the Report) are for there to be no visible free oil and <0.5 mg/L benzene. The concentrations of other parameters are expected to be consistent with the historical data reported for the EP-1 inlet under the GW-32 monitoring requirements.

Comment 10: "In Section 4.3.3 (OAPIS), page 4-5, the Permittee states 'the [Old API Separator] OAPIS will no longer be required and can be decommissioned.'

The OAPIS is Solid Waste Management Unit (SWMU) No. 14. This SWMU is subject to correction action under the Refinery's RCRA Permit. The Permittee must provide a schedule for the submittal of an investigation work plan to assess releases from the OAPIS."

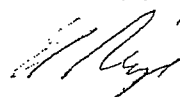
Response 10: A schedule for submitting this investigation work plan will be included in the Corrective Measures Implementation Work Plan due to NMED on July 31, 2009.

Closing

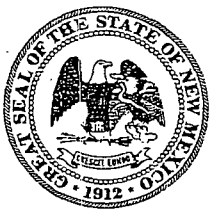
A hardcopy of the revised report is included with this response letter. Additionally, an electronic red-line version of the Report is being emailed. The distribution list for these submittals includes NMED HWB, OCD, and EPA Region 6.

I can be reached at (505) 722-0217 or ed.riege@wnr.com.

Very truly yours,



Ed Riege
Environmental Manager



BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

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Hazardous Waste Bureau

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Santa Fe, New Mexico 87505-6303

Phone (505) 476-6000 Fax (505) 476-6030

www.nmenv.state.nm.us



RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 5, 2009

Dear RCRA-Regulated Facilities and Stakeholders:

The New Mexico Environment Department (NMED) revised the *Technical Background Document for Development of Soil Screening Levels* (SSG) issued in June 2006. The SSG, Revision 5.0, dated August 2009, incorporates updated toxicological information, physical/chemical parameters, and fate and transport data.

The SSG is available at:

NMED Technical Background Document for Development of Soil Screening Levels, Rev 5.0 (August 2009)

A redline/strikeout version is also provided on the webpage at:
redline version of Revision 4.0 (June 2006).

Should you have questions regarding the update to the SSG please contact John Kieling at (505) 476-6035.

Sincerely,

James P. Bearzi
Chief
Hazardous Waste Bureau



BILL RICHARDSON
Governor

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ENVIRONMENT DEPARTMENT

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RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 11, 2009

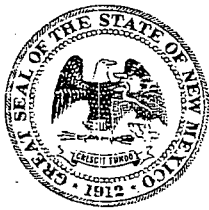
Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc.,
Gallup Refinery
Route 3 Box 7
Gallup, New Mexico 87301

Beck Larsen
Environmental Engineer
Western Refining, Southwest Inc.,
Gallup Refinery
Route 3 Box 7
Gallup, New Mexico 87301

**SUBJECT: REQUEST FOR CONTAINED-IN DETERMINATION
REGARDING CONTAMINATED SOIL REMOVED
FROM THE JUNE 10, 2009 API OVERFLOW
WESTERN REFINING, SOUTHWEST INC., GALLUP REFINERY
EPA ID NO. NMD000333211
HWB-GRCC-MISC**

Dear Messrs Riege and Larsen:

The New Mexico Environment Department (NMED) has received Western Refining Southwest Inc., Gallup Refinery's (the Permittee) letter titled *Request For "Contained-In" Determination For Petroleum Contaminated Soils Resulting From API Separator Overflow On June 10, 2009*, dated June 22, 2009. The Permittee is requesting a "contained-in" determination for petroleum contaminated soils excavated in the vicinity of the API separator. The contaminated soil was generated in an overflow at the API separator; therefore, the excavated soil is potentially characteristic for Benzene (D018) and carries the hazardous waste listings for K051 API separator sludge, and F037/F038 primary and secondary oil/water/separation sludge.



BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1

Santa Fe, New Mexico 87505-6303

Phone (505) 476-6000 Fax (505) 476-6030

www.nmenv.state.nm.us



RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 14, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: INSTALLALATION OF MONITORING WELLS
WESTERN REFINING COMPANY, SOUTHWEST, INC.,
GALLUP REFINERY; EPA ID # NMD000333211
HWB-GRCC-MISC

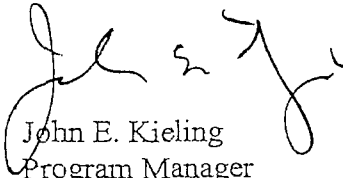
Dear Mr. Riege:

The New Mexico Environment Department (NMED) required Western Refining Southwest Inc., Gallup Refinery (the Permittee) in a letter dated May 28, 2009, to install two monitoring wells downgradient of wells OW-13 and OW-29 to determine if contaminants are migrating in groundwater toward the north/northwest of the refinery tank farm. Since the issuance of this letter, the Permittee and NMED have exchanged e-mail correspondence pertaining to the installation of the monitoring wells. The Permittee requested to install only one monitoring well and for the installation to occur after monitoring groundwater for two additional quarters. The Permittee proposed that depending on the analytical results of the first well, another well may or may not be necessary. NMED's response in a June 15, 2009 e-mail stated "Gallup may either install two monitoring wells in accordance with NMED's May 28, 2009 letter or install one monitoring well following the requirements in NMED's May 28, 2009 letter and remobilize and install the other well at a later date. Remediation cannot be used as an alternative to installing the monitoring wells" and "[a]fter installing the new monitoring well, we will review the monitoring data and determine if an additional well is necessary. Please submit the monitoring

Ed Riege
Gallup Refinery
August 14, 2009
Page 3

The Permittee must adhere to all requirements established in NMED's May 28, 2009 letter. If you have questions regarding this letter please contact Hope Monzeglio of my staff at 505-476-6045.

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Kielling". The signature is stylized with a large initial "J" and a long, sweeping underline.

John E. Kielling
Program Manager
Permits Management Program
Hazardous Waste Bureau

cc: D. Cobrain NMED HWB
H. Monzeglio NMED HWB
C. Chavez, OCD
R. Gaurav, Gallup
File: Reading File and GRCC 2009 File
HWB-GRCC-MISC

August 17, 2009

Via Email [hope.monzeglio@state.nm.us]

Hope Monzeglio
New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

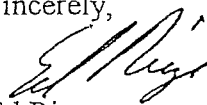
Re: Withdrawal of Work Plan

Dear Hope:

This letter serves as Western Refining Gallup's ("Gallup") withdrawal from NMED's consideration of the Process Design Report For Wastewater Treatment Plan Upgrade (Rev. A) prepared by Brown and Caldwell and submitted to NMED on May 26, 2009. As we have discussed, Gallup intends to submit to NMED an alternate wastewater treatment system work plan.

If you have any questions, please let me know.

Sincerely,



Ed Riege
Environmental Manager



BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

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RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 27, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: INTERIM MEASURES WORK PLAN REQUIREMENTS
WESTERN REFINING COMPANY, SOUTHWEST, INC.,
GALLUP REFINERY; EPA ID # NMD000333211
HWB-GRCC-MISC

Dear Mr. Riege:

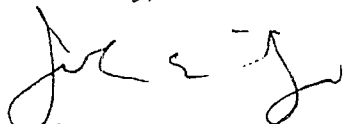
The EPA Compliant and Consent Agreement and Final Order (CAFO) requires Western Refining Southwest, Inc., Gallup Refinery (Gallup) to submit to the New Mexico Environment Department (NMED) an Interim Measures Work Plan (Work Plan) pursuant to Section IV (Compliance Order) item 100) D. The objective of the Work Plan is to monitor Gallup's ability to prevent discharge of hazardous waste into Aeration Lagoon 1 and Aeration Lagoon 2 (AL-1 and AL-2). The CAFO states "[d]ischarge of any hazardous wastewater to any surface impoundment shall cease within 120 days following NMED's approval of the Interim Measures Workplan, unless such discharge complies with applicable RCRA requirements."

This letter provides general requirements that need to be included in the Work Plan. The Work Plan must identify the interim measures that will be implemented to eliminate wastewater characteristically hazardous for benzene from entering AL-1 and AL-2. Gallup must continue to sample the effluent wastewater at their current frequency to demonstrate compliance and consistently achieve the discharge limit below 0.5 mg/L during the initial 120 days after the effective date of the CAFO. In addition, Gallup must measure effluent flow rates during that same time period from the waste streams discharging to AL-1 and EP-1 on a weekly basis. The flow rate measurements must be submitted to NMED on the first day of each month. Reporting the flow rate data by e-mail is acceptable.

Ed Riege
Gallup Refinery
August 27, 2009
Page 3

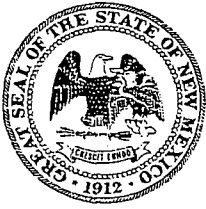
If you have questions regarding this letter please contact Hope Monzeglio of my staff at 505-476-6045.

Sincerely,



John E. Kielling
Program Manager
Permits Management Program
Hazardous Waste Bureau

cc: D. Cobrain NMED HWB
H. Monzeglio NMED HWB
C. Chavez, OCD
A. Allen, Western Refining Southwest, Inc.
D. Edelstein, EPA Region 6
J. Dougherty, EPA Region 6
File: Reading File and GRCC 2009 File
HWB-GRCC-MISC



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RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 1, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: APPROVAL WITH MODIFICATION
PROCESS DESIGN REPORT FOR WASTEWATER TREATMENT PLANT
UPGRADE (REV. A)
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-GRCC-09-002

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has reviewed the *Process Design Report For Wastewater Treatment Plan Upgrade (REV. A)* (Work Plan), dated May 26, 2009, submitted on behalf of Western Refining Company, Southwest Inc., Gallup Refinery (the Respondent). On August 17, 2009, NMED received an e-mail with an attached letter from the Respondent stating "[t]his letter serves as Western Refining Gallup's ("Gallup") withdrawal from NMED's consideration of the Process Design Report For Wastewater Treatment Plan Upgrade (Rev. A) prepared by Brown and Caldwell and submitted to NMED on May 26, 2009. As we discussed, Gallup intends to submit to NMED an alternative wastewater treatment system work plan." The

- b. As long as the Respondent continues to treat wastewater in AL-1 and AL-2 that is characteristically hazardous for benzene, the facility is treating hazardous waste. The CAFO allows the Respondent 120 days from NMED's approval of an Interim Measure Work Plan to achieve compliance.
- c. The regulations cited by the Respondent ("HWA [sic] 20.4.1.600 and 40 CFR 265") are incorrect. The Respondent has not met the requirements for interim status; therefore, 40 CFR 265 (20.4.1.600 NMAC) does not apply.
- d. The CAFO appropriately requires the Respondent to comply with the hazardous waste generator requirements found in 20.4.1.300 NMAC (incorporating) 40 CFR 262.34(a).

Comment 2/Response 2

In the Response Letter, Response 2, the Respondent states "[s]hould Western Refining elect to perform BOX testing, and should that testing indicate that the addition of the MBBR media is not required, then Western Refining will seek approval from OCD to modify the Bioreactor design to exclude media."

NMED Response: The Respondent must also obtain approval from NMED to modify any portion of the wastewater treatment system.

Comment 4/Response 4

In the Response letter, Comment 4, NMED states "[t]he WWTS must contain influent and effluent sampling ports to accommodate sampling at the new API separator...."

NMED Response: From review of Section 6.1 (Sampling Locations), the influent to the API separator cannot be sampled. NMED reserves the right to require sampling of the influent entering the new API separator and the Respondent must be capable of collecting such samples.

Comment 6/Response 6

In the Response letter, Comment 6/Response 6 addresses dredging of Evaporation Pond 1 (EP-1). The Respondent responded stating "[d]redging of EP-1 will be addressed in the Corrective Measures Implementation Work Plan due to NMED on July 31, 2009. Western Refining will take the position that the initial dredging is not warranted and that the frequency a [of] future dredging events can allow for more than one foot of accumulation."

NMED Response: Storm water at the refinery comingles with process water and therefore potentially contains hazardous waste (D018 and F037/F038 listed wastes). The Respondent is not allowed to accumulate hazardous waste in Tanks T27 and T28 for more than 90 days. Therefore, the Respondent's must design their storm water system to direct the ongoing low flow of process wastewater in the storm water system to the API separator except during storm events when higher flows trigger diversion of storm water to Tanks T27 and T28 at flow rates greater than approximately 30 gallons per minute (gpm) to prevent flow rates from exceeding capacity of the API separator or wastewater treatment system.

Comment B

In Section 4.2.4 (Tank-Based Separator), page 4-2, paragraph 5, the Respondent states "[t]he Tank-based separator is not designed to be compliant with 40 CFR 265 Subpart J due to Western Refining's intention to obtain an NPDES permit for the WWTP. If an NPDES permit cannot be obtained, the design of the Tank-based separator will be modified to be compliant with 40 CFR 265 Subpart J."

NMED Response: The CAFO requires the Respondent to comply with the requirements found in 20.4.1.300 NMAC (incorporating) 40 CFR 262.34(a). This applies to all applicable sections within the Work Plan (e.g. Section 4.2.5 (Bioreactors), paragraph 1 and Section 4.5 (Secondary Containment and Leak Detection)).

Comment C

In Section 4.6 (Alternative Upgrade Approach), page 4-6, last sentence, the Respondent states "Western Refining will submit the alternative design approach to OCD for approval prior to implementation."

NMED Response: The Respondent discussed an alternative approach to the upgraded WWTS to NMED and OCD in a meeting on July 1, 2009 that addressed the use of Macro Porous Polymer Extraction and a dissolved gas flotation unit. On August 17, 2009, the Respondent submitted a letter withdrawing the Process Design Report For Wastewater Treatment Plan Upgrade (REV. A). If the Respondent chooses to pursue an alternative wastewater treatment system, a new work plan must be submitted to OCD and NMED for approval by both agencies. The new work plan must describe all aspects of the alternative design. The implementation of an alternative approach will not change the deadline established in Comment D below which provides a deadline for the start of operation of an upgraded WWTS.

Ed Riege
Gallup Refinery
September 1, 2009
Page 7

Effluent (i.e., "Effluent from the new API Separator) as required by Condition 19 of GW-032...." The Respondent must also obtain approval from NMED. Since this page is being resubmitted, this proposed revision must be included with the replacement pages.

Comment G

During the month of June 2009, the refinery reported an overflow at the API separator due to intense rain events. The API separator must be able to handle storm water surges caused by rain events. The overflow at the API separator implies that the storm water and the process water sewer systems are still interconnected. The Respondent must account for intense rain events in the wastewater treatment system design to ensure API overflows do not occur in the future.

The Respondent must comply with all comments contained in this letter. The replacement page(s) as specified must be submitted to NMED and OCD on or before September 25, 2009 in the event that an alternate wastewater treatment system design plan is not submitted. Provided that the Respondent complies with all the requirements of this letter, NMED approves the May 26, 2009 Work Plan. In any event, the upgraded wastewater treatment system must be installed and operating by September 4, 2010.

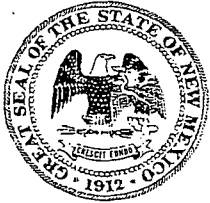
If you have questions regarding this letter please contact Hope Monzeglio of my staff at 505-476-6045.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
D. Cobrain NMED HWB
H. Monzeglio, NMED HWB
C. Chavez, OCD
G. Rajen, Gallup
J. Dougherty, EPA Region 6
D. Edelstein, EPA Region 6
A. Allen, Western
File: Reading File and GRCC 2009 File
HWB-GRCC-09-002



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RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 15, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc.,
Gallup Refinery
Route 3 Box 7
Gallup, New Mexico 87301

Mr. Beck Larsen
Environmental Engineer
Western Refining, Southwest Inc.,
Gallup Refinery
Route 3 Box 7
Gallup, New Mexico 87301

**SUBJECT: FORMAL REPORT SUBMITTAL TO THE
SEPTEMBER 5, 2009 API SEPARATOR OVERFLOW
WESTERN REFINING, SOUTHWEST INC., GALLUP REFINERY
EPA ID NO. NMD000333211
HWB-GRCC-MISC**

Dear Messrs Riege and Larsen:

The New Mexico Environment Department (NMED) requires Western Refining Southwest Inc., Gallup Refinery (the Permittee) to submit a formal report summarizing the events and actions taken to address the API separator overflow which occurred on September 5, 2009. This spill released K051, F038, and potentially D018 hazardous wastes into the environment. As a reminder, the Permittee must comply with Section II.F.2 (Twenty-four Hour Reporting) of the Post-Closure Care Permit which can be found using the following link:
<http://www.nmenv.state.nm.us/hwb/giant/GRC-C%20PCC%20PERMIT.pdf>.

The Permittee met the 24-hour oral reporting requirements by contacting Steve Connolly, the NMED Incident Response Coordinator. When reporting all future spills, the facility may continue to contact Steve Connolly; however, the Permittee must also contact the Project Leader for Gallup (Hope Monzeglio) of the Hazardous Waste Bureau.

September 24, 2009

John Kieling, Program Manager
New Mexico Environmental Department
Permits Management Program
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Joel Dougherty (6EN-HE)
Hazardous Waste Enforcement Branch
U.S. EPA Region 6, Suite 1200
1445 Ross Ave.
Dallas, TX 75202-2733

RE: **INTERIM MEASURES WORK PLAN, WESTERN REFINING COMPANY,
SOUTHWEST INC., GALLUP REFINERY; EPA ID #NMD000333211**

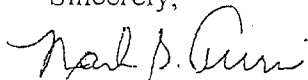
Dear Mr. Kieling,

Enclosed please find the Western Refining Gallup's ("Gallup") Interim Measures Work Plan (Work Plan) pursuant to Section IV (Compliance Order) item 100.D of the Consent Agreement and Final Order ("CAFO") between Western, NMED and U.S. EPA Region 6.

I certify that the information contained in or accompanying this submission is true, accurate and complete. As to those identified portions of this submission for which I cannot personally verify the truth and accuracy, I certify as the company official having supervisory responsibility for the person(s) who, acting upon my direct instructions, made the verification, that this information is true, accurate, and complete.

Thank you for your review of this Work Plan. Please feel free to contact Ed Riege at 505-722-0217 with any questions.

Sincerely,



Mark B. Turri
Refinery Manager

cc: Hope Monzeglio NMED HWB
Carl Chavez OCD
Ann Allen Western Refining
Ed Riege Western Refining

Certified Mail #7008 2810 0000 4726 1024

September 24, 2009

John Kieling, Program Manager
New Mexico Environmental Department
Permits Management Program
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

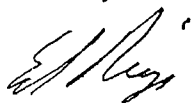
RE: INTERIM MEASURES WORK PLAN, WESTERN REFINING COMPANY,
SOUTHWEST INC., GALLUP REFINERY; EPA ID #NMD000333211

Dear Mr. Kieling,

Enclosed please find the Western Refining Gallup's ("Gallup") Interim Measures Work Plan (Work Plan) pursuant to Section IV (Compliance Order) item 100.D of the Consent Agreement and Final Order ("CAFO") between Western, NMED and U.S. EPA Region 6.

Thank you for your review of this Work Plan. Please feel free to contact me with any questions.

Sincerely,

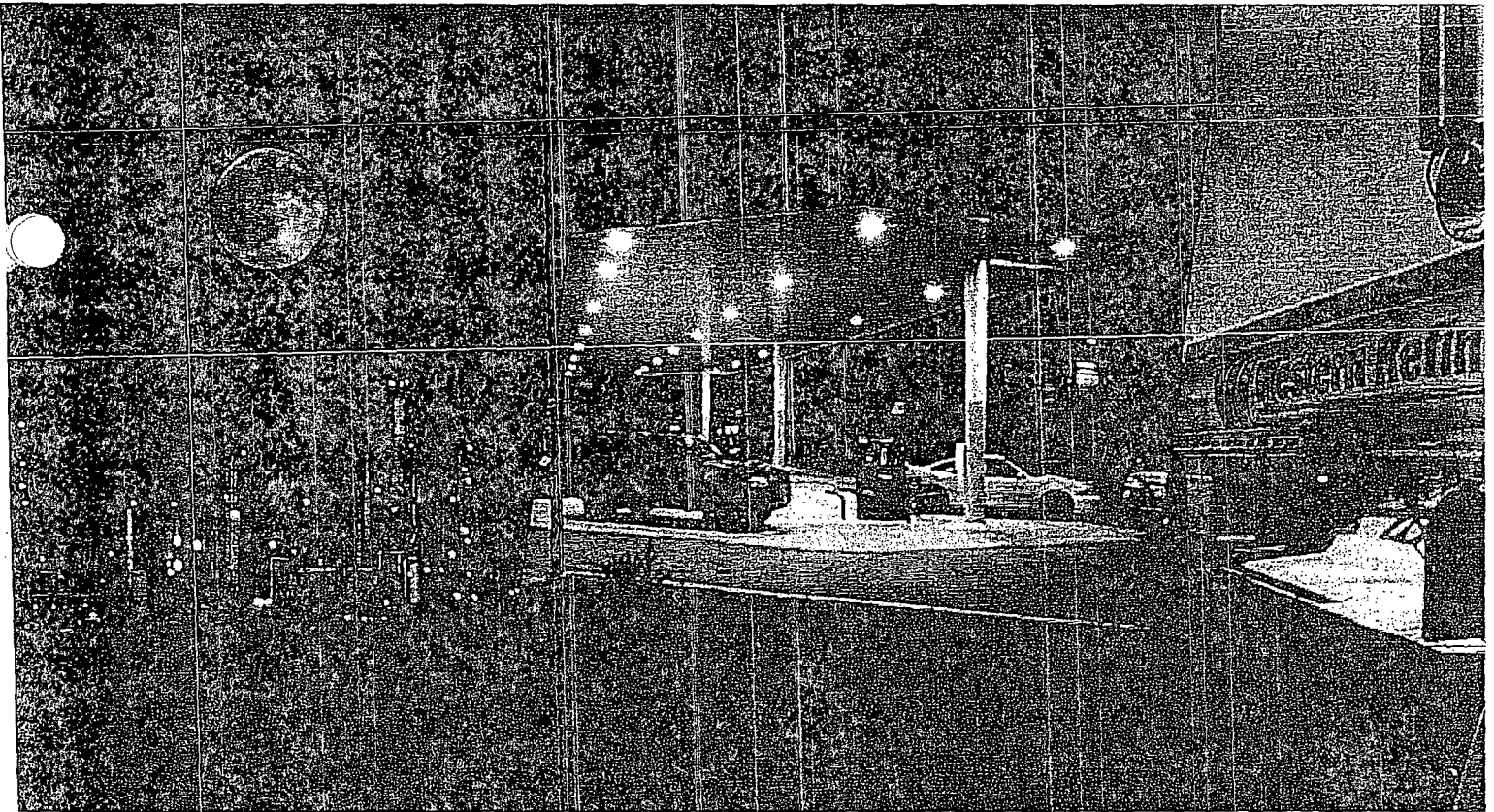


Ed Riege
Environmental Manager

cc: Hope Monzeglio NMED HWB
Carl Chavez OCD
Mark Turri Western Refining
Ann Allen Western Refining

Interim Measures Work Plan to Comply with RCRA Standards for Discharge of Wastewater to Surface Impoundments

Western Refining
Gallup, New Mexico



September 2009

Interim Measures Work Plan
WESTERN REFINING SOUTHWEST, INC., GALLUP REFINERY
EPA ID #NMD000333211
September 2009

Executive Summary

This report describes Western Refining's Interim Measures Work Plan to comply with RCRA standards on discharge of wastewater containing benzene to surface impoundments. The proposed Interim Measures fall into 3 categories: (i) physical/design changes to the wastewater treatment system; (ii) an aggressive monitoring and reporting schedule; and (iii) submittal of status reports to the NMED. The most important element of this plan is to install a fourth stripper prior to the two existing strippers that processes effluent from the new API separator. This new stripper will substantially increase the removal efficiencies of the current stripper system and will consistently result in benzene levels less than 0.5 ppm in our treated wastewater before it enters Aeration Lagoon-1 (AL-1). In addition to the fourth stripper, we propose aggressive monitoring and sampling schedules (divided into three distinct periods). We hope that by establishing compliance well ahead of any mandatory need to do so (the CAFO provides a period of 120 days for Western Refining to come into compliance), we will be able to satisfy our future compliance requirements with a relaxed monitoring schedule (to be set by the NMED).

Since early 2009, many months before the Consent Agreement and Final Order ("CAFO") went into effect, the Gallup Refinery undertook to evaluate, develop and implement a series of improvements to the Refinery's existing wastewater treatment system. The goal is to achieve consistent compliance with RCRA standards for benzene containing wastewater discharges to surface impoundments. A working group of the refinery manager, engineers, and operators was created that meets bi-weekly. Personnel from our sister refinery in El Paso were invited to visit the Gallup Refinery and share their experience. Consultants and manufacturers' representatives were brought on-site and their recommendations were implemented. A temporary tank was located next to the new API separator which allowed all overflows to be contained and later sent through the wastewater treatment system. This ensures that only treated wastewater enters AL-1.

Key issues related to the existing benzene strippers were identified as – improper mixing of air and water; fouling of the internal packing media; and inefficient oil recovery in the new API oil/water separator. A series of steps to improve the performance of the strippers by addressing these key issues were identified. Some have been implemented and others are in progress. Simultaneously, a program of source control to reduce oil reaching the sewers was instituted. A need for rapid screening tests was also identified, and we implemented a testing program at our internal laboratory to provide screening data on a more frequent basis than the analyses done at an external EPA and NMED certified laboratory. Performance of the strippers has been considerably enhanced, and overall benzene levels in the strippers' outlet have dropped substantially. In the past two months, on average, we have maintained outlet benzene levels below 0.5 ppm.

The Interim Measure Work Plan surveyed the compliance requirements of other refineries in the nation and proposes that compliance for the Gallup Refinery be determined based on a rolling annual average calculated from weekly grab samples of our treated wastewater. We present a detailed discussion of this issue in Appendix A.

In summary, our major requests for approval are –

- Western Refining will install a fourth benzene stripper as an interim measure. However, Western Refining proposes that it retain the discretion not to implement measures that would, therefore, be unnecessary to achieve compliance. For example, if improved performance of our existing two strippers meets compliance, the fourth rental stripper may be discontinued.
- Western Refining has proposed an aggressive monitoring plan designed to provide meaningful information to the NMED and Western Refining well enough in advance of the conclusion of the Interim Measures period to allow for adjustments in the Interim Measures. Western Refining seeks approval to sample at different frequencies and report on corresponding different schedules during three (3) discrete periods identified in this plan. Western Refining proposes an increased sampling and reporting protocol as a contingency if our wastewater is found to be out of compliance.
- Western Refining requests approval that compliance be demonstrated by calculating a rolling annual average of weekly grab samples of strippers' effluent tested for benzene. This is a standard applied to other refineries.

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1.0 Introduction and Background

The August 26, 2009 Consent Agreement and Final Order ("CAFO") between and among Western Refining Southwest, Inc. ("Western Refining"), the New Mexico Environment Department ("NMED"), and the U.S. Environmental Protection Agency (EPA) Region 6. Section IV, Paragraph 100.D. requires Western Refining to submit to NMED for approval an Interim Measures Work Plan for "ceasing the discharge of any hazardous wastewater to any surface impoundment, unless such discharge complies with applicable RCRA standards" at Western Refining's Gallup Refinery. In accordance with that requirement, Western Refining seeks NMED's approval to conduct the activities identified in this Interim Measures Work Plan (the "IM Work Plan") which are designed to eliminate the discharge of wastewater exhibiting the toxicity characteristic of benzene from entering Aeration Lagoon 1 (AL-1) at the Gallup Refinery.

In early 2009, many months before the CAFO went into effect, the Gallup Refinery undertook to evaluate, develop and implement a series of improvements to the refinery's existing wastewater treatment system with a goal of achieving consistent compliance with RCRA standards for discharges to surface impoundments.

A working group of the refinery manager, engineers, and operators was created that meets bi-weekly. A list of action items was developed that are being evaluated and implemented. Personnel from our sister refinery in El Paso were invited to visit the Gallup Refinery and share their experience. Consultants and manufacturers' representatives were brought on-site and their recommendations were implemented.

2.0 Current Conditions

Key issues related to the benzene strippers were identified as – improper mixing of air and water; fouling of the internal packing media; and inefficient oil recovery in the new API oil/water separator. A series of steps to improve the performance of the strippers by addressing these key issues were identified. Some have been implemented and others are in progress. Simultaneously, a program of source control to reduce oil reaching the sewers was instituted. A need for rapid screening tests was also identified, and we implemented a testing program at our internal laboratory to provide screening data on a more frequent basis than the analyses done at an external EPA and NMED certified laboratory.

A temporary tank was located next to the new API separator which allowed all overflows to AL-1 to be contained and later sent back through the wastewater treatment system.

Performance of the strippers has been considerably enhanced, and overall benzene levels have dropped substantially in the outlet of the strippers. In the past two months, on average, we have maintained outlet benzene levels below 0.5 ppm.

2.1 Voluntary Measures Implemented

Table 1 lists measures that have been implemented. These are grouped as follows: 1) Source control; 2) Improvements to the performance of the strippers; 3) Improvements to the performance of the new API separator.

Table 1: Recent measures that have been implemented

Measures	Activity	Activity Status
Source Control		
Desalter Optimization	Use NALCO recommendations to optimize the operation of the two desalters.	The Operations staff completed the necessary steps to optimize the desalters and they are currently running efficiently.
Improve Strippers' Performance		
Determine if packing height in the benzene towers requires modification	Determine if there is adequate packing in the tower and if a new packing design would be appropriate	Packing height is adequate. New packing identified and has been stocked for future use. This packing was installed during the last change-out.
Air to Water Ratio in Benzene Strippers	Determine the right mixture of air to water in the current strippers	There is currently adequate air flow; the Process Department will use a pitot tube to verify that the air flow maintains an adequate flow rate.
Specify new distribution nozzles for the Benzene Strippers	Determine what type of spray nozzle would help distribution of benzene contaminated water over the packing	Installed new spray nozzles on strippers one and two; these will provide well-distributed flow of water over the entire packing.
Upgrade air ducting for Benzene Strippers 1 and 2	Find and plug holes in air piping	The new ducting has been fabricated and installed.
Improve New API Separator Performance		
Change API inlet piping	Create larger inlets	The new installed piping will provide an equal flow to both bays
Create second sample point to monitor API inlet	Install new sample point	New sample point is installed
API separator skimmer level	Find a method or mechanical device that will determine the oil level in the API bays.	The Operations Department determined that a visual inspection of the level is adequate.
Put Weir Box back into service	Perform tests to determine if Weir Box functions properly with API separator modifications; reconnect Weir Box level indicator	The Weir Box is in service and no problems with its operation have been encountered

2.2 Voluntary Measures In-Progress

There are additional measures that are in the process of being evaluated. These are also related to - 1) source control; 2) improvements to the performance of the strippers; 3) improvements to the performance of the new API separator. Among such measures, for example, are enhanced process controls in the API separator, such as temperature, level controls, and etc.

These activities are intended to be implemented incrementally until such time as compliance is consistently achieved.

3.0 Proposed Interim Measures Requiring NMED Approval

Although Western Refining believes that the recent sampling results are indicative of progress resulting from evaluation and implementation of the measures listed in Table 1, in order to ensure compliance with the CAFO, Western Refining has identified the following proposed Interim Measures that will be implemented on an expedited schedule upon the effective date of this IM Work Plan. The proposed Interim Measures fall into 3 categories: (i) physical/design changes to the wastewater treatment system; (ii) an aggressive monitoring and reporting schedule; and (iii) submittal of status reports to the NMED.

3.1 Physical/Design Changes

The most significant change is that we have rented an additional stripper which has a removal efficiency rated higher than our current strippers. This is a Carbonair STAT 400 that will assist in controlling benzene along with the two existing strippers which are located after the oil water separator. See Appendix B for a specification sheet, description, and photos of the new rental stripper. (This element was discussed with NMED in the negotiation of the CAFO.)

In order to move this element of the Interim Measures Work Plan along as quickly as possible, Western Refining submitted a technical air permit application to NMED on August 24, prior to the effective date of the CAFO. A conference call was held on September 15, 2009, with the AQB in which Western Refining requested enforcement discretion to install the rental stripper along with pilot wastewater treatment test equipment. The AQB accepted the general outline of the Western Refining proposal and requested some additional information that will be submitted this week.

Once the new rental stripper system is installed we will have an enhanced stripper system made up of three strippers – a single stripper in series with two others in parallel. Flow from the API separator will first flow to one of two filter pots followed by the rental

stripper. Flow will then be split between the two existing strippers, treated further, and then discharged to AL-1. If Gallup can achieve continuous compliance using the rental stripper, then Western Refining proposes that it retains the discretion not to run one or both of the existing strippers.

During the interim period, Western Refining will continue to operate the benzene stripper three (BZ-3) located upstream of the NAPI next to the units whose main influent is desalter effluent.

When compliance is consistently demonstrated during the Interim Measures Period prior to implementation of all above measures, Western Refining proposes that it retain the discretion not to implement measures that would, therefore, be unnecessary to achieve compliance. For example, if improved performance of our existing two strippers meets compliance, the fourth rental stripper may be discontinued.

3.2 Monitoring and Reporting

Western Refining proposes an aggressive monitoring plan designed to provide meaningful information to Western Refining and the NMED. This plan will be implemented well enough in advance of the conclusion of the Interim Measures period to allow for adjustments in the Interim Measures, if needed. Western Refining will commence sampling and analyzing, as described, even in advance of NMED's approval of the IM Work Plan to provide the best database for comparison.

We believe compliance is best demonstrated by calculating a rolling annual average of weekly grab samples which is the standard applied to other refineries (see Appendix A for a detailed discussion).

Western Refining proposes to sample at different frequencies and report on corresponding schedules during three (3) discrete periods identified below. Western Refining proposes an increased sampling and reporting protocol as a contingency under certain circumstances. Table 2 at the end of this section summarizes the different sampling locations and frequencies for BTEX+MTBE monitoring and reporting.

Flows will be monitored at inlets to AL-1 and EP-1 on a daily basis and reported on the fifth business day of each month for the previous month.

Flows through BZ-3 are currently estimated and reported to the NMED/HWB. This will be discontinued at the end of Period 1, as we believe BZ-3 will not need to be monitored any more to determine compliance at AL-1. BZ-3 will continue to be monitored as a part of our air quality permit's emissions monitoring requirements.

3.2.1 Period 1: First 75 days from the Effective Date of the Interim Measures Work Plan

During Period 1, Western Refining proposes to collect (i) weekly effluent samples of wastewater entering AL-1 and exiting BZ-3 for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE) and (ii) monthly inlet samples of wastewater entering BZ-3 and exiting the New API Separator for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE). The analytical results for each sample will be submitted to NMED within five (5) business days of receipt of report from the external laboratory during Period 1. (The refinery currently is required to provide effluent sampling data 30 days after the end of each month.) The laboratory results will be forwarded to NMED by e-mail or sent in hard copy.

Western Refining also will measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis. The flow rate measurements for the previous month will be submitted to NMED on the fifth business day of each month. Reporting the flow rate by email is acceptable.

Finally, Western Refining will estimate the monthly average gallons per minute through the benzene stripper BZ-3 located in the process area. The flow rate estimate will be submitted to NMED by the fifth business day of each month. Reporting the flow rate by email is acceptable.

3.2.2 Period 2: 75 days to 120 days from the Effective Date of the Interim Measures Work Plan

During Period 2, Western Refining will collect effluent samples two (2) times a week of wastewater entering AL-1 for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE). The analytical results for each sample will be submitted to NMED within five (5) days of receipt of report from the external laboratory during Period 2. (The refinery currently is required to provide effluent sampling data 30 days after the end of each month.) The laboratory results will be forwarded to NMED by e-mail or sent in hard copy.

Western Refining will continue to measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis. The flow rate measurements for the previous month will be submitted to NMED on the fifth business day of each month. Reporting the flow rate by email is acceptable.

3.2.3 Period 3: 120 days from the Effective Date of the Interim Measures Work Plan to startup of new upgraded wastewater treatment system

During Period 3, Western Refining will collect weekly effluent samples of wastewater entering AL-1 for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE). The analytical results for each sample will be submitted to NMED

within five (5) business days of receipt of the report from the external laboratory during Period 3. (The refinery currently is required to provide effluent sampling data 30 days after the end of each month.) The laboratory results will be forwarded to NMED by e-mail or sent in hard copy.

Western Refining will continue to measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis. The flow rate measurements for the previous month will be submitted to NMED on the fifth day of each month. Reporting the flow rate by email is acceptable.

3.2.4 Contingency Sampling and Reporting

In the event that discharges to AL-1 have not achieved a rolling average benzene concentration level less than 0.5 ppm during Period 2 or thereafter, Western Refining will immediately implement the following contingency sampling and reporting activities in addition to the ongoing sampling regime.

- a) Beginning on day 121, if an exceedance occurs, Western Refining will collect daily effluent samples of wastewater entering AL-1 and EP-1 for analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX). The effluent wastewater samples will be submitted to a certified off-site laboratory and analyzed using EPA Method 8021B or EPA Method 8260. The analytical results for each sample will be submitted to NMED within four days of collection. The laboratory results may be forwarded to NMED by e-mail or sent in hard copy.
- b) Daily effluent wastewater samples will be collected until three consecutive days of achieving the discharge limit of 0.5 mg/L. After this period, Western Refining will again revert to the sampling frequency of Period 3.
- c) Western Refining will measure discharge flow rates entering AL-1 and entering Evaporation Pond 1 (EP-1) on a daily basis. The daily discharge flow rates must be submitted to NMED every Friday beginning on day 121. E-mail reporting of this data is acceptable.

3.3 Status Reports

Western Refining believes an important part of implementation of Interim Measures is a regular and frequent series of communications between Western Refining and NMED during the Interim Measures period. Western Refining proposes a monthly summary progress reports on measures being implemented. These reports will be submitted five (5) business days after the end of each month or quarter.

Table 2: Schedule of sampling and reporting in various periods for BTEX + MTBE in treated wastewater entering AL-1

Period	Sample locations	Frequency	Reporting to NMED
Period 1: First 75 days after IM Work Plan approved	Inlet to AL-1 and outlet of BZ-3	Weekly	5 business days after receipt of laboratory reports
Period 2: 75 to 120 days after IM Work Plan approved	Inlet to AL-1	2 times/week	5 business days after receipt of laboratory reports
Period 3: 120 days onwards after IM Work Plan approved	Inlet to AL-1	Weekly	5 business days after receipt of laboratory reports
Contingency – after any non-compliance	Inlet to AL-1	Daily, until three consecutive days of achieving the discharge limit of 0.5 mg/L	Four days after sample collection

4.0 Schedule

Western Refining is prepared to implement this Interim Measures Plan upon NMED HWB approval.

5.0 Summary of Major Approval Requests

- The most important element of the Interim Measures Work Plan is to install a fourth stripper.
- Western Refining has proposed an aggressive monitoring plan designed to provide meaningful information to Western Refining and the NMED well enough in advance of the conclusion of the Interim Measures period to allow for adjustments in the Interim Measures, if needed. Western Refining seeks approval to sample at different frequencies and report on corresponding different schedules during three (3) discrete periods identified in this plan. Additionally, Western Refining proposes an increased sampling and reporting protocol as a contingency if our wastewater is found to be out of compliance.
- Western Refining requests approval that compliance be demonstrated by calculating a rolling average on an annual basis of weekly grab samples of strippers' effluent tested for benzene. This is a standard applied to other refineries.

Appendix A: Sampling Methodology

All effluent wastewater samples described in this plan will be submitted to a certified off-site laboratory and analyzed using EPA Method 8021B or EPA Method 8260.

Based on weekly grab samples, we will then calculate a rolling average to determine compliance. Rolling average is calculated over the days of sample collection until 365 days of data are collected after which the annual average for any given day will be calculated using that day's data and the prior 364 days of data. These quotes from the American Petroleum Institute (API)¹ best describe our situation and suggested strategy –

“A representative sample of solid waste is defined at 40 CFR 260.10. This definition is as follows:

- “*Representative sample* means a sample of a universe or a whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole.”
- See *U.S. v. WCI Steel*, 72 F.Supp.2d 810, 820 –25 (N.D. OH 1999) (samples from surface impoundment must be representative of the “whole” impoundment, as by random sampling).

“The toxicity characteristic (TC) regulation at 40 CFR 261.24 states that a waste is hazardous if an extract of a *representative sample* of the waste exceeds regulatory levels. Chapter 9 of SW-846² describes representative sampling of solid waste in detail. The regulatory objectives of representative sampling are stated in Section 9.1.1.1 of SW-846 and are repeated below, because they clearly describe EPA's intent regarding sampling for characterizing solid wastes.

“The EPA, in its hazardous waste management system, has required that certain solid wastes be analyzed for physical and chemical properties. It is mostly chemical properties that are of concern, and, in the case of a number of chemical contaminants, the EPA has promulgated levels (regulatory thresholds) that cannot be equaled or exceeded. The regulations pertaining to the management of hazardous wastes contain three references regarding the sampling of solid wastes for analytical properties. The first reference, which occurs throughout the regulations, requires that representative samples of waste be collected and defines representative samples as exhibiting average properties of the whole waste. (Page Nine-5, SW-846)

“For example, in the case of a typical wastewater that is generated from the same source and operations on a continuous or intermittent basis, the concentration of a contaminant will vary with time. Thus, a representative sample of wastewater must consist of multiple

¹ These API comments are available at - <http://www.uswag.org/2003/sw846jc.pdf>

² EPA, December 1997, *Test Methods for Evaluating Solid Waste Physical/Chemical Methods*, Office of Solid Waste.

individual measurements in order to exhibit the *average properties* of the universe or whole.

“The language in SW-846 reiterates the regulatory definition of what constitutes a representative sample of waste. It is generally a sample that represents the *average* properties of the *whole* waste and is typically not the concentration of a constituent in a single grab sample, or even in multiple grab samples unless those samples are collected pursuant to a sampling plan that is designed to measure the average properties of the whole waste.”

A possible acceptable strategy for determining if wastewater is exceeding the TC level of benzene of 0.5 ppm is suggested by the API –

“One example is a sampling plan used by a petroleum refinery located in EPA Region II that is typical for a continuously generated process wastewater. This wastewater is treated in an activated sludge system that uses surface impoundments for aeration. Therefore, it must demonstrate that the wastewater that enters the impoundments is not a hazardous waste by any of the characteristics of hazardous waste at 40 CFR 261. The specific waste constituent of this concern is benzene and the regulatory target is the Toxicity Characteristic (TC) threshold for benzene.

The refinery utilized the SW-846 recommended approach for defining the upper level of uncertainty in the long-term average in its waste analysis plan. The plan also recognizes that to properly characterize the process wastewater, sampling has to be conducted over an extended period of time to obtain a representative sample.

Samples are collected at the aeration basin influent feed as grab samples at least once each week. These samples are analyzed for benzene. The refinery defines a one-year moving average as representative of its operations, based on its evaluation of the underlying basis of the TC threshold concentrations and the variability of benzene concentrations in its wastewater. The upper limit of a confidence interval calculated as prescribed in SW-846³ is then compared to the TC regulatory threshold of 0.5 mg/L to determine whether the wastewater is hazardous. The one-year averaging interval is updated on a regular basis (i.e., it is a one-year moving average based on the most recent samples collected).

The one-year averaging approach was selected using the representative sampling concepts in the SW-846 guidance to comply with an evaluation of what a representative time period would be for that facility. The refinery has used this sampling methodology since 1994 and reports its results to EPA Region II on a monthly basis, as requested by EPA.”

³ The confidence interval is calculated using Equation 8 in Table 9-1 and the appropriate Student's t-values in Table 9-2 of SW-846.

Appendix B: Details of Stat-400 Carbonair Air Stripper

Additional Stripper – Carbonair STAT-400

The fourth stripper we have rented, the Carbonair STAT-400 model, has the following features –

- The material of construction is stainless steel
- Gasket material is Neoprene
- Blower is direct drive
- Self prime transfer pump

We have added filters upstream of the API strippers. The effluent from this unit will be routed through the existing two strippers that are in parallel. The photographs below depict the additional stripper placed next to the existing strippers.



Figure A.1: Photograph of new additional stripper located next to existing strippers.

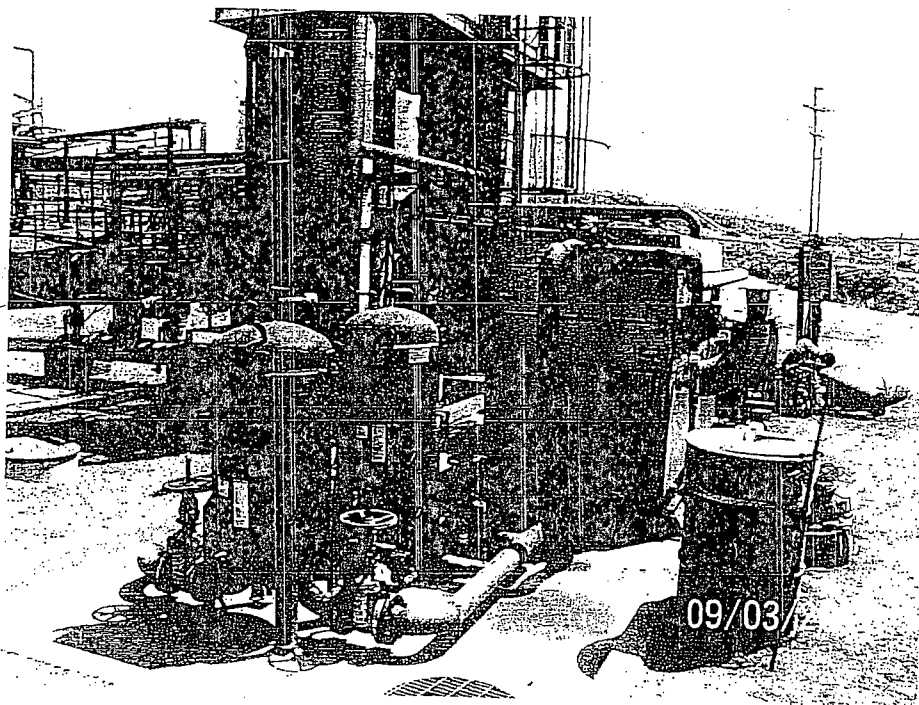


Figure A.2: Looking south at the new additional stripper and the new pre-filters (in blue)

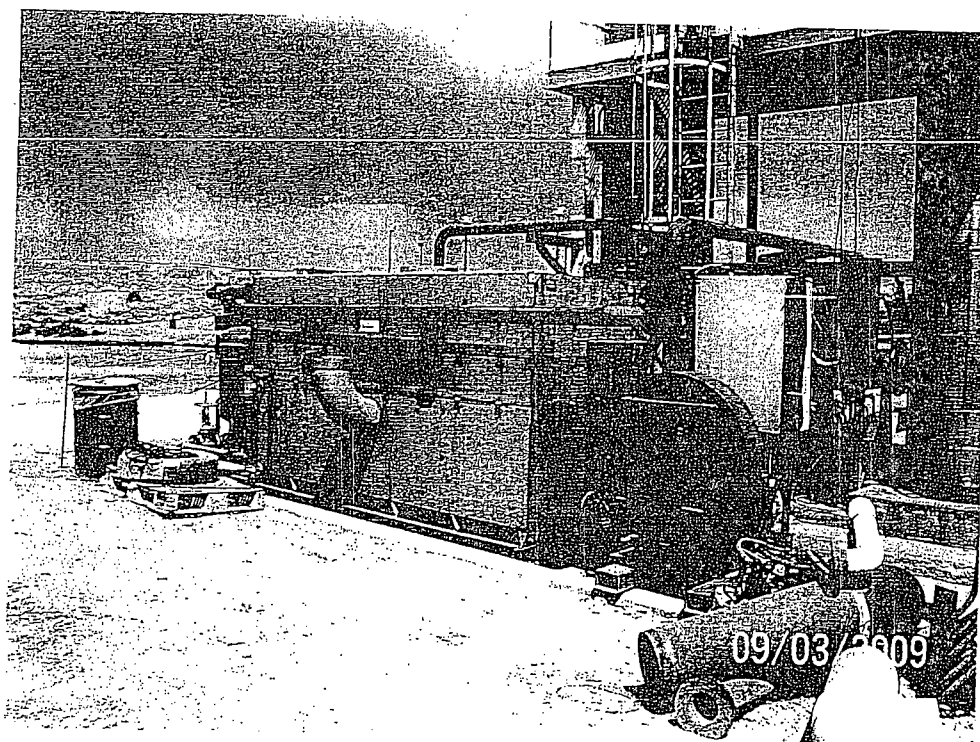


Figure A.3: Looking north-east at the new additional stripper

Carbonair's patented STAT Low Profile Air Strippers are ideally suited for removing volatile organic compounds (VOCs) from water in a variety of applications including industrial process and waste water treatment.

STAT low profile air strippers combine high removal efficiencies of VOCs, flexibility, and ease of maintenance and durability. Since 1992, Carbonair has provided thousands of STAT low profile air strippers in a myriad of applications and configurations. Many of these are still operating today.

STAT Standard Design Features

All STAT models are made of high quality 304 stainless steel and have 125 lb flanged inlet and outlet connections to ensure the integrity of piping connections. The trays and sump sections come equipped with clean out ports that facilitate easy inspection and routine cleaning of the aeration trays. The aeration trays are connected using adjustable over-center latching stainless steel clips, making assembly and disassembly quick and easy, while ensuring a tight fit and good seal to prevent leaks. All STAT aeration trays come equipped with an anti-bypass valve that prevents air from bypassing the aeration trays by flowing up through the down comers. This eliminates the need to "prime" the system at startup and ensures that the first drop of water that goes through the air strippers is treated as well as the last.

STATs configured for pump out discharge have sumps that are sized to minimize pump cycling and to maintain sufficient air distribution across the aeration trays. STATs come with direct coupled industrial grade blowers as standard equipment. All STATs are equipped with a low pressure switch mounted on the blower to shut down the water input upstream in the event of a blower failure, thereby ensuring that no untreated water is passing through to discharge.



WNR
NYSE

GALLUP

October 12, 2009

VIA EMAIL AND CERTIFIED MAIL No. 7008 2810 0000 4726 2014

Chief
Hazardous Waste Bureau
New Mexico Environmental Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Joel Dougherty (6EN-HE)
Hazardous Waste Enforcement Branch
U.S. EPA Region 6, Suite 1200
1445 Ross Ave.
Dallas, TX 75202-2733

RE: **FINAL CLOSURE COST ESTIMATE, WESTERN REFINING COMPANY,
SOUTHWEST INC., GALLUP REFINERY; EPA ID #NMD000333211**

Dear Chief,

Enclosed please find the Western Refining Gallup's ("Gallup") final closure cost estimate for Lagoons AL-1 and AL-2 pursuant to Section IV (Compliance Order) item 100.H of the Consent Agreement and Final Order ("CAFO") between Western, NMED and U.S. EPA Region 6.

I certify that the information contained in or accompanying this submission is true, accurate and complete. As to those identified portions of this submission for which I cannot personally verify the truth and accuracy, I certify as the company official having supervisory responsibility for the person(s) who, acting upon my direct instructions, made the verification, that this information is true, accurate, and complete.

Thank you for your review and approval of this cost estimate. Please feel free to contact Ed Riege at 505-722-0217 with any questions.

Sincerely,

Mark B. Turri
Refinery Manager

cc: Hope Monzeglio NMED HWB
Carl Chavez OCD
Ann Allen Western Refining
Ed Riege Western Refining



404 Camp Craft Rd., Austin, Texas 78746
Tel: (512) 347 7180 Fax: (512) 347 8243
Internet: www.rpsgroup.com/energy

October 12, 2009

Ed Riege
Environmental Manager
Gallup Refinery - Western Refining Company
Rout 3, Box 7
Gallup, NM 87301

Re: Lagoons AL-1 and AL-2 Final Closure Cost Estimate
Gallup Refinery – Western Refining Company, Gallup, New Mexico
NMD000333211

Dear Mr. Riege:

Attached to this letter is a final closure cost estimate for Lagoons AL-1 and AL-2 at the Gallup Refinery. The estimate was prepared by RPS at the request of the Gallup Refinery and as required by provision IV.H of Complaint and Consent Agreement and Final Order Document RCRA-06-2009-0936. This provision requires a final closure cost estimate be prepared to establish the amount of financial assurance Western Refining must secure for closure of the lagoons. The estimate has been prepared assuming the closure would be done by a third party responsible for project administration, performing a pre-construction investigation of the soils surrounding the lagoons, and preparing a final closure report.

The cost estimate consists of three tables. Table 1A is the cost estimate for closure of the lagoons under Option 1, which assumes a portion of the sludge in the lagoon is excavated and temporarily placed in the adjacent temporarily out-of-service evaporation pond. The sludge placed in the evaporation pond and the remaining in-situ sludge are then bioremediated, which reduces the sludge volume by approximately 30%. Table 1B is the cost estimate for closure of the lagoons under Option 2, which assumes the sludge is stabilized in place, which increases the sludge volume by approximately 10%. Both Option 1 and 2 assume the top foot of the lagoons' clay liner has to be removed due to contamination. Both options also assume that the sludge and contaminated soils are disposed as special waste at Waste Management's San Juan landfill. Table 3 is the cost estimate for the pre-construction site investigation and clean soil confirmation sampling and testing (line item 1 in Tables 1A and 1B).

In addition to the scope of work described above, the cost estimates include removal of the existing benzene strippers adjacent to the lagoons. The total cost for Options 1 and 2 are \$779,000 and \$941,000, respectively. To assure adequate financial resources to close the lagoons under either option, financial assurance would have to be established for the higher amount.

Ed Riegel
October 12, 2009
Page 2

We appreciate the opportunity to prepare the cost estimates for final closure of the lagoons.
Please contact Scott Crouch or me at 512-347-7588 if we can be of further assistance.

Sincerely,

RPS

A handwritten signature in cursive script that reads "James Isensee".

James Isensee, P.E.

JWI/gjg

Attachment

cc: Allen Hains – Western Refining
Rajev Gaurav – Western Refining
Scott Crouch - RPS

Final Closure Cost Estimate
Option 1 - Bioremediation and Disposal
Lagoons AL-1 & AL-2 Closure
October 12, 2009

Item	Description	Quantity	Units	Unit Cost	Cost
Professional Services					
1	Investigation & clean soil confirmation sampling	1	LS	\$87,000	\$87,000
2	Final closure report	1	LS	\$20,000	\$20,000
3	Project administration (engineering, bidding, construction administration, etc.)	1	LS	\$71,000	\$71,000
Demolition					
4	Dismantling and disposal of benzene strippers	1	LS	\$5,000	\$5,000
Construction					
5	Mobilization	1	LS	\$25,000	\$25,000
6	Administrative costs (office facilities & staff, H&S plan, SWPPP, insurance, eqpmt decon, QA/QC, etc.)	1	LS	\$28,000	\$28,000
7	Dewater lagoons (3 ft water over 0.8 ac). Dispose at API Separator (200' distance)	800,000	Gal	\$0.011	\$9,000
8	Excavate and transfer portion of sludge from AP-1 to EP-1 for Bioremediation	3,600	CY	\$4	\$13,000
9	Bioremediate sludges in-situ and within EP-1	5,600	CY	\$25	\$140,000
10	Dispose bioremediated sludge offsite as Special Waste ¹	3,900	CY	\$50	\$195,000
11	Excavate top 1 ft of clay liner (AL-1 and AL-2)	850	CY	\$7	\$6,000
12	Dispose of excavated clay as Special Waste ²	850	CY	\$55	\$47,000
13	Sludge characterization sampling - one per 100 CY	48	EA	\$610	\$29,000
14	Backfill lagoons	6,000	CY	\$15	\$90,000
15	Demobilization	1	LS	\$14,000	\$14,000
TOTAL					\$779,000

Notes

- 1 Assumes 30% reduction in sludge volume due to bioremediation and disposal at Waste Management landfill in San Juan (TPH > 1,000 ppm, metals < 20X rule)
- 2 Assumes disposal of liner soils at same location as bioremediated sludges
- 3 Assumes one sample per 100 CY analyzed for Haz Characteristics per 40 CFR 261 (\$140), TCLP Skinner Metals (\$190), TCLP BTEX (\$130), TPH (\$90) + 10% markup

Final Closure Cost Estimate
Option 2 - Stabilization and Disposal
Lagoons AL-1 & AL-2 Closure
October 12, 2009

Item	Description	Quantity	Units	Unit Cost	Cost
Professional Services					
1	Investigation & clean soil confirmation sampling	1	LS	\$87,000	\$87,000
2	Final closure report	1	LS	\$20,000	\$20,000
3	Project administration (engineering, bidding, construction administration, etc.)	1	LS	\$86,000	\$86,000
Demolition					
4	Dismantling and disposal of benzene strippers	1	LS	\$5,000	\$5,000
Construction					
5	Mobilization	1	LS	\$25,000	\$25,000
6	Administrative costs (office facilities & staff, H&S plan, SWPPP, insurance, eqpmt decon, QA/QC, etc.)	1	LS	\$28,000	\$28,000
7	Dewater lagoons (3 ft water over 0.8 ac). Dispose at API Separator (200' distance)	800,000	Gal	\$0.011	\$9,000
8	Stabilize sludges in place	5,600	CY	\$25	\$140,000
9	Dispose stabilized sludges as Special Waste ¹	6,200	CY	\$55	\$341,000
10	Excavate top 1 ft of clay liner (AL-1 & AL-2)	850	CY	\$7	\$6,000
11	Dispose of excavated clay as Special Waste ²	850	CY	\$55	\$47,000
12	Sludge characterization sampling - one per 100 CY	71	EA	\$610	\$43,000
13	Backfill lagoons	6,000	CY	\$15	\$90,000
14	Demobilization	1	LS	\$14,000	\$14,000
TOTAL					\$941,000

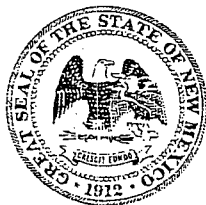
Notes

- 1 Assumes 10% increase in sludge volume due to stabilization and disposal at Waste Management landfill in San Juan (TPH > 1,000 ppm, metals < 20X rule)
- 2 Assumes disposal of liner soils at same location as bioremediated sludges
- 3 Assumes one sample per 100 CY analyzed for Haz Characteristics per 40 CFR 261 (\$140), TCLP Skinner Metals (\$190), TCLP BTEX (\$130), TPH (\$90) + 10% markup

TABLE 2
Investigation & Confirmation Sampling Cost Estimate
Lagoon AL-1 & AL-2 Closure
October 12, 2009

Dike & Surrounding Soils Characterization Samples			
Analysis	# of Samples	Cost/Sample	Costs
8260B	101	\$90	\$9,090
8270C	101	\$220	\$22,220
8015B (GRO, DRO, MRO)	101	\$90	\$9,090
Skinner List Metals & Fe, Mn	101	\$185	\$525
Sampling Labor	five 8-hour days	\$75/hour	\$3,000
Sampling Equipment	two days	\$1500/day	\$3,000
Subtotal			\$46,925
Benzene Stripper Area Characterization Samples			
Analysis	# of Samples	Cost/Sample	Costs
8260B	11	\$90	\$990
8270C	11	\$220	\$2,420
8015B (GRO, DRO, MRO)	11	\$90	\$990
Skinner List Metals & Fe, Mn	11	\$185	\$2,035
Sampling Labor	one 8-hour day	\$75/hour	\$600
Sampling Equipment	one day	\$1500/day	\$1,500
Subtotal			\$8,535
AL-1 & AL-2 Confirmation Samples			
Analysis	# of Samples	Cost/Sample	Costs
8260B	49	\$90	\$4,410
8270C	49	\$220	\$10,780
8015B (GRO, DRO, MRO)	49	\$90	\$4,410
Skinner List Metals & Fe, Mn	49	\$185	\$9,065
Sampling Labor	four 8-hour days	\$75/hour	\$2,400
Subtotal			\$31,065
Total			\$86,525

GRO - Gasoline Range Organics
DRO - Diesel Range Organics
MRO - Motor Oil Range Organics
AL - Aeration Lagoon



BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1

Santa Fe, New Mexico 87505-6303

Phone (505) 476-6000 Fax (505) 476-6030

www.nmenv.state.nm.us



RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 22, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: NOTICE OF DISAPPROVAL
INTERIM MEASURES WORK PLAN TO COMPLY WITH RCRA STANDARDS
FOR DISCHARGE OF WASTEWATER TO SURFACE IMPOUNDMENTS
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-GRCC-09-005

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has received Western Refining Southwest Inc., Gallup Refinery (the Permittee) *Interim Measures Work Plan to Comply with RCRA Standards for Discharge of Wastewater to Surface Impoundments* (Work Plan), dated September 2009. NMED has identified deficiencies with the Work Plan, and hereby issues this Notice of Disapproval (NOD).

Comment 1

In the Executive Summary, page iii, bullet 1, the Permittee states "Western will install a fourth benzene stripper as an interim measure. However, Western Refining proposes that it retain the discretion not to implement measures that would, therefore, be unnecessary to achieve compliance. For example, if improved performance of our existing two strippers meets compliance, the fourth rental stripper may be discontinued" [this was also stated in the last paragraph of Section 3.1 on page 4]. In Section 3.1 (Physical/Design Changes), pages 3 and 4, the Permittee states "[o]nce the new rental stripper system is installed we will have an enhanced stripper system made up of three strippers - a single stripper in series with two others in parallel. Flow from the API separator will first flow to one of two filter pots followed by the rental

(Contingency Sampling and Reporting) of the Work Plan. The Permittee must revise the Work Plan to reflect the following requirements:

- a. If **any** of the effluent wastewater samples collected from AL-1 during "Period 2" of [implementation of] the Work Plan meet or exceed the discharge limit at or above 0.5 mg/L for benzene, beginning on day 121, the Permittee must implement the sampling requirements established in NMED's August 27, 2009 letter (Interim Measures Work Plan Requirements).
- b. If **all** wastewater effluent samples collected from AL-1 during "Period 2" are below the discharge limit of 0.5 mg/L for benzene, the Permittee must continue to follow the sampling requirements for "Period 2" for an additional 30 days. If benzene concentrations in all effluent samples collected from AL-1 during the additional 30 days are below the discharge limit, then the Permittee must resume sampling effluent entering into AL-1 once a week until notified otherwise by NMED. The effluent samples must be analyzed for benzene, toluene, ethylbenzene, and total xylenes plus MTBE. If at any time benzene concentrations detected in any effluent sample meet or exceeds the discharge limit, the Permittee must implement the sampling requirements established in NMED's August 27, 2009 letter (Interim Measures Work Plan Requirements).
- c. Beginning with Period 2, unless otherwise notified by NMED, all analytical laboratory reports must be submitted to NMED within five business days of sample collection.
- d. The Work Plan must be revised to include a detailed description of how all effluent samples will be collected. The effluent samples must be collected using valid techniques to minimize the loss of the volatile organic compounds (VOCs) within each sample (i.e., the sample location must have a sample port that allows for samples to be collected at a low flow rate to minimize volatilization).

Comment 5

In Section 3.2.2 (Period 2: 75 days to 120 days from the Effective Date of the Interim Measure Work Plan), the Permittee states "[t]he analytical results for each sample will be submitted to NMED within five (5) business days of receipt of report from the external laboratory during Period 2."

NMED Response

The laboratory reports for all samples collected during "Period 2" and thereafter must be submitted to NMED within five business days of sample collection. See Comment 4 item c above. The Permittee must revise the Work Plan accordingly.

Ed Riege
Gallup Refinery
October 22, 2009
Page 5

The Permittee must address all comments contained in this NOD and submit a revised Work Plan to NMED on or before November 30, 2009. The revised Work Plan must be submitted with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. In addition, the Permittee must include an electronic version of the revised Work Plan that include all edits and modifications in redline strikeout format.

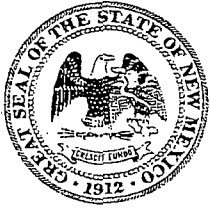
If you have questions regarding this letter please contact Hope Monzeglio of my staff at 505-476-6045.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
D. Cobrain NMED HWB
H. Monzeglio NMED HWB
D. McElroy, NMED AQB
C. Chavez, OCD
A. Allen, Western Refining Southwest, Inc.
D. Edelstein, EPA Region 6
J. Dougherty, EPA Region 6
File: Reading File and GRCC 2009 File
HWB-GRCC-09-005



BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us



RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 27, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: NOTICE OF DISAPPROVAL
PROCESS DESIGN REPORT FOR THE WASTEWATER TREATMENT
PLANT WORK PLAN (ALTERNATIVE DESIGN)
WESTERN REFINING COMPANY, SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-GRCC-09-006

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the *Process Design Report for the Wastewater Treatment Plant Work Plan (Alternative Design)* (Work Plan), dated September 2009, submitted on behalf of Western Refining Company, Southwest Inc., Gallup Refinery (the Permittee). The Permittee must provide additional information before NMED can complete its technical review. NMED hereby issues this Notice of Disapproval (NOD).

Ed Riege
Gallup Refinery
October 27, 2009
Page 3

Permittee already has an approved work plan and could have begun implementing the plan as of September 1, 2009. The Permittee has known since the first submittal of the February 26, 2009 *Process Design Report For Wastewater Treatment Plant Upgrade* that the system would likely have to comply with 40 CFR 262.34(a). In addition, a meeting was held on August 7, 2009 between NMED and Gallup explaining that these requirements would be required. No response is necessary.

Below are Comments addressing the Work Plan

Comment 4

In Section 1.2 (Project Scope), bullet one, page 2, the Permittee states "[t]wo existing tanks put in service for the storage of process area stormwater and diversion of off-spec wastewater."

NMED Response

It is not clear which two existing tanks are being referenced, nor is it clear what "off-spec wastewater" is. The Permittee must revise the Work Plan to identify the two existing tanks by name (e.g., Tanks 27 and 28). The Permittee must clearly define what "off-spec wastewater" is (identify all sources) since this term is used throughout the Work Plan. The Permittee must also discuss the capacity of these tanks and their ability to handle the additional flow volumes and the ability of the API separator to handle potential increased flow from these tanks.

Comment 5

In Section 1.4 (Treatment Objectives), page 2, the Permittee states "[t]he treatment objectives for the WWTP upgrade are to provide water quality that is suitable for discharge to the unlined EP-1. Specifically, the objectives are for there to be no visible free oil and ≤ 0.5 mg/L benzene. This project design was developed based on these objectives."

NMED Response

The effluent entering into the unlined Evaporation Pond 1 (EP-1) must have benzene concentrations less than 0.5 mg/L. In addition, the treatment objective of the upgraded wastewater treatment system (WWTS) is for all effluent entering into EP-1 to comply with all applicable regulations. Discharges to the unlined Evaporation Ponds must not create the potential for impacts to groundwater. The Permittee must revise the Work Plan to state that benzene concentrations will be below 0.5 mg/L for benzene.

Comment 6

In Section 2.3 (Pilot Travel Center Wastewaters), page 4, the Permittee states "[t]he lift station's submersible pumps then transfer the wastewater through a pipeline to the refinery for further pumping and treatment." In Section 4.2.5 (Travel Center Pretreatment), page 9, the Permittee states "The sanitary wastewater from the Pilot Travel Center and the refinery will be pretreated

what measures will be implemented to demonstrate that mixing was successful.

- c. Explain how the refinery will demonstrate that the liquids and solids in Tanks T27 and T28 meet the 90-day storage requirements, by clearly explaining the type of measurements and record keeping to be implemented to assure that the 90-day accumulation period is not exceeded.
- d. Tanks T27 and T28 shall not accumulate more than two feet of sludge during any 90-day accumulation period. The Permittee must demonstrate how the sludge level will be measured.

Comment 9

In Section 4.2.1 (Stormwater/Diversion Tanks), page 8, paragraph 3, the Permittee states "Cleanouts will be installed on the conveyance pipelines to and from the Stormwater/Diversion Tanks....[u]nderground piping will be buried below the frost line to prevent freezing. Above ground piping will be electric heat traced to prevent freezing."

NMED Response

The Permittee must revise the Work Plan to provide a figure of the WWST that identifies where all cleanouts and above and below ground piping will be placed and describe how pipelines will be tested for mechanical integrity or leakage.

Comment 10

In Section 4.2.1 (Stormwater/Diversion Tanks), page 8, paragraph 3, the Permittee states "[u]nderground piping will be buried below the frost line to prevent freezing. Above ground piping will be electric heat traced to prevent freezing. The piping design is referenced in section 4.5."

NMED Response

Section 4.5 does not include many details relating to the piping design as stated above. Section 4.5 states "[t]he secondary containment and leak detection requirements for piping systems covered by the CAFO will also be implemented where required." The Permittee must revise the Work Plan to describe what type of secondary containment and leak detection will be used for the piping systems. All design details proposed to comply with the CAFO must be included in the Work Plan.

Comment 11

The Permittee addresses the Equalization Tank (EQ) in Section 4.2.2.

system will consist of retention tanks with gravity dewatering. This material will normally be recycled to a refining process (on-site or off-site). If recycling is not available, the float material will be managed as a hazardous waste."

NMED Response

The Permittee must provide more details about the DGF unit and DGF float storage and dewatering system and revise the Work Plan to identify how many retention tanks will be utilized and discuss all maintenance requirements and frequency of maintenance of the DGF unit and the DGF float storage and dewatering system.

Comment 15

In Section 4.4 (Management of Off-Spec Wastewater), page 10, the Permittee states "[p]rocess monitoring will be used to identify when this diversion is needed."

NMED Response

The Permittee did not describe or define the process monitoring, does not address how the upgraded WWTS will be monitored to ensure system is operating correctly, or discuss how the Permittee will demonstrate that the effluent entering into EP-1 is not a hazardous waste. The Permittee must revise the Work Plan to include sampling activities that will be conducted to monitor the upgraded wastewater treatment system and describe "process monitoring." In addition, the Permittee must discuss in detail in the text of the Work Plan where sample ports will be located within the wastewater treatment system (influent and effluent sampling ports in the EQ Tank, new API separator, DGF, MPPE, T27/T28). The sampling ports must be constructed in a manner that allows for reduced flow rates (low flow) to minimize the loss of volatile organic compounds (VOCs) when samples are collected (Figure 1 depicts sample points but these are not described within the text).

Comment 16

In Section 4.5 (Tank Design, Secondary Containment, and Leak Detection), page 11, the Permittee states "Under the terms of the CAFO, the tanks and ancillary equipment downstream of the API Separator, including diversion tank systems, are subject to 40 CFR §262.34(a). By reference, these systems are therefore subject to 40 CFR 265 Subpart J for tank systems. Accordingly, the systems downstream of the new API separator will comply with the tank design requirements of 40 CFR 265 Subpart J, including secondary containment and leak detection. Since the CAFO was signed just recently, Western Refining is still determining how the specific design requirements of the CAFO will be implemented."

NMED Response

NMED cannot evaluate a Work Plan that does not include complete design specifications. The Permittee must revise the Work Plan to include all the design details that comply with 40 CFR

identify and describe air sampling ports and their locations within the WWTS.

Comment 20

The Permittee provided supplemental information for the DGF and MPPE in Attachments A and B, respectively. The attachments provide the general manufacturers information about the DGF and MPPE units, which also include system diagrams. The diagrams are not necessarily specific to the WWTS. The Permittee must revise the Work Plan to include the design and process flow diagrams for the actual DGF and MPPE units that will be installed at the refinery. See Comment 21 Below.

Comment 21

The Permittee included a flow diagram of the alternative design to the WWTS in Figure 1 Flow Diagram Alternative WWTP UPGRADE (attached). The Permittee must revise the figure and add additional figures as necessary to address the following in the revised Work Plan.

- a. The Legend found in Figure 1 defines dashed lines as existing; the figure has the API separator surrounded by dashed lines because it is an existing structure. In the response letter, the Permittee must explain why the Storm Water Tanks T27 and T28 were not surrounded by dashed lines since these also are existing structures. The Permittee must revise the figure accordingly.
- b. The figure(s) must be design drawings of the actual WWTS that will be installed. The drawings must include the exact number of tanks that make up each component of the WWTS, piping, secondary containment, and leak detection. The drawing must also depict exactly where the flows will be entering and exiting through the various WWTS units (e.g., will influent enter at the top of tanks, sides).
- c. The flow diagram must present all above and underground piping associated with the WWTS.
- d. NMED requires additional flow meters. The locations of the flow meters are shown on the Attached Figure 1.

GALLUP

November 12, 2009

VIA EMAIL AND CERTIFIED MAIL No. 7008 2810 0000 4726 2021

Chief
Hazardous Waste Bureau
New Mexico Environmental Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Joel Dougherty (6EN-HE)
Hazardous Waste Enforcement Branch
U.S. EPA Region 6, Suite 1200
1445 Ross Ave.
Dallas, TX 75202-2733

RE: **REVISED FINAL CLOSURE COST ESTIMATE, WESTERN REFINING
COMPANY, SOUTHWEST INC., GALLUP REFINERY; EPA ID
#NMD000333211**


Dear Chief,

Enclosed please find the revised Western Refining Gallup's ("Gallup") final closure cost estimate for Lagoons AL-1 and AL-2 pursuant to Section IV (Compliance Order) item 100.H of the Consent Agreement and Final Order ("CAFO") between Western, NMED and U.S. EPA Region 6.

I certify that the information contained in or accompanying this submission is true, accurate and complete. As to those identified portions of this submission for which I cannot personally verify the truth and accuracy, I certify as the company official having supervisory responsibility for the person(s) who, acting upon my direct instructions, made the verification, that this information is true, accurate, and complete.

Thank you for your review and approval of this cost estimate. Please feel free to contact Ed Riege at 505-722-0217 with any questions.

Sincerely,

 for Mark Turri
Mark B. Turri
Refinery Manager

cc: Hope Monzeglio NMED HWB
Carl Chavez OCD

Ed Riege
November 10, 2009
Page 2

We appreciate the opportunity to prepare the cost estimates for final closure of the lagoons.
Please contact Scott Crouch or me at 512-347-7588 if we can be of further assistance.

Sincerely,

RPS

A handwritten signature in cursive script, appearing to read "James Isensee".

James W. Isensee, P.E.
Manager - Engineering

JWI/sab
Attachment

cc: Allen Hains – Western Refining
Rajev Gaurav – Western Refining
Scott Crouch - RPS



404 Camp Craft Rd., Austin, Texas 78746, USA
T +1 512 347 7588 F +1 512 347 8243 W www.rpsgroup.com

November 10, 2009

Ed Riege
Environmental Manager
Gallup Refinery - Western Refining Company
Rout 3, Box 7
Gallup, NM 87301

Re: Lagoons AL-1 and AL-2 Final Closure Cost Estimate
Gallup Refinery – Western Refining Company, Gallup, New Mexico
NMD000333211

Dear Mr. Riege:

Attached is a final closure cost estimate for Lagoons AL-1 and AL-2 at the Gallup Refinery. The estimate was prepared by RPS at the request of the Gallup Refinery and as required by provision IV.H of Complaint and Consent Agreement and Final Order Document RCRA-06-2009-0936. This provision requires a final closure cost estimate be prepared to establish the amount of financial assurance Western Refining must secure for closure of the lagoons. The estimate has been prepared assuming the closure would be done by a third party responsible for project administration, performing a pre-construction investigation of the soils surrounding the lagoons, and preparing a final closure report.

The cost estimate consists of three tables. Table 1A is the cost estimate for closure of the lagoons under Option 1, which assumes a portion of the sludge in the lagoon is excavated and temporarily placed in the adjacent temporarily out-of-service evaporation pond. The sludge placed in the evaporation pond and the remaining in-situ sludge is then bioremediated, which reduces the sludge volume by approximately 30%. Table 1B is the cost estimate for closure of the lagoons under Option 2, which assumes the sludge is stabilized in place, which increases the sludge volume by approximately 10%. Both Option 1 and 2 assume the top foot of the lagoons' clay liner has to be removed due to contamination. Both options also assume that the sludge and contaminated soils are disposed as special waste at Waste Management's San Juan landfill, with 25% disposed as characteristically hazardous waste at US Ecology's landfill in Battie, NV. Table 3 is the cost estimate for the pre-construction site investigation and clean soil confirmation sampling and testing (line item 1 in Tables 1A and 1B).

In addition to the scope of work described above, the cost estimates include removal of the existing benzene strippers adjacent to the lagoons. The total cost for Options 1 and 2 are \$1,016,000 and \$1,257,000, respectively. To assure adequate financial resources to close the lagoons under either option, financial assurance would have to be established for the higher amount.

TABLE 1A
Final Closure Cost Estimate
Option 1 - Bioremediation and Disposal
Lagoons AL-1 & AL-2 Closure
November 10, 2009

Item	Description	Quantity	Units	Unit Cost	Cost
Professional Services					
1	Investigation & clean soil confirmation sampling	1	LS	\$87,000	\$87,000
2	Final closure report	1	LS	\$20,000	\$20,000
3	Project administration (engineering, bidding, construction administration, etc.)	1	LS	\$93,000	\$93,000
Demolition					
4	Dismantling and disposal of benzene strippers	1	LS	\$5,000	\$5,000
Construction					
5	Mobilization	1	LS	\$25,000	\$25,000
6	Administrative costs (office facilities & staff, H&S plan, SWPPP, insurance, eqpmt decon, QA/QC, etc.)	1	LS	\$28,000	\$28,000
7	Dewater lagoons (3 ft water over 0.8 ac). Dispose at API Separator (200' distance)	800,000	Gal	\$0.011	\$9,000
8	Excavate and transfer portion of sludge from AP-1 to EP-1 for Bioremediation	3,600	CY	\$4	\$13,000
9	Bioremediate sludges in-situ and within EP-1	5,600	CY	\$25	\$140,000
10	Dispose 75% of bioremediated sludge offsite as special waste ¹	2,900	CY	\$55	\$160,000
11	Dispose 25% of bioremediated sludges as hazardous waste ²	1,000	CY	\$250	\$250,000
12	Excavate top 1 ft of clay liner (AL-1 and AL-2)	850	CY	\$7	\$6,000
13	Dispose of excavated clay as Special Waste ³	850	CY	\$55	\$47,000
14	Sludge characterization sampling - one per 100 CY ⁴	48	EA	\$610	\$29,000
15	Backfill lagoons	6,000	CY	\$15	\$90,000
16	Demobilization	1	LS	\$14,000	\$14,000
TOTAL					\$1,016,000

Notes

- 1 Assumes 30% reduction in sludge volume due to bioremediation and disposal at Waste Management landfill in San Juan (TPH > 1,000 ppm, metals < 20X rule)
- 2 Assumes 30% reduction in sludge volume due to stabilization and disposal at U.S. Ecology landfill in Battie, NV (<500 mg/kg volatiles).
- 3 Assumes disposal of liner soils at same location as nonhazardous sludges.
- 4 Assumes one sample per 100 CY analyzed for Haz Characteristics per 40 CFR 261 (\$140), TCLP Skinner Metals (\$190), TCLP BTEX (\$130), TPH (\$90) + 10% markup

TABLE 1B
Final Closure Cost Estimate
Option 2 - Stabilization and Disposal
Lagoons AL-1 & AL-2 Closure
November 10, 2009

Item	Description	Quantity	Units	Unit Cost	Cost
Professional Services					
1	Investigation & clean soil confirmation sampling	1	LS	\$87,000	\$87,000
2	Final closure report	1	LS	\$20,000	\$20,000
3	Project administration (engineering, bidding, construction administration, etc.)	1	LS	\$115,000	\$115,000
Demolition					
4	Dismantling and disposal of benzene strippers	1	LS	\$5,000	\$5,000
Construction					
5	Mobilization	1	LS	\$25,000	\$25,000
6	Administrative costs (office facilities & staff, H&S plan, SWPPP, insurance, equipment decon, QA/QC, etc.)	1	LS	\$28,000	\$28,000
7	Dewater lagoons (3 ft water over 0.8 ac). Dispose at API Separator (200' distance)	800,000	Gal	\$0.011	\$9,000
8	Stabilize sludges in place and in unused adjacent evaporation pond	5,600	CY	\$25	\$140,000
9	Dispose 75% of stabilized sludges as special waste ¹	4,600	CY	\$55	\$253,000
10	Dispose 25% of stabilized sludges as hazardous waste ²	1,500	CY	\$250	\$375,000
11	Excavate top 1 ft of clay liner (AL-1 & AL-2)	850	CY	\$7	\$6,000
12	Dispose of excavated clay as special waste ³	850	CY	\$55	\$47,000
13	Sludge characterization sampling - one per 100 CY ⁴	71	EA	\$610	\$43,000
14	Backfill lagoons	6,000	CY	\$15	\$90,000
15	Demobilization	1	LS	\$14,000	\$14,000
TOTAL					\$1,257,000

Notes

- 1 Assumes 10% increase in sludge volume due to stabilization and disposal at Waste Management landfill in San Juan (TPH > 1,000 ppm, metals < 20X rule)
- 2 Assumes 10% increase in sludge volume due to stabilization and disposal at U.S. Ecology landfill in Battie, NV (<500 mg/kg volatiles).
- 3 Assumes disposal of liner soils at same location as nonhazardous sludges.
- 4 Assumes one sample per 100 CY analyzed for Haz Characteristics per 40 CFR 261 (\$140), TCLP Skinner Metals (\$190), TCLP BTEX (\$130), TPH (\$90) + 10% markup

TABLE 2
Investigation & Confirmation Sampling Cost Estimate
Lagoon AL-1 & AL-2 Closure
November 10, 2009

Analysis	# of Samples	Cost/Sample	Costs
Dike & Surrounding Soils Characterization Samples			
8260B	101	\$90	\$9,090
8270C	101	\$220	\$22,220
8015B (GRO, DRO, MRO)	101	\$90	\$9,090
Skinner List Metals & Fe, Mn	101	\$185	\$525
Sampling Labor	five 8-hour days	\$75/hour	\$3,000
Sampling Equipment	two days	\$1500/day	\$3,000
Subtotal			\$46,925
Benzene Stripper Area Characterization Samples			
8260B	11	\$90	\$990
8270C	11	\$220	\$2,420
8015B (GRO, DRO, MRO)	11	\$90	\$990
Skinner List Metals & Fe, Mn	11	\$185	\$2,035
Sampling Labor	one 8-hour day	\$75/hour	\$600
Sampling Equipment	one day	\$1500/day	\$1,500
Subtotal			\$8,535
AL-1 & AL-2 Confirmation Samples			
8260B	49	\$90	\$4,410
8270C	49	\$220	\$10,780
8015B (GRO, DRO, MRO)	49	\$90	\$4,410
Skinner List Metals & Fe, Mn	49	\$185	\$9,065
Sampling Labor	four 8-hour days	\$75/hour	\$2,400
Subtotal			\$31,065
Total			\$86,525

GRO - Gasoline Range Organics
DRO - Diesel Range Organics
MRO - Motor Oil Range Organics
AL - Aeration Lagoon



New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson
Governor

Joanna Prukop
Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division



November 20, 2009

Mr. Mark B. Turri
Refinery Manager
Western Refining Southwest- Gallup Refinery
Route 3 Box 7
Gallup, New Mexico 87301

Re: Discharge Permit "Modification" Request to Discharge (GW-032)
Western Refining Southwest- Gallup Refinery
McKinley County, New Mexico

Dear Mr. Turri:

The New Mexico Oil Conservation Division (OCD) has received Western Refining Southwest, Inc. (Western's), "Modification" application with all appropriate fees dated October 30, 2009, for authorization to discharge an estimated 100,000 gallons (~0.5 ft of evaporation pond network free board) of treated and untreated wastewater into Outfall 001 (N 35° 29' 26.23" & W 108° 26' 26.01") or "Waters of the State" at the west side of the property. Western proposes to minimize* discharges from occurring into Outfall 001. When Outfall 001 (basically the furthest down gradient evaporation pond) overflows, runoff discharges into an off-property tributary ("South Fork") located about 0.8 miles from the Rio Puerco River (ephemeral or intermittent stream) on state land. Tribal land is located approximately 1-mile west and down-gradient from the Outfall 001 location.

OCD's review of the application is to determine if any additional information may be required before deeming the permit application "administratively" complete and will facilitate a complete technical review of the proposed modification by OCD. OCD has determined that the modification application is not "Administratively Complete."

Therefore, OCD requires additional information. In accordance with Subsection A of 20.6.2.3108 NMAC of the New Mexico Water Quality Control Commission regulations (WQCC), "to be deemed administratively complete, an application shall provide all of the information required by Paragraphs (4) through (5) of Subsection F of 20.6.2.3108 NMAC and shall indicate, for department approval, the proposed locations for providing notice (English and Spanish)* required by Paragraphs (1) and (4) of Subsection B or Paragraph (2) of Subsection C of 20.6.2.3108 NMAC." Western did not provide any water quality information in support of its statement that "the waste water will have no hazardous components and levels of all contaminants will be below regulatory standards.* Items 7, 9, 11, and 12 of the application (cross-section information is not discernable at the scale provided and boring logs with hydrogeologic information were not included with the cross sections)* are not



adequately addressed. At least one cross-section with hydrogeologic information is required from the New API Separator (NAPIS) with well boring logs to the Outfall 001 area to evaluate the hydrogeology (aquifer(s)) present in the area of interest.

To satisfy the 20.6.2.3108F(4) NMAC "quality" and application form item requirements, submit historical water quality analytical data from historical pond monitoring data that supports the above statement and demonstrates compliance with 20.6.2.7(ww), 20.6.2.3103, 20.6.4.109 and 20.6.4.900 NMAC applicable water quality standards. In addition, Western must also provide new water quality data for evaporation pond 2 (EP-2) effluent, since the applicant indicated that there was about 1667 bbl/day of cooling tower blow down effluent and 1071 bbl/day of boiler effluent discharging into EP-2.

Due to the presence of sanitary effluent in the refinery wastewater treatment system (discharge location unknown at this time- aeration lagoon vs. EP-2?), biological analytical data in comparison with 20.6.2.2101 NMAC parameters must be provided in order to characterize any discharge to "Waters of the State" or Outfall 001. The existing approved facility "Biohazard Plan" may also need to be modified before the discharge to Outfall 001 can be considered.

Western should already be aware from its historical water quality monitoring data that some pond wastewater exceeds regulatory water quality standards. Consequently a treatment system for the wastewater should have been proposed in the application to address the contaminants, but was not. With regard to the F(4) "volume", Western did not factor in the additional wastewater flow volume to the existing treatment system from its Bloomfield Refinery, which will be closed (~18,000 bbl/day crude oil refining capacity). Western is in the midst of a major wastewater treatment system conversion, which has yet to be specified. OCD is aware of the situation with one NAPIS and treatment capacity problems that occur routinely during precipitation events and has questioned the ability of the existing treatment system to handle wastewater at the facility without the additional wastewater that will occur as a result of the Bloomfield Refinery closure. This must be addressed along with the final waste water treatment system that will handle the type and total volume of treated effluent that may be discharged into Outfall 001.

To satisfy the 20.6.2.3108(F) NMAC "depth to and total dissolved solids concentration of the ground water", Western must submit data from nearby monitor wells.

From available pond monitoring information, there will likely be ground water contamination, which will require additional monitor wells to monitor ground water quality at the "mixing zone" where ground water interfaces with surface water, as well as ground water remediation system(s) to capture and prevent contamination from migrating down gradient to state and tribal lands. In addition, OCD will require Western to conduct more hydrogeologic work to assess the "mixing zone" and the complete hydrogeology beneath the facility before permitting the discharge of contaminants to Outfall 001. Plans to discharge into Outfall 001 without acknowledging the contaminants of concern and stipulating the type of treatment system needed to facilitate a discharge to Outfall 001 with plans to re-route fluids between ponds to avoid what appears to be an inevitable daily discharge scenario at Outfall 001 is of major concern to the OCD.

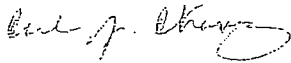
November 20, 2009

Page 3

Please review the attached 20.6.2.3108 NMAC flow chart and regulatory language pertaining to the WQCC public notice requirements for "Modifications." After the application is deemed "Administratively Complete", the revised WQCC notice requirements of 20.6.2.3108 NMAC must be satisfied and demonstrated to the OCD. OCD will provide public notice pursuant to the revised WQCC notice requirements of 20.6.2.3108 NMAC to determine if there is any public interest.

If there are any questions regarding this matter, please contact Carl J. Chavez at (505) 476-3490 or carlj.chavez@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,



Carl J. Chávez
Environmental Engineer

CJC/cjc

Attachments: 20.6.2.3108 NMAC (Public Notice)

xc: Willie Lane, EPA Region 6
Marcy Leavitt, NMED
Dave Cobrain, NMED
Glenn von Gonten, OCD
OCD District III Office, Aztec

November 25, 2009

VIA EMAIL AND CERTIFIED MAIL No. 7008 2810 0000 4726 2038

Mr. James Bearzi, Chief
Hazardous Waste Bureau
New Mexico Environmental Department
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1445 Ross Ave.
Dallas, TX 75202-2733

RE: **REVISED INTERIM MEASURES WORKPLAN, WESTERN REFINING
SOUTHWEST INC., GALLUP REFINERY; EPA ID #NMD000333211**

Dear Mr. Bearzi,

Enclosed please find the Western Refining Gallup Refinery's (Gallup) Revised Interim Measures Work Plan (Work Plan) pursuant to Section IV item 100. D of the Consent Agreement and Final Order ("CAFO) among Western, NMED and U.S. EPA Region 6. This letter and Work Plan address the Notice of Disapproval letter from NMED dated October 22, 2009 (see attached copy). This letter details where all revisions have been made, cross-referencing the numbered comments in the October 22 NMED letter.

Comment 1

Western agrees that strippers one, two, or four may be removed from service only for maintenance purposes. If Gallup wishes to remove these benzene strippers from service for any other reason, it will seek prior approval from NMED in writing, including the justification for removal. The Work Plan has been revised to address these changes in the Executive Summary, page III, bullet 1 and the last paragraph of Section 3.1 on page 4.

Comment 2

The "filter pots" are two vessels that will be placed upstream of the new benzene stripper. The filter pots are vessels that will be used to remove large particles and help in reducing fouling in the strippers. These two vessels will be operated one at a time with one on stand by with a clean filter inside. When the first filter fouls, the second one will be put on-line and the fouled vessel's

filter element will be cleaned or changed. Section 3.1 of the plan has been revised to reflect the above description.

Comment 3

Gallup has removed all text referring to a rolling average. Western Refining understands NMED's concerns regarding the importance of collecting, analyzing, and responding to benzene concentrations in representative wastewater samples entering Aeration Lagoon 1 (AL-1). Based upon Comments 3, 4, 5, and 6 in the October 22 NMED letter, we have re-examined our approach to verifying waste characteristics for AL-1 influent and effluent samples. Our overarching objective is to collect appropriate representative samples per Section 20.4.1.100 NMAC and 40 CFR 260.10, wherein "*Representative sample* means a sample of a universe or whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole." The sampling, analysis, evaluation, reporting, and response(s) for AL-1 influent and effluent will be described in a Waste Analysis Plan (WAP). The WAP will be developed consistent with EPA's guidance manual titled "Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes (OSWER 9938.4-03), as applicable. The anticipated principal components of the Gallup Refinery WAP will include:

- Facility Description
- Waste Analysis Parameters
- Sampling Procedures
- Laboratory and Testing Procedures
- Waste Evaluation/Re-Evaluation Frequency
- Reporting and Response

In addition, the WAP will draw heavily upon the appropriate portions of EPA SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods." Waste characteristic measurement data will be evaluated per the statistical methods in Chapter 9 of SW-846 pertaining to the upper confidence interval (CI) of the population mean for the waste analyses. When AL-1 is taken out of service and the new treatment unit is operating, we will amend our WAP to sample the influent to Evaporation Pond 1 (EP-1).

Comment 4

- a. Section 3.2.3 has been revised to indicate that if any of the effluent samples collected from effluent entering AL-1 during "Period 2" of implementation of the Work Plan meet or exceed the discharge limit at or above 0.5 mg/l for benzene, beginning on day 121, Gallup must implement the sampling requirements established in NMED's August 27, 2009 letter (Interim Measures Work Plan Requirements).
- b. Section 3.2.3 has been revised to indicate that if all wastewater effluent samples collected from effluent entering AL-1 during "Period 2" are below the discharge limit of 0.5 mg/l for benzene, Gallup must continue to follow the sampling requirements for "Period 2" for an additional 30 days. If benzene concentrations in all effluent samples collected from AL-1 during the additional 30 days are below the discharge limit, then Gallup must resume sampling effluent entering into AL-1 once a week until notified otherwise by

NMED. The effluent samples will be analyzed for benzene, toluene, ethylbenzene, and total xylenes plus MTBE. If at any time benzene concentrations detected in any effluent sample meet or exceed the discharge limit, Gallup must implement the sampling requirements established in NMED's August 27, 2009 letter (Interim Measures Work Plan Requirements).

- c. Sections 3.2.2 and 3.2.3 have been revised to reflect that beginning with Period 2, unless otherwise notified by NMED, all analytical laboratory reports will be submitted to NMED within 5 business days of sample collection.
- d. Appendix A: (Sampling Methodology) of the Work Plan has been revised to include a detailed description of how all effluent samples entering AL-1 will be collected.

Comment 5

Gallup agrees that the laboratory reports for all samples collected during "Period 2" and thereafter will be submitted to NMED within 5 business days of sample collection. Section 3.2.2 of the Work Plan has been revised to reflect this.

Comment 6

No comment required as it has been addressed in comments 3 and 4.

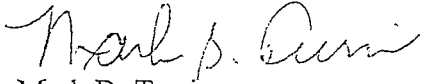
Comment 7

Gallup has taken note of NMED's four reminders in Comment 7. Appendix A of the revised Work Plan addresses Comment 7a regarding the definition of "daily wastewater effluent sample". In keeping with Comment 7b, all laboratory reports submitted will contain copies of relevant chain of custody forms as noted in the revised Work Plan. As clarified in Comment 7c, we recognize that NMED reserves the right to collect effluent samples; however, Western notes that NMED's reservation of rights is (i) independent of the CAFO, (ii) does not create CAFO obligations for Western, and (iii) does not subject Western to stipulated penalties. As stated in Comment 7d, Western recognizes its liabilities related to the stipulated penalties in Section V of the CAFO.

I certify that the information contained in or accompanying this submission is true, accurate and complete. As to those identified portions of this submission for which I cannot personally verify the truth and accuracy, I certify as the company official having supervisory responsibility for the person(s) who, acting upon my direct instructions, made the verification, that this information is true, accurate, and complete.

Thank you for your review of this revised Work Plan. Please feel free to contact Ed Riege at 505-722-0217 with any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Mark B. Turri".

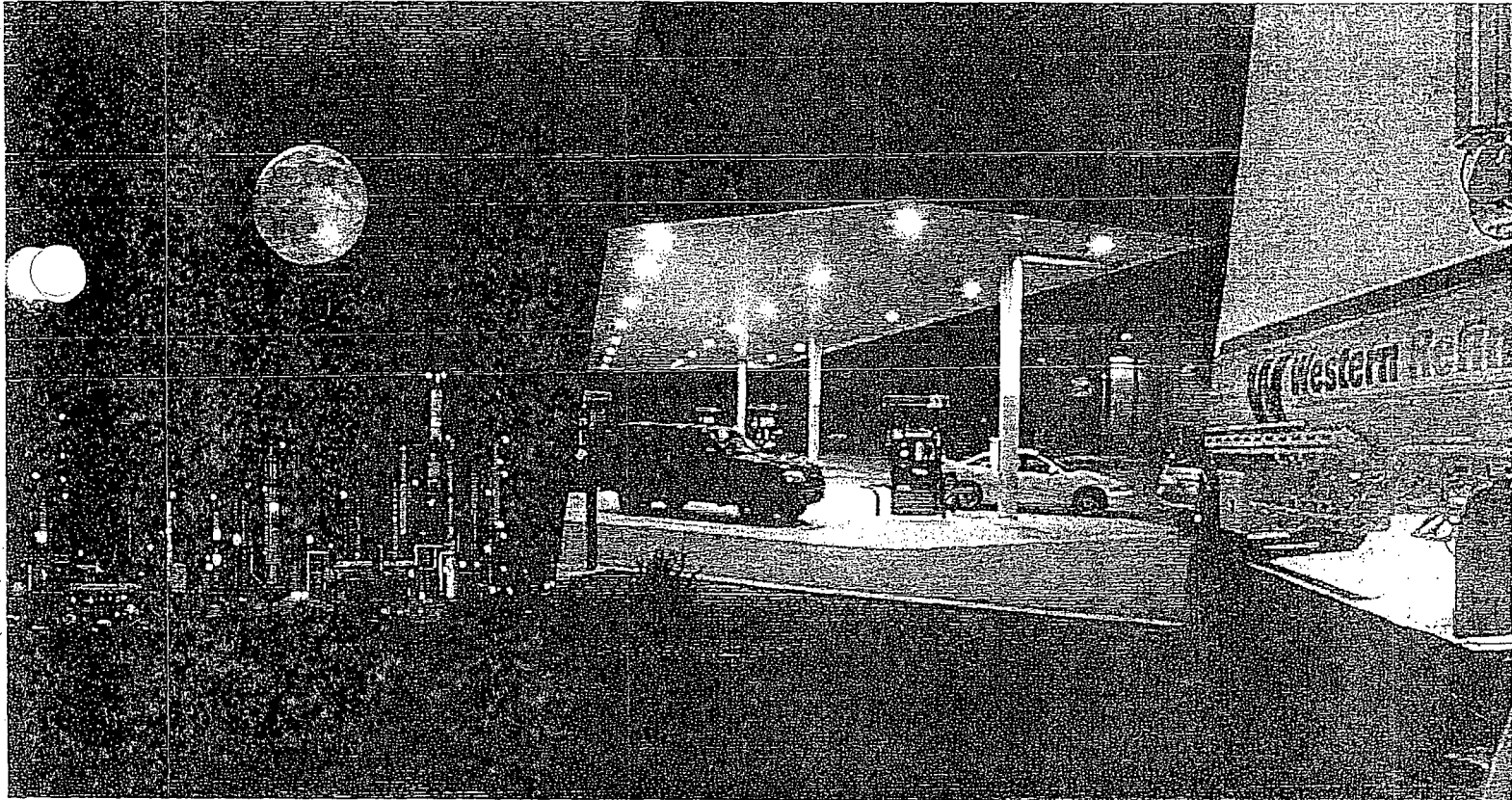
Mark B. Turri
Refinery Manager

cc: Hope Monzeglio NMED HWB
Carl Chavez OCD
Ann Allen Western Refining
Ed Riege Western Refining

Interim Measures Work Plan to Comply with RCRA Standards for Discharge of Wastewater to Surface Impoundments

Revision 1

Western Refining
Gallup, New Mexico



November 2009

Interim Measures Work Plan
WESTERN REFINING SOUTHWEST, INC., GALLUP REFINERY
EPA ID #NMD000333211
November 2009

Executive Summary

This report describes Western Refining's Interim Measures Work Plan to comply with RCRA standards on discharge of wastewater containing benzene to surface impoundments. The most important element of this plan is to install a fourth stripper prior to the two existing strippers that accept effluent from the new API separator. This new stripper will substantially increase the removal efficiencies of the current stripper system; and, we anticipate, will result in benzene levels less than 0.5 ppm in our treated wastewater before it enters Aeration Lagoon-1 (AL-1). In addition to the fourth stripper, we propose aggressive monitoring and sampling schedules (divided into three distinct periods) in advance of any legal requirement to do so. Appendix A describes our sampling methodology. We hope that by establishing compliance well ahead of any mandatory need to do so (the Consent Agreement and Final Order (CAFO)¹ provides a period of 120 days for Western Refining to come into compliance), we will be able to satisfy our future compliance requirements with a relaxed monitoring schedule (to be set by the NMED).

Since early 2009, many months before the CAFO went into effect, the Gallup Refinery undertook to evaluate, develop and implement a series of improvements to the Refinery's existing wastewater treatment system with the goal of achieving consistent compliance with RCRA standards for benzene containing wastewater discharges to surface impoundments. A working group of refinery managers, engineers, and operators was created that meets bi-weekly. Personnel from our sister refinery in El Paso were invited to visit the Gallup Refinery and share their experience. Consultants and manufacturers' representatives were brought on-site and their recommendations were implemented. A temporary tank was located next to the new API separator which allowed all overflows to be contained and later sent through the wastewater treatment system. This ensures that only treated wastewater enters AL-1.

Key issues related to the existing benzene strippers were identified as – improper mixing of air and water; fouling of the internal packing media; and inefficient oil recovery in the new API oil/water separator. A series of steps to improve the performance of the strippers by addressing these key issues were identified. Some have been implemented and others are in progress. Simultaneously, a program of source control to reduce oil reaching the sewers was instituted. A need for rapid screening tests was also identified, and we implemented a testing program at our internal laboratory to provide screening data on a more frequent basis than the analyses done at an external EPA and NMED certified

¹ The August 26, 2009 Consent Agreement and Final Order ("CAFO") between Western Refining Southwest, Inc. ("Western Refining"), the New Mexico Environment Department ("NMED"), and the U.S. Environmental Protection Agency (EPA) Region 6

laboratory. Performance of the strippers has been considerably enhanced, and overall benzene levels in the strippers' outlet have dropped substantially.

In summary, our major requests for approval are –

- Western Refining has been granted approval from the NMED/AQB to install stripper 4, the rental stripper. Western agrees that strippers one, two, or four may be removed from service only for maintenance purposes. If Gallup wishes to remove these benzene strippers from service for any other reason, it will seek prior approval from NMED in writing, including the justification for removal.
- Western Refining has proposed an aggressive monitoring plan designed to provide meaningful information to Western Refining and the NMED well enough in advance of the conclusion of the Interim Measures period to allow for adjustments in the Interim Measures. Western Refining seeks approval to sample at different frequencies and report on corresponding different schedules during three (3) discrete periods identified in this plan. Western Refining proposes an increased sampling and reporting protocol as a contingency if our wastewater is ever found to be out of compliance.

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1.0 Introduction and Background

The August 26, 2009 Consent Agreement and Final Order ("CAFO") between Western Refining Southwest, Inc. ("Western Refining"), the New Mexico Environment Department ("NMED"), and the U.S. Environmental Protection Agency (EPA) Region 6, Section IV, Paragraph 100.D. requires Western Refining to submit to NMED for approval an Interim Measures Work Plan for "ceasing the discharge of any hazardous wastewater to any surface impoundment, unless such discharge complies with applicable RCRA standards" at Western Refining's Gallup Refinery. In accordance with that requirement, Western Refining seeks NMED's approval to conduct the activities identified in this Interim Measures Work Plan (the "IM Work Plan") which are designed to eliminate the discharge of wastewater exhibiting the toxicity characteristic of benzene from entering Aeration Lagoon 1 (AL-1) at the Gallup Refinery.

In early 2009, many months before the CAFO went into effect, the Gallup Refinery undertook to evaluate, develop and implement a series of improvements to the refinery's existing wastewater treatment system with a goal of achieving consistent compliance with RCRA standards for discharges to surface impoundments.

A working group of refinery managers, engineers, and operators was created that meets bi-weekly. A list of action items was developed that are being evaluated and implemented. Personnel from our sister refinery in El Paso were invited to visit the Gallup Refinery and share their experience. Consultants and manufacturers' representatives were brought on-site and their recommendations were implemented.

2.0 Current Conditions

Key issues related to the benzene strippers were identified as – improper mixing of air and water; fouling of the internal packing media; and inefficient oil recovery in the new API oil/water separator. A series of steps to improve the performance of the strippers by addressing these key issues were identified. Some have been implemented and others are in progress. Simultaneously, a program of source control to reduce oil reaching the sewers was instituted. A need for rapid screening tests was also identified, and we implemented a testing program at our internal laboratory to provide screening data on a more frequent basis than the analyses done at an external EPA and NMED certified laboratory.

A temporary tank was located next to the new API separator which allowed all overflows to AL-1 to be contained and later sent back through the wastewater treatment system.

Performance of the strippers has been considerably enhanced, and overall benzene levels have dropped substantially in the outlet of the strippers.

2.1 Voluntary Measures Implemented

Table 1 lists measures that have been implemented. These are grouped as follows: 1) Source control; 2) Improvements to the performance of the strippers; 3) Improvements to the performance of the new API separator.

Table 1: Recent measures that have been implemented

Measures	Activity	Activity Status
<u>Source Control</u> Desalter Optimization	Use NALCO recommendations to optimize the operation of the two desalters.	The Operations staff completed the necessary steps to optimize the desalters and they are currently running efficiently.
<u>Improve Strippers' Performance</u> Determine if packing height in the benzene towers requires modification Air to Water Ratio in Benzene Strippers Specify new distribution nozzles for the Benzene Strippers Upgrade air ducting for Benzene Strippers 1 and 2	Determine if there is adequate packing in the tower and if a new packing design would be appropriate Determine the right mixture of air to water in the current strippers Determine what type of spray nozzle would help distribution of benzene contaminated water over the packing Find and plug holes in air piping	Packing height is adequate. New packing identified and has been stocked for future use. This packing installed during last change-out. There is currently adequate air flow; the Process Department will use a pitot tube to verify that the air flow maintains an adequate flow rate. Installed new spray nozzles on strippers one and two; these will provide well-distributed flow of water over the entire packing. The new ducting has been fabricated and installed.
<u>Improve New API Separator Performance</u> Change API East Bay inlet piping Create second sample point to monitor API inlet API separator skimmer level Put Weir Box back into service	Create larger inlets in the East Bay. Install new sample point. Find a method or mechanical device that will determine the oil level in the API bays. Perform tests to determine if Weir Box functions properly with API separator modifications; reconnect Weir Box level indicator	The new installed piping will provide an equal flow to both bays New sample point is installed The Operations Department determined that a visual inspection of the level is adequate. The Weir Box is in service and no problems with its operation have been encountered

2.2 Voluntary Measures In-Progress

There are additional measures that are in the process of being evaluated. These are also related to - 1) source control; 2) improvements to the performance of the strippers; 3) improvements to the performance of the new API separator. Among such measures, for example, are enhanced process controls in the API separator, such as temperatures and level controls, etc.

These activities are intended to be implemented incrementally until such time as compliance is consistently achieved.

3.0 Proposed Interim Measures Requiring NMED Approval

Although Western Refining believes that the recent sampling results are indicative of progress resulting from evaluation and implementation of the measures listed in Table 1, in order to ensure compliance with the CAFO, Western Refining has identified the following proposed Interim Measures that will be implemented on an expedited schedule upon the effective date of this IM Work Plan. The proposed Interim Measures fall into 3 categories: (i) physical/design changes to the wastewater treatment system; (ii) an aggressive monitoring and reporting schedule; and (iii) submittal of status reports to the NMED.

3.1 Physical/Design Changes

The most significant change is that we have rented an additional stripper which has a removal efficiency rated higher than our current strippers. This is a Carbonair STAT 400 that will assist in controlling benzene along with the two existing strippers which are located after the oil water separator. See Appendix B for a specification sheet, description, and photos of the new rental stripper. (This element was discussed with NMED in the negotiation of the CAFO.)

In order to move this element of the Interim Measures Work Plan along as quickly as possible, Western Refining submitted a technical air permit application to NMED on August 24, prior to the effective date of the CAFO. A conference call was held on September 15, 2009, with the AQB in which Western Refining requested enforcement discretion to install the rental stripper along with pilot wastewater treatment test equipment. The AQB accepted the general outline of the Western Refining proposal and requested some additional information that has been submitted. Western Refining has

received approval so the rental stripper can be installed upstream of the existing two strippers.

Once the new rental stripper system is installed we will have an enhanced stripper system made up of three strippers – a single stripper in series with two others in parallel. Flow from the API separator will first flow to one of two filter pots followed by the rental stripper. The “filter pots” are two vessels that will be placed upstream of the new benzene stripper. The filter pots are vessels that will be used to remove large particles and help in reducing fouling in the strippers. These two vessels will be operated one at a time with one on stand by with a clean filter inside. When the first filter fouls, the second one will be put on-line and the fouled vessel’s filter element will be cleaned or changed. After the filter pots, flow will then be split between the two existing strippers, treated further, and then discharged to AL-1. Western Refining will also have the option to run part or all of the effluent from the new stripper back through the new stripper a second time should it be needed.

During the interim period Western Refining will continue to operate the benzene stripper three (BZ-3) located upstream of the NAPI next to the units whose main influent is desalter effluent.

When compliance is consistently demonstrated during the Interim Measures Period prior to implementation of all above measures, Western Refining proposes that it retain the discretion not to implement measures that would, therefore, be unnecessary to achieve compliance. Western agrees that strippers one, two, or four may be removed from service only for maintenance purposes. If Western Refining wishes to remove these benzene strippers from service for any other reason, it will seek prior approval from NMED in writing, including the justification for removal.

3.2 Monitoring and Reporting

Western Refining proposes an aggressive monitoring plan designed to provide meaningful information to Western Refining and the NMED well enough in advance of the conclusion of the Interim Measures period to allow for adjustments in the Interim Measures. Western Refining will commence sampling, as described, even in advance of NMED’s approval to provide the best database for comparison.

Western Refining proposes to sample at different frequencies and report on corresponding schedules during three (3) discrete periods identified below. Western Refining proposes an increased sampling and reporting protocol as a contingency under certain circumstances. Table 2 at the end of this section summarizes the different sampling locations and frequencies for BTEX+MTBE monitoring and reporting. In Appendix A provides a detailed explanation of how all effluent wastewater samples are to be collected.

Flows will be monitored at inlets to AL-1 and EP-1 on a daily basis and reported on the 3rd day of each month for the previous month.

Flows through BZ-3 are currently estimated and reported to the NMED/HWB. This will be discontinued at the end of Period 1, as we believe BZ-3 will not need to be monitored any more to determine compliance at AL-1. BZ-3 will continue to be monitored as a part of our air quality permit's emissions monitoring requirements.

3.2.1 Period 1: 75 days from the Effective Date of the Interim Measures Work Plan

During Period 1, Western Refining proposes to collect (i) weekly effluent samples of wastewater exiting strippers 1, 2 and 4, that is, entering AL-1, and exiting BZ-3 for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE) and (ii) monthly inlet samples of wastewater entering strippers 1, 2 and 4, that is exiting the New API Separator and separate wastewater samples entering BZ-3 for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE). The analytical results for each sample will be submitted to NMED within three (3) days of receipt of report from the external laboratory during Period 1. (The refinery currently is required to provide effluent sampling data 30 days after the end of each month.) The laboratory results will be forwarded to NMED by e-mail or sent in hard copy. All laboratory reports will contain copies of the chain-of-custody forms.

Western Refining also will measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis. The flow rate measurements for the previous month will be submitted to NMED on the third day of each month. Reporting the flow rate by email is acceptable.

Finally, Western Refining will estimate the monthly average gallons per minute through the benzene stripper located in the process area. The flow rate estimate will be submitted to NMED by the third day of each month. Reporting the flow rate by email is acceptable.

3.2.2 Period 2: 75 days to 120 days from the Effective Date of the Interim Measures Work Plan

During Period 2, Western Refining will collect effluent samples two (2) times a week of wastewater entering AL-1 for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE). The analytical results for each sample will be submitted to NMED within five business (5) days of sample collection. (The refinery currently is required to provide effluent sampling data 30 days after the end of each month.) The laboratory results will be forwarded to NMED by e-mail or sent in hard copy. All laboratory reports will contain copies of the chain-of-custody forms.

Western Refining will continue to measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis. These data will be sent to the NMED on the third day of each month.

3.2.3 Period 3: 120 days from the Effective Date of the Interim Measures Work Plan to Startup of New Upgraded Wastewater Treatment System

During Period 3, Western Refining will collect weekly effluent samples of wastewater entering AL-1 for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE). The analytical results for each sample will be submitted to NMED within five business (5) days of sample collection. The laboratory results will be forwarded to NMED by e-mail or sent in hard copy. All laboratory reports will contain copies of the chain-of-custody forms.

Western Refining will continue to measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis. The flow rate measurements in Period 3 will be submitted to NMED on the third day of each month. Reporting the flow rate by email is acceptable.

If any of the effluent samples collected from the inlet of AL-1 meet or exceed the discharge limit at or above 0.5 mg/l for benzene, beginning on day 121, Western Refining will implement the sampling requirements established in NMED's August 27, 2009 letter (Interim Measures Work Plan Requirements – a copy is attached in Appendix C).

If all wastewater effluent samples collected from wastewater entering AL-1 during "Period 2" are below the discharge limit of 0.5 mg/l for benzene, Western Refining will continue to follow the sampling requirements for "Period 2" for an additional 30 days. If benzene concentrations in all effluent samples collected from wastewater entering AL-1 during the additional 30 days are below the discharge limit, then Western Refining will resume sampling effluent entering into AL-1 once a week until notified otherwise by NMED. The effluent samples will be analyzed for benzene, toluene, ethylbenzene, and total xylenes plus MTBE. If at any time benzene concentrations detected in any effluent sample meet or exceed the discharge limit, Western Refining will implement the sampling requirements established in NMED's August 27, 2009 letter (Interim Measures Work Plan Requirements) – see Appendix C.

3.2.4 Contingency Sampling and Reporting

In the event that discharges to AL-1 have not achieved a benzene concentration level less than 0.5 ppm during Period 2 or thereafter, Western Refining will immediately implement the following contingency sampling and reporting activities:

Western Refining will continue to measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis. These data will be sent to the NMED on the third day of each month.

3.2.3 Period 3: 120 days from the Effective Date of the Interim Measures Work Plan to Startup of New Upgraded Wastewater Treatment System

During Period 3, Western Refining will collect weekly effluent samples of wastewater entering AL-1 for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE). The analytical results for each sample will be submitted to NMED within five business (5) days of sample collection. The laboratory results will be forwarded to NMED by e-mail or sent in hard copy. All laboratory reports will contain copies of the chain-of-custody forms.

Western Refining will continue to measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis. The flow rate measurements in Period 3 will be submitted to NMED on the third day of each month. Reporting the flow rate by email is acceptable.

If any of the effluent samples collected from the inlet of AL-1 meet or exceed the discharge limit at or above 0.5 mg/l for benzene, beginning on day 121, Western Refining will implement the sampling requirements established in NMED's August 27, 2009 letter (Interim Measures Work Plan Requirements – a copy is attached in Appendix C).

If all wastewater effluent samples collected from wastewater entering AL-1 during "Period 2" are below the discharge limit of 0.5 mg/l for benzene, Western Refining will continue to follow the sampling requirements for "Period 2" for an additional 30 days. If benzene concentrations in all effluent samples collected from wastewater entering AL-1 during the additional 30 days are below the discharge limit, then Western Refining will resume sampling effluent entering into AL-1 once a week until notified otherwise by NMED. The effluent samples will be analyzed for benzene, toluene, ethylbenzene, and total xylenes plus MTBE. If at any time benzene concentrations detected in any effluent sample meet or exceed the discharge limit, Western Refining will implement the sampling requirements established in NMED's August 27, 2009 letter (Interim Measures Work Plan Requirements) – see Appendix C.

3.2.4 Contingency Sampling and Reporting

In the event that discharges to AL-1 have not achieved a benzene concentration level less than 0.5 ppm during Period 2 or thereafter, Western Refining will immediately implement the following contingency sampling and reporting activities:

Beginning on day 121, if an exceedance occurs, Western Refining will collect daily effluent samples of wastewater entering AL-1 and EP-1 for analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX). The effluent wastewater samples will be submitted to a certified off-site laboratory and analyzed using EPA Method 8021B or EPA Method 8260. The analytical results for each sample will be submitted to NMED within four days of collection. The laboratory results may be forwarded to NMED by e-mail or sent in hard copy. All laboratory reports will contain copies of the chain-of-custody forms.

- a) Daily effluent wastewater samples will be collected until three consecutive days of achieving the discharge limit of 0.5 mg/L. After this period, Western Refining will again revert to the sampling frequency of Period 3.
- b) Western Refining will measure discharge flow rates entering AL-1 and entering Evaporation Pond 1 (EP-1) on a daily basis. The daily discharge flow rates must be submitted every Friday beginning on day 121, and during this contingency period. E-mail reporting of this data is acceptable.
- c) Western Refining has provided a detailed explanation of how all effluent wastewater samples are proposed to be collected in Appendix A.

3.3 Status Reports

Western Refining believes an important part of implementation of Interim Measures is a regular and frequent series of communications between Western Refining and NMED during the Interim Measures period. Western Refining proposes the following: 1) monthly summary progress reports on measures being implemented; 2) quarterly detailed reports on measures implemented and results of evaluations. These reports will be submitted three (3) days after the end of each month or quarter.

Table 2: Schedule of sampling and reporting in various periods for BTEX + MTBE in treated wastewater entering AL-1

Period	Sample locations	Frequency	Reporting to NMED
Period 1: 75 days after IM Work Plan approved	Inlet to AL-1 and outlet of BZ-3	Weekly	3 days after receipt of laboratory reports
Period 2: 75 to 120 days after IM Work Plan approved	Inlet to AL-1	2 times/week	5 business days after sample collection
Period 3: 120 days onwards after IM Work Plan approved	Inlet to AL-1	Weekly	5 business days after sample collection
Contingency – after any non-compliance	Inlet to AL-1	Daily, until three consecutive days of achieving the discharge limit of 0.5 mg/L	Four days after sample collection

4.0 Schedule

Western Refining will be prepared to implement this Interim Measures Plan as quickly as practicable upon approval from the NMED/HWB.

5.0 Summary of Major Approval Requests

- The most important element of the Interim Measures Work Plan is to install a fourth stripper prior to the two existing strippers that accept effluent from the new API separator. Western Refining has been granted approval from the NMED/AQB to install fourth stripper, a rental stripper. Western agrees that strippers one, two, or four may be removed from service only for maintenance purposes. If Gallup wishes to remove these benzene strippers from service for any other reason, it will seek prior approval from NMED in writing, including the justification for removal.
- Western Refining has proposed an aggressive monitoring plan designed to provide meaningful information to Western Refining and the NMED well enough in advance of the conclusion of the Interim Measures period to allow for adjustments in the Interim Measures. Western Refining seeks approval to sample at different frequencies and report on corresponding different schedules during three (3) discrete periods identified in this plan. Western Refining proposes an increased sampling and reporting protocol as a contingency if our wastewater is found to be out of compliance.

Appendix A: Sampling Methodology

Western Refining understands NMED's concerns regarding the importance of collecting, analyzing, and responding to benzene concentrations in representative wastewater samples entering Aeration Lagoon 1 (AL-1). Our overarching objective is to collect appropriate representative samples per Section 20.4.1.100 NMAC and 40 CFR 260.10, wherein "*Representative sample* means a sample of a universe or whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole." The sampling, analysis, evaluation, reporting, and response(s) for AL-1 influent and effluent will be described in a forthcoming Waste Analysis Plan (WAP). The WAP will be developed consistent with EPA's guidance manual titled "Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes (OSWER 9938.4-03), as applicable. The anticipated principal components of the Gallup Refinery WAP will include:

- Facility Description
- Waste Analysis Parameters
- Sampling Procedures
- Laboratory and Testing Procedures
- Waste Evaluation/Re-Evaluation Frequency
- Reporting and Response

In addition, the WAP will draw heavily upon the appropriate portions of EPA SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods." Waste characteristic measurement data will be evaluated per the statistical methods in Chapter 9 of SW-846 pertaining to the upper confidence interval (CI) of the population mean for the waste analyses. When AL-1 is taken out of service and the new treatment unit is operating, we will amend our WAP to sample the influent to Evaporation Pond 1 (EP-1).

Sample collection procedures will be as follows:

Inlet samples to the benzene strippers will be obtained from existing sampling ports at the outlet of the API separator. These ports allow for samples to be collected at a low flow rate to minimize the loss of Volatile Organic Compounds. Outlet samples from the benzene strippers are collected from within a flow rate monitoring open channel flume. Although flow rate is constant at this location and cannot be adjusted, the samples are collected with minimal agitation of the liquids entering the sample container, and from the mid-depth of the channel. The liquids move from this flume into AL-1 through a discharge pipe and an open drop of several feet. (See Figure A.1) We have collected and analyzed samples from the flume and from within the turbulent liquids dropping from the open pipe into AL-1 – the analytical results are identical. Therefore, there is no significant loss of Volatile Organic Compounds occurring between the flume channel and the open pipe. If there is any such loss, the samples collected in the flume will be at higher concentrations than samples collected at the end of pipe and dropping into AL-1. Therefore, our location is appropriate and, we believe, the sample collected from the

is representative of the effluent industrial wastewater entering AL-1. There is no refinery-related industrial effluent at any time discharged to AL-1 from another location. (Non-industrial sanitary sewage from the refinery and the Pilot Travel Center is discharged into AL-1 from a separate location – this effluent is monitored regularly and results reported to the NMED/HWB and the New Mexico Energy Minerals and Natural Resources Department's Oil Conservation Division (OCD) under the requirements of a Groundwater Discharge permit GW-032 issued by the OCD.) Sample collection methods will be documented in the field monitoring reports. The samples will be transferred to the appropriate, clean, laboratory-prepared containers provided by the analytical laboratory.

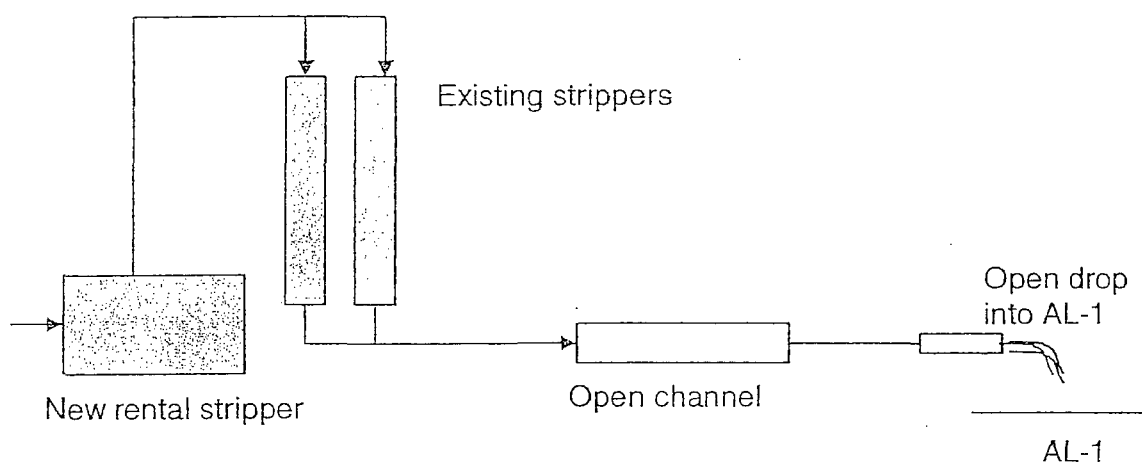


Figure A.1 Description of benzene strippers' effluent monitoring location – samples are collected from within the open channel flume with minimal agitation of the liquids

At a minimum, the following procedures will be used when collecting samples:

- Samples will be collected from the mid-depth of the channel away from the surface, and the containers inserted in and removed with minimal disturbance.
- Neoprene or other protective gloves will be worn when collecting samples. New disposable gloves will be used to collect each sample.
- All volatile organic analyte (VOA) samples for chemical analysis will be collected in clean VOA sample containers supplied by the analytical laboratory. The VOA vials will be submerged beneath the surface of the water with the opening pointed toward the upstream direction in the flume, and then capped while submerged to mitigate sample volatilization. The sample container will be clearly marked. Sample container volumes and preservation methods will be in

accordance with the most recent standard EPA and industry accepted practices for use by accredited analytical laboratories. Sufficient sample volume will be obtained for the laboratory to complete the method-specific QC analyses on a laboratory-batch basis.

- Sample labels and documentation will be completed for each sample.

Immediately after the samples are collected, they will be stored in a cooler with ice or other appropriate storage method until they are delivered to the analytical laboratory. Standard chain-of-custody procedures will be followed for all samples collected. All samples will be submitted to the laboratory to allow the laboratory to conduct the analyses within the method holding times, and meet the schedules specified in this Interim Measures plan.

The following shipping procedures will be performed during each sampling event:

- Individual sample containers will be packed to prevent breakage and transported in a sealed cooler with ice or other suitable coolant or other EPA or industry-wide accepted method. The drainage hole at the bottom of the cooler will be sealed and secured in case of sample container leakage.
- Each cooler or other container will be delivered directly to the analytical laboratory.
- Glass bottles will be separated in the shipping container by cushioning material to prevent breakage.
- Plastic containers will be protected from possible puncture during shipping using cushioning material.
- The chain-of-custody form and sample request form will be shipped inside the sealed storage container to be delivered to the laboratory.
- Chain-of-custody seals will be used to seal the sample-shipping container in conformance with EPA protocol.
- Signed and dated chain-of-custody seals will be applied to each cooler prior to transport of samples from the site.

Appendix B: Details of Stat-400 Carbonair Air Stripper

Additional Stripper – Carbonair STAT-400

The fourth stripper we have added, the Carbonair STAT-400 model, has the following features –

- The material of construction is stainless steel
- Gasket material is Neoprene
- Blower is direct drive
- Self prime transfer pump

It has the capability of processing from 20 - 400 GPM. The lower the flow rate the better the removal. The unit is pre-wired and plumbed. We have added filters upstream of this stripper. The effluent from this unit will be routed through the existing two strippers that are in parallel. The photographs below depict the additional stripper placed next to the existing strippers.

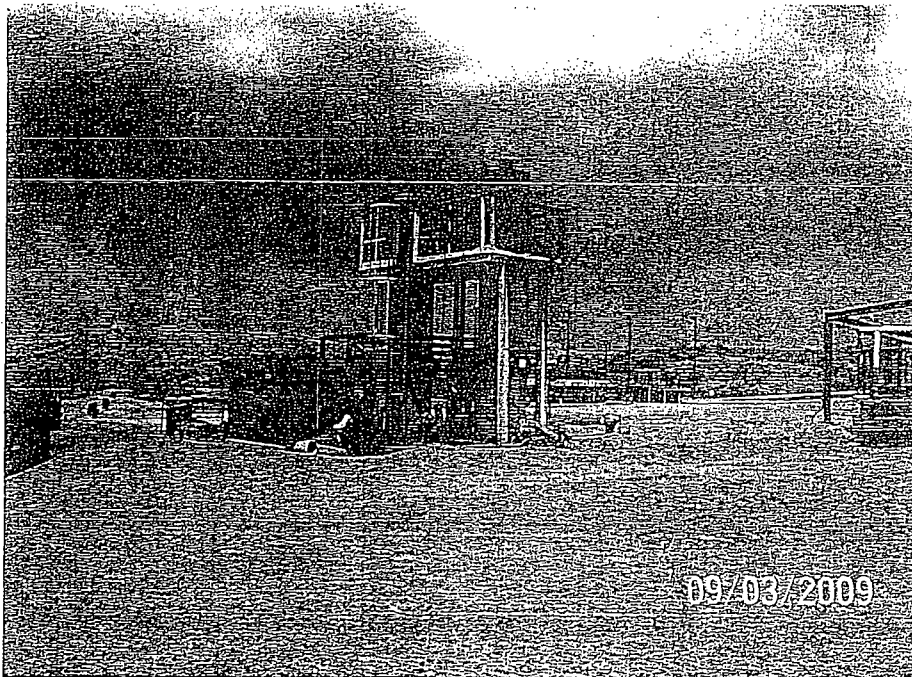


Figure A.1: Photograph of new additional stripper located next to existing strippers.

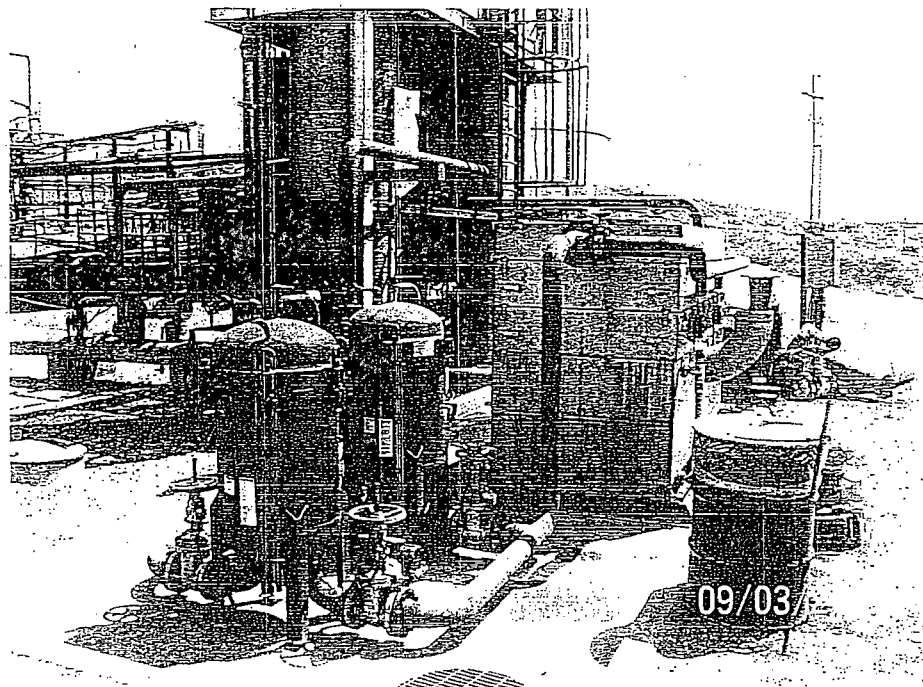


Figure A.2: Looking south at the new additional stripper and the new pre-filters (in blue)

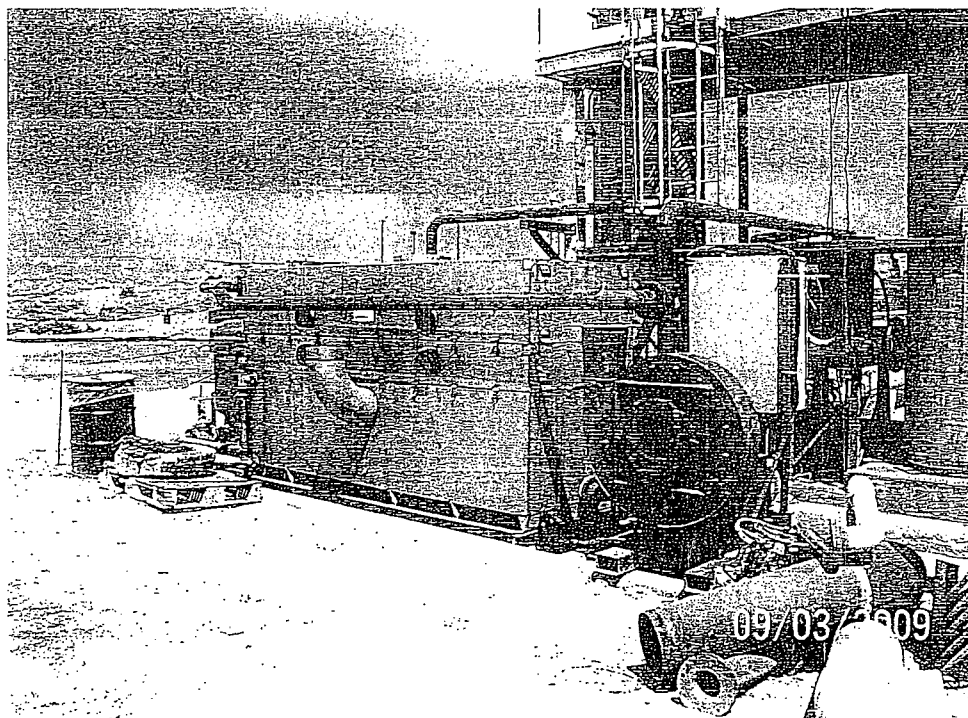


Figure A.3: Looking north-east at the new additional stripper

Carbonair's patented STAT Low Profile Air Strippers are ideally suited for removing volatile organic compounds (VOCs) from water in a variety of applications including industrial process and waste water treatment.

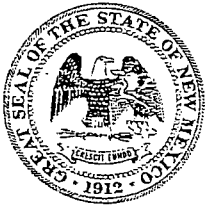
STAT low profile air strippers combine high removal efficiencies (99.9% or greater removal efficiencies for many VOCs), flexibility, and ease of maintenance and durability. Since 1992 Carbonair has provided thousands of STAT low profile air strippers in a myriad of applications and configurations. Many of these are still operating today.

STAT Standard Design Features

All STAT models are made of high quality 304 stainless steel and have 125 lb flanged inlet and outlet connections to ensure the integrity of piping connections. The trays and sump sections come equipped with clean out ports that facilitate easy inspection and routine cleaning of the aeration trays. The aeration trays are connected using adjustable over-center latching stainless steel clips, making assembly and disassembly quick and easy, while ensuring a tight fit and good seal to prevent leaks. All STAT aeration trays come equipped with an anti-bypass valve that prevents air from bypassing the aeration trays by flowing up through the down comers. This eliminates the need to "prime" the system at startup and ensures that the first drop of water that goes through the air strippers is treated as well as the last.

STATs configured for pump out discharge have sumps that are sized to minimize pump cycling and to maintain sufficient air distribution across the aeration trays. STATs come with direct coupled industrial grade blowers as standard equipment. All STATs are equipped with a low pressure switch mounted on the blower to shut down the water input upstream in the event of a blower failure, thereby ensuring that no untreated water is passing through to discharge.

**Appendix C: NMED's August 27, 2009 letter (Interim
Measures Work Plan Requirements**



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Governor

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Lieutenant Governor

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RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

December 16, 2009

Mr. Ed Riege
Environmental Manager
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: APPROVAL WITH MODIFICATIONS
INTERIM MEASURES WORK PLAN TO COMPLY WITH RCRA STANDARDS
FOR DISCHARGE OF WASTEWATER TO SURFACE IMPOUNDMENTS
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-GRCC-09-005

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has received Western Refining Southwest Inc., Gallup Refinery (the Permittee) *Interim Measures Work Plan to Comply with RCRA Standards for Discharge of Wastewater to Surface Impoundments, Revision 1* (Work Plan), dated November 2009. NMED hereby issues this Approval with Modifications. The Permittee must adhere to all requirements included in the Work Plan as modified by this letter.

Comment 1

In Comment 1 of NMED's *Interim Measures Work Plan to Comply With RCRA Standards For Discharge of Wastewater to Surface Impoundments* October 22, 2009 letter (October 22, 2009 letter), NMED stated that the Permittee "must operate all three benzene strippers in series." However, the Work Plan states that the Permittee will operate three benzene strippers as "a single stripper in series with two others in parallel." The facility may operate the benzene strippers as indicated; however, the sampling requirements will be more stringent because of the Facility's history of non-compliance with the discharge limit with the current system using two benzene strippers. See the Table in Comment 4.

Revised Table 2

Period	Sample locations	Frequency	Analytical analyses	Reporting to NMED
Period 2: 75 to 120 days after IM Work Plan approved	Inlet to AL-1 ¹	2 samples times/week	BTEX and MTBE ³	All sample results submitted within 5 business days after sample collection
Period 2: 75 to 120 days after IM Work Plan approved	Measure effluent flow rates from the waste streams discharging to AL-1 ¹ and EP-1 ² on a daily basis			Daily effluent flow rates submitted on the third day of each month
Period 3: Day 121 onwards after IM Work Plan approval by NMED	<p>If any of the effluent wastewater samples collected from the inlet of AL-1 during "Period 2" of [implementation of] the Work Plan meet or exceed the discharge limit at or above 0.5 mg/l for benzene, beginning on day 121, the Permittee must implement the sampling requirements established in NMED's August 27, 2009 letter (Interim Measures Work Plan Requirements, Attached).</p> <p>If benzene concentrations in all wastewater effluent samples collected from the inlet to AL-1 during "Period 2" are less than the discharge limit of 0.5 mg/l for benzene, the Permittee must continue to follow the sampling requirements for "Period 2" for an additional 30 days. If benzene concentrations in all effluent samples collected from wastewater entering AL-1 during the additional 30 days are less than the discharge limit, then the Permittee must resume sampling effluent entering into AL-1 once a week until notified otherwise by NMED. The effluent samples must be analyzed for BTEX and MTBE. If at any time benzene concentrations detected in any effluent sample meet or exceed the discharge limit, the Permittee must implement the sampling requirements established in NMED's August 27, 2009 letter (Interim Measures Work Plan Requirements, Attached)</p>			
Period 3: Day 121 onwards after IM Work Plan approved	Measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis			Daily effluent flow rates submitted every Friday to be consistent with Attachment 1 c.

¹ AL-1 =Aeration lagoon 1

² EP-1 = Evaporation Pond 1

³ BTEX and MTBE = benzene, toluene, ethylbenzene, total xylenes and methyltertiarybutylether

- a. A representative sample does not apply to the effluent sample(s) required to be collected at the influent to AL-1 to demonstrate all effluent entering into the Aeration Lagoons meets the discharge limit for benzene. As stated in Comment 7 item a of NMED's October 22, 2009 letter (Notice of Disapproval Interim Measures Work Plan to Comply with RCRA Standards for Discharge of Wastewater to Surface Impoundments), a daily wastewater effluent sample is defined as an effluent sample collected from the process wastewater effluent discharged into AL-1.
- b. The EPA document "Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes (OSWER 9938.4-03)" is a guidance document; however, the New Mexico is the authorized State for both the RCRA permitting and the corrective action programs. Therefore, the Permittee must comply with all conditions required by NMED.
- c. According to EPA's guidance document (Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Wastes (OSWER 9938.4-03)), a "WAP is required for all TSDF, as well as generators treating hazardous waste in tanks, containers, or containment buildings to meet LDR standards." The WAP guidance does not directly apply to the Aeration Lagoons or the Evaporation Ponds. The Aeration Lagoons and Evaporation Ponds cannot receive, treat, or store hazardous waste because the Permittee does not have a permit to conduct these activities.
- d. The Permittee's response to Comment 3 of NMED's October 22, 2009 letter was inadequate.

Comment 8

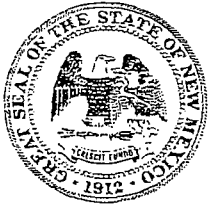
NMED provided general reminders to the Work Plan in Comment 7 of the October 22, 2009 letter. The following comments apply to the Permittee's responses to Comment 7.

- a. In Comment 7, item (a), the Permittee states "[a]ppendix A of the revised Work Plan addresses Comment 7a regarding the definition of "daily wastewater effluent sample". NMED does not approve the discussion of a representative sample and a WAP in Appendix A (see Comment 7). Any wastewater entering into the Aeration Lagoons that contains characteristic levels of benzene result in illegal treatment of hazardous waste; averaging is not acceptable. In addition, per Section IV (Compliance Order), item 100 D of the Compliant and Consent Agreement and Final Order (CAFO), dated August 26, 2009 states "[d]ischarges of any hazardous wastewater to any surface impoundment shall cease within 120 days following NMED's approval of the Interim Measures Work Plan..." Item 100 D applies to any discharge.

Attachment 1

Gallup must comply with the sampling requirements below as stated in NMED's August 27, 2009 letter (Interim Measures Work Plan Requirements).

- a. Beginning on day 121, Gallup must collect daily effluent samples of wastewater entering AL-1 and AL-2 for analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX). The effluent wastewater samples must be submitted to a certified off-site laboratory and analyzed using EPA Method 8021B or EPA Method 8260. The analytical results for each sample must be submitted to NMED within four days of collection. The laboratory results may be forwarded to NMED by e-mail or delivered in hard copy.
- b. Daily effluent wastewater samples must be collected until NMED is satisfied that Gallup is consistently achieving the discharge limit of 0.5 mg/L. Based on the sampling results, NMED will adjust the frequency of sampling.
- c. Gallup must measure discharge flow rates entering AL-1 and entering Evaporation Pond 1 (EP-1) on a daily basis. The daily discharge flow rates must be submitted every Friday beginning on day 121. E-mail reporting of this data is acceptable.



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RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

December 16, 2009

Mr. Ed Riege
Environmental Manager
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: NOTICE OF DISAPPROVAL
FACILITY WIDE GROUNDWATER MONITORING WORK PLAN
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-GRCC-09-001

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the *Facility Wide Groundwater Monitoring Work Plan* (Work Plan), dated May 11, 2009, submitted on behalf of Western Refining Company, Southwest Inc., Gallup Refinery (Permittee) and hereby issues this Notice of Disapproval (NOD). The Permittee must address the following comments.

Comment 1

The Table of Contents (TOC) does not include all subsections within the Work Plan and some page numbers are inaccurate (e.g., Section 4 is missing subsections 4.1 through 4.4.5.8, TOC shows Section 4.0 beginning on page 23 but it actually begins on page 24). The Permittee must revise the Work Plan to ensure that the TOC corresponds to all sections, subsections, and page numbers within the Work Plan. Additionally, the Permittee must revise the TOC to include the titles of Appendices A through E.

statement. This section must summarize contaminant releases that could contribute to groundwater contamination.

Comment 6

In Section 2.4 (Summary of contaminant releases that could contribute to groundwater contamination), page 16, paragraph 5, the Permittee states "[t]here has always been the possibility that the wastewater treatment system of the facility based on aeration lagoons and evaporation ponds may have leaked contaminants into shallow groundwater. However, contaminants have not been found at any substantial levels in groundwater monitoring wells that have been placed next to and around these lagoons and ponds (the GWM series of wells). There is clay in the soil that serves as a natural liner and this clay has clearly prevented any such releases."

The statements regarding the extent of contamination and related clay properties are presumptive; hydrocarbon contamination has been detected in some wells and in groundwater in and around the wastewater treatment system at concentrations exceeding the Water Quality Commission Control (WQCC) standards (e.g., GWM-1 contains benzene that exceeds the WQCC standard of 0.01 mg/L and groundwater contamination is present in monitoring well NAPIS-2 near the API separator). Additionally, the properties of the clay are not necessarily consistent throughout the facility. The Permittee must revise the Work Plan to remove the statement "[h]owever, contaminants have not been found at any substantial levels in groundwater monitoring wells that have been placed next to and around these lagoons and ponds (the GWM series of wells). There is clay in the soil that serves as a natural liner and this clay has clearly prevented any such releases."

Comment 7

In Section 2.4 (Summary of contaminant releases that could contribute to groundwater contamination), page 16 and 17, paragraph 6 and 1 respectively, the Permittee states "[u]sing a contaminant transport model developed by the US Environmental Protection Agency, called CHEMFLO, that models the transport of contaminants through unsaturated soils, we have estimated that benzene could not travel more than a few feet into the subsurface under a pond with about 3 feet of standing water even with a very high concentration of benzene."

The above statement is unsubstantiated; the Permittee cannot make such assertions without valid supporting data. Also, it is not clear if sand stringers in this area were accounted for. This Section must address only known or suspected contaminant releases that may contribute to groundwater contamination. The Permittee must remove the above statement from the Work Plan.

Comment 12

In Section 4.1 (Groundwater elevation surveys), page 24, paragraph 1, the Permittee states "[g]round water elevation data will be collected from the wells listed in Table 1. As directed by NMED HWB, groundwater elevation data will be collected on a quarterly or annual basis."

Table 1 has several inaccuracies (e.g., SMW-6 is closed, see Figure 7). NMED has revised Table 3 (see also Comment 23) to include the information from Table 1 as well as the groundwater monitoring requirements. The Permittee must revise the Work Plan to remove Table 1 and revise the above statement to reference the revised Table 3 (or as otherwise designated).

Comment 13

In Section 4.1 (Groundwater elevation surveys), page 24, paragraph 1, the Permittee states "[g]roundwater levels and SPH thickness measurements (from the RW series of wells) will be collected on a quarterly or annual basis to monitor groundwater elevation fluctuations over time."

The groundwater levels and SPH thickness measurements from the recovery wells must be collected on a quarterly basis. These requirements are established in the revised Table 3. The Permittee must revise the Work Plan to include this requirement. (See also Comment 22)

Comment 14

In Section 4.1 (Groundwater Elevation surveys), page 24, paragraph 2, the Permittee states "[t]he frequency for collection of groundwater elevation data may be adjusted based on review of data collected during the initial four quarters."

Changes to the frequency for the collection of groundwater elevation data and sampling may only be proposed in the annual revision to the Facility Wide Groundwater Monitoring Plan. The Permittee must revise the above statement to reflect this in the revised Work Plan.

Comment 15

In Section 4.2.1 (Well Purging), pages 24 and 26, the Permittee states "[t]otal purge volume will be determined by monitoring groundwater pH, and specific conductance, dissolved oxygen (DO) concentrations, oxidation-reduction potential (ORP), and temperature after every two gallons or each well volume, whichever is less, has been purged from the well. Field parameters will be measured using a YSI 63 pH/Conductivity hand-held instrument or equivalent. Purging will continue, as needed until the field parameter readings stabilize to within ten percent between readings for three consecutive measurements. Once the readings are within 10%, purging will stop and the well is ready for sample collection."

Regardless of the field water quality measurements, the Permittee must purge a minimum of two well volumes before collecting a water sample. Field water quality measurements must stabilize

this Section to remove references to the "Order;" the Permittee has a Post-Closure Care Permit and is not currently subject to an Order. (See also Comment 11)

Comment 21

In Section 5.0 (Monitoring and Sampling Program), page 37, paragraph 2, the Permittee states "[t]he combined data from these investigation areas will be used to establish background groundwater quality, asses groundwater quality beneath and immediately down-gradient of the Facility, and evaluate local groundwater flow conditions."

Background groundwater quality values have not been established at the facility and background values will not be established based on the results of the proposed monitoring. In order to establish background groundwater values, upgradient wells from refinery activities must be installed and a statistically valid number of samples collected and evaluated to establish background concentrations. The Permittee must revise the Work Plan to remove all references to background groundwater quality.

Comment 22

Table 3 (Summary of sampling locations, frequencies, and tests required) on page 39, identifies the sampling requirements for the Work Plan. The table did not include all sampling requirements from items 16 and 19 of the OCD Discharge Plan and the table organization is unclear. Additionally, it is not clear why the Permittee has the NAPI secondary containment as a sample location, because the secondary containment should not contain water. NMED has revised Table 3 to include all sampling requirements, sampling locations and frequencies, and analytical methods. The Permittee must revise the Work Plan to include the attached revised Table 3, which replaces Table 1. The Permittee must justify the need to sample the NAPI secondary containment sample location and revise Table 3 to either include or remove this location. These changes must be reflected in the revised Work Plan. An electronic version of the revised Table 3 is available from NMED upon request.

Comment 23

The Permittee must revise Sections 5.1.2 (Sampling Frequency and Analysis) and Section 5.2.2 (Sampling Frequency and Analyses) to reference the revised Table 3 for the sampling requirements and frequencies or otherwise remove these Sections from the Work Plan. (See also Comment 22)

Comment 24

The Permittee states in Appendix C (Gallup Field Sampling Collection and Handling Procedures), under "Field Data Collection," page 48, paragraph 2, that "[a]ll water/product levels are measured to an accuracy of the nearest 0.01 foot using an electrical Conductivity based meter." On page 49, the Permittee states under "Groundwater Elevation" that "[a]ll water

Comment 28

In Appendix C (Gallup Field Sampling Collection and Handling Procedures), page 50, under "Hand Bailing," the Permittee indicates that NAPIS-1, NAPIS-2, NAPIS-3, and KA-3 are hand bailed. However, on page 50 under "Pumping," the Permittee states all wells are pumped with the exception of the recovery wells. The Permittee must revise the Work Plan to clarify whether NAPIS-1, NAPIS-2, NAPIS-3, and KA-3 will be hand bailed or pumped.

Comment 29

In Appendix C, page 53, "Equipment Calibration Procedures," the Permittee provides step by step instructions regarding calibration. The Permittee does not need to provide the step by step calibration instructions, but must state that all equipment (identify all equipment by name) will be calibrated according to the manufactures specifications. The Permittee must revise the Work Plan accordingly.

Comment 30

The information provided under "Order of Collection" found in Appendix C (Gallup Field Sampling Collection and Handling Procedures), page 51, must reflect the sampling that will be conducted during the facility wide groundwater monitoring events. Cyanide and radionuclides are not included in the analysis and therefore must be removed from the "Order of Collection" list. In addition, TOX must be defined. The Permittee must revise this section accordingly.

Comment 31

In Appendix C (Gallup Field Sampling Collection and Handling Procedures), pages 53 through 55, the Permittee provides the "Guidelines for Sampling at Ponds." The information provided in this Appendix is written as a Standard Operating Procedure and does not explain how the Evaporation Ponds will be sampled. In addition, the sampling objectives will most likely not be completed because the Permittee discusses sampling at depths that will be dictated by study objectives and physical, chemical, and biological characteristics of the water body and compositing or splitting samples (note: water samples should not be composited). Also some of the references within this section of Appendix C are incorrect (e.g., the text on page 54, under the heading "Step 4. Collect sample" references Steps 4A and 4B, which are not present.) The Permittee must either remove this section of Appendix C from the Work Plan or revise this section to explain how Evaporation Pond samples will collected. Samples collected from the Evaporation Ponds must be collected from the inlet of each Evaporation Pond (see also Comment 18). The Permittee must revise Appendix C accordingly.

Comment 32

The Permittee provides "Field Procedures for Purging Monitor Wells" on page 49 of Appendix C. The Permittee states that "the casing volumes are calculated using the formula: One casing volume = $L \times F$ " and states that the variable F is provided on the *Well Volume Sheet* provided at

Ed Riege
Gallup Refinery
December 16, 2009
Page 11

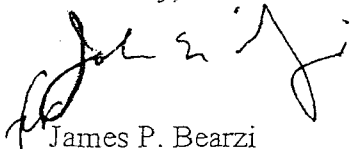
Comment 37

In Appendix B, the Permittee states "[a]ll well logs will be submitted by June 30, 2009." The Permittee has provided the wells logs electronically. Therefore, this information does not need to be included in the revised Work Plan. The Permittee must revise the Work Plan to remove this Appendix.

The Permittee must address all comments contained in this NOD and submit a revised Work Plan to NMED and OCD on or before March 1, 2010. The revised Work Plan must be accompanied by a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments.

If you have questions regarding this NOD please contact Kristen Van Horn of my staff at 505-476-6046.

Sincerely,



James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
D. Cobrain NMED HWB
H. Monzeglio NMED HWB
K. Van Horn NMED HWB
C. Chavez, OCD
R. Gaurav, Gallup
File: Reading File and GRCC 2009 File
HWB-GRCC-09-001

Gallup Refining Company
 Groundwater Monitoring Schedule
 Revised Table 3

Sampling Location ID	Sampling Frequency	Collect GW Elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
Pilot Effluent	Quarterly (Q)			VOC/ DRO extended/ GRO/BOD/ COD/ WQCC Metals
NAPIS Effluent	Q			Gen Chem/ VOC/ SVOC (Phenol)/ DRO extended/ GRO/ WQCC Metals
AL2 to EP-1	Q			major cations/ major anions/ VOC/ SVOC (Phenol)/ DRO extended/ GRO/ WQCC Metals
Influent to AL-1	Q			VOC/ BOD/ COD/ chlorides/ DRO extended/ GRO/ pH/ phenol
Influent to AL-2	Q			VOC/ BOD/ COD/ chlorides/ DRO extended/ GRO/ pH/ phenol
Influent to Evaporation Pond 1	Q			major cations/ major anions/ pH/ BOD/ COD/ chlorides/ VOC/ SVOC (Phenol)/ DRO extended/ GRO/ WQCC metals
NAPIS 2ndary Containment	Q			BTEX/ DRO extended/ GRO/ WQCC Metals or check for fluids
RW-1	Q	X		Measure DTW, DTP
RW-2	Q	X		Measure DTW, DTP
RW-5	Q	X		Measure DTW, DTP
RW-6	Q	X		Measure DTW, DTP

The Analyte list for EPA Method 8260 must include MTBE

- (a) NAPIS 1, NAPIS-2, NAPIS 3: detection of product during quarterly monitoring must comply Section II.F.2 (Twenty-Four Hour Reporting) of NMED Post-Closure Care Permit.
- (b) Sample using the State of New Mexico approved analytical methods as required by 20.6.4.14 NMAC, as amended through February 16, 2006 (use Methods: 9221-E and 9221-F, until EPA approves 40 CFR 136 methods (Colilert, Colilert-18, m-ColiBlue24, membrane filter method)). Parameters are subject to change.

WQCC metals include the RCRA 8 metals, must be analyzed as totals and dissolved

Evaporation Pond samples must be collected at the inlet, where wastewater flows into the evaporation pond

Sampling Location ID	Sampling Frequency	Collect GW Elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
GWM-2	Q	X		Check for water –if water is detected report to OCD & NMED within 24 hours; sample for BTEX + MTBE/ GRO/ DRO extended/ major cations/ major anions
GWM-3	Q	X		Check for water –if water is detected report to OCD & NMED within 24 hours; sample for BTEX + MTBE/ GRO/ DRO extended/ major cations/ major anions
GWM-1	Q	X	pH, E.C., D.O, ORP, Temp, TDS	major cations/ major anions/ VOC/DRO extended/ GRO/ WQCC Metals
NAPIS -1 (a)	Q	X	pH, E.C., D.O, ORP, Temp, TDS	major cations/ major anions/ BTEX + MTBE/ SVOCs/ DRO/ GRO/ WQCC Metals
NAPIS -2 (a)	Q	X	pH, E.C., D.O, ORP, Temp, TDS	major cations/ major anions/ BTEX + MTBE/ SVOCs/ DRO/ GRO/ WQCC Metals
NAPIS -3 (a)	Q	X	pH, E.C., D.O, ORP, Temp, TDS	major cations/ major anions/ BTEX + MTBE/ SVOCs/ DRO/ GRO/ WQCC Metals

The Analyte list for EPA Method 8260 must include MTBE

(a) NAPIS 1, NAPIS-2, NAPIS 3: detection of product during quarterly monitoring must comply Section II.F.2 (Twenty-Four Hour Reporting) of NMED Post-Closure Care Permit.

(b) Sample using the State of New Mexico approved analytical methods as required by 20.6.4.14 NMAC, as amended through February 16, 2006 (use Methods: 9221-E and 9221-F, until EPA approves 40 CFR 136 methods (Colilert, Colilert-18, m-ColiBlue24, membrane filter method)). Parameters are subject to change.

WQCC metals include the RCRA 8 metals, must be analyzed as totals and dissolved

Evaporation Pond samples must be collected at the inlet, where wastewater flows into the evaporation pond

Sampling Location ID	Sampling Frequency	Collect GW elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
Evaporation Pond 5 (b)	SA		pH, E.C., D.O, ORP, Temp, TDS	Same as Evaporation Pond 1
Evaporation Pond 6 (b)	SA		pH, E.C., D.O, ORP, Temp, TDS	Same as Evaporation Pond 1
Evaporation Pond 7 (b)	SA		pH, E.C., D.O, ORP, Temp, TDS	Same as Evaporation Pond 1
Evaporation Pond 8 (b)	SA		pH, E.C., D.O, ORP, Temp, TDS	Same as Evaporation Pond 1
Evaporation Pond 9A (b)	SA		pH, E.C., D.O, ORP, Temp, TDS	Same as Evaporation Pond 1
Evaporation Pond 11 (b)	SA		pH, E.C., D.O, ORP, Temp, TDS	Same as Evaporation Pond 1

The Analyte list for EPA Method 8260 must include MTBE

(a) NAPIS 1, NAPIS-2, NAPIS 3: detection of product during quarterly monitoring must comply Section II.F.2 (Twenty-Four Hour Reporting) of NMED Post-Closure Care Permit.

(b) Sample using the State of New Mexico approved analytical methods as required by 20.6.4.14 NMAC, as amended through February 16, 2006 (use Methods: 9221-E and 9221-F, until EPA approves 40 CFR 136 methods (Colilert, Colilert-18, m-ColiBlue24, membrane filter method)). Parameters are subject to change.

WQCC metals include the RCRA 8 metals, must be analyzed as totals and dissolved

Evaporation Pond samples must be collected at the inlet, where wastewater flows into the evaporation pond

Sampling Location ID	Sampling Frequency	Collect GW elevation, DTW, DTP	Water Quality Parameters	Analytical Suite
BW-2-A	A	X	pH, E.C., D.O, ORP, Temp, TDS	major cations/ major anions/ VOC/ SVOC/ WQCC metals
BW-2-B	A	X	pH, E.C., D.O, ORP, Temp, TDS	major cations/ major anions/ VOC/ SVOC/ WQCC metals
BW-2-C	A	X	pH, E.C., D.O, ORP, Temp, TDS	major cations/ major anions/ VOC/ SVOC/ WQCC metals
BW-3-A	A	X	pH, E.C., D.O, ORP, Temp, TDS	major cations/ major anions/ VOC/ SVOC/ WQCC metals
BW-3-B	A	X	pH, E.C., D.O, ORP, Temp, TDS	major cations/ major anions/ VOC/ SVOC/ WQCC metals
BW-3-C	A	X	pH, E.C., D.O, ORP, Temp, TDS	major cations/ major anions/ VOC/ SVOC/ WQCC metals
Pond 2 Inlet	A			VOC/ DRO extended/ GRO/ BOD/ COD/ TDS

The Analyte list for EPA Method 8260 must include MTBE

(a) NAPIS 1, NAPIS-2, NAPIS 3: detection of product during quarterly monitoring must comply Section II.F.2 (Twenty-Four Hour Reporting) of NMED Post-Closure Care Permit.

(b) Sample using the State of New Mexico approved analytical methods as required by 20.6.4.14 NMAC, as amended through February 16, 2006 (use Methods: 9221-E and 9221-F, until EPA approves 40 CFR 136 methods (Colilert, Colilert-18, m-ColiBlue24, membrane filter method)). Parameters are subject to change.

WQCC metals include the RCRA 8 metals, must be analyzed as totals and dissolved

Evaporation Pond samples must be collected at the inlet, where wastewater flows into the evaporation pond

Sampling Location ID	Sampling Frequency	Collect GW elevation, DTW, DTP	Water Quality Parameters	Analytical Suite	
SWM-4	A	X	pH, E.C., D.O, ORP, Temp, TDS	major cations/ major anions/ VOC/ DRO extended/ GRO/ WQCC metals	
PW-2	Every 3 yrs starting in 2008			VOC/ SVOC/ WQCC metals/ cyanide/ nitrates	
PW-3	Every 3 yrs starting in 2008			VOC/ SVOC/ WQCC metals/ cyanide/ nitrates	
PW-4	Every 3 yrs starting in 2007			VOC/ SVOC/ WQCC metals/ cyanide/ nitrates	
Effluent from Old API (storm water separator effluent)	Monthly flow rate measurements to New API Separator			Collect monthly flow rate readings from the Old API to the New API Separator. If effluent is re-routed to any other location than the New API Separator, NMED/OCDD must be contacted to determine whether additional sampling and analysis is required.	

The Analyte list for EPA Method 8260 must include MTBE

(a) NAPIS 1, NAPIS-2, NAPIS 3: detection of product during quarterly monitoring must comply Section II.F.2 (Twenty-Four Hour Reporting) of NMED Post-Closure Care Permit.

(b) Sample using the State of New Mexico approved analytical methods as required by 20.6.4.14 NMAC, as amended through February 16, 2006 (use Methods: 9221-E and 9221-F, until EPA approves 40 CFR 136 methods (Colliert, Colliert-18, m-ColiBlue24, membrane filter method)). Parameters are subject to change.

WQCC metals include the RCRA 8 metals, must be analyzed as totals and dissolved

Evaporation Pond samples must be collected at the inlet, where wastewater flows into the evaporation pond

Table Notes

Pilot Effluent -- Effluent from the Pilot Gas Station to the Aeration Lagoon

Pond 2 Inlet - Sample collected at the inlet to Evaporation Pond 2 from Evaporation Pond 1

NAPIS Effluent -- Effluent leaving the New API Separator

AL-2 to EP-1 -- sample collection at the inlet from Aeration Lagoon 2 to Evaporation Pond 1 (influent location into EP 1)

NAPIS 1=(KA-1R); NAPIS-2=(KA-2R), NAPIS 3 =(KA-3R) -- monitor wells positioned around NAPIS to detect leakage

DO - dissolved oxygen; ORP - oxygen reduction potential temp - temperature E.C. - electrical or specific conductivity

TDS -- total dissolved solids VOCs -- volatile organic compounds --EPA Method 8260, must include MTBE

SVOCs -- semi volatile organic compounds -- EPA Method 8270, must include phenol

DRO -- diesel-range organics -- EPA Method 8015B (or as modified)

GRO -- gasoline range organics -- EPA Method 8015B (or as modified)

BTEX -- benzene, toluene, ethylbenzene, xylene, plus Methyl Tertiary-Butyl Ether (MTBE) -- EPA Method 8021 + MTBE

DTW -- depth to water DTP -- depth to product EP- Evaporation Pond

BW wells -- boundary wells GWM wells - are located around the aeration lagoons to detect leakage

MW -- Monitor Well OW -- observation well RW -- recovery well PW -- raw water production well

APPENDIX G

Major Refinery Activities and Events in 2009

- January: Installed Baker tanks for NAPIS overflows.
- February: Benzene source reductions implemented.
- WNR Waste Water Treatment Plant upgrade process design reported was submitted to NMED.
- Western submits lagoons closure plan.
- May: Western submits response to NOD on the WWTP process design.
- June: SkyWest Development Inc. was retained to repair erosion on the dikes on evaporation ponds 6, 9 and 8 and to place rip rap on evaporation ponds 6 to reduce erosion from high winds.
- The Pilot sanitary waste water lift station was completed and put into service.
- July: Annual Sampling event for 2009 was completed. The RCRA 10 year monitoring of the monitoring wells MW-2 and SMW-2 and SMW-4 was also conducted in July.
- The Sats Unit underground sewer line testing took place. No issues were noted as all lines held and passed.
- September: Western submits an alternative design plan to the WWTP.
- Western submits an Interim Measures Work Plan to prevent discharge of hazardous waste into the aeration lagoons.
- October: Two new wells were drilled and completed on the East side down gradient of observation well OW-29. OW-50 and OW-52 were installed to begin monitoring the MTBE plume in wells OW-14, OW-29 and OW-30 for possible migration of the contaminant as requested by NMED.
- December: LTU – Land Treatment Unit 10 year RCRA soil sampling was conducted by Trihydro and Western.

Work continues on the clean up of the SWMU at the Fan out Area north of the railroad rack lagoon. Samples were taken and analyzed and work is progressing for the closure of this site.

CC: Ed

Michelle

James

DENNIS FUHS
OWNERFUHS TRUCKING CO. INC.
EQUIPMENT & EXCAVATIONFLATS • DUMPS • BELLY DUMPS • EXCAVATORS
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Home: (505) 722-5348
FAX: (505) 722-7323

April 21, 2009

Western Refining
Attention: Ed Riege
(c/o Burch)Subject: price quote for repair of Pond # 9
West Berm 650 LF North Berm 1200 LF (+ or -)

Seepage from the Pond is occurring on both the West berm and the North berm. To repair the existing berm, the pond would have to be drained. With all Ponds full at this time, this would NOT be an option.

We would propose to haul clay dirt from the Pit Northeast of the gate on the well Road and place to widen the existing berms from the outside. Placing lifts not to exceed one foot (1') and compacting with sheepsfoot roller to 90%. Also, no moisture testing, leaving a 10' top minimum.

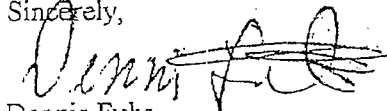
West berm would take 1850 cy (+or-) @ 6.50	12025.00
North berm would take 3600 cy (+or--) @ 6.50	23400.00

TOTAL: \$35,425.00

This price does not include any applicable sales taxes.
This work would take 3 to 4 weeks to complete.

Should you have any questions, please call me.

Sincerely,

Dennis Fuhs
Fuhs Trucking Co., Inc.
P.O. Box 630
Gallup, NM 87305-0630

Invoice

POB 1923 Gallup NM 87305

(John) (505) 870-1915 cell

Phone (505) 722-7003

Fax (505) 863-8132

Date	Invoice #
6/1/2009	2082

Bill To

Western Refining Southwest, Inc.
Rt. 3 Box 7
Gallup NM 87301

RECEIVED
JUN 1 1964
BY: _____

Ship To
Pond #9 Berm N.E. Side

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
C22649			6/1/2009			Pond # 9 & 4

Quantity	Item Code	Description	Price Each	Amount
4	980C	980C Front End Loader Ronald 3 hrs Johnny 2 Hrs Stockpiling clay material	135.00	540.00T
2	03Dump	IHC Tandem Dump Truck# 03 haul clay material to soft areas to get ready for Belly Dump Ronald	75.00	150.00T
3	700J	700J John Deere Dozer Ed	125.00	375.00T
2	HyPac 852	Hypac 852B 29,000# W/Blade Ed	85.00	170.00T
3	12G	Caterpillar Motor Grader Ed	100.00	300.00T
4	Employee	Safety Orientation meeting Johnny Ed Ronald	0.00	0.00T
		Sales Tax	6.625%	101.69

	C/C	A/C	AMOUNT	PO / REF
208	4060	5723.03	818.35	
208	4060	5722	818.34	
Date Paid				

Total

\$1,636.69

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project																										
C22649			6/2/2009			Pond # 9 & 4																										
Quantity	Item Code	Description	Price Each	Amount																												
9	980C	980C Front End Loader Loading truck & Stockpiling clay material Lucas	135.00	1,215.00T																												
9	Freightliner	Freightliner Dump Truck haul clay material Belly Dump Ronald	75.00	675.00T																												
1	700J	700J John Deere Dozer Ed	125.00	125.00T																												
9	HyPac 852	Hypac 852B 29,000# W/Blade Steven	85.00	765.00T																												
6	12G	Caterpillar Motor Grader Ed	100.00	600.00T																												
2	IHC Water	IHC Water Truck Ed	75.00	150.00T																												
		Sales Tax	6.625%	233.86																												
<table><tr><td>C/C</td><td>A/C</td><td>AMOUNT</td><td>PG / REF</td></tr><tr><td>206 4060</td><td>5723.03</td><td>1,881.93</td><td></td></tr><tr><td>206 4060</td><td>5722</td><td>1,881.93</td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td colspan="4">Date Paid</td></tr></table>					C/C	A/C	AMOUNT	PG / REF	206 4060	5723.03	1,881.93		206 4060	5722	1,881.93														Date Paid			
C/C	A/C	AMOUNT	PG / REF																													
206 4060	5723.03	1,881.93																														
206 4060	5722	1,881.93																														
Date Paid																																
			Total	\$3,763.86																												

Skywest Development Inc. License #89202

POB 1923 Gallup NM 87305
(John) (505) 870-1915 cell
Phone (505) 722-7003
Fax (505) 863-8132

Invoice

Date	Invoice #
6/3/2009	2084

Bill To

Western Refining Southwest, Inc.
Rt. 3 Box 7
Gallup NM.87301

RECEIVED
JUN 1
BY:-----

Ship To	
Pond #9 Berm N.E. Side	

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
C22649			6/3/2009			Pond # 9 & 4

Quantity	Item Code	Description	Price Each	Amount
7	980C	980C Front End Loader Loading truck & Stockpiling clay material Lucas O Ring on tire leaking shut down early	135.00	945.00T
7	Freightliner	Freightliner Dump Truck haul clay material Belly Dump Ronald/Tim	75.00	525.00T
1	700J	700J John Deere Dozer Ed	125.00	125.00T
8	HyPac 852	Hypac 852B 29,000# W/Blade Steven	85.00	680.00T
6	12G	Caterpillar Motor Grader Ed	100.00	600.00T
2	IHC Water	IHC Water Truck Ed	75.00	150.00T
7	HyPac	Pad Foot Vibrating Compactor Marvin compact sides of burn	75.00	525.00T
		Sales Tax	6.625%	235.19

	C/C	A/C	AMOUNT	PAY	RECE
2000	4060	5723.03	1,892.60		
2000	4060	5722	1,892.59		
Date Paid					

Total

\$3,785.19

Skywest Development Inc. License #89202

POB 1923 Gallup NM 87305

(John) (505) 870-1915 cell

Phone (505) 722-7003

Fax (505) 863-8132

Invoice

Date	Invoice #
6/4/2009	2089

Bill To

Western Refining Southwest, Inc.
Rt. 3 Box 7
Gallup NM 87301

RECEIVED
JUN 1

BY:_____

Ship To
Pond #9 Berm N.E. Side

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
C22649			6/3/2009			Pond # 9 & 4

Quantity	Item Code	Description	Price Each	Amount
9	980C	980C Front End Loader Loading truck & Stockpiling clay material Lucas	135.00	1,215.00T
9	Freightliner	Freightliner Dump Truck haul clay material Belly Dump Ronald/Tim	75.00	675.00T
2	700J	700J John Deere Dozer Ed/Ronald	125.00	250.00T
9	Hypac 852	Hypac 852B 29,000# W/Blade Steven	85.00	765.00T
7	12G	Caterpillar Motor Grader Ed	100.00	700.00T
2	IHC Water	IHC Water Truck Ed	75.00	150.00T
		Sales Tax	6.625%	248.77

	C/C	A/C	AMOUNT	PO	REF
2076	4060	5723.03	2,001.89		
2086	4060	5722	2,001.88		
Date Paid					

Y. Rex

Total	\$4,003.77
-------	------------

Skywest Development Inc. License #89202

POB 1923 Gallup NM 87305

(John) (505) 870-1915 cell

Phone (505) 722-7003

Fax (505) 863-8132

Invoice

Date	Invoice #
6/5/2009	2097

Bill To

Western Refining Southwest, Inc.
Rt. 3 Box 7
Gallup NM 87301

REGISTERED
JUN 1 1964

BY: _____

Ship To
Pond #9 Berm N.E. Side

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
C22649			6/12/2009			Pond # 9 & 4

Quantity	Item Code	Description	Price Each	Amount
7	980C	980C Front End Loader Loading truck & Stockpiling clay material Lucas	135.00	945.00T
7	Freightliner	Freightliner Dump Truck haul clay material Belly Dump Ronald/Tim	75.00	525.00T
4	700J	700J John Deere Dozer Ed/Ronald	125.00	500.00T
7	HyPac 852	Hypac 852B 29,000# W/Blade Steven	85.00	595.00T
3	12G	Caterpillar Motor Grader Ed	100.00	300.00T
0	IHC Water	IHC Water Truck Ed	75.00	0.00T
		Sales Tax	6.625%	189.81

	C/C	A/C	AMOUNT	PO / REF
200	4060	5723.03	1,527.41	
200	4060	5722	1,527.40	
Date Paid				

Total

\$3,054.81

\$3,923.80

\$3,870.49

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project																											
C22649			6/3/2009			Pond # 9 & 4																											
Quantity	Item Code	Description	Price Each	Amount																													
11	980C	980C Front End Loader Loading truck & Stockpiling clay material Lucas	135.00	1,485.00T																													
11	Freightliner	Freightliner Dump Truck haul clay material Belly Dump Ronald/Tim	75.00	825.00T																													
11	02Dump	IHC Tandem Dump Truck# 02	75.00	825.00T																													
11	03Dump	IHC Tandem Dump Truck# 03	75.00	825.00T																													
3	700J	700J John Deere Dozer Ed	125.00	375.00T																													
11	HyPac 852	Hypac 852B 29,000# W/Blade Steven	85.00	935.00T																													
1	IHC Water	IHC Water Truck Ed	75.00	75.00T																													
		Sales Tax	6.625%	354.11																													
		<table><tr><td>C/C</td><td>A/C</td><td>AMOUNT</td><td>PO / REF</td></tr><tr><td>2006 4060</td><td>5723.03</td><td>2,849.56</td><td></td></tr><tr><td>2006 4060</td><td>5722</td><td>2,849.55</td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td colspan="4">Date Paid</td></tr></table>	C/C	A/C	AMOUNT	PO / REF	2006 4060	5723.03	2,849.56		2006 4060	5722	2,849.55														Date Paid						
C/C	A/C	AMOUNT	PO / REF																														
2006 4060	5723.03	2,849.56																															
2006 4060	5722	2,849.55																															
Date Paid																																	
			Total \$5,699.11																														

Skywest Development Inc. License #89202

POB 1923 Gallup NM 87305

(John) (505) 870-1915 cell

Phone (505) 722-7003

Fax (505) 863-8132

Invoice

Date	Invoice #
6/12/2009	2100

Bill To

Western Refining Southwest, Inc.
Rt. 3 Box 7
Gallup NM 87301

JUN 1 9

BY:.....

Ship To
Pond #9 Benn N.E. Side

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
C22649			6/3/2009			Pond # 9 & 4

Quantity	Item Code	Description	Price Each	Amount
7	980C	980C Front End Loader Loading truck & Stockpiling clay material Lucas	135.00	945.00T
7	Freightliner	Freightliner Dump Truck haul clay material Belly Dump Ronald/Tim	75.00	525.00T
7	02Dump	IHC Tandem Dump Truck# 02	75.00	525.00T
7	700J	700J John Deere Dozer Ed	125.00	875.00T
7	HyPac 852	Hypac 852B 29,000# W/Blade Steven	85.00	595.00T
1	IHC Water	IHC Water Truck Ed	75.00	75.00T
		Sales Tax	6.625%	234.53

	C/C	A/C	AMOUNT	PO / REF
2006	4060	5723.03	1,887.27	
2006	4060	5722	1,887.26	
Date Paid				

4/1/20

Total

\$3,774.53

Skywest Development Inc. License #89202

POB 1923 Gallup NM 87305

(John) (505) 870-1915 cell

Phone (505) 722-7003

Fax (505) 863-8132

Invoice

Date	Invoice #
6/15/2009	2103

Bill To

Western Refining Southwest, Inc.
Rt. 3 Box 7
Gallup NM 87301

JUN 1

BY:.....

Ship To -
Pond #9 Berm N.E. Side

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
C22649			6/15/2009			Pond # 9 & 4

Quantity	Item Code	Description	Price Each	Amount
5	980C	980C Front End Loader Loading truck & Stockpiling clay material Lucas	135.00	675.00T
5	Freightliner	Freightliner Dump Truck haul clay material Belly Dump Ronald/Tim	75.00	375.00T
5	700J	700J John Deere Dozer Ed	125.00	625.00T
5	Hypac 852	Hypac 852B 29,000# W/Blade Steven	85.00	425.00T
1	IHC Water	IHC Water Truck Ed	75.00	75.00T
		Sales Tax	6.625%	144.09

	C/C	A/C	AMOUNT	PAYEE / REF
2020	4060	5723.03	1,159.55	
2020	4060	5722	1,159.54	
Date Paid				

Total

\$2,319.09

Summary of all Leaks/Spills/Releases

Date of Event	Time of Event	Product/Stream Name	Location of Event	Result of Event	Route Cause of Event	Person making Notification	Estimated Quantity (bbls)
5/23/09	1500 hrs	T-108 (Alkylate)	T-108	Overfilling Tank	Faulty gauge	Butch Turpen	6
6/10/09	0500 hrs	API Overflow	API	Heavy Rain	Storm surge	Process Shift Super	< 2
9/5/09	1143 hrs	API Overflow	API	Heavy Rain	Storm surge	Rodney James	6.5
12/8/09	0430 hrs	API Overflow	API	Heavy Rain	Storm surge	Ed Riege	739
12/23/09	1615 hrs	ULSD	Truck Rack	Underground Line Leak	Faulty Piping	Off-site Supervisor	1848 gal
5/23/09	1500 hrs	T-108 (Alkylate)	At approximately 1500 hrs (5/23/2009), a Maintenance employee was making rounds and saw T-108 (Alkylation Tank) running over. The on-site fire department was immediately notified. The rundown was immediately switched out of the tank. Safety and the off-site manager were notified of the incident. The alkylation tank (T-108) is located within a tank farm berm. The on-site fire department personnel put foam over the affected area as a precaution. Veolia Environmental Vacuum Services was called out. T-108 is located within a tank farm berm area. The affected area was approximately 225 square feet. Clean up operations of the soil are completed and shipped off site to an approved disposal facility.				
6/10/09	0500 hrs	API Overflow	At approximately 0230 hrs, Wednesday, June 10, 2009, a heavy rain and thunderstorms passed over the facility. During this storm event, portion of the API overflowed. A description of the incident was previously provided to the Agency of the initial C-141. Clean up efforts began on June 10, 2009. Maintenance and contract personnel began cleaning up the aqueous/oily overflow contamination and any contaminated soil and rock debris surrounding the API area. Personnel conducted cleanup of areas such as depressions or other conveyances adjacent to the API area where the oily water ran onto the ground. All contaminated material was put into a roll-off box to be tested (analyzed for any hazardous constituents) by an outside lab, prior to shipment off site for disposal. Clean dirt and gravel was placed around the API spill area. Final clean up was completed on June 26, 2009.				
9/5/09	1143 hrs	API Overflow	On Saturday, September 5, at about 1200 to 1230 hrs, a heavy rain and thunderstorms passed over the facility. It began raining heavily for about 20 to 30 minutes. The NAPIS began to overflow into the baker frac tank from excessive rain. The API continued to overflow for about an hour. At 1800 hours, a second rain event occurred causing the NAPIS to overflow for a second time. The total overflow for both events was approximately 2 hours. A total rainfall for both events was approximated at 1.6 inches. Clean up efforts consisted of using a vacuum truck to pick up any free floating fluid. Maintenance and contract personnel began cleaning up the contaminated soil and debris surrounding the API area. The volume of release to ground was estimated to be 6.5 barrels (bbls) of oily water. The amount of liquid recovered by the vacuum truck is estimated to be 4.6 bbls. All contaminated dirt, debris was removed and placed in a roll-off box to be tested for hazardous constituents by an outside lab prior to shipment offsite to an approved disposal facility. Clean dirt and gravel was placed around the NAPIS spill area. Final clean up was completed by September 14, 2009.				
12/8/09	0430 hrs	API Overflow	At or about midnight on Tuesday, December 8, a winter storm passed through the area precipitating heavy snow and high winds. Due to this event at 0300 hours, a plant wide electrical power failure occurred. After a thorough power distribution evaluation the cause of the this incident was found to be related to several power glitches or amperage line deviations from Tri-State Power Company in Albuquerque, NM. As a result of high winds in the Albuquerque area, several power deviations occurred between 0241 hours to 0249 hours causing the power outage at the Gallup Refinery. The API incurred intermittent overflows for approximately 10 to 12 hours in the amount of 739 bbls of oil water onto the ground surface. The affected area was localized around the API and the baker frac tank containment area. Vacuum truck was used to clean up any free floating liquid. Contaminated dirt and debris was picked up and placed in a roll off box to be analyzed for hazardous constituents by an outside lab prior to shipment off site to an approved disposal facility.				

12/23/09	1615 hrs	ULSD	<p>At approximately 4 pm on 12/23/2009, maintenance personnel noticed Ultra-low Sulfur Diesel (ULSD) emanating from a buried pipe at the west end of the truck loading rack. Immediate action was taken to isolate the line. Soil was excavated to uncover the leaking line. A vacuum truck was used to collect approximately 750 gallons of product from the hole around the leaking line. Later the asphalt in the area was washed down and approximately 700 gallons of wash water was captured by the vacuum truck. This mixture was approximately 5% product, or 35 gallons. Some of the ULSD and water mixture had run off the asphalt into an adjacent field where it pooled in a depression in the ground. Approximately 1400 gallons of this liquid was picked up by the vacuum truck. We estimate conservatively that 66% of this mixture was ULSD. Soil samples were collected at leak site and in the adjacent area. The subsurface area affected is approximately 5 feet square and 5 feet deep. This area was excavated to get to the leak. Contaminated soil is currently being stored on plastic sheeting in a staging area awaiting final disposition. The pit has been back filled as this is an extremely active area of the refinery. There is another area of approximately 10 feet by 20 feet where an oil-water mixture had pooled in the adjacent field. There is also the channel along the flow path which is approximately 250 feet in length and about 1 foot wide. Because the ground was frozen, material could not penetrate very deep into the ground. Immediately on noting the leak, the ULSD sales line was shut down and trucks moved out of the area. In further clean up actions, contaminated soils will be excavated, confirmatory environmental samples will be collected and analyzed and all contaminated materials will be disposed of in accordance with applicable regulations.</p>
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District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Avenue, Artesia, NM 88210
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700 Rio Brazos Road, Aztec, NM 87410
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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

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Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Western Refining-Southwest	Contact Beck Larsen
Address I-40/Exit 39, Jamestown, NM 87347	Telephone No. (505) 722-0258
Facility Name Gallup Refinery	Facility Type Refinery

Surface Owner	Mineral Owner	Lease No.
---------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter	Section 28	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
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Latitude 35° 29' 030" Longitude 108° 24' 040"

NATURE OF RELEASE

Type of Release Spill (T-108 Overfill)	Volume of Release 10 bbls	Volume Recovered 6-8 bbls
Source of Release T-108	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? OCD, NMED	
By Whom? Beck Larsen	Date and Hour 5/23/2009; 1500 hrs	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully. * No

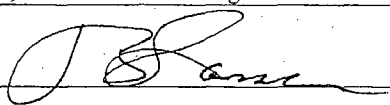
Describe Cause of Problem and Remedial Action Taken. * At approximately 1500 hrs (5/23/2009), a Maintenance employee was making rounds and saw T-108 (Alkylation Tank) running over. The on-site Fire Department was immediately notified. The rundown was immediately switched out of the tank. Safety and the Off-Site Manager was notified of the incident. The Alkylation Tank (T-108) is located within a Tank Farm Berm. The on-site Fire Department personnel put foam over the affected area as a precaution. Veolia Environmental Vacuum Services was called out to cleanup the material. The estimated recovery was approximately 6 to 8 bbls.

Describe Area Affected and Cleanup Action Taken. * The Alkylation Tank (T-108) is located within a Tank Farm Berm area. The affected area was approximately 225 sq ft. Cleanup operations of the soil are underway for analytical testing and shipment off-site for disposal.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOC marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

OIL CONSERVATION DIVISION

Signature:



Printed Name: Beck Larsen

Approved by District Supervisor:

Title: Environmental Engineer

Approval Date:

Expiration Date:

-mail Address: Thurman.larsen@wnr.com

Conditions of Approval:

Attached ☐

Date: 5/28/2009

Phone: (505) 722-0258

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Western Refining-Southwest	Contact Beck Larsen
Address I-40/Exit 39, Jamestown, NM 87347	Telephone No. (505) 722-0258
Facility Name Gallup Refinery	Facility Type Refinery

Surface Owner	Mineral Owner	Lease No.
---------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter	Section 28	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
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Latitude 35° 29' 030" Longitude 108° 24' 040"

NATURE OF RELEASE

Type of Release API Overflow	Volume of Release < 2.0 bbls (oil)	Volume Recovered 1.3 bbls (oil) (estimated)
Source of Release API	Date and Hour of Occurrence 6/10/2009; 0500 hrs	Date and Hour of Discovery 6/10/2009; 0500
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD & NMED	
By Whom? Beck Larsen	Date and Hour 6/10/2009; 1045 hrs AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

Watercourse was Impacted, Describe Fully.*

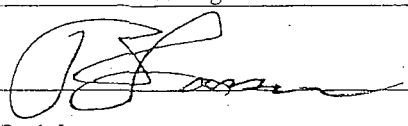
Describe Cause of Problem and Remedial Action Taken.*

At approximately 0230 hrs, Wednesday, June 10, 2009, a heavy rain and thunderstorms passed over the facility. During this storm event, the API overflowed. A description of the incident was previously provided to the Agency on the initial C-141.

Describe Area Affected and Cleanup Action Taken.*

Cleanup efforts began on June 10, 2009. Maintenance and Contract personnel began cleaning up the any aqueous/oily portion of overflow contamination and any contaminated soil and rock debris surrounding the API area. Personnel conduct cleanup of areas such as depressions or other conveyances adjacent to the API area that any contamination may or did spread. After immediate cleanup efforts were completed, All contaminated material were put into a roll-off box to be tested (analyzed by an outside lab), prior to shipment off site for disposal to an approved facility. Contract personnel delivered and spread new gravel and rock material around the API area. Final cleanup of this area was completed on or about June 26, 2009.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Beck Larsen	Approved by District Supervisor:		
Title: Environmental Engineer	Approval Date:	Expiration Date:	
E-mail Address: Thurman.larsen@wnr.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 7/21/2009	Phone: (505) 722-0258		

District I
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Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Western Refining-Southwest	Contact Beck Larsen
Address I-40/Exit 39, Jamestown, NM 87347	Telephone No. (505) 722-0258
Facility Name Gallup Refinery	Facility Type Refinery

Surface Owner	Mineral Owner	Lease No.
---------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter	Section 28	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
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Latitude 35° 29' 030" Longitude 108° 24' 040"

NATURE OF RELEASE

Type of Release API Overflow	Volume of Release < 2.0 bbls (oil)	Volume Recovered 1.3 bbls (oil) (estimated)
Source of Release API	Date and Hour of Occurrence 6/10/2009; 0500 hrs	Date and Hour of Discovery 6/10/2009; 0500
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD & NMED	
By Whom? Beck Larsen	Date and Hour 6/10/2009; 1045 hrs AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

At approximately 0230 hrs, Wednesday, June 10, 2009, a heavy rain and thunderstorms passed over the facility. As soon as it started raining, the Wastewater Operators and Supervisors started pumping water from new API to the old API in order to reduce the level in the new API. They also started up a "yellow" trash pump in front of the new API going to the old API. The Baker Tank started filling up until it overflowed. The API Operators blocked in the Baker Tank. At approximately 0330 hrs, the new API began overflowing from the top onto the ground. Only the West Bay is operational since the East Bay of the API is down for repairs. The overflow lasted for about 30 minutes. However, the overflow from the Baker Tank was contained in the berm area surrounding the tank. At approximately 0430 hrs, the old API began draining into Aeration Lagoon #1 due to excessive stormwater, thus by-passing the Benzene Strippers. It continued raining from about 0430 to 0630 hrs. (about 1 1/2 to 2 hrs). At 0630 hrs, flow stopped from the old API in to Lagoon #1. The amount of rainfall was about 0.76 inches during this time period. During this rain event, the old API sump was being pumped continuously to Tank (T-107) in order to control the level in the old API. At approximately 0500 hrs on Wednesday, June 10, 2009, the Process Shift Superintendent, initially notified Richard Schmitt that the API was overflowing. Then, Mr. Schmitt notified Mr. Mark Turri, Joel Quinones, James Geer, and the Environmental Department about the incident. The Environmental Department was officially notified on Wednesday, 6/10/2009 at approximately 0524 hrs. Environmental personnel arrived at 0609 hrs, Wednesday, June 10, 2009. A site determination and evaluation proceeded during daylight hours. The actual quantity of oil released is difficult to measure with any accuracy. Once daylight arrived, assessment began. Maintenance and Offsite personnel immediately began cleanup. Final quantification was determined to be approximately <2.0 bbls of oil discharged, a crude estimation. All recoverable liquid in areas (oil/water mixtures) around the API and Baker Tank were immediately vacuumed and brought to one of the process drains for further processing by the API.

Describe Area Affected and Cleanup Action Taken.*

Once daylight arrived, assessment began. Maintenance and Offsite personnel immediately began cleanup. All recoverable liquids in areas (oil/water mixture) around the API and the Baker Tank were immediately vacuumed and brought to one of the process drains for further processing by the API. Soil and area remediation around API and Baker Tanks is in progress.

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Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Western Refining-Southwest	Contact Beck Larsen	
Address I-40/Exit 39, Jamestown, NM 87347	Telephone No.(505) 722-0258	
Facility Name Gallup Refinery	Facility Type Refinery	
Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section 28	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
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Latitude 35° 29' 030" Longitude 108° 24' 040"

NATURE OF RELEASE

Type of Release API Overflow	Volume of Release 739 bbls (API oily water)	Volume Recovered >720 bbls (API oily Water)
Source of Release API UNIT	Date and Hour of Occurrence 12/08/2009; 0300 hrs	Date and Hour of Discovery 12/05/2009; 0300 hrs
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD & NMED (Carl Chavez, Steve Conley, Hope Monzeglio)	
By Whom? Beck Larsen	Date and Hour 12/08/2009 / ~ 1030 hrs	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

At or about midnight on Tuesday, December 8, a winter storm passed through the area precipitating heavy snow and high winds. Due to this event at 0300 hrs (December 8), a plant wide electrical power failure occurred to all units throughout the facility. After a thorough power distribution evaluation, the cause of this incident was found to be resultant of several power glitches or amperage line deviations from Tristate Power Company in Albuquerque. As a result of high winds in the Albuquerque area, several power deviations occurred between 0241 to 0249 hours causing two power lines to slap together creating a Phase A / Phase C power line short at the Tristate distribution center or substation. These power glitches were transmitted to Western Refinery (Gallup Refinery) as an incoming line fluctuation or line distortion in amperage. This transmitted to a decrease in amperage of 15 to 20 percent. This distortion caused two of compressors to go off line initiating a plant wide electrical power failure to all units. After all information was collected from various sources, it was estimated that due to this power failure, the API incurred intermittently overflowed for about 10 to 12 hours. An onsite vacuum truck was immediately dispatched during this event in order to minimize and spread of contamination and to begin cleanup operations. No injuries were incurred during this event as a result of this power failure.

Describe Area Affected and Cleanup Action Taken.*

The affected area was localized around the API and baker frac tank containment areas. Initial cleanup efforts began immediately on Tuesday, December 8, 2009 during this event utilizing an onsite vacuum truck. Maintenance and Contract personnel began cleaning up the any aqueous/oily portion of overflow contamination and any contaminated soil and rock debris surrounding the API area. Personnel conduct cleanup of areas such as depressions or other conveyances adjacent to the API area in order that contamination would not spread. Initial cleanup efforts were completed on Monday, December 14, 2009. All contaminated material were put into a roll-off box to be tested (analyzed by an outside lab), prior to shipment off site for disposal to an approved facility. Final cleanup of this area will be determined based on laboratory analysis.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

OIL CONSERVATION DIVISION

Signature:

Printed Name: Beck Larsen

Approved by District Supervisor:

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Western Refining-Southwest	Contact Beck Larsen
Address I-40/Exit 39, Jamestown, NM 87347	Telephone No.(505) 722-0258
Facility Name Gallup Refinery	Facility Type Refinery

Surface Owner	Mineral Owner	Lease No.
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LOCATION OF RELEASE

Unit Letter	Section 28	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
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Latitude 35° 29' 030" Longitude 108° 24' 040"

NATURE OF RELEASE

Type of Release API Overflow	Volume of Release 6.6 bbls (oil)	Volume Recovered 5.5 bbls (oil) (estimated)
Source of Release API UNIT	Date and Hour of Occurrence 9/05/2009; 1215 hrs / 1830 hrs	Date and Hour of Discovery 9/05/2009; 1215 hrs / 1830 hrs
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD & NMED	
By Whom? Beck Larsen	Date and Hour 9/06/2009 / 1750 hrs	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*


On Saturday, September 5, at about 1200 to 1230 hrs, a heavy rain and thunderstorms passed over the facility. It began raining heavily for about 20 to 30 minutes. At 1220 hrs the new API began to overflow into the Baker Frac Tank. The rain slacked off from a heavy to a moderate to light. At 1245 hrs the new API (East and West) Bays began to overflow due to the excessive rain. The API continued to overflow for about an hour. At 1800 hrs once again, a second rain event began due to a secondary thunderstorm cell passing over the facility. The new API began to overflow a second time for an hour due to excess stormwater. The total overflow for both events was approximately 2 hours. A total rainfall for both events was approximately 1.6 inches.

Describe Area Affected and Cleanup Action Taken.*

Cleanup efforts began immediately on September 5, 2009 during the rain event using a vacuum truck. Maintenance and Contract personnel began cleaning up the any aqueous/oily portion of overflow contamination and any contaminated soil and rock debris surrounding the API area. Personnel conduct cleanup of areas such as depressions or other conveyances adjacent to the API area that any contamination may or did spread. After immediate cleanup efforts were completed, all contaminated material were put into a roll-off box to be tested (analyzed by an outside lab), prior to shipment off site for disposal to an approved facility. Contract personnel delivered and spread new gravel and rock material around the API area. Final cleanup of this area was completed on or about September 11-14, 2009.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other al, state, or local laws and/or regulations.

Signature:



Printed Name: Beck Larsen

OIL CONSERVATION DIVISION

Approved by District Supervisor:

Title: Environmental Engineer	Approval Date:	Expiration Date:
E-mail Address: Thurman.larsen@wnr.com	Conditions of Approval:	Attached <input type="checkbox"/>
e: 10/16/2009 Phone: (505) 722-0258 Attach Additional Sheets If Necessary.		

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OPERATOR

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Name of Company Western Refining-Southwest	Contact Beck Larsen	
Address I-40/Exit 39, Jamestown, NM 87347	Telephone No. (505) 722-0258	
Facility Name Gallup Refinery	Facility Type Refinery	
Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section 28	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
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Latitude 35° 29' 030" Longitude 108° 24' 040"

NATURE OF RELEASE

Type of Release API Overflow	Volume of Release 6.5 bbls (oil)	Volume Recovered 5.5 bbls (oil) (estimated)
Source of Release API UNIT	Date and Hour of Occurrence 9/05/2009; 1215 hrs / 1830 hrs	Date and Hour of Discovery 9/05/2009; 1215 hrs / 1830 hrs
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD & NMED	
By Whom? Beck Larsen	Date and Hour 9/06/2009 / 1750 hrs	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

Watercourse was Impacted, Describe Fully.*

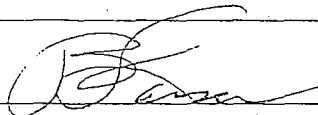
Describe Cause of Problem and Remedial Action Taken.*

On Saturday, September 5 at approximately 1143 hrs, Off-site personnel began bypassing filters and weir box in preparation for a possible rain event. At about 1200 to 1230 hrs, Saturday, September, 5, 2009, a heavy rain and thunderstorms passed over the facility. It began raining heavily for about 20 to 30 minutes. At 1220 hrs the new API began to overflow into the Baker Frac Tank. The API Operators began pumping from the new API to T-105/T-107 in order to remove as much water as possible from the API. The rain slacked off from a heavy to a moderate to light. At 1245 hrs the new API (East and West) Bays began to overflow due to the excessive rain. The API continued to overflow for about an hour. At 1800 hrs a second rain event began due to a secondary thunderstorm cell passing over the facility. Once again, the new API began to overflow a second time for an hour due to excess stormwater. The total overflow for both events was approximately 2 hours. A total rainfall for both events was approximately 1.6 inches.

Describe Area Affected and Cleanup Action Taken.*

Cleanup efforts began immediately on September 5, 2009 during the rain event using a vacuum truck. Maintenance and Contract personnel began cleaning up the any aqueous/oily portion of overflow contamination and any contaminated soil and rock debris surrounding the API area. Personnel conduct cleanup of areas such as depressions or other conveyances adjacent to the API area that any contamination may or did spread. After immediate cleanup efforts were completed, all contaminated material were put into a roll-off box to be tested (analyzed by an outside lab), prior to shipment off site for disposal to an approved facility. Contract personnel delivered and spread new gravel and rock material around the API area. Final cleanup of this area was completed on or about September 10, 2009.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Beck Larsen			
Title: Environmental Engineer		Approval Date:	Expiration Date:
E-mail Address: Thurman.larsen@wnr.com		Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7/21/2009 Phone: (505) 722-0258			

* Attach Additional Sheets If Necessary

CERTIFIED MAIL: 7008 0000 4726 1055

July 23, 2009

New Mexico Environmental Department (NMED)
Hazardous Waste Bureau (HWB)
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505
Attention: Ms Hope Monzeglio

New Mexico Energy Minerals and Natural Resources Department
New Mexico Oil Conservation Division (NMOCD)
1220 South Street-Francis Drive
Santa Fe, New Mexico 87505
Attn: Mr. Carl J. Chavez

Reference: API OVERFLOW on JUNE 10, 2009

Dear Ms Monzeglio and Mr. Chavez;

Please accept the following letter is in response to an e-mail (June 18, 2009) from Ms Hope Monzeglio of the New Mexico Environmental Department (NMED) - Hazardous Waste Bureau (HWB). This e-mail references two separate events, one on June 10, the other on June 16, 2009. Once again it should be clarified that the API overflowed only once, June 10, 2009. A verbal communication was made between Western Refining and NMED (HWB) to correct and clarify this information on June 22, 2009.

The following information shall address by describing the nature of the event leading to and causes of the overflow event, remedial actions that were taken, and corrective action made to the API area in order to prevent future occurrence. Diagrams have been included in order to provide a visual reference of the API area, extent of contamination, and to aid in a better understanding of the event. Also enclosed are e-mails and Release Notification Forms (C-141) (Initial and Final) Reports for your reference.

DESCRIPTION AND CAUSES OF OVERFLOW EVENT: (Refer to API & AERATION LAGOON and API AREA ENLARGED DIAGRAMS)

On Wednesday, June 10, 2009 at approximately 0230 hrs, Western Refining-Southwest (Gallup Refinery) had a moderate rain event due to storms passing through the area. At approximately 0330 hrs, the new API began overflowing from the top onto the ground. At the time, only the West bay of the New API (NAPI) was operational because the east Bay was down for repairs. An above ground Baker Frac Tank located in the vicinity of or near the new API is used for overflow during upset or excessive rain conditions. Oily water from Process Sewers comingles with stormwater from area slabs flow directly to the new APIS. Under normal conditions when both bays are operational, the API can handle such an event. However, during this rain event, the

API began to fill to an overflow condition because of the East Bay was down for repairs. A small portion began to seep out of the top of the API as well, primarily water. A small amount of seepage from the API overflow went across the roadway into Aeration Lagoon #1 due to a depression contour in the roadway (roadway erosion) between the New API (West Bay) and Aeration Lagoon #1. Also, some API overflow went along the backside of the API toward and slightly past the Baker Tank. When the API (West Bay) reached the overflow level, it began to flow into the Baker Frac Tank. The Baker Tank started filling up until it overflowed at the top of the tank. However, the overflow from the Baker Tank was all contained in a berm surrounding the tank. There was not any oil or oily sheen observed to be in the area where the API overflowed from its top or in the Frac Tank containment berm. The API Operator began pumping from the new API to the old API. At or approximately 0430 hrs, the old API reached an overfill level that drains directly into the Aeration Lagoon #1 due to excessive stormwater, thus bypassing the Benzene Strippers. (Refer to API & Aeration Lagoon Area and API Area Enlarged Area Diagrams) It continued raining from about 0430 hrs to 0630 hrs (about 1 ½ to 2 hrs). The total amount of rainfall was about 0.76 inches during this time frame. At approximately 0500 hrs on Wednesday, June 10, 2009, the API (Off-site) Relief Supervisor notified Facility Management personnel. The Environmental Department was notified at approximately 0524 hrs. Environmental personnel arrived at the facility at approximately 0609 hrs, June 10, 2009. A site determination and evaluation was conducted immediately. Assessment and cleanup operations were immediately initiated by Maintenance and Contract personnel.

The road leading to and along side of the API and Lagoon Areas are close to grade. During moderate to heavy rain events, road conditions are nearly prohibitive for equipment and large vacuum truck due to the heavy clay in this area. Therefore, entry for vehicular traffic is extremely dangerous due to possibilities of sliding into the Aeration Lagoons. Due to these conditions, the vacuum truck could not reach the API and Baker Frac Tank Area in order to pump out the Frac Tank.

REMEDIAL ACTIVITIES/ CLEANUP OPERATIONS: (Refer to API & AERATION LAGOON and API AREA ENLARGED DIAGRAMS)

Cleanup operations were initiated. An Outside Contract Vacuum Truck Service (Veolia Environmental Services) was deployed to the facility to begin vacuuming up any liquids from the API overflow areas. After the vacuum operation concluded, Veolia removed approximately 31,700 gallons (754.76 bbls) of oily/water mixture. The amount of oil recovered from this operation was calculated to be 11.79 gallons (0.28 bbls) based on information supplied by Veolia and best engineering methodology. Maintenance and Contract personnel began removing or remediating in and around the API and associated areas by removing approximately 1 to 2 inches contaminated top soils, any contaminated vegetation, and rock with a back-hoe or shovels. Cleanup crews removed soils along the backside of API extending north alongside the Baker Frac Tank as well as removing material where the API flowed over the road depression to Aeration Lagoon #1. Also, a cleanup crew was deployed to remove contaminated soil within the Baker Frac Tank containment dike area. Remedial activities terminated on or about June 24, 2009. After completion of remedial activities, a composite sample of the excavated material was collected by the Environmental Department, and submitted to Hall Environmental Laboratories for analysis. The sample was submitted to Hall Laboratory to be analyzed for the following

parameters: RCI, TCLP Metals/1311, TCLP Voas/1311, Hexavalent Chromium (Cr+6), TCLP Semi-voas/1311, and Total Petroleum Hydrocarbon (TPH). The analysis from Hall Environmental Laboratory (date of collection: 6/25/2009) for these parameters indicated non-hazardous for all parameters. (Refer to API Overflow Sampling Analysis) Under normal conditions the API overflow material normally would be declared as a hazardous waste (F037/F038) and properly disposed accordingly; however, based on the analytical data and the small quantity of material generated, a "Request for Contained-in Determination for Petroleum Contaminated Soils" has recently been submitted to the New Mexico Environmental Department- Hazardous Waste Bureau (Certified Mail: 7008 2810 0000 1048) requesting disposal of this material as a non-hazardous waste stream. (Reference to 20.4.1.800 NMED and 40CFR268.7 (e)) The quantity excavated has been estimated to be approximately 20 to 30 yd³ (cubic yards) or about 1 to 1 ½ roll-off boxes. (Refer to API & Aeration Lagoon Area and API Area Enlarged Area Diagrams)

CORRECTIVE ACTIONS / IMPROVEMENTS FOR API AREA

After completion of the remedial project, Western began working on improvements in order to prevent a similar occurrence in the future. Several modification or upgrades to the API area have been completed. These modifications include the following items:

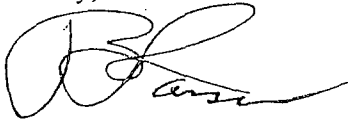
1. API Repair / Maintenance of East Bay- The East Bay of the API has been repaired and put back in to service. A stainless steel liner extension was added to the existing liner of the East Bay of the API in order to prevent future overflow leakage.
2. Road between the API (West Bay) and Aeration Lagoon #1- The road between Aeration Lagoon #1 and the API Separator was raised to approximately 8 to 10 inches by Sky West Construction (formerly Fuhs Trucking). This increase in road height provides a natural berm between the API and the Aeration Lagoon #1. The berm will act as a barrier to prevent any further discharge from any API overflows to reach the Aeration Lagoon #1. Also, the newly constructed road will allow vacuum trucks more accessibility to the API area during excessive rain events. The road way was compacted with a base of course clay-rock mixture in order to allow a firmer surface. The course clay-rock mixture was placed on the road for better traction. Previously, vacuum trucks would not be able to access this area during heavy rain due to the possibility of sliding in Aeration Lagoon #1 or getting stuck in that area.
3. Roadway from Flare to API area- The roadway from the flare to the API roadway was also increased 8 to 10 inches, using a course clay-rock mixture in order to allow for better accessibility by vehicular traffic to the API area.
4. Inlet Valve (6 inches) change- A 6 inch butterfly valve was changed to a 6 inch gate valve in order to prevent trash buildup within the valve. This modification will allow more volume to flow into the API.
5. Weir Box Screen Addition- A weir box screen was added to the weir box in order to prevent trash build-up going into the API, thus by improving operations. Also, by

placement of a screen into the weir box, it will prevent trash build-up into the Benzene Strippers and thereby improve stripping efficiency.

All modification and upgrades to the API and the ancillary equipment have been completed. Both bays to the API have been put back in service and are now fully operational.

If you require additional information concerning this matter, please contact me at (505) 722-0258.

Sincerely,



Beck Larsen-CHMM, REM
Environmental Engineer
Western Refining (Southwest)(Gallup Refinery)

Enc: NMED Agency, Letter of Request for "Contained-In Determination for Petroleum Contaminated Soil" from API Separator Overflow on June 10, 2009
API & Aeration Lagoon Area Diagram
API Area Enlarged Diagram
NMED Correspondence (e-mail) of June 22, 2009
OCD (Release Notification and Corrective Action, C-141 (Initial) Report
OCD (Release Notification and Corrective Action, C-141 (Final) Report
API Overflow Sampling Analysis (Hall Environmental Laboratories), 6/25/2009

Cc: Mr. Mark Turri, Western Refining (Southwest), Refinery Manager
Mr. Ed Riege, Western Refining (Southwest), Environmental Manager
File

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
20 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Western Refining-Southwest	Contact Beck Larsen	
Address I-40/Exit 39, Jamestown, NM 87347	Telephone No. (505) 722-0258	
Facility Name Gallup Refinery	Facility Type Refinery	
Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section 28	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
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Latitude 35° 29' 030" Longitude 108° 24' 040"

NATURE OF RELEASE

Type of Release API Overflow	Volume of Release < 2.0 bbls (oil)	Volume Recovered 1.3 bbls (oil) (estimated)
Source of Release API	Date and Hour of Occurrence 6/10/2009; 0500 hrs	Date and Hour of Discovery 6/10/2009; 0500
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD & NMED	
By Whom? Beck Larsen	Date and Hour 6/10/2009; 1045 hrs AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

a Watercourse was Impacted, Describe Fully.*


Describe Cause of Problem and Remedial Action Taken.*

At approximately 0230 hrs, Wednesday, June 10, 2009, a heavy rain and thunderstorms passed over the facility. During this storm event, the API overflowed. A description of the incident was previously provided to the Agency on the initial C-141.

Describe Area Affected and Cleanup Action Taken.*

Cleanup efforts began on June 10, 2009. Maintenance and Contract personnel began cleaning up the any aqueous/oily portion of overflow contamination and any contaminated soil and rock debris surrounding the API area. Personnel conduct cleanup of areas such as depressions or other conveyances adjacent to the API area that any contamination may or did spread. After immediate cleanup efforts were completed, All contaminated material were put into a roll-off box to be tested (analyzed by an outside lab), prior to shipment off site for disposal to an approved facility. Contract personnel delivered and spread new gravel and rock material around the API area. Final cleanup of this area was completed on or about June 26, 2009.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Beck Larsen	Approved by District Supervisor:	
Title: Environmental Engineer	Approval Date:	Expiration Date:
E-mail Address: Thurman.larsen@wnr.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7/21/2009	Phone: (505) 722-0258	

District I
1625 N. French Dr., Hobbs, NM 88240
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State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Western Refining-Southwest	Contact Beck Larsen	
Address I-40/Exit 39, Jamestown, NM 87347	Telephone No. (505) 722-0258	
Facility Name Gallup Refinery	Facility Type Refinery	
Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section 28	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
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Latitude 35° 29' 030" Longitude 108° 24' 040"

NATURE OF RELEASE

Type of Release API Overflow	Volume of Release < 2.0 bbls (oil)	Volume Recovered 1.3 bbls (oil) (estimated)
Source of Release API	Date and Hour of Occurrence 6/10/2009; 0500 hrs	Date and Hour of Discovery 6/10/2009; 0500
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD & NMED	
By Whom? Beck Larsen	Date and Hour 6/10/2009; 1045 hrs AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

Watercourse was Impacted, Describe Fully.*

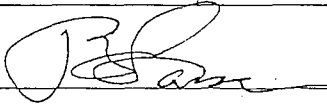
Describe Cause of Problem and Remedial Action Taken.*

At approximately 0230 hrs, Wednesday, June 10, 2009, a heavy rain and thunderstorms passed over the facility. As soon as it started raining, the Wastewater Operators and Supervisors started pumping water from new API to the old API in order to reduce the level in the new API. They also started up a "yellow" trash pump in front of the new API going to the old API. The Baker Tank started filling up until it overflowed. The API Operators blocked in the Baker Tank At approximately 0330 hrs, the new API began overflowing from the top onto the ground. Only the West Bay is operational since the East Bay of the API is down for repairs. The overflow lasted for about 30 minutes. However, the overflow from the Baker Tank was contained in the berm area surrounding the tank. At approximately 0430 hrs, the old API began draining into Aeration Lagoon #1 due to excessive stormwater, thus by-passing the Benzene Strippers. It continued raining from about 0430 to 0630 hrs. (about 1 1/2 to 2 hrs). At 0630 hrs, flow stopped from the old API in to Lagoon #1. The amount of rainfall was about 0.76 inches during this time period. During this rain event, the old API sump was being pumped continuously to Tank (T-107) in order to control the level in the old API. At approximately 0500 hrs on Wednesday, June 10, 2009, the Process Shift Superintendent, initially notified Richard Schmitt that the API was overflowing. Then, Mr. Schmitt notified Mr. Mark Turri, Joel Quinones, James Geer, and the Environmental Department about the incident. The Environmental Department was officially notified on Wednesday, 6/10/2009 at approximately 0524 hrs. Environmental personnel arrived at 0609 hrs, Wednesday, June 10, 2009. A site determination and evaluation proceeded during daylight hours. The actual quantity of oil released is difficult to measure with any accuracy. Once daylight arrived, assessment began. Maintenance and Offsite personnel immediately began cleanup. Final quantification was determined to be approximately <2.0 bbls of oil discharged, a crude estimation. All recoverable liquid in areas (oil/water mixtures) around the API and Baker Tank were immediately vacuumed and brought to one of the process drains for further processing by the API.

Describe Area Affected and Cleanup Action Taken.*

Once daylight arrived, assessment began. Maintenance and Offsite personnel immediately began cleanup. All recoverable liquids in areas (oil/water mixture) around the API and the Baker Tank were immediately vacuumed and brought to one of the process drains for further processing by the API. Soil and area remediation around API and Baker Tanks is in progress.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other eral, state, or local laws and/or regulations.

Signature: 		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Beck Larsen		Approved by District Supervisor:	
Title: Environmental Engineer		Approval Date:	Expiration Date:
E-mail Address: Thurman.larsen@wnr.com		Conditions of Approval:	Attached <input type="checkbox"/>
Date: 6/22/2009 Phone: (505) 722-0258			

* Attach Additional Sheets If Necessary

GALLUP REFINERY

CERTIFIED MAIL: 7008 2810 0000 4726 1673

October 16, 2009

New Mexico Environmental Department (NMED)
Hazardous Waste Bureau (HWB)
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505
Attention: Ms Hope Monzeglio

New Mexico Energy Minerals and Natural Resources Department
New Mexico Oil Conservation Division (NMOCD)
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Attn: Mr. Carl J. Chavez

Reference: API OVERFLOW on SEPTEMBER 5, 2009

Dear Ms Monzeglio and Mr. Chavez;

Please accept the following letter in response to a letter from Ms Hope Monzeglio of the New Mexico Environmental Department (NMED) (Hazardous Waste Bureau (HWB) (September 15, 2009) that references an API overflow which occurred on Saturday, September 5, 2009.

The following information shall address describing the nature of the event leading to and causes of the overflow event, remedial actions that were taken, and corrective action made to the API area in order to prevent future occurrence. Diagrams have been included in order to provide a visual reference of the API area, extent of contamination, and to aid in a better understanding of the event. (Refer to "API & Aeration Lagoon Diagram") Also enclosed are Release Notification Forms (C-141) (Initial and Final) Reports, NMED Correspondence (letters and e-mails), API Overflow Summary, API Sampling Plan with a Laboratory Data Summary and Hall Environmental Laboratory Analysis, and NMED Soil Screening Levels (Table A-1) for your reference and convenience.

I. THE INCIDENT- "DESCRIPTION AND CAUSES OF OVERFLOW EVENT": (Refer to "API & AERATION LAGOON DIAGRAM")

On Saturday, September 5, 2009 at 1215 hours, a heavy rain and thunderstorms passed over the facility. It began raining heavily for about 20 to 30 minutes. At 1245 hours, the API began to overflow into an above ground Baker Tank that is located near the new API and is used for overflow during upset or excessive rain conditions. The API Operator began pumping from the new API to T-105/T-107 in order to divert as much water as possible from the new API. The rain slacked off from a heavy to light intensity. At 1245 hours due to continued excessive rain, the new API (both East and West) Bays began overflowing from the top hatches of and from two overflow spouts (located on the north end of the API).

The Environmental Department/Qualified Individual (QI) was notified at 1320 hours. The QI arrived on site at 1410 hours during the storm event. At the time of QI arrival, response personnel were in the process of simultaneous containment and remedial activities in order to minimize any environmental impact.

At approximately 1600 hrs, a second rain event began due to another thunderstorm cell passing over the facility. At approximately 1830 to 1900 hrs the new API began to overflow in the same manner as described previously due to excessive stormwater. The overflow during this second thunderstorm also lasted for about an hour. The total rainfall during these incidents was about 1.6 inches based on the Process Area rain gauge. The total estimated time of the overflows of both events was approximately two (2) hours.

Under normal conditions, the API can handle a minor storm event. However, during this rain event, the API began to fill to an overflow condition because the rainfall intensity was greater than the design flow for the new API. As the rainfall intensity and flow volume increased during these two events, the process and stormwater quantity exceeded the design capacity of the new API Units causing water to be forced out of the top hatches and of the overflow spouts.

During this storm event, the API overflow was concentrated around the new API and Baker overflow tank containment area due to the increased height of the roadway construction as a result of prior modification activities. The berm that was created due to previous road maintenance separated any overflow coming from the API area from reaching Aeration Lagoon #1. Also, some API overflow went along the backside of the new API into the API overflow Baker frac tank containment area. The overflow was either isolated around the new API area or contained in the API overflow tank containment area. As a result of this storm event, oil or oily sheen was found around the API area and the API overflow tank containment area.

The total volume released to the environment was based on the best engineering methodology available and the information supplied by on-site personnel. The methodology utilized for this determination will be discussed below under a separate category.

II. THE VOLUME OF OVERFLOW and HOW IT WAS DETERMINED- "QUANTITY ESTIMATION AND BEST ENGINEERING METHODOLOGY" (Refer to "API OVERFLOW SUMMARY")

The quantification of the amount of API overflow was determined using various methodologies and Best Engineering Practices available during this event. These methodologies and Best Engineering Practices were used in order to make a reasonable quantification that included such items as conversations with facility personnel, vacuum truck logs, available diagrams or drawings, best approximations or assumptions at the time of the event, and any available data records collected during and after this event. A combination of these methods had to be used in order to make a reasonable determination or estimation of the volumes from the API overflow.

Various engineering principles that were used in order to make a reasonable quantification included material balance (flow in =flow out) in conjunction with basic hydrologic principles. First, an approximation or assumption of the amount of "oil" on the API at any given time was used. The quantity of oil can be exaggerated due to the inability of being able to open the API at any given time in order to ascertain an accurate measurement of its level. This level or quantity was assumed

to be released out of the API at the time of overflow. This assumption probably was an over estimation of the actual quantity of oil that was in the API at the time of overflow and that was actually released. It was assumed that the entire quantity of oil as determined above was actually released from the API. Next, a material balance was used to determine the required flow into and out of the API at the time of the overflow. One of the elements of the material balance requires rainfall and Process Unit run off data in order to ascertain flow input to the API based on hydrologic principles.

It was estimated that a total of 6.6 bbls of oil was discharged to the ground at the termination of the API overflow. Approximately 4.6 bbls of oil was recovered as a result of the vacuum truck remediation during this event. There was approximately 2 bbls that was not recovered or not accounted for in the calculations based on the information available. These values are approximated based on material balance and other engineering principles and are as accurate as the available known information.

Vacuum truck data was used in the determination of oil and oil/water mixture volumes at the time of the overflow. A vacuum truck log was used to determine the amount of oil/water mixture recovered. The amount of oil (percentage) in the API at the time of the overflow was applied to this mixture in order to quantify or estimate the quantity of oil recovered. It was determined that approximately 1320 bbls of the oily/water mixture was recovered from the vacuum truck operation based on the number of loads retrieved and from a known quantity per load. The amount of oil recovered from this operation was found to be approximately 4.6 bbls based on information supplied by the vacuum truck operators, API Area Operator, and best engineering methodology.

A summary of the incident using applicable methodologies for volume calculations are indicated below (Refer to "API Overflow Summary" Spreadsheet as enclosed):

Qty of Oil in API at time of Incident:	1.8 bbls
Qty of Oil from Process Unit at time of Incident:	1.3 bbls
Qty of Oil from Baker Tank Containment:	2.6 bbls
Qty of Oil Transferred to T-105/107:	0.9 bbls
- Qty of Oil Recovered (Vacuum Truck):	- 4.6 bbls

TOTAL (OIL RELEASED to the ENVIRONMENT)	6.6 bbls
Qty Oil Recovered (Vacuum Truck)	4.6 bbls
Oil Discharged to the Environment (Oil Not Recovered)	2.0 bbls

The Oil discharged to the environment was based on the calculations from available information and could not be determined at a more accurate value. Operation personnel removed as much oil as possible during the cleanup operation. The remainder of the oil was removed in the clay as part of the remediation project.

III. CLEANUP ACTIVITIES- "REMEDIAL ACTIVITIES/ CLEANUP OPERATIONS": (Refer to "API & AERATION LAGOON DIAGRAM")

Cleanup operations were immediately initiated after the first rain cell passed over the facility in order to minimize the environmental impact. Western Refining recently purchased a vacuum truck for onsite use instead of utilizing outside contractor equipment and their personnel. After the first

rain cell passed over the facility, the vacuum truck was immediately deployed in order to begin vacuuming up any oil/water liquids from the affected areas as a part of initial cleanup efforts.

Maintenance also began soil remediation around the API, Baker Tank, and associated areas by removing approximately 1 to 2 inches of contaminated top soils, any contaminated vegetation, and rock with a back-hoe or shovels as required. Cleanup and remedial activities terminated on September 14, 2009. After completion of all remedial activities, the Refinery Environmental Department proceeded to collect ten (10) core samples of the material in the area of potential contamination.

IV. HAZARDOUS WASTE POTENTIALLY RELEASED TO THE ENVIRONMENT- (Refer to "HALL ENVIRONMENT LABORATORY DATA SUMMARY", and "HALL ENVIRONMENTAL LABORATORY DATA REPORTS", and "NMED SOIL SCREENING LEVEL (Table A-1)" as Enclosure)-

Hall Environmental Laboratories analyzed the ten (10) core samples. After remediation of the overflow was completed, samples were collected on September 16, 2009. Final analysis was received on October 8, 2009. The data from these samples were put on an excel spreadsheet in order to provide a comparison of data points in order to compare against the New Mexico Environmental Department- Hazardous Waste Bureau (NMED-HWB) Industrial Soil Screening Levels for Cleanup Operations. The comparison between actual analytical and the Industrial Soil Cleaning Levels as established by the New Mexico Environmental Department- Hazardous Waste Bureau (NMED-HWB), clearly reflect that our soil cleanup was complete and that there was minimal environmental impact. However, as the regulations specify, this cleanup material will by definition, be classified as a Hazardous Waste (Specific and Non-Specific Sources) (K051, F037, F038) for disposal purposes.

V. DEMONSTRATION OF SUCCESSFUL SPILL CLEANUP- LABORATORY DATA ANALYSIS (Refer to HALL ENVIRONMENT LABORATORY DATA SUMMARY, and HALL ENVIRONMENTAL LABORATORY DATA REPORTS, and NMED SOIL SCREENING LEVEL (Table A-1) as Enclosure)

A "Sampling Plan" was first devised as directed by the New Mexico Environmental Department- Hazardous Waste Bureau (NMED-HWB) in response to the letter of September 15, 2009. The Environmental Department proceeded to collect ten (10) core samples of the material in the area of potential contamination on September 17, 2009. These ten (10) soil samples were then submitted to Hall Environmental Laboratories to be analyzed for the following parameters: RCI, RCRA Eight (8) Metals, Total Petroleum Hydrocarbon (TPH) using Method 8015B to include Gasoline Range Organics (GRO) and Diesel Range Organics (DRO), Total Volatile Organic Compounds (Total VOC) using Method 8260. In addition, if the DRO was greater than 200 ppm, the lab was instructed to perform semi-volatile organic analysis using Method 8270 as directed by the Agency. Please note that Method 8270 for semi-volatiles was run for all ten (10) samples instead of just the ones with a DRO greater than 200 ppm.

Final data from Hall Environmental Laboratory (date of collection: 9/17/2009) was received on all ten (10) core sample points on October 9, 2009. A Hall Environmental Laboratory Data Summary is enclosed for the Agency's convenience and as matter of reference.

Laboratory data was first put on an Excel Spreadsheet for a more convenient format and comparison. Also, the NMED Soil Screen Levels (Soil Cleanup Levels) for Industrial Facilities (2006) were included on the same spreadsheet. Next, a comparison was performed between the analytical data and the NMED Soil Screen Levels to determine if further remedial action would be required or necessary. Based on this comparison from Hall Laboratory Data and the NMED Soil Screening Cleanup Levels, it was determined that "no further action" or "cleanup efforts" would be necessary or required. After all remediation and sampling was completed, the API area was again covered with clean limestone.

VI. DISPOSAL ACTIVITIES

The soil cleanup material will be shipped off for disposal in a roll-off box as Hazardous Listed Waste (Specific and Non-Specific Sources) (K051, F037, F038). The quantity that was actually remediated during this cleanup was approximately 20 to 30 cubic yards. This material will then be shipped by Rinchem to an approved landfill for proper disposal in accordance with our Oil Conservation Division (OCD) Permit (# GW-032) and in accordance with all applicable Federal, and State regulations.

VII. STEPS TO IMPLEMENT TO ENSURE THAT OVERFLOWS TO API SEPARATOR DO NOT CONTINUE TO OCCUR

All modifications and upgrades to the API area were identified after the spill of June 10, 2009 and completed. Both bays to the API were in service and fully operational at the time of the API overflow on September 5, 2009.

The API under both current and past operations has been subject to various overflow condition during excessive rain events. Western Refining has continually improved the API and surrounding areas in order to minimize possible future occurrences.

The API performance has had overflow issues during the past that may be attributed to several key issues. Some of these performance issues are as follows:

Mechanical Issues:

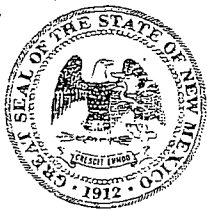
1. Level Indicator Failure- controls the back-up pumps at the API outlet
2. Pump Issues- cavitations, loss of suction, or blocked lines on the discharge side of the pump

Forces of Nature: (Force Majeure)

Unannounced storm events that inundate the API System; i.e. storm surges (flow into the API System) exceeds the design capacity of the API

The first two (2) mechanical issues have been resolved. All overflows are routed to a Baker Tank to be pumped out via an on-site vacuum truck. The aqueous portion of this material is later sent back to the sewer system which eventually will be rerouted back through the API System. At the time of the September 5, 2009 API overflow, all systems were operating at optimal capacity.

Force of Nature or a Force Majeure is problematic for our current API System due to the design flow characteristics. The API (both East and West Bays) have an accumulated rating of 500 gpm (design performance). During an excessive rain event or storm surge such as the one that occurred



BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1

Santa Fe, New Mexico 87505-6303

Phone (505) 476-6000 Fax (505) 476-6030

www.nmenv.state.nm.us



RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 15, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc.,
Gallup Refinery
Route 3 Box 7
Gallup, New Mexico 87301

Mr. Beck Larsen
Environmental Engineer
Western Refining, Southwest Inc.,
Gallup Refinery
Route 3 Box 7
Gallup, New Mexico 87301

**SUBJECT: FORMAL REPORT SUBMITTAL TO THE
SEPTEMBER 5, 2009 API SEPARATOR OVERFLOW
WESTERN REFINING, SOUTHWEST INC., GALLUP REFINERY
EPA ID NO. NMD000333211
HWB-GRCC-MISC**

Dear Messrs Riege and Larsen:

The New Mexico Environment Department (NMED) requires Western Refining Southwest Inc., Gallup Refinery (the Permittee) to submit a formal report summarizing the events and actions taken to address the API separator overflow which occurred on September 5, 2009. This spill released K051, F038, and potentially D018 hazardous wastes into the environment. As a reminder, the Permittee must comply with Section II.F.2 (Twenty-four Hour Reporting) of the Post-Closure Care Permit which can be found using the following link:
<http://www.nmenv.state.nm.us/hwb/giant/GRC-C%20PCC%20PERMIT.pdf>.

The Permittee met the 24-hour oral reporting requirements by contacting Steve Connolly, the NMED Incident Response Coordinator. When reporting all future spills, the facility may continue to contact Steve Connolly; however, the Permittee must also contact the Project Leader for Gallup (Hope Monzeglio) of the Hazardous Waste Bureau.

on September 5, 2009, the API was inundated with stormwater that exceeded its design capacity. Therefore, the API began overflowing.

Western Refining is in the design phase of a new "Stormwater Diversion Project" in order to provide relief from unexpected or inundated stormwater discharges to the API System. This project will be composed of two (2) Stormwater Diversion Tanks (T-27 and T-28). This new system will connect directly into the current stormwater system in order to divert stormwater away from the Old API into Tanks (T-27 and T-28). A new twenty-four inch (24") pipe will connect the old system to the Stormwater Diversion Tanks (T-27 and T-28) The stormwater will be pumped from the diversion tanks (T-27 and T-28) to the new API.

If you require additional information concerning this matter, please contact me at (505) 722-0258.

Sincerely,



Beck Larsen-CHMM, REM
Environmental Engineer
Western Refining (Southwest) (Gallup Refinery)

Enc: API & Aeration Lagoon Area Diagram
OCD (Release Notification and Corrective Action, C-141 (Initial) & Final Reports
NMED Correspondence (letter of September 15, 2009), (e-mail of September 10, 2009)
API Overflow Summary for September 5, 2009
API Sampling Plan, Hall Environmental Laboratory Data Summary, Hall Environmental
Laboratory Data Reports (Sampled on September 16, 2009)
NMED Soil Screening Levels (Table A-1)

Cc: Mr. Mark Turri, Western Refining (Southwest), Refinery Manager
Mr. Ed Riege, Western Refining (Southwest), Environmental Manager
File

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Western Refining-Southwest	Contact Beck Larsen
Address I-40/Exit 39, Jamestown, NM 87347	Telephone No.(505) 722-0258
Facility Name Gallup Refinery	Facility Type Refinery

Surface Owner	Mineral Owner	Lease No.
---------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter	Section 28	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
-------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------------------

Latitude 35° 29' 030" Longitude 108° 24' 040"

NATURE OF RELEASE

Type of Release API Overflow	Volume of Release 6.6 bbls (oil)	Volume Recovered 5.5 bbls (oil) (estimated)
Source of Release API UNIT	Date and Hour of Occurrence 9/05/2009; 1215 hrs / 1830 hrs	Date and Hour of Discovery 9/05/2009; 1215 hrs / 1830 hrs
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD & NMED	
By Whom? Beck Larsen	Date and Hour 9/06/2009 / 1750 hrs	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

On Saturday, September 5, at about 1200 to 1230 hrs, a heavy rain and thunderstorms passed over the facility. It began raining heavily for about 20 to 30 minutes. At 1220 hrs the new API began to overflow into the Baker Frac Tank. The rain slacked off from a heavy to a moderate to light. At 1245 hrs the new API (East and West) Bays began to overflow due to the excessive rain. The API continued to overflow for about an hour. At 1800 hrs once again, a second rain event began due to a secondary thunderstorm cell passing over the facility. The new API began to overflow a second time for an hour due to excess stormwater. The total overflow for both events was approximately 2 hours. A total rainfall for both events was approximately 1.6 inches.

Describe Area Affected and Cleanup Action Taken.*

Cleanup efforts began immediately on September 5, 2009 during the rain event using a vacuum truck. Maintenance and Contract personnel began cleaning up the any aqueous/oily portion of overflow contamination and any contaminated soil and rock debris surrounding the API area. Personnel conduct cleanup of areas such as depressions or other conveyances adjacent to the API area that any contamination may or did spread. After immediate cleanup efforts were completed, all contaminated material were put into a roll-off box to be tested (analyzed by an outside lab), prior to shipment off site for disposal to an approved facility. Contract personnel delivered and spread new gravel and rock material around the API area. Final cleanup of this area was completed on or about September 11-14, 2009.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:



Printed Name: Beck Larsen

OIL CONSERVATION DIVISION

Approved by District Supervisor:

Title: Environmental Engineer	Approval Date:	Expiration Date:
E-mail Address: Thurman.larsen@wnr.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 10/16/2009 Phone: (505) 722-0258		

Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1000 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Western Refining-Southwest	Contact Beck Larsen
Address I-40/Exit 39, Jamestown, NM 87347	Telephone No.(505) 722-0258
Facility Name Gallup Refinery	Facility Type Refinery

Surface Owner	Mineral Owner	Lease No:
---------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter	Section 28	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
-------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	--------------------

Latitude 35° 29' 030" Longitude 108° 24' 040"

NATURE OF RELEASE

Type of Release API Overflow	Volume of Release 6.5 bbls (oil)	Volume Recovered 5.5 bbls (oil) (estimated)
Source of Release API UNIT	Date and Hour of Occurrence 9/05/2009; 1215 hrs / 1830 hrs	Date and Hour of Discovery 9/05/2009; 1215 hrs / 1830 hrs
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD & NMED	
By Whom? Beck Larsen	Date and Hour 9/06/2009 / 1750 hrs	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

a Watercourse was Impacted, Describe Fully.*

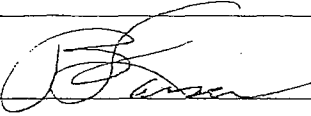
Describe Cause of Problem and Remedial Action Taken.*

On Saturday, September 5 at approximately 1143 hrs, Off-site personnel began bypassing filters and weir box in preparation for a possible rain event. At about 1200 to 1230 hrs, Saturday, September, 5, 2009, a heavy rain and thunderstorms passed over the facility. It began raining heavily for about 20 to 30 minutes. At 1220 hrs the new API began to overflow into the Baker Frac Tank. The API Operators began pumping from the new API to T-105/T-107 in order to remove as much water as possible from the API. The rain slacked off from a heavy to a moderate to light. At 1245 hrs the new API (East and West) Bays began to overflow due to the excessive rain. The API continued to overflow for about an hour. At 1800 hrs a second rain event began due to a secondary thunderstorm cell passing over the facility. Once again, the new API began to overflow a second time for an hour due to excess stormwater. The total overflow for both events was approximately 2 hours. A total rainfall for both events was approximately 1.6 inches.

Describe Area Affected and Cleanup Action Taken.*

Cleanup efforts began immediately on September 5, 2009 during the rain event using a vacuum truck. Maintenance and Contract personnel began cleaning up the any aqueous/oily portion of overflow contamination and any contaminated soil and rock debris surrounding the API area. Personnel conduct cleanup of areas such as depressions or other conveyances adjacent to the API area that any contamination may or did spread. After immediate cleanup efforts were completed, all contaminated material were put into a roll-off box to be tested (analyzed by an outside lab), prior to shipment off site for disposal to an approved facility. Contract personnel delivered and spread new gravel and rock material around the API area. Final cleanup of this area was completed on or about September 10, 2009.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Beck Larsen			
Title: Environmental Engineer		Approval Date:	Expiration Date:
E-mail Address: Thurman.larsen@wnr.com		Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7/21/2009 Phone: (505) 722-0258			

* Attach Additional Sheets If Necessary

GALLUP

CERTIFIED MAIL: 7008 2810 0000 4726 1727

April 16, 2010

New Mexico Environmental Department (NMED)
Hazardous Waste Bureau (HWB)
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505
Attention: James P. Bearzi

New Mexico Energy Minerals and Natural Resources Department
New Mexico Oil Conservation Division (NMOCD)
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Attn: Mr. Carl J. Chavez

Reference: **RESPONSE LETTER- "NOTICE OF DISAPPROVAL",
"CLEANUP STATUS FOR API SEPARATOR OVERFLOWS"
(SEPTEMBER 5, 2009 and DECEMBER 8, 2009)
WESTERN REFINING SOUTHWEST INC, GALLUP REFINERY
EPA ID NO. NMD000333211
HWB-GRCC-MISC**

Dear Mr. Bearzi and Mr. Chavez;

Please accept the following letter in response to a letter from Mr. James Bearzi of the New Mexico Environmental Department (NMED) (Hazardous Waste Bureau (HWB) (March 4, 2010) that references API overflows that occurred on September 5, 2009 and December 8, 2009.

The following shall address the comments as identified by the New Mexico Environmental Department (NMED)/Hazardous Waste Bureau. Enclosed is the Interim Measures Work Plan for the control and prevention of overflows from the API that is due on April 19, 2010 as required according to the letter of March 4, 2010.

I. COMMENT 1-"Permittee must describe in detail the sampling collection methods and procedures that were used to collect the confirmation samples (eg., how were the samples collected, were they discrete or composite samples, how were any composite samples collected, what equipment was used (shovel, encore sampler) to collect the samples). The Permittee must also describe the decontamination process of the sampling equipment (eg., equipment was cleaned in a non-phosphate solution followed by a rinse using de-ionized water."

RESPONSE:

- a. Sample Collection- Six inches of soil was removed at each of the fourteen (14) sample locations using a stainless steel (6") garden spade. Fourteen (14) discrete samples were

collected in individual 8 oz glass jars at the indicated sample collection point locations as indicated on the initial Sampling Plan. (Figure 1)

- b. Sampling Equipment-A clean stainless steel (6 inch) garden spade was used to collect each sample. The sampler used clean latex gloves in order to minimize any cross contamination that may occur during the sampling event. After collecting an individual sample and before collecting the next sample, the latex gloves were replaced with a new pair of latex gloves.
- c. Decontamination Process or Procedures- The spade was decontaminated before and after each sample collection using an Alconox solution or Simple Green cleaner followed by a de-ionized water rinse.

II. COMMENT 2-"Permittee states "Gallup is proceeding to excavate contaminated soil based on the analysis received from Hall Environmental Laboratories." The Permittee must provide a schedule for when the additional sampling and clean up activities will be conducted and be completed.

RESPONSE: This project will be separated into two phases in order to assure the agency that an overflow condition will not occur.

Phase 1 is the installation of four (4) additional Baker Tanks as described in the Interim Measures Work Plan. The importance of this as the first step is to be able to handle any API overflows in order to assure that this will not occur. Tank installation has to be the first step because any API overflow will cause additional contamination in this same area that we are trying to remediate. Dirt Work has to be done to insure a solid foundation for the baker tanks. The dirt work and frac tank installation will be on a non-contaminated area north of the existing baker tank. Next, piping has to be fabricated. The four (4) frac tanks have to be delivered and placed at this location. Piping will then have to be connected to each frac tank. This phase should take up to two and one-half weeks to complete. (Refer to Attachment)

Phase 2 is the clean up activities around the API and other contaminated areas. All contaminated material including around the API is to be remediated. This soil will be put in roll-off boxes to be shipped off-site as Hazardous Waste. The clean up activities will take about two to two and one-half weeks to complete. Next, sampling will be conducted for the same sample locations as described in a previous location plot of December 8 Sampling Plan. It will take up to four weeks to receive analysis from Hall Environmental Laboratory with a normal turn-around. (Figure 1)

III. COMMENT 3-The Permittee must address the following regarding the "Confirmation Samples" figure that identifies the areas requiring additional excavation and confirmation sampling.

- a. The figure shows two hatched areas: the blue hatch identifies the "Area of Possible Contamination" and the red hatch identifies that the "Area is Contaminated." The report indicates that the red hatch area is where additional excavation and confirmation sampling will occur. The Permittee must explain the difference between the red and blue hatch areas, and specifically why the "Area of Possible Contamination" does not require additional sampling."

RESPONSE: The "Red" hatch (Area is Contaminated) and the BLUE hatch (area of Possible Contamination) was based on the Total Petroleum Hydrocarbon (TPH) values greater than 200 mg/kg as determined from 2006 (2009) Soil Screening Levels (SSL). Areas that were greater than 200 mg/kg were considered to be a "HOT ZONE", i.e., shaded in "RED" hatch or "Area is Contaminated". Areas that were less than 200 mg/kg was considered to be "BLUE" hatch or "Area of Possible Contamination". Clean up efforts will be made for both "RED" and "BLUE" hatch areas. These areas do not determine if excavation is required, only which areas are more contaminated than others.

- b. The area west of the Baker Tank is hatched, red indicating that additional excavation and confirmation sampling will occur; however, there are two small areas within the red hatch that are blue (west edge of the excavation and the southwest corner edge of the excavation), an area which indicates no further sampling will be conducted. It is not clear how the Permittee determined that these "blue" areas do not need additional excavation and sampling. Additionally, it is unclear how the Permittee determined the areas north and south of the sample location API-W-6 do not need additional excavation. The Permittee must explain how the borders between the "Area of Possible Contamination" and the "Area is Contaminated" were determined.

RESPONSE: The two small areas of concern are due to a drawing error. These two areas are all considered as contaminated, should have been identified as a red hatch area, and will also be excavated. Excavation and sampling of the areas north and south of the sample location API-W-6 will also be performed. A detailed description of the red and blue hatch areas was previously identified under comment (3 a) above.

- c. Additional sampling is necessary to define the horizontal and vertical extent of contamination in areas where contaminants are still present. The Permittee must revise the Confirmation Sampling figure to address items a and b and propose additional sampling. The Permittee must be able to demonstrate that clean up of contamination surrounding the API separator and Baker Tank has been completed.

RESPONSE: The facility is in process of addressing the API overflow issue which is the cause of the contamination. An "Interim Measures Work Plan" is being submitted along with this report. This plan addresses the API overflow issues in more detail. Additional excavation and sampling will be conducted around the API and Baker Tanks both under the "BLUE" and "RED" hatch areas. (Figure 2)

IV. COMMENT 4- In NMED's September 15, 2009 letter regarding the Formal Report submittal to the September 5, 2009 API Separator Overflow, NMED directed the Permittee to provide steps that would be implemented to ensure overflow to the API separator do not continue to occur. On page 5 of the Report, the Permittee states "both of the API overflows were the direct result of inclement weather conditions that were beyond the control of the refinery. Gallup is in the design phase of a new "Stormwater Diversion Project" in order to eliminate overflows from the new API due to unexpected or inundated

stormwater discharges. This project will be composed of two (2) Stormwater diversion Tanks (T-27 and T-28) and additional diversionary tank. The new system will connect directly into the current stormwater system. A new twenty-four inch (24") pipe will connect the old system to the Stormwater Diversion Tanks (T-27 and T-28). The stormwater will be pumped from the diversion tanks (T-27 and T-28) to the new API."

The overflows were a direct result of the weather, which cannot be controlled by the Permittee; however, the Permittee can control how the overflows are handled so that the wastewater will not flow to the ground surface. The Stormwater diversion Project is not yet installed. Until it is, the API separator must prevent releases from the API separator to the ground surface. The Permittee must propose an interim measures in accordance with Section IV.B.6 (Interim Measure (IM)) of the Post-Closure Care Permit that will control and prevent all overflow from the API separator to the ground surface until the Stormwater diversion Project is installed and operational. The Interim Measures Work Plan is due to NMED on or before April 19, 2010.

RESPONSE: An "Interim Measures Work Plan for control and prevention of Overflow from the API Separator" has been prepared. The plan discusses the amendments to the API area through the use of four (4) additional frac tanks in conjunction with an existing frac tank. The Interim Measures Work Plan is being submitted in conjunction with this report. (Attachment)

V. COMMENT 5- The following comments address the "Hall Environmental Laboratory Data Summary" Table.

- a. NMED updated their Soil Screening Levels (NMED SSLs), (December 2009). The updated NMED SSLs must be applied to all future comparisons. The change in the December 2009 version of the NMED SSLs do not affect the information provided in this table with the exception of xylenes, for which the reported detection is below the NM SSL industrial value of 3,610 mg/kg. No revision to the Table is necessary.

RESPONSE: Changes have been adopted to use the December 2009 NMED Soil Screening Levels (SSL) for future comparisons. The 2006 SSL for Xylene was 82 mg/kg. The December 2009 SSL of 3610 mg/kg has been adopted. The table has been modified to reflect these changes. (Figure 3)

- b. In the Table, the Permittee presents the chromium III value of 100,000 mg/kg. In the future, the Permittee must apply the chromium VI values unless chromium has been speciated or the Permittee can otherwise demonstrate the chromium present in the sample is chromium III. No revision is necessary as the chromium detections are below the industrial chromium VI value.

RESPONSE: According to the table, the 2006 SSL value for Cr(+3) is 100,000 mg/kg. This is the Soil Screening Level (SSL) not the Cr(+3) value. This value has been changed in accordance with the December 2009 SSL value of 1,570,000 mg/kg. The

maximum Cr(+3) value of 73 mg/kg is below either SSL versions (2006 or 2009). (Figure 3)

The 2006 SSL value for Cr(+6) is 3400 mg/kg. The 2009 SSL value for Cr(+6) is 2900 mg/kg. This value will be used in future comparisons. A maximum Cr(+3) value is well below either 2006 or the 2009 SSL values. (Figure 3)

- c. The benzene standard in the table states "258 mg/kg". The standard in the NMED SSLs June 2006 is 25.8 mg/kg. No revisions to the Table are necessary since the benzene detection are below the NMED SSLs December 2009 industrial standard of 85.4 mg/kg.

RESPONSE: A decimal error was made in the original submittal reporting a SSL (2006 version) of 258 mg/kg for Benzene. This value should have been designated as 25.8 mg/kg as a SSL. This value has been changed to reflect a new SSL of 85.4 mg/kg. The new 2009 SSL will be applied in future comparisons. No revision to table is required. (Figure 3)

- d. The "DRO" row under the brown shaded column titled "Cleanup Status" states "ok", indicating no additional cleanup is necessary. However, listed detection exceed the cleanup standard and additional cleanup activities are required. No revision is necessary as the locations that have detections above the cleanup standard are designated as requiring additional cleanup in the Report. The Permittee must ensure the text, tables, and figures are consistent with one another. No revisions are necessary.

RESPONSE: The SSL detection for TPH for both 2006 and 2009 is 200 mg/kg. According to the NMED tables, there are no SSL values for DRO, MRO, and GRO. However, the comparison will reflect a DRO, MRO, and GRO change based on the TPH values in the future. (Figure 3)

- e. According to the laboratory reports, gasoline range organics (GRO) were not detected at the following sample locations: API-N-1, API-E-2, API-S-4, API-W-5, API-W-6, CHN-C-10, CHN-C-11, NBT-W-12, and NBT-E-14; however, the Table includes detections for these locations. The detections provided in the Table are the PQL values found in the laboratory reports. Since there were no detections, no revision is necessary. In the future, the Permittee must ensure the tables are consistent with the laboratory reports.

RESPONSE: The comparison chart submitted was based on an actual value to reflect any "Clean Up Status" as indicated in "Brown". Therefore, the lowest value that could be put in the table was a PQL. For future comparisons, if the value is a "non-detect, ND", the letters of "ND" will be put in table.

VI. SUMMARY- The comments as identified by the New Mexico Environmental Department (NMED)/Hazardous Waste Bureau were addressed in detail as indicated above. Enclosed is the Interim Measures Work Plan for the control and prevention of overflows from the API that is due on April 19, 2010 as required according to the letter of March 4, 2010.

VI. DOCUMENT ENCLOSURES/ATTACHMENTS:

The following enclosures or attachments have been included in order to provide the Agency with a visual reference in order to aid in a better understanding of the event surrounding the API overflows that include sampling. These enclosures include the following:

NMED correspondence letter of March, 2010 "Notice of Disapproval, Clean up Status for API Separator Overflows",

Figure 1- Sampling / Clean Up Plan

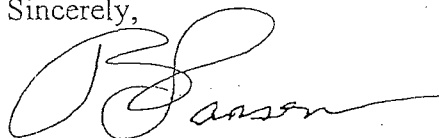
Figure 2- Drawing of the API area indicating the extent of overflow contamination,

Figure 3- Hall Environmental Laboratory Data Summary Spreadsheet (Corrected),

Attachment- Interim Measures Work Plan for Control and Prevention of Overflows from the API Separator- Installation of four (4) additional frac tanks, letter from NMED "Notice of Disapproval Cleanup Status for API Separator Overflows"

If you require additional information concerning this matter, please contact me at (505) 722-0258.

Sincerely,



Beck Larsen-CHMM, REM

Environmental Engineer

Western Refining (Southwest) (Gallup Refinery)

Enc: NMED correspondence letter of March 4, 2010

Figure 1- Sampling / Clean Up Plan

Figure 2- Drawing of the API area indicating extent of contamination

Figure 3- Hall Environmental Laboratory Data Summary Spreadsheet (Corrected)

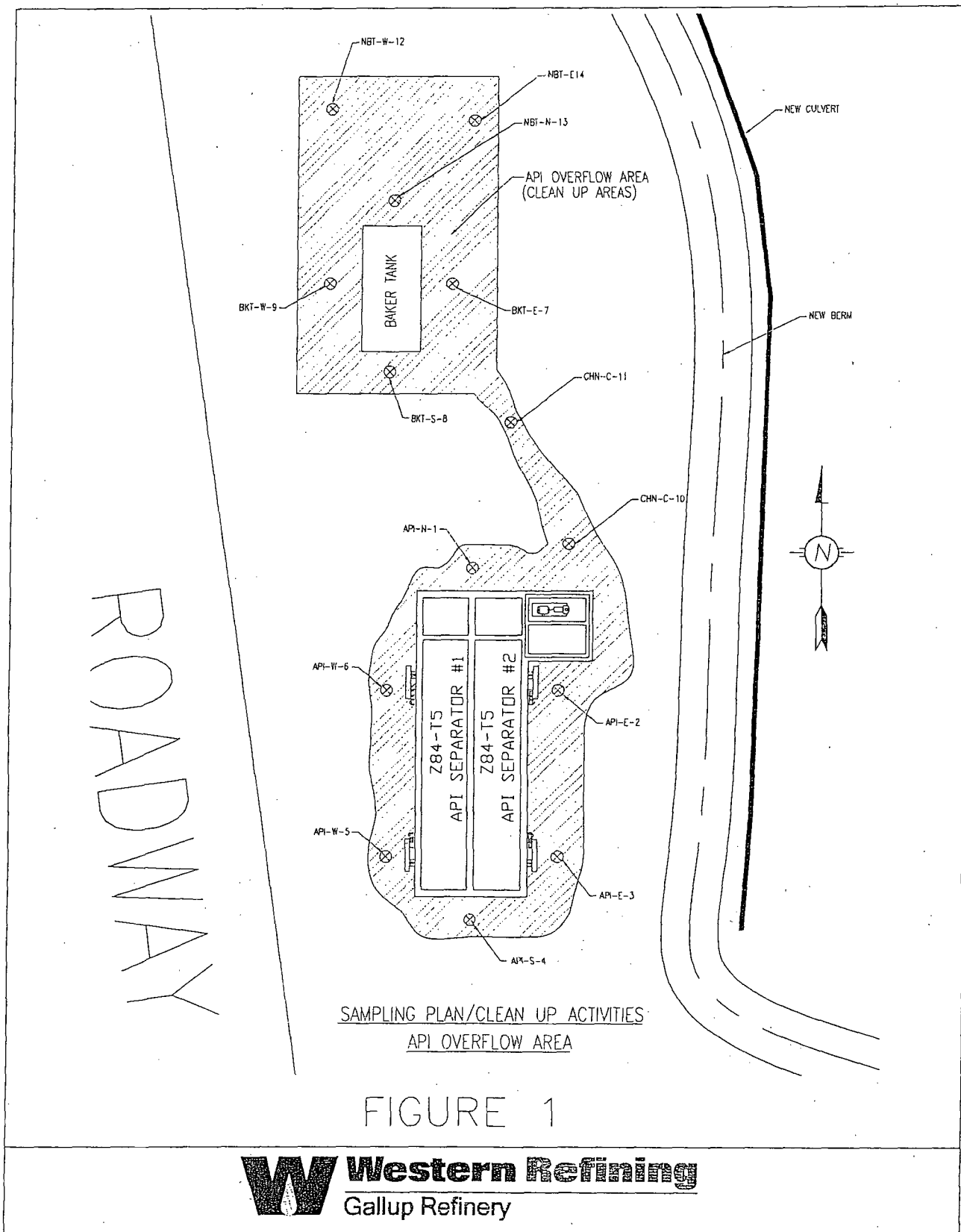
Attachment- Interim Measures Work Plan for Control and Prevention of Overflows from the API Separator- Installation of four (4) Additional Frac Tanks

Cc: Mr. Mark Turri, Gallup (Southwest), Refinery Manager

Mr. Ed Riege, Gallup (Southwest), Environmental Manager)

File

NMED (HWB)- Ms Hope Monzeglio



ROADWAY

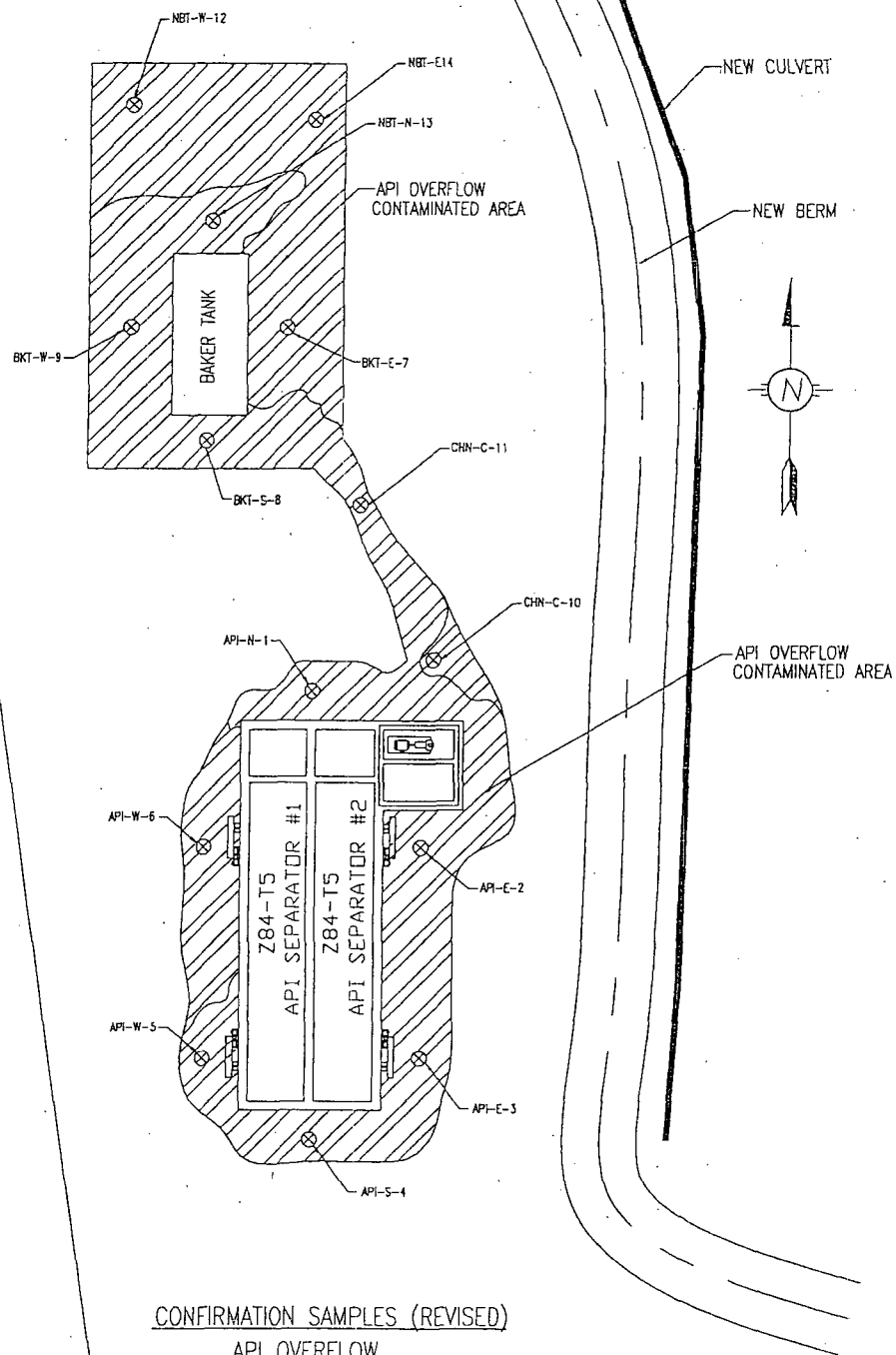


FIGURE 2

GALLUP

CERTIFIED MAIL: 7008 2810 0000 4726 1680

January 25, 2010

New Mexico Environmental Department (NMED)
Hazardous Waste Bureau (HWB)
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505
Attention: Ms Hope Monzeglio

New Mexico Energy Minerals and Natural Resources Department
New Mexico Oil Conservation Division (NMOCD)
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Attn: Mr. Carl J. Chavez

**Reference: CLEANUP STATUS for Western Refining (Gallup Refinery) for
API OVERFLOW on SEPTEMBER 5, 2009 and
API OVERFLOW on DECEMBER 8, 2009
EPA ID NO. NMD000333211
HWB-GRCC-MISC**

Dear Ms Monzeglio and Mr. Chavez;

Please accept the following letter in response to a letter from Ms Hope Monzeglio of the New Mexico Environmental Department (NMED) (Hazardous Waste Bureau (HWB) (January 7, 2010) that references an API overflow that occurred on December 8, 2009. Additionally, this letter will be in response to the API overflow that also occurred on September 5, 2009. This letter will address these two events as a combination due to the close proximity of these two events and due to the required remedial activities. A separate C-141 (Final Report) for each event will be pending at the completion of the remediation project. The following information shall address the nature of the API overflow events of September 5, 2009 and December 8, 2009, remedial actions that have been performed to date, and additional remediation activity that will be required based on analytical data recently received.

I. THE INCIDENT- "API OVER FLOW on SEPTEMBER 5, 2009" (Report due 2/1/2010)

Preliminary analytical samples were originally collected on September 16, 2009. The laboratory results were received on October 8, 2009. Gallup received a letter from the New Mexico Environmental Department-Hazardous Waste Bureau on October 27, 2009 requiring additional cleanup and sampling activities to be performed.

The following items are to address the issues as originally prescribed in the October 27 letter from the New Mexico Environmental Department-Hazardous Waste Bureau.

a. "The Permittee must remove additional contaminated soil in the vicinity of the API Separator and the Baker Tank within the hatched area identified in the "Sampling Plan" figure."

Cleanup efforts began around the first week of November and continued through the third week of November 2009. Contaminated soil in the vicinity of the API Separator and the Baker Tank areas as indicated on the revised Sampling Plan from the Hazardous Waste Bureau was excavated. This excavated material was put in a roll-off box for disposal off-site as Hazardous Waste. The amount of material excavated was approximately 18 to 25 cu yd. This material was later manifested and shipped off-site as Hazardous Waste via Rinchem (US. Ecology, Beatty, NV).

b. "The Permittee must collect confirmation soil samples from the approximate locations of the former sample locations with the exception the roll-off box location. The Permittee must also collect samples from the additional sample locations identified in the attached figure. All samples must be collected from the limit of the excavation not to exceed six inches in depth."

The confirmation sampling was originally scheduled to be collected during the first week of December 2009. On December 8, Gallup had an area wide power outage from the Utility Company that supplies electrical power to the plant. Due to this power outage at our facility, the plant was without power in order to prevent the API from overflowing. As a result of the December 8 event and clean up efforts merging with the clean up efforts of the September 5 event, confirmation sampling was not conducted until January 6, 2010. Discussion on the API overflow from the event on December 8, 2009 will be provided below.

c. "All confirmation samples must be analyzed for DRO extended. In addition, samples collected from locations API-E-2 and BKT-E-7, BKT-S-8 and BKT-W-9 must also be analyzed for gasoline range organics."

Due to issues addressed above, confirmation samples were not collected until January 6, 2009. All fourteen (14) sample points as previously identified and directed by the Agency were to be collected and analyzed for the following: Volatile Organic Compounds (VOC) (Method 8260), Semi-volatile Compounds (Method 8270), Total Petroleum Hydrocarbon (THP) (including DRO/MRO/GRO) (Method 8015) and RCRA 8 Metals. The sampling methodology and the analytical results from the confirmation sampling event will be discussed below.

d. "The confirmation samples must not exceed organic concentrations of 200 mg/kg, if such concentrations exceed 200 mg/kg then additional soil removal will be required until detected concentrations are less than 200 mg/kg."

As previously identified above (b) due to overlapping API overflow events, confirmation samples were not collected until January 6, 2010. The results were received on January 15, 2010. As determined from the analytical, it was determined that additional soil remediation will be necessary. An explanation of the sampling and analytical results will be discussed in detail below.

e. "The Permittee must submit a report (letter format is acceptable) that describes the additional soil clean up activities, explain how additional contaminated soil was removed, describe how confirmation samples are collected and documents the disposal of the contaminated soils. The Permittee must also include all analytical data in table format, copies

of the final laboratory reports, and include a figure that identifies the locations of all confirmation samples.

As previously noted above, remediation was concluded near the end of November 2009, but, confirmation sampling was not conducted until January 6, 2010. The additional remedial activities including contaminated soil removal, confirmation sampling, and disposal methods of the contaminated soil will be discussed below for the December 8, 2009 API Overflow. Additionally, analytical data of the confirmation sampling will be discussed below.

II. THE INCIDENT- "API OVER FLOW on DECEMBER 8, 2009" (Report due 1/25/2010)

Gallup received a follow-up e-mail from the New Mexico Environmental Department-HWB on December 21, 2009 requesting additional information about the API overflow that occurred on December 8, 2009. A response e-mail to that request was submitted to HWB on December 23, 2009. Gallup received additional correspondence (via e-mail) on January 7, 2010 requesting a formal report addressing additional concerns. The following addresses issues as identified by the HWB based on the Agency's concerns.

a. Soil Remediation Activities-

Clean up efforts for the API overflow on September 5 was completed by the end of November 2009. Contaminated soil in the vicinity of the API Separator and the Baker Tank areas as indicated on the revised Sampling Plan from the Hazardous Waste Bureau was excavated. This excavated material was put in a roll-off box for disposal off-site as Hazardous Waste. The amount of material excavated was approximately 18 to 25 cu yd. This material was later manifested and shipped off-site as Hazardous Waste via Rinchem (US. Ecology, Beatty, NV). Confirmation sampling had not been conducted at this time.

The API overflows from December 8 cleanup efforts around the API and Baker Tank area coincide with clean up operations from September 5, 2009 event. Contamination was localized within the API and Baker Tank containment areas providing a similar contamination foot print for confirmation sampling. Confirmation samples were collected on January 6, 2010 for both events. Based on the analytical results, it is determined that additional remediation and confirmation sampling will be required.

b. Hazardous Waste Management / Transportation Procedures-

The contaminated soil and gravel from both API overflows, September 5 and December 8, will be treated and managed as a Listed Hazardous Waste in accordance with applicable generator requirements as found in 40CFR262 and 40CFR265 (Subpart I). All contaminated soil and gravel will be containerized in a roll-off box, manifested as Hazardous Waste with a designated Hazardous Waste Code (F037/F038/K051), and transported off-site for disposal via Rinchem to US Ecology, Beatty, NV, an approved TSD Facility. A profile has already been established for this waste stream through Rinchem.

c. Revised Sampling Plan-

Due to the containment areas surrounding the API and Baker Tanks, the spill foot print for both incidents are the same. Fourteen sample points were previously identified through an approved sampling plan by the New Mexico Environmental Department-Hazardous Waste Bureau (HWB) as

addressed in correspondence via e-mail of October 27, 2009 (for September 5 API overflow) and January 7, 2010 (for the December 8 API overflow). Therefore, sampling will be in accordance with the HWB direction.

d. Confirmation Sampling-

After the contaminated soil and gravel from the API overflows events of September 5 and December 8, 2009 were excavated and placed in roll-off boxes, confirmation sampling was conducted. On January 6, 2010, confirmation sampling was conducted as required by the Agency. The analysis was directed by the HWB based on the approved sampling plan.

The sampler excavated potentially contaminated soil at the locations as designated on the sampling plan to a maximum depth of 6 inches. The sampler followed proper decontamination procedures between all fourteen sample points in order to minimize any cross contamination. The samples were collected in an 8 oz jar for shipment to Hall Environmental Laboratory. The laboratory analyzed each sample received for the following: Volatile Organic Compounds (VOC) (Method 8260), Semi-volatile Compounds (Method 8270), Total Petroleum Hydrocarbon (THP) (including DRO/MRO/GRO) (Method 8015) and RCRA 8 Metals.

e. Laboratory Results-

Gallup received analytical results from Hall Environmental Laboratories on January 15, 2010 for the contaminated soil as a result of the two API overflows that occurred on September 5 and December 8, 2009. The analysis indicated nine sample areas with TPH (DRO and GRO) values exceeding the 200 mg/kg (>200 mg/kg) in accordance with NMED "TPH Screening Guidelines". The contaminated areas identified are as follows: API-N-1, API-E-2, API-E-3, API-S-4, API-W-5, BKT-S-8, BKT-W-9, CHN-C-11, NBT-N-13. Additionally, BKT-W-9 indicated an elevated level of Xylene (180 mg/kg) which is above the NMED screening levels of 82 mg/kg as indicated in NMED "Technical Background Document for development of Soil Screening Levels". These contaminated areas are indicated on the attached "Hall Environmental Laboratory Data Summary" spreadsheet.

Based on the analysis as indicated above and the attached spreadsheet with inclusive data, it is concluded that additional remedial activities and confirmation sampling will be required for the API area.

f. Over flow volume determination-

The initial C-141 indicated 739 bbls of API oily/water overflow during a 10 to 12 hour intermittent discharge as a result of the API overflow of December 8, 2009. During this time frame, the facility was experiencing an area wide power outage as a result of storms at Tristate Power Company distribution center (substation) located in Albuquerque. During this time period, many pumps and auxiliary equipment were not operational in order to handle normal flow conditions. A material balance was primarily used to determine the quantity of API oily/water that was discharged. The amount of oily/water mixture recovered was determined from information supplied by vacuum truck operators after this event. The oily/water was retrieved via a vacuum truck and routed to the process sewer system for reprocessing through the API. A quantification of oil recovery could not be determined.

III. SUMMARY:

As indicated from the confirmation samples that were collected on January 6, 2010, additional remediation of the API area contamination will be required. Gallup received analysis from Hall Environmental Laboratories on January 15, 2010. The analysis indicated nine sample areas with TPH (DRO and GRO) values exceeding the 200 mg/kg (>200 mg/kg) level as specified in accordance with NMED "TPH Screening Guidelines". These contaminated areas are indicated on the attached "Hall Environmental Laboratory Data Summary" spreadsheet.

Gallup is proceeding to excavate contaminated soil based on the analysis received from Hall Environmental Laboratories. The Hall Analytical Summary and Confirmation Sample drawing defines the locations that will be required to be excavated. Confirmation samples will then be collected.

The soil will be treated as Hazardous Waste (F037/F038/K051), placed in roll-off boxes under the 90 day status requirements, and be properly disposed in accordance with all Federal and State Regulations.


Both of these API overflows were the direct result of inclement weather conditions that were beyond the control of the Refinery. Gallup is in the design phase of a new "Stormwater Diversion Project" in order to eliminate overflows from the new API due to unexpected or inundated stormwater discharges. This project will be composed of two (2) Stormwater Diversion Tanks (T-27 and T-28) and an additional diversionary tank. This new system will connect directly into the current stormwater system. A new twenty-four inch (24") pipe will connect the old system to the Stormwater Diversion Tanks (T-27 and T-28). The stormwater will be pumped from the diversion tanks (T-27 and T-28) to the new API.

IV. DOCUMENT ENCLOSURE/ATTACHMENTS:

The following enclosures or attachments have been included in order to provide the Agency with a visual reference in order to aid in a better understanding of the event surrounding the API overflows that occurred on September 5 and December 8, 2009. These enclosures include the following: drawing of the API area indicating the extent of overflow contamination, Release Notification Forms (C-141) (Initial) Reports Filed with OCD/NMED, NMED correspondence, approved API Sampling Plan, Hall Environmental Laboratory Data Summary Spreadsheet, Hall Environmental Laboratory Analysis.

If you require additional information concerning this matter, please contact me at (505) 722-0258.

Sincerely,



Beck Larsen-CHMM, REM
Environmental Engineer
Western Refining (Southwest) (Gallup Refinery)

Enc: **NMED correspondence letters of January 7, 2010 and October 27, 2009**
Drawing of the API area
Drawing of the API area-confirmation samples
Drawing of API Sampling Plan, API Overflow of 12/8/2009
Drawing of API Sampling Plan, API Overflow of 09/5/2009
Drawing of NMED Corrected Sampling Plan (Refer to October 27, 2009 NMED Letter)
OCD (Release Notification and Corrective Action, C-141 (Initial) Report Submittals
for September 5 and December 8, 2009 API Overflow events
Hall Environmental Laboratory Data Summary Spreadsheet
Hall Environmental Laboratory Analytical Report

Cc: Mr. Mark Turri, Gallup (Southwest), Refinery Manager
Mr. Ed Riege, Gallup (Southwest), Environmental Manager
File

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Western Refining-Southwest	Contact Beck Larsen
Address I-40/Exit 39, Jamestown, NM 87347	Telephone No.(505) 722-0258
Facility Name Gallup Refinery	Facility Type Refinery

Surface Owner	Mineral Owner	Lease No.
---------------	---------------	-----------

LOCATION OF RELEASE

Unit Letter	Section 28	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County McKinley
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Latitude 35° 29' 030" Longitude 108° 24' 040"

NATURE OF RELEASE

Type of Release API Overflow	Volume of Release 739 bbls (API oily water)	Volume Recovered >720 bbls (API oily Water)
Source of Release API UNIT	Date and Hour of Occurrence 12/08/2009; 0300 hrs	Date and Hour of Discovery 12/05/2009; 0300 hrs
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? OCD & NMED (Carl Chavez, Steve Conley, Hope Monzeglio)	
By Whom? Beck Larsen	Date and Hour 12/08/2009 / ~ 1030 hrs	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

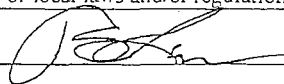
At or about midnight on Tuesday, December 8, a winter storm passed through the area precipitating heavy snow and high winds. Due to this event at 0300 hrs (December 8), a plant wide electrical power failure occurred to all units throughout the facility. After a thorough power distribution evaluation, the cause of this incident was found to be resultant of several power glitches or amperage line deviations from Tristate Power Company in Albuquerque. As a result of high winds in the Albuquerque area, several power deviations occurred between 0241 to 0249 hours causing two power lines to slap together creating a Phase A / Phase C power line short at the Tristate distribution center or substation. These power glitches were transmitted to Western Refinery (Gallup Refinery) as an incoming line fluctuation or line distortion in amperage. This transmitted to a decrease in amperage of 15 to 20 percent. This distortion caused two of compressors to go off line initiating a plant wide electrical power failure to all units. After all information was collected from various sources, it was estimated that due to this power failure, the API incurred intermittently overflowed for about 10 to 12 hours. An onsite vacuum truck was immediately dispatched during this event in order to minimize and spread of contamination and to begin cleanup operations. No injuries were incurred during this event as a result of this power failure.

Describe Area Affected and Cleanup Action Taken.*

The affected area was localized around the API and baker frac tank containment areas. Initial cleanup efforts began immediately on Tuesday, December 8, 2009 during this event utilizing an onsite vacuum truck. Maintenance and Contract personnel began cleaning up the any aqueous/oily portion of overflow contamination and any contaminated soil and rock debris surrounding the API area. Personnel conduct cleanup of areas such as depressions or other conveyances adjacent to the API area in order that contamination would not spread. Initial cleanup efforts were completed on Monday, December 14, 2009. All contaminated material were put into a roll-off box to be tested (analyzed by an outside lab), prior to shipment off site for disposal to an approved facility. Final cleanup of this area will be determined based on laboratory analysis.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:

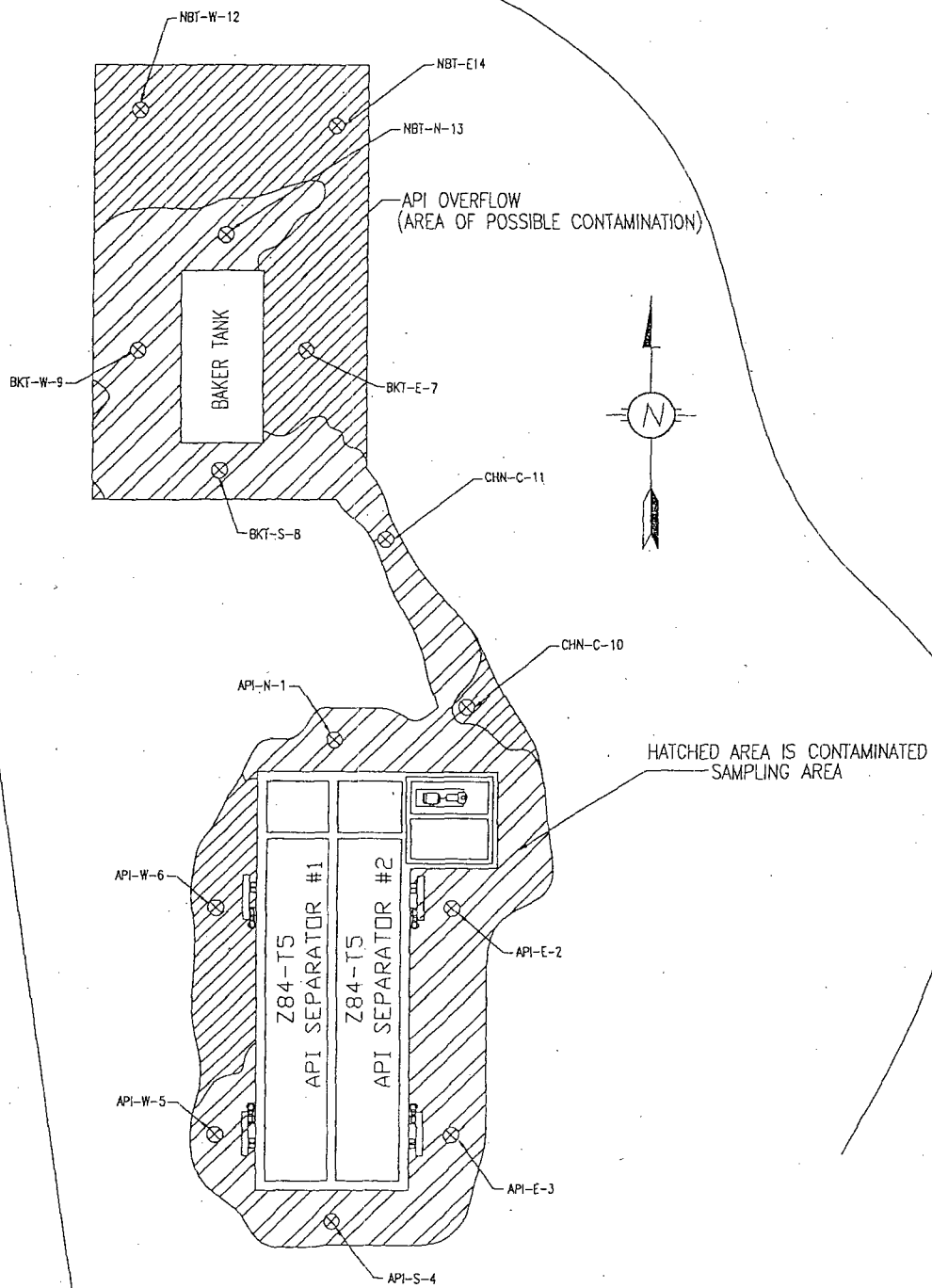


Printed Name: Beck Larsen

OIL CONSERVATION DIVISION

Approved by District Supervisor:

ROADWAY



CONFIRMATION SAMPLES
API OVERFLOW ON 12/8/09

DESIGNATED FACILITY TO GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number NMTD002208627	2. Page 1 of 1 1 of 1	3. Emergency Response Phone 505-722-0258	4. Manifest Tracking Number 002576927 FLE				
	5. Generator's Name and Mailing Address Western Refining Southwest Gallup 1-40 EXIT 39 505 722-3333 JAMESTOWN, NM 87347		Generator's Site Address (if different than mailing address)					
6. Transporter 1 Company Name RINOCHEM CO INC		U.S. EPA ID Number NMD002208627						
7. Transporter 2 Company Name		U.S. EPA ID Number						
8. Designated Facility Name and Site Address US Ecology Highway 95, 11 miles south of Beatty Beatty, NV 89003		U.S. EPA ID Number NVT330010000						
Facility's Phone: (800)239-3943								
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity	12. Unit WL/Vol.	13. Waste Codes	
	1.	UN3077, RQ HAZARDOUS WASTE, SOLID, N.O.S., (soil contaminated with process waste waters), 9, PGIII (F037)	1	CM	18	Y	F037	F038
	2.							
	3.							
	4.							
4. Special Handling Instructions and Additional Information 1) ERG 7 11								
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Offeror's Printed/Typed Name Chenit Johnson		Signature 		Month Day Year 08 26 09				
TRANSPORTER	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
	17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name GUS FLORE Signature 		Month Day Year 08 26 09					
DESIGNATED FACILITY	18. Discrepancy 18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number: _____							
	18b. Alternate Facility (or Generator) Facility's Phone: _____		U.S. EPA ID Number					
	18c. Signature of Alternate Facility (or Generator)		Month Day Year					
	9. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a Printed/Typed Name HILBER Signature 		Month Day Year 08 26 09						

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number NMAD000333211		2. Page 1 of 1		3. Emergency Response Phone 806 722 0953		4. Manifest Tracking Number 002577035 FLE	
		5. Generator's Name and Mailing Address Western Refining Southwest Gallup 1-40 EXIT 39 JAMESTOWN NM 87347				Generator's Site Address (if different than mailing address)			
6. Transporter 1 Company Name FINCHEM CO INC		Generator's Phone: 806 722 3883				U.S. EPA ID Number NMAD00220827			
7. Transporter 2 Company Name		U.S. EPA ID Number				U.S. EPA ID Number			
8. Designated Facility Name and Site Address US Ecology Highway 95, 17 miles south of Beatt Beatty, NV 89003		Facility's Phone: (800) 49-3943				U.S. EPA ID Number NM F3391311000			
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
					No.	Type			
	X	1. UN3077, RC Hazardous Waste Solid, N.O.S., (soil contaminated with process waste water), 9; PG III (F037)			1	CM	18 X's	Y	F037/F038
		2.							
		3.							
		4.							
14. Special Handling Instructions and Additional Information 11/01/09									
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Officer's Printed/Typed Name ALVIN DOISEY					Signature <i>Alvin Doisey</i>		Month Day Year 11/01/09		
TRANSPORTER	16. International Shipments		<input type="checkbox"/> Import to U.S.		<input type="checkbox"/> Export from U.S.		Port of entry/exit: _____		
	Transporter signature (for exports only):				Date leaving U.S.: _____				
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials								
	Transporter 1 Printed/Typed Name Eugene H. Hight				Signature <i>Eugene H. Hight</i>		Month Day Year 11/02/09		
TRANSPORTER	Transporter 2 Printed/Typed Name				Signature		Month Day Year		
DESIGNATED FACILITY	18. Discrepancy								
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection								
	Manifest Reference Number: _____								
	18b. Alternate Facility (or Generator) U.S. EPA ID Number								
DESIGNATED FACILITY	Facility's Phone: _____								
	18c. Signature of Alternate Facility (or Generator)				Month Day Year				
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
1. H130		2.		3.		4.			
20. Designated Facility Owner or Operator. Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a									
Printed/Typed Name T. R. ...				Signature <i>T. R. ...</i>		Month Day Year 11/10/09			



DePauli Engineering
& Surveying, LLC.

Civil Engineers and Land Surveyors

Phone: 505-863-5440 • Fax: 505-863-1919 • des@cnetco.com

102 W. Hill Avenue • Gallup, NM 87301
PO Box 876 • Gallup, NM 87305

July 16, 2010

Western Refining Southwest, Inc.
Attn: Michelle Young, Manager Refinery Services
Gallup Refinery
I-40 Exit 49
Jamestown, NM 87347

RE: Monitoring Well Locations

Dear Michelle,

The horizontal and vertical positions of the top of each monitoring well casing and ground surface at each monitoring well is shown below.

<u>Monitoring Well</u>	<u>Northern</u>	<u>Easting</u>	<u>Top of Casing Elevation</u>	<u>Ground Surface Elevation</u>
OW-50	1,636,295.69	2,547,393.65	6,914.37	6,914.37
OW-52	1,636,497.32	2,546,917.59	6,907.68	6,906.26

The horizontal positions are NAD83 datum and the vertical positions are NGVD 1929. All positions are measured to the nearest 0.01 ft.

If you have any questions, please feel free to contact me.

Sincerely,

Marc DePauli

Marc DePauli, NMPS 13606

7/16/2010

Date



GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION									
Project Number: <u>9-517-057</u> Task Number: _____					WELL ID: <u>OW-50</u>				
Client: <u>Western Refinery</u>					Date: <u>11/17/09</u> Time: <u>12:30</u>				
Project Location: <u>Western Refinery - FALLUR</u>					Personnel: <u>J. Cotter</u>				
					Weather: <u>Clear 50°F</u>				
2. WELL DATA									
Casing Diameter: <u>2 1/2</u> inches			Type of Casing: <u>PVC</u>						
Screen Diameter: <u>2 1/2</u> inches (d)			Type of Screen: <u>PVC</u>				Screen Length: <u>15</u>		
Total Depth of Well from TOC: <u>63</u> feet									
Depth to Static Water from TOC: <u>18.20</u> feet									
Depth to Product from TOC: <u>NA</u> feet									
Length of Water Column (h): <u>44.8</u> feet Calculated Casing Volume: <u>7.6</u> gal (3 to 5 times one well volume)									
Purge Volume Calculation (one casing volume = 0.041d³h): <div style="text-align: center; font-size: 1.2em;">23 9915</div>									
Note: 2-inch well = 0.167 gal/ft 4-inch well = 0.857 gal/ft									
3. PURGE DATA									
Purge Method: <u>Moonsoon Pump</u>					Equipment Model(s): _____				
Materials: Pump/Bailer _____					1. _____				
Materials: Rope/Tubing _____					2. _____				
Was well purged dry? <input type="checkbox"/> Yes <input type="checkbox"/> No					Pumping Rate: _____ gal/min				
Time	Cum. Gallons Removed	pH	Temp (Units)	Spec. Cond. (Units)	Eh (Units)	DO (Units)	Turbidity (NTU)	Other: <u>ORP</u>	Comments
<u>12:50</u>	<u>3</u>	<u>7.79</u>	<u>12.47</u>	<u>638</u>		<u>0.56</u>		<u>-22.9</u>	<u>Purge Start</u>
<u>13:03</u>	<u>7</u>	<u>7.82</u>	<u>12.50</u>	<u>661</u>		<u>0.06</u>		<u>-23.3</u>	<u>Clear</u>
<u>13:08</u>	<u>12</u>	<u>7.83</u>	<u>12.50</u>	<u>668</u>		<u>0.04</u>		<u>-22.2</u>	<u>mostly clear</u>
<u>13:18</u>	<u>22</u>	<u>7.84</u>	<u>12.50</u>	<u>674</u>		<u>0.03</u>		<u>-21.3</u>	<u>clear</u>
<u>13:19</u>	<u>23</u>	<u>7.84</u>	<u>12.50</u>	<u>674</u>		<u>0.03</u>		<u>-21.3</u>	<u>Sample</u>
									<u>END</u>
4. SAMPLING DATA									
Method(s): <u>Moonsoon + Flow Cell</u>					Analyses Requested:				
Materials: Pump/Bailer _____					<u>6010C</u>				
Materials: Tubing/Rope: <u>Poly Tubing</u>					<u>8260B</u>				
Depth to Water at Time of Sampling: _____					<u>8270</u>				
Field Filtered? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					<u>8015B - GRO</u>				
Sample ID: <u>OW-50</u>		Sample Time: <u>13:20</u>		# of Containers: <u>8</u>					
Duplicate Sample Collected? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					ID: _____				
5. COMMENTS									

COVER LETTER

Thursday, December 03, 2009

Gaurav Rajen
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-0227

FAX (505) 722-0210

RE: New Monitoring Wells

Order No.: 0911331

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 11/17/2009 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, Laboratory Manager

NM Lab # NM9425 NM0901

AZ license # AZ0682

ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION Project Number: <u>9-517-057</u> Task Number: _____ Client: <u>Western Refinery</u> Project Location: <u>Gallup, NM</u>						WELL ID: <u>OW-52</u> Date: <u>11/17/09</u> Time: <u>11:17</u> Personnel: <u>J. Corter</u> Weather: <u>Clear 40°F</u>			
2. WELL DATA									
Casing Diameter: <u>2"</u> inches		Type of Casing: <u>PVC</u>							
Screen Diameter: <u>2"</u> inches (d)		Type of Screen: <u>0.10 PVC</u>		Screen Length: <u>15'</u>					
Total Depth of Well from TOC: <u>79'</u> feet									
Depth to Static Water from TOC: <u>16.75'</u> feet									
Depth to Product from TOC: <u>NA</u> feet									
Length of Water Column (h): <u>62.25</u> feet		Calculated Casing Volume: <u>10</u> gal (3 to 5 times one well volume)							
Purge Volume Calculation (one casing volume = 0.041d³h): <div style="text-align: right; font-size: 1.2em;">319915</div>									
Note: 2-Inch well = 0.157 gal/ft 4-Inch well = 0.657 gal/ft									
3. PURGE DATA									
Purge Method: <u>MOONSOON Pump</u>		Equipment Model(s): _____							
Materials: Pump/Bailer _____		1. _____							
Materials: Rope/Tubing _____		2. _____							
Was well purged dry? <input type="checkbox"/> Yes <input type="checkbox"/> No		Pumping Rate: <u>1.5</u> gal/min							
Time	Cum. Gallons Removed	pH	Temp (Units)	Spec. Cond. (Units)	Eh (Units)	DO (Units)	Turbidity (NTU)	Other <u>ORP</u>	Comments
<u>11:45</u>	<u>5</u>	<u>7.97</u>	<u>12.24</u>	<u>665</u>		<u>0.20</u>		<u>-87.5</u>	<u>Muddy START</u>
<u>11:55</u>	<u>15</u>	<u>7.89</u>	<u>12.21</u>	<u>667</u>		<u>0.05</u>		<u>-60.6</u>	<u>Pipe in</u>
<u>12:05</u>	<u>25</u>	<u>7.84</u>	<u>12.19</u>	<u>471</u>		<u>0.03</u>		<u>-58.1</u>	<u>Clear</u>
<u>12:10</u>	<u>30</u>	<u>7.83</u>	<u>12.19</u>	<u>674</u>				<u>-56.5</u>	<u>End Purge</u>
4. SAMPLING DATA								Analyses Requested: <u>8260R-VOCs</u> <u>8270-SVOCs</u> <u>PCRAMETALS 6000</u> <u>DRO 8015</u>	
Method(s): <u>MOONSOON + Flow Cell</u>									
Materials: Pump/Bailer _____									
Materials: Tubing/Rope <u>POLY-Tubing</u>									
Depth to Water at Time of Sampling: _____		Field Filtered? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
Sample ID: <u>OW-52</u>		Sample Time: <u>12:20</u>		# of Containers: <u>8</u>					
Duplicate Sample Collected? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		ID: _____							
5. COMMENTS <u>1L AMBER = 8270 SVOCs</u>									

Hall Environmental Analysis Laboratory, Inc.

Date: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911331
Project: New Monitoring Wells
Lab ID: 0911331-01

Client Sample ID: OW-52
Collection Date: 11/17/2009 12:20:00 PM
Date Received: 11/17/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/29/2009 9:10:06 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/29/2009 9:10:06 PM
Surr: DNOP	129	58-140		%REC	1	11/29/2009 9:10:06 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/20/2009 3:14:17 PM
Surr: BFB	97.0	55.2-107		%REC	1	11/20/2009 3:14:17 PM
EPA METHOD 7470: MERCURY						Analyst: IC
Mercury	ND	0.00020		mg/L	1	11/25/2009 4:59:27 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: SNV
Arsenic	ND	0.020		mg/L	1	12/1/2009 3:22:37 PM
Barium	0.027	0.020		mg/L	1	12/2/2009 7:11:21 PM
Cadmium	ND	0.0020		mg/L	1	12/1/2009 3:22:37 PM
Chromium	ND	0.0060		mg/L	1	12/1/2009 3:22:37 PM
Lead	ND	0.0050		mg/L	1	12/1/2009 3:22:37 PM
Selenium	ND	0.050		mg/L	1	12/1/2009 3:22:37 PM
Silver	ND	0.0050		mg/L	1	12/1/2009 3:22:37 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: LBJ
Acenaphthene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Acenaphthylene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Aniline	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Anthracene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Azobenzene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Benz(a)anthracene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Benzo(a)pyrene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Benzo(b)fluoranthene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Benzo(k)fluoranthene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Benzoic acid	ND	20		µg/L	1	11/25/2009 12:56:30 PM
Benzyl alcohol	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	11/25/2009 12:56:30 PM
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Butyl benzyl phthalate	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Carbazole	ND	10		µg/L	1	11/25/2009 12:56:30 PM
4-Chloro-3-methylphenol	ND	10		µg/L	1	11/25/2009 12:56:30 PM
4-Chloroaniline	ND	10		µg/L	1	11/25/2009 12:56:30 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: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
 Lab Order: 0911331
 Project: New Monitoring Wells
 Lab ID: 0911331-01

Client Sample ID: OW-52
 Collection Date: 11/17/2009 12:20:00 PM
 Date Received: 11/17/2009
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: LBJ
2-Chloronaphthalene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
2-Chlorophenol	ND	10		µg/L	1	11/25/2009 12:56:30 PM
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Chrysene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Di-n-butyl phthalate	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Di-n-octyl phthalate	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Dibenzofuran	ND	10		µg/L	1	11/25/2009 12:56:30 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
3,3'-Dichlorobenzidine	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Diethyl phthalate	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Dimethyl phthalate	ND	10		µg/L	1	11/25/2009 12:56:30 PM
2,4-Dichlorophenol	ND	20		µg/L	1	11/25/2009 12:56:30 PM
2,4-Dimethylphenol	ND	10		µg/L	1	11/25/2009 12:56:30 PM
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	11/25/2009 12:56:30 PM
2,4-Dinitrophenol	ND	20		µg/L	1	11/25/2009 12:56:30 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Fluoranthene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Fluorene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Hexachlorobenzene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Hexachlorobutadiene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Hexachloroethane	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Isophorone	ND	10		µg/L	1	11/25/2009 12:56:30 PM
2-Methylnaphthalene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
2-Methylphenol	ND	10		µg/L	1	11/25/2009 12:56:30 PM
3+4-Methylphenol	ND	10		µg/L	1	11/25/2009 12:56:30 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/25/2009 12:56:30 PM
N-Nitrosodimethylamine	ND	10		µg/L	1	11/25/2009 12:56:30 PM
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Naphthalene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
2-Nitroaniline	ND	10		µg/L	1	11/25/2009 12:56:30 PM
3-Nitroaniline	ND	10		µg/L	1	11/25/2009 12:56:30 PM
4-Nitroaniline	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Nitrobenzene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
2-Nitrophenol	ND	10		µg/L	1	11/25/2009 12:56:30 PM
4-Nitrophenol	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Pentachlorophenol	ND	20		µg/L	1	11/25/2009 12:56:30 PM

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

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 H Holding times for preparation or analysis exceeded
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 RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911331
Project: New Monitoring Wells
Lab ID: 0911331-01

Client Sample ID: OW-52
Collection Date: 11/17/2009 12:20:00 PM
Date Received: 11/17/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: LBJ
Phenanthrene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Phenol	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Pyrene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Pyridine	ND	10		µg/L	1	11/25/2009 12:56:30 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/25/2009 12:56:30 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/25/2009 12:56:30 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/25/2009 12:56:30 PM
Surr: 2,4,6-Tribromophenol	67.2	16.6-150		%REC	1	11/25/2009 12:56:30 PM
Surr: 2-Fluorobiphenyl	43.6	19.6-134		%REC	1	11/25/2009 12:56:30 PM
Surr: 2-Fluorophenol	25.4	9.54-113		%REC	1	11/25/2009 12:56:30 PM
Surr: 4-Terphenyl-d14	36.6	22.7-145		%REC	1	11/25/2009 12:56:30 PM
Surr: Nitrobenzene-d5	41.0	14.6-134		%REC	1	11/25/2009 12:56:30 PM
Surr: Phenol-d5	19.5	10.7-80.3		%REC	1	11/25/2009 12:56:30 PM
EPA METHOD 8260B: VOLATILES						Analyst: HL
Benzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Toluene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Ethylbenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Naphthalene	ND	2.0		µg/L	1	11/18/2009 8:18:48 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/18/2009 8:18:48 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/18/2009 8:18:48 PM
Acetone	ND	10		µg/L	1	11/18/2009 8:18:48 PM
Bromobenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Bromodichloromethane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Bromoform	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Bromomethane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
2-Butanone	ND	10		µg/L	1	11/18/2009 8:18:48 PM
Carbon disulfide	ND	10		µg/L	1	11/18/2009 8:18:48 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Chlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Chloroethane	ND	2.0		µg/L	1	11/18/2009 8:18:48 PM
Chloroform	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Chloromethane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
2-Chlorotoluene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
4-Chlorotoluene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
cis-1,2-DCE	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/18/2009 8:18:48 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: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911331
Project: New Monitoring Wells
Lab ID: 0911331-01

Client Sample ID: OW-52
Collection Date: 11/17/2009 12:20:00 PM
Date Received: 11/17/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/18/2009 8:18:48 PM
Dibromochloromethane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Dibromomethane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	11/18/2009 8:18:48 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
2-Hexanone	ND	10		µg/L	1	11/18/2009 8:18:48 PM
Isopropylbenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/18/2009 8:18:48 PM
Methylene Chloride	ND	3.0		µg/L	1	11/18/2009 8:18:48 PM
n-Butylbenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
n-Propylbenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
sec-Butylbenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Styrene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
tert-Butylbenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/18/2009 8:18:48 PM
Tetrachloroethane (PCE)	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
trans-1,2-DCE	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/18/2009 8:18:48 PM
Vinyl chloride	ND	1.0		µg/L	1	11/18/2009 8:18:48 PM
Xylenes, Total	ND	1.5		µg/L	1	11/18/2009 8:18:48 PM
Surr: 1,2-Dichloroethane-d4	97.7	54.6-141		%REC	1	11/18/2009 8:18:48 PM
Surr: 4-Bromofluorobenzene	110	60.1-133		%REC	1	11/18/2009 8:18:48 PM
Surr: Dibromofluoromethane	95.3	78.5-130		%REC	1	11/18/2009 8:18:48 PM
Surr: Toluene-d8	105	79.5-126		%REC	1	11/18/2009 8:18:48 PM

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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: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911331
Project: New Monitoring Wells
Lab ID: 0911331-01

Client Sample ID: OW-52
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Date Received: 11/17/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL

Qualifiers: * Value exceeds Maximum Contaminant Level
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J Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

Date: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911331
Project: New Monitoring Wells
Lab ID: 0911331-02

Client Sample ID: OW-50
Collection Date: 11/17/2009 1:20:00 PM
Date Received: 11/17/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/29/2009 9:45:46 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/29/2009 9:45:46 PM
Surr. DNOP	127	58-140		%REC	1	11/29/2009 9:45:46 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/20/2009 4:11:57 PM
Surr. BFB	98.0	55.2-107		%REC	1	11/20/2009 4:11:57 PM
EPA METHOD 7470: MERCURY						Analyst: IC
Mercury	ND	0.00020		mg/L	1	11/25/2009 5:01:10 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: SNV
Arsenic	ND	0.020		mg/L	1	12/1/2009 3:29:43 PM
Barium	0.042	0.020		mg/L	1	12/2/2009 8:23:22 PM
Cadmium	ND	0.0020		mg/L	1	12/1/2009 3:29:43 PM
Chromium	ND	0.0060		mg/L	1	12/1/2009 3:29:43 PM
Lead	ND	0.0050		mg/L	1	12/1/2009 3:29:43 PM
Selenium	ND	0.050		mg/L	1	12/1/2009 3:29:43 PM
Silver	ND	0.0050		mg/L	1	12/1/2009 3:29:43 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: LBJ
Acenaphthene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Acenaphthylene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Aniline	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Anthracene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Azobenzene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Benz(a)anthracene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Benzo(a)pyrene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Benzo(b)fluoranthene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Benzo(k)fluoranthene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Benzoic acid	ND	20		µg/L	1	11/25/2009 1:26:14 PM
Benzyl alcohol	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	11/25/2009 1:26:14 PM
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Butyl benzyl phthalate	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Carbazole	ND	10		µg/L	1	11/25/2009 1:26:14 PM
4-Chloro-3-methylphenol	ND	10		µg/L	1	11/25/2009 1:26:14 PM
4-Chloroaniline	ND	10		µg/L	1	11/25/2009 1:26:14 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: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911331
Project: New Monitoring Wells
Lab ID: 0911331-02

Client Sample ID: OW-50
Collection Date: 11/17/2009 1:20:00 PM
Date Received: 11/17/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: LBJ
2-Chloronaphthalene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
2-Chlorophenol	ND	10		µg/L	1	11/25/2009 1:26:14 PM
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Chrysene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Di-n-butyl phthalate	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Di-n-octyl phthalate	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Dibenzofuran	ND	10		µg/L	1	11/25/2009 1:26:14 PM
1,2-Dichlorobenzene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
1,3-Dichlorobenzene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
1,4-Dichlorobenzene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
3,3'-Dichlorobenzidine	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Diethyl phthalate	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Dimethyl phthalate	ND	10		µg/L	1	11/25/2009 1:26:14 PM
2,4-Dichlorophenol	ND	20		µg/L	1	11/25/2009 1:26:14 PM
2,4-Dimethylphenol	ND	10		µg/L	1	11/25/2009 1:26:14 PM
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	11/25/2009 1:26:14 PM
2,4-Dinitrophenol	ND	20		µg/L	1	11/25/2009 1:26:14 PM
2,4-Dinitrotoluene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
2,6-Dinitrotoluene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Fluoranthene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Fluorene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Hexachlorobenzene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Hexachlorobutadiene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Hexachloroethane	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Isophorone	ND	10		µg/L	1	11/25/2009 1:26:14 PM
2-Methylnaphthalene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
2-Methylphenol	ND	10		µg/L	1	11/25/2009 1:26:14 PM
3+4-Methylphenol	ND	10		µg/L	1	11/25/2009 1:26:14 PM
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/25/2009 1:26:14 PM
N-Nitrosodimethylamine	ND	10		µg/L	1	11/25/2009 1:26:14 PM
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Naphthalene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
2-Nitroaniline	ND	10		µg/L	1	11/25/2009 1:26:14 PM
3-Nitroaniline	ND	10		µg/L	1	11/25/2009 1:26:14 PM
4-Nitroaniline	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Nitrobenzene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
2-Nitrophenol	ND	10		µg/L	1	11/25/2009 1:26:14 PM
4-Nitrophenol	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Pentachlorophenol	ND	20		µg/L	1	11/25/2009 1:26:14 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: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
 Lab Order: 0911331
 Project: New Monitoring Wells
 Lab ID: 0911331-02

Client Sample ID: OW-50
 Collection Date: 11/17/2009 1:20:00 PM
 Date Received: 11/17/2009
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: LBJ
Phenanthrene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Phenol	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Pyrene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Pyridine	ND	10		µg/L	1	11/25/2009 1:26:14 PM
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/25/2009 1:26:14 PM
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/25/2009 1:26:14 PM
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/25/2009 1:26:14 PM
Surr: 2,4,6-Tribromophenol	65.7	16.6-150		%REC	1	11/25/2009 1:26:14 PM
Surr: 2-Fluorobiphenyl	43.8	19.6-134		%REC	1	11/25/2009 1:26:14 PM
Surr: 2-Fluorophenol	27.0	9.54-113		%REC	1	11/25/2009 1:26:14 PM
Surr: 4-Terphenyl-d14	40.7	22.7-145		%REC	1	11/25/2009 1:26:14 PM
Surr: Nitrobenzene-d5	40.4	14.6-134		%REC	1	11/25/2009 1:26:14 PM
Surr: Phenol-d5	21.0	10.7-80.3		%REC	1	11/25/2009 1:26:14 PM

EPA METHOD 8260B: VOLATILES

Analyst: HL

Benzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Toluene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Ethylbenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Naphthalene	ND	2.0		µg/L	1	11/18/2009 8:46:37 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/18/2009 8:46:37 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/18/2009 8:46:37 PM
Acetone	ND	10		µg/L	1	11/18/2009 8:46:37 PM
Bromobenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Bromodichloromethane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Bromoform	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Bromomethane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
2-Butanone	ND	10		µg/L	1	11/18/2009 8:46:37 PM
Carbon disulfide	ND	10		µg/L	1	11/18/2009 8:46:37 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Chlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Chloroethane	ND	2.0		µg/L	1	11/18/2009 8:46:37 PM
Chloroform	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Chloromethane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
2-Chlorotoluene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
4-Chlorotoluene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
cis-1,2-DCE	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/18/2009 8:46:37 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: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911331
Project: New Monitoring Wells
Lab ID: 0911331-02

Client Sample ID: OW-50
Collection Date: 11/17/2009 1:20:00 PM
Date Received: 11/17/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/18/2009 8:46:37 PM
Dibromochloromethane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Dibromomethane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	11/18/2009 8:46:37 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
2-Hexanone	ND	10		µg/L	1	11/18/2009 8:46:37 PM
Isopropylbenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/18/2009 8:46:37 PM
Methylene Chloride	ND	3.0		µg/L	1	11/18/2009 8:46:37 PM
n-Butylbenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
n-Propylbenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
sec-Butylbenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Styrene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
tert-Butylbenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/18/2009 8:46:37 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
trans-1,2-DCE	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/18/2009 8:46:37 PM
Vinyl chloride	ND	1.0		µg/L	1	11/18/2009 8:46:37 PM
Xylenes, Total	ND	1.5		µg/L	1	11/18/2009 8:46:37 PM
Surr: 1,2-Dichloroethane-d4	98.3	54.6-141		%REC	1	11/18/2009 8:46:37 PM
Surr: 4-Bromofluorobenzene	109	60.1-133		%REC	1	11/18/2009 8:46:37 PM
Surr: Dibromofluoromethane	100	78.5-130		%REC	1	11/18/2009 8:46:37 PM
Surr: Toluene-d8	106	79.5-126		%REC	1	11/18/2009 8:46:37 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: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911331
Project: New Monitoring Wells
Lab ID: 0911331-02

Client Sample ID: OW-50
Collection Date: 11/17/2009 1:20:00 PM
Date Received: 11/17/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL

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: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
 Lab Order: 0911331
 Project: New Monitoring Wells
 Lab ID: 0911331-03

Client Sample ID: Trip Blank
 Collection Date:
 Date Received: 11/17/2009
 Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/20/2009 4:40:45 PM
Surr: BFB	97.7	55.2-107		%REC	1	11/20/2009 4:40:45 PM

EPA METHOD 8260B: VOLATILES

Analyst: HL

Benzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Toluene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Ethylbenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Naphthalene	ND	2.0		µg/L	1	11/18/2009 9:14:23 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	11/18/2009 9:14:23 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	11/18/2009 9:14:23 PM
Acetone	ND	10		µg/L	1	11/18/2009 9:14:23 PM
Bromobenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Bromodichloromethane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Bromoform	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Bromomethane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
2-Butanone	ND	10		µg/L	1	11/18/2009 9:14:23 PM
Carbon disulfide	ND	10		µg/L	1	11/18/2009 9:14:23 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Chlorobenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Chloroethane	ND	2.0		µg/L	1	11/18/2009 9:14:23 PM
Chloroform	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Chloromethane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
2-Chlorotoluene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
4-Chlorotoluene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
cis-1,2-DCE	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/18/2009 9:14:23 PM
Dibromochloromethane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Dibromomethane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	11/18/2009 9:14:23 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: 03-Dec-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0911331
Project: New Monitoring Wells
Lab ID: 0911331-03

Client Sample ID: Trip Blank
Collection Date:
Date Received: 11/17/2009
Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
2,2-Dichloropropane	ND	2.0		µg/L	1	11/18/2009 9:14:23 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
2-Hexanone	ND	10		µg/L	1	11/18/2009 9:14:23 PM
Isopropylbenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/18/2009 9:14:23 PM
Methylene Chloride	ND	3.0		µg/L	1	11/18/2009 9:14:23 PM
n-Butylbenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
n-Propylbenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
sec-Butylbenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Styrene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
tert-Butylbenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/18/2009 9:14:23 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
trans-1,2-DCE	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/18/2009 9:14:23 PM
Vinyl chloride	ND	1.0		µg/L	1	11/18/2009 9:14:23 PM
Xylenes, Total	ND	1.5		µg/L	1	11/18/2009 9:14:23 PM
Surr: 1,2-Dichloroethane-d4	101	54.6-141		%REC	1	11/18/2009 9:14:23 PM
Surr: 4-Bromofluorobenzene	107	60.1-133		%REC	1	11/18/2009 9:14:23 PM
Surr: Dibromofluoromethane	96.7	78.5-130		%REC	1	11/18/2009 9:14:23 PM
Surr: Toluene-d8	103	79.5-125		%REC	1	11/18/2009 9:14:23 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

QA/QC SUMMARY REPORT

nt: Western Refining Southwest, Gallup

ject: New Monitoring Wells

Work Order: 0911331

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

Sample ID: MB-20702

MBLK

Batch ID: 20702 Analysis Date: 11/29/2009 7:23:03 PM

Diesel Range Organics (DRO) ND mg/L 1.0

Motor Oil Range Organics (MRO) ND mg/L 5.0

Sample ID: LCS-20702

LCS

Batch ID: 20702 Analysis Date: 11/29/2009 7:58:44 PM

Diesel Range Organics (DRO) 5.932 mg/L 1.0 5 0 119 74 157

Method: EPA Method 8015B: Gasoline Range

Sample ID: 5ML RB

MBLK

Batch ID: R36285 Analysis Date: 11/20/2009 9:51:02 AM

Gasoline Range Organics (GRO) ND mg/L 0.050

Sample ID: 2.5UG GRO LCS

LCS

Batch ID: R36285 Analysis Date: 11/20/2009 5:09:36 PM

Gasoline Range Organics (GRO) 0.5096 mg/L 0.050 0.5 0 102 80 115

Users:

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

QA/QC SUMMARY REPORT

at: Western Refining Southwest, Gallup
 Project: New Monitoring Wells

Work Order: 0911331

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8260B: VOLATILES

Sample ID: 5ml rb

MBLK

Batch ID: R36238 Analysis Date: 11/18/2009 9:05:28 AM

Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0
1,2,4-Trimethylbenzene	ND	µg/L	1.0
1,3,5-Trimethylbenzene	ND	µg/L	1.0
1,2-Dichloroethane (EDC)	ND	µg/L	1.0
1,2-Dibromoethane (EDB)	ND	µg/L	1.0
Naphthalene	ND	µg/L	2.0
1-Methylnaphthalene	ND	µg/L	4.0
2-Methylnaphthalene	ND	µg/L	4.0
Acetone	ND	µg/L	10
Bromobenzene	ND	µg/L	1.0
Bromodichloromethane	ND	µg/L	1.0
Bromoform	ND	µg/L	1.0
Bromomethane	ND	µg/L	1.0
2-Butanone	ND	µg/L	10
Carbon disulfide	ND	µg/L	10
Carbon Tetrachloride	ND	µg/L	1.0
benzene	ND	µg/L	1.0
Chloroethane	ND	µg/L	2.0
Chloroform	ND	µg/L	1.0
Chloromethane	ND	µg/L	1.0
2-Chlorotoluene	ND	µg/L	1.0
4-Chlorotoluene	ND	µg/L	1.0
cis-1,2-DCE	ND	µg/L	1.0
cis-1,3-Dichloropropene	ND	µg/L	1.0
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0
Dibromochloromethane	ND	µg/L	1.0
Dibromomethane	ND	µg/L	1.0
1,2-Dichlorobenzene	ND	µg/L	1.0
1,3-Dichlorobenzene	ND	µg/L	1.0
1,4-Dichlorobenzene	ND	µg/L	1.0
Dichlorodifluoromethane	ND	µg/L	1.0
1,1-Dichloroethane	ND	µg/L	1.0
1,1-Dichloroethene	ND	µg/L	1.0
1,2-Dichloropropane	ND	µg/L	1.0
1,3-Dichloropropane	ND	µg/L	1.0
2,2-Dichloropropane	ND	µg/L	2.0
1,1-Dichloropropene	ND	µg/L	1.0
Hexachlorobutadiene	ND	µg/L	1.0
2-Hexanone	ND	µg/L	10
Isopropylbenzene	ND	µg/L	1.0
4-Isopropyltoluene	ND	µg/L	1.0

Notes:

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

nt: Western Refining Southwest, Gallup

Project: New Monitoring Wells

Work Order: 0911331

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8260B: VOLATILES

Sample ID: 5ml rb

MBLK

Batch ID: R36238 Analysis Date: 11/18/2009 9:05:28 AM

4-Methyl-2-pentanone	ND	µg/L	10
Methylene Chloride	ND	µg/L	3.0
n-Butylbenzene	ND	µg/L	1.0
n-Propylbenzene	ND	µg/L	1.0
sec-Butylbenzene	ND	µg/L	1.0
Styrene	ND	µg/L	1.0
tert-Butylbenzene	ND	µg/L	1.0
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0
Tetrachloroethene (PCE)	ND	µg/L	1.0
trans-1,2-DCE	ND	µg/L	1.0
trans-1,3-Dichloropropene	ND	µg/L	1.0
1,2,3-Trichlorobenzene	ND	µg/L	1.0
1,2,4-Trichlorobenzene	ND	µg/L	1.0
1,1,1-Trichloroethane	ND	µg/L	1.0
1,1,2-Trichloroethane	ND	µg/L	1.0
Trichloroethene (TCE)	ND	µg/L	1.0
Trichlorofluoromethane	ND	µg/L	1.0
1,2,3-Trichloropropane	ND	µg/L	2.0
chloride	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	1.5

Sample ID: b6

MBLK

Batch ID: R36238 Analysis Date: 11/18/2009 10:09:57 PM

Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0
1,2,4-Trimethylbenzene	ND	µg/L	1.0
1,3,5-Trimethylbenzene	ND	µg/L	1.0
1,2-Dichloroethane (EDC)	ND	µg/L	1.0
1,2-Dibromoethane (EDB)	ND	µg/L	1.0
Naphthalene	ND	µg/L	2.0
1-Methylnaphthalene	ND	µg/L	4.0
2-Methylnaphthalene	ND	µg/L	4.0
Acetone	ND	µg/L	10
Bromobenzene	ND	µg/L	1.0
Bromodichloromethane	ND	µg/L	1.0
Bromoform	ND	µg/L	1.0
Bromomethane	ND	µg/L	1.0
2-Butanone	ND	µg/L	10
Carbon disulfide	ND	µg/L	10
Carbon Tetrachloride	ND	µg/L	1.0
Chlorobenzene	ND	µg/L	1.0
Chloroethane	ND	µg/L	2.0
Chloroform	ND	µg/L	1.0

Modifiers:

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

t: Western Refining Southwest, Gallup
 Project: New Monitoring Wells

Work Order: 0911331

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8280B: VOLATILES

Sample ID: b6

MBLK

Batch ID: R36238 Analysis Date: 11/18/2009 10:09:57 PM

Chloromethane	ND	µg/L	1.0
2-Chlorotoluene	ND	µg/L	1.0
4-Chlorotoluene	ND	µg/L	1.0
cis-1,2-DCE	ND	µg/L	1.0
cis-1,3-Dichloropropene	ND	µg/L	1.0
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0
Dibromochloromethane	ND	µg/L	1.0
Dibromomethane	ND	µg/L	1.0
1,2-Dichlorobenzene	ND	µg/L	1.0
1,3-Dichlorobenzene	ND	µg/L	1.0
1,4-Dichlorobenzene	ND	µg/L	1.0
Dichlorodifluoromethane	ND	µg/L	1.0
1,1-Dichloroethane	ND	µg/L	1.0
1,1-Dichloroethene	ND	µg/L	1.0
1,2-Dichloropropane	ND	µg/L	1.0
1,3-Dichloropropane	ND	µg/L	1.0
2,2-Dichloropropane	ND	µg/L	2.0
1,1-Dichloropropene	ND	µg/L	1.0
Hexachlorobutadiene	ND	µg/L	1.0
2,3,4-Trichlorobutadiene	ND	µg/L	1.0
Isopropylbenzene	ND	µg/L	1.0
4-Isopropyltoluene	ND	µg/L	1.0
4-Methyl-2-pentanone	ND	µg/L	1.0
Methylene Chloride	ND	µg/L	3.0
n-Butylbenzene	ND	µg/L	1.0
n-Propylbenzene	ND	µg/L	1.0
sec-Butylbenzene	ND	µg/L	1.0
Styrene	ND	µg/L	1.0
tert-Butylbenzene	ND	µg/L	1.0
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0
Tetrachloroethene (PCE)	ND	µg/L	1.0
trans-1,2-DCE	ND	µg/L	1.0
trans-1,3-Dichloropropene	ND	µg/L	1.0
1,2,3-Trichlorobenzene	ND	µg/L	1.0
1,2,4-Trichlorobenzene	ND	µg/L	1.0
1,1,1-Trichloroethane	ND	µg/L	1.0
1,1,2-Trichloroethane	ND	µg/L	1.0
Trichloroethene (TCE)	ND	µg/L	1.0
Trichlorofluoromethane	ND	µg/L	1.0
1,2,3-Trichloropropane	ND	µg/L	2.0
Vinyl chloride	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	1.5

Sample ID: 100ng lcs

LCS

Batch ID: R36238 Analysis Date: 11/18/2009 11:24:13 AM

Modifiers:

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, Gallup
 Subject: New Monitoring Wells

Work Order: 0911331

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8260B: VOLATILES

Sample ID: 100ng lcs

LCS

Batch ID: R36238 Analysis Date: 11/18/2009 11:24:13 AM

Benzene	18.99	µg/L	1.0	20	0	95.0	76.7	114
Toluene	21.60	µg/L	1.0	20	0	108	78.4	117
Chlorobenzene	21.22	µg/L	1.0	20	0	106	80.7	127
1,1-Dichloroethene	22.64	µg/L	1.0	20	0	113	80.2	128
Trichloroethene (TCE)	16.54	µg/L	1.0	20	0	82.7	77.4	115

Sample ID: 100ng lcs_b

LCS

Batch ID: R36238 Analysis Date: 11/18/2009 11:05:21 PM

Benzene	20.54	µg/L	1.0	20	0	103	76.7	114
Toluene	22.13	µg/L	1.0	20	0	111	78.4	117
Chlorobenzene	20.88	µg/L	1.0	20	0	104	80.7	127
1,1-Dichloroethene	23.25	µg/L	1.0	20	0	116	80.2	128
Trichloroethene (TCE)	17.61	µg/L	1.0	20	0	88.0	77.4	115

Modifiers:

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

nt: Western Refining Southwest, Gallup

Subject: New Monitoring Wells

Work Order: 0911331

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8270C: Semivolatiles

Sample ID: mb-20706

MBLK

Batch ID: 20706 Analysis Date: 11/25/2009 11:28:13 AM

Acenaphthene	ND	µg/L	10
Acenaphthylene	ND	µg/L	10
Aniline	ND	µg/L	10
Anthracene	ND	µg/L	10
Azobenzene	ND	µg/L	10
Benz(a)anthracene	ND	µg/L	10
Benzo(a)pyrene	ND	µg/L	10
Benzo(b)fluoranthene	ND	µg/L	10
Benzo(g,h,i)perylene	ND	µg/L	10
Benzo(k)fluoranthene	ND	µg/L	10
Benzoic acid	ND	µg/L	20
Benzyl alcohol	ND	µg/L	10
Bis(2-chloroethoxy)methane	ND	µg/L	10
Bis(2-chloroethyl)ether	ND	µg/L	10
Bis(2-chloroisopropyl)ether	ND	µg/L	10
Bis(2-ethylhexyl)phthalate	ND	µg/L	10
4-Bromophenyl phenyl ether	ND	µg/L	10
Butyl benzyl phthalate	ND	µg/L	10
bazole	ND	µg/L	10
oro-3-methylphenol	ND	µg/L	10
4-Chloroaniline	ND	µg/L	10
2-Chloronaphthalene	ND	µg/L	10
2-Chlorophenol	ND	µg/L	10
4-Chlorophenyl phenyl ether	ND	µg/L	10
Chrysene	ND	µg/L	10
Di-n-butyl phthalate	ND	µg/L	10
Di-n-octyl phthalate	ND	µg/L	10
Dibenz(a,h)anthracene	ND	µg/L	10
Dibenzofuran	ND	µg/L	10
1,2-Dichlorobenzene	ND	µg/L	10
1,3-Dichlorobenzene	ND	µg/L	10
1,4-Dichlorobenzene	ND	µg/L	10
3,3'-Dichlorobenzidine	ND	µg/L	10
Diethyl phthalate	ND	µg/L	10
Dimethyl phthalate	ND	µg/L	10
2,4-Dichlorophenol	ND	µg/L	20
2,4-Dimethylphenol	ND	µg/L	10
4,6-Dinitro-2-methylphenol	ND	µg/L	20
2,4-Dinitrophenol	ND	µg/L	20
2,4-Dinitrotoluene	ND	µg/L	10
2,6-Dinitrotoluene	ND	µg/L	10
Fluoranthene	ND	µg/L	10
Fluorene	ND	µg/L	10
Hexachlorobenzene	ND	µg/L	10

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

t: Western Refining Southwest, Gallup
Project: New Monitoring Wells

Work Order: 0911331

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8270C: Semivolatiles

Sample ID: mb-20706

MBLK

Batch ID: 20706 Analysis Date: 11/25/2009 11:28:13 AM

Hexachlorobutadiene	ND	µg/L	10
Hexachlorocyclopentadiene	ND	µg/L	10
Hexachloroethane	ND	µg/L	10
Indeno(1,2,3-cd)pyrene	ND	µg/L	10
Isophorone	ND	µg/L	10
2-Methylnaphthalene	ND	µg/L	10
2-Methylphenol	ND	µg/L	10
3+4-Methylphenol	ND	µg/L	10
N-Nitrosodi-n-propylamine	ND	µg/L	10
N-Nitrosodimethylamine	ND	µg/L	10
N-Nitrosodiphenylamine	ND	µg/L	10
Naphthalene	ND	µg/L	10
2-Nitroaniline	ND	µg/L	10
3-Nitroaniline	ND	µg/L	10
4-Nitroaniline	ND	µg/L	10
Nitrobenzene	ND	µg/L	10
2-Nitrophenol	ND	µg/L	10
4-Nitrophenol	ND	µg/L	10
Pentachlorophenol	ND	µg/L	20
Fluoranthrene	ND	µg/L	10
Phenol	ND	µg/L	10
Pyrene	ND	µg/L	10
Pyridine	ND	µg/L	10
1,2,4-Trichlorobenzene	ND	µg/L	10
2,4,5-Trichlorophenol	ND	µg/L	10
2,4,6-Trichlorophenol	ND	µg/L	10

Sample ID: lcs-20706

LCS

Batch ID: 20706 Analysis Date: 11/25/2009 11:57:25 AM

Acanaphthene	55.80	µg/L	10	100	0	55.8	33.2	88.1
4-Chloro-3-methylphenol	107.8	µg/L	10	200	0	53.9	26.5	101
2-Chlorophenol	79.52	µg/L	10	200	0	39.8	27.5	88.7
1,4-Dichlorobenzene	38.44	µg/L	10	100	0	38.4	27.2	74.1
2,4-Dinitrotoluene	68.86	µg/L	10	100	0	68.9	32.6	107
N-Nitrosodi-n-propylamine	46.14	µg/L	10	100	0	46.1	27.1	96.3
4-Nitrophenol	51.70	µg/L	10	200	0	25.9	6.78	74.7
Pentachlorophenol	81.54	µg/L	20	200	3.44	39.1	14.8	113
Phenol	48.90	µg/L	10	200	0	24.5	17	53.4
Pyrene	53.62	µg/L	10	100	0	53.6	27	96.3
1,2,4-Trichlorobenzene	45.94	µg/L	10	100	0	45.9	30	77.9

Method: EPA Method 7470: Mercury

Sample ID: MB-20729

MBLK

Batch ID: 20729 Analysis Date: 11/25/2009 4:41:21 PM

Mercury ND mg/L 0.00020

Sample ID: LCS-20729

LCS

Batch ID: 20729 Analysis Date: 11/25/2009 4:43:07 PM

Mercury 0.005101 mg/L 0.00020 0.005 0 102 80 120

Modifiers:

E Estimated value
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Page 7

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
 Subject: New Monitoring Wells

Work Order: 0911331

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA 6010B: Total Recoverable Metals

Sample ID: MB-20666

MBLK

Batch ID: 20666 Analysis Date: 11/19/2009 2:50:51 PM

Arsenic	ND	mg/L	0.020
Barium	ND	mg/L	0.010
Cadmium	ND	mg/L	0.0020
Chromium	ND	mg/L	0.0060
Lead	ND	mg/L	0.0050
Selenium	ND	mg/L	0.050
Silver	ND	mg/L	0.0050

Sample ID: LCS-20666

LCS

Batch ID: 20666 Analysis Date: 11/19/2009 3:02:40 PM

Arsenic	0.4988	mg/L	0.020	0.5	0	99.8	80	120
Barium	0.4977	mg/L	0.010	0.5	0	99.5	80	120
Cadmium	0.4972	mg/L	0.0020	0.5	0	99.4	80	120
Chromium	0.4948	mg/L	0.0060	0.5	0	99.0	80	120
Lead	0.4892	mg/L	0.0050	0.5	0	97.8	80	120
Selenium	0.4828	mg/L	0.050	0.5	0	96.6	80	120
Silver	0.5077	mg/L	0.0050	0.5	0.0012	101	80	120

Modifiers:

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 GALLI

Date Received: 11/17/2009

Work Order Number 0911331

Received by: ARS

Checklist completed by: [Signature]

Signature

Date

Sample ID labels checked by: [Signature]

Initials

Matrix:

Carrier name: Client drop-off

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 ☐

Number of preserved bottles checked for pH:

ter - Preservation labels on bottle and cap match?

Yes ☒

No ☐

N/A ☐

Water - pH acceptable upon receipt?

Yes ☒

No ☐

N/A ☐

2 ☒ <2 12 unless noted below.

Container/Temp Blank temperature?

3.8°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Poured off from 1x1tr amber into 1x500 HNB3
for more volume for KCA & metals
/AT 11/18/09

Corrective Action

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 01/09/2009

NOTE ANY FINDINGS: No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: [Signature]


WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 01/21/2009

NOTE ANY FINDINGS: No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 02/10/2009

NOTE ANY FINDINGS: No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 


WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 02/23/2009

NOTE ANY FINDINGS: No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 03/12/2009

NOTE ANY FINDINGS: No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 03/26/2009

NOTE ANY FINDINGS: No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

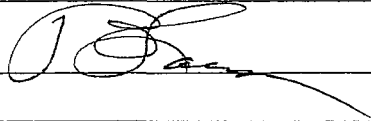
WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 04/06/2009

NOTE ANY FINDINGS: No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 04/16/2009

NOTE ANY FINDINGS: No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 05/05/2009

NOTE ANY FINDINGS: No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 05/19/2009

NOTE ANY FINDINGS: No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 05/22/2009

NOTE ANY FINDINGS: No Issues found.

Slight over-night rain; Rain fall < 0.5 inches

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008). The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 06/04/2009

NOTE ANY FINDINGS: No Issues found.

Fuhs working on Dike Erosion

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008). The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

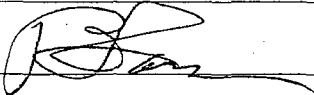
DATE OF INSPECTION: 06/10/2009

NOTE ANY FINDINGS: No Issues found.

Fuhs working on Dike Erosion

Rainfall- 0.76 inches / No discharge observed

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 07/06/2009

NOTE ANY FINDINGS: Dike Erosion found along west side of Cell #26 near Rail Rack

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 07/22/2009

NOTE ANY FINDINGS: Minor dike erosion found along several cells/pond areas.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 08/03/2009

NOTE ANY FINDINGS: Minor dike erosion found along several cells/pond areas.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

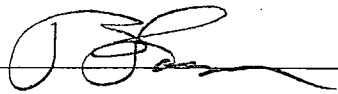
WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 08/17/2009

NOTE ANY FINDINGS: Minor dike erosion found on sides of several cells.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008). The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 09/09/2009

NOTE ANY FINDINGS: Minor dike erosion found on sides of several cells.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

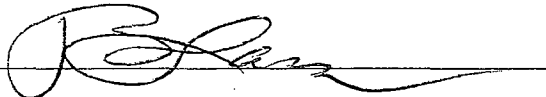
WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 09/28/2009

NOTE ANY FINDINGS: Minor dike erosion found on sides of several cells.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 10/07/2009

NOTE ANY FINDINGS: Minor dike erosion found on sides of several cells. Daily Rainfall- 0.07 inches as measured at Safety Building/Process Area; Monthly Rainfall- 0.11 as measured at Safety Building/Process Area; Perimeter Rainfall~ 0.0 inches.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION


Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008). The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 10/21/2009

NOTE ANY FINDINGS: Minor dike erosion found on sides of several cells. Daily Rainfall- 0.00 inches as measured at Safety Building/Process Area; Monthly Rainfall- 0.00 as measured at Safety Building/Process Area; Perimeter Rainfall~ 0.0 inches.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector:




WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 11/10/2009

NOTE ANY FINDINGS: Minor dike erosion found on sides of several cells. Daily Rainfall- 0.00 inches as measured at Safety Building/Process Area; Monthly Rainfall- 0.00 as measured at Safety Building/Process Area; Perimeter Rainfall~ 0.0 inches.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

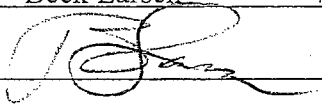
WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008). The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 11/17/2009

NOTE ANY FINDINGS: Minor dike erosion found on sides of several cells. Daily Rainfall- 0.00 inches as measured at Safety Building/Process Area; Monthly Rainfall- 0.00 as measured at Safety Building/Process Area; Perimeter Rainfall~ 0.0 inches. No issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 12/15/2009

NOTE ANY FINDINGS: Minor dike erosion found on sides of several cells. Daily Rainfall- 0.00 inches as measured at Safety Building/Process Area; Monthly Rainfall- 0.00 as measured at Safety Building/Process Area; Perimeter Rainfall~ 0.0 inches. No issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 


WESTERN REFINING
OCD DISCHARGE PERMIT (GW-032)
BI-MONTHLY PERIMETER INSPECTION

Instructions: Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008). The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

DATE OF INSPECTION: 12/10/2009

NOTE ANY FINDINGS: Minor dike erosion found on sides of several cells. Daily Rainfall- 0.00 inches as measured at Safety Building/Process Area; Monthly Rainfall- 0.00 as measured at Safety Building/Process Area; Perimeter Rainfall~ 0.0 inches. No issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 



COVER LETTER

Monday, January 05, 2009

Gaurav Rajen
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: OCD Landfarms Soil Samples December 2008

Order No.: 0812512

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 10 sample(s) on 12/24/2008 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



Hall Environmental Analysis Laboratory, Inc.

Date: 05-Jan-09

CLIENT: Western Refining Southwest, Gallup
Project: OCD Landfarms Soil Samples December 2008
Lab Order: 0812512

CASE NARRATIVE

Analytical Comments for METHOD 8015DRO_S, SAMPLE 0812512-09A: DNOP not recovered due to dilution Analytical Comments for METHOD 8015DRO_S, SAMPLE 0812512-10A: DNOP not recovered due to dilution Analytical Comments for METHOD 8015GRO_S, SAMPLE 0812512-10A: dilution necessary for foamy nature of sample

Hall Environmental Analysis Laboratory, Inc.

Date: 05-Jan-09

CLIENT: Western Refining Southwest, Gallup Client Sample ID: Central LF Cell 29
 Lab Order: 0812512 Collection Date: 12/22/2008 9:00:00 AM
 Project: OCD Landfarms Soil Samples December 2008 Date Received: 12/24/2008
 Lab ID: 0812512-01 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	12/30/2008
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/30/2008
Surr: DNOP	93.4	61.7-135		%REC	1	12/30/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/1/2009 1:49:22 AM
Surr: BFB	91.3	58.8-123		%REC	1	1/1/2009 1:49:22 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	1/1/2009 1:49:22 AM
Benzene	ND	0.050		mg/Kg	1	1/1/2009 1:49:22 AM
Toluene	ND	0.050		mg/Kg	1	1/1/2009 1:49:22 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/1/2009 1:49:22 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/1/2009 1:49:22 AM
Surr: 4-Bromofluorobenzene	93.7	66.8-139		%REC	1	1/1/2009 1:49:22 AM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	440	3.0		mg/Kg	10	12/31/2008 7:08:16 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

Hall Environmental Analysis Laboratory, Inc.

Date: 05-Jan-09

CLIENT: Western Refining Southwest, Gallup
 Lab Order: 0812512
 Project: OCD Landfarms Soil Samples December 2008
 Lab ID: 0812512-02

Client Sample ID: Central LF Cell 91
 Collection Date: 12/22/2008 9:45:00 AM
 Date Received: 12/24/2008
 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	12/30/2008
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/30/2008
Surr: DNOP	93.9	61.7-135		%REC	1	12/30/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/1/2009 2:19:39 AM
Surr: BFB	85.9	58.8-123		%REC	1	1/1/2009 2:19:39 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	1/1/2009 2:19:39 AM
Benzene	ND	0.050		mg/Kg	1	1/1/2009 2:19:39 AM
Toluene	ND	0.050		mg/Kg	1	1/1/2009 2:19:39 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/1/2009 2:19:39 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/1/2009 2:19:39 AM
Surr: 4-Bromofluorobenzene	85.4	66.8-139		%REC	1	1/1/2009 2:19:39 AM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	1900	6.0		mg/Kg	20	12/31/2008 7:25:41 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: 05-Jan-09

CLIENT: Western Refining Southwest, Gallup Client Sample ID: Central LF Cell 94
 Lab Order: 0812512 Collection Date: 12/22/2008 10:30:00 AM
 Project: OCD Landfarms Soil Samples December 2008 Date Received: 12/24/2008
 Lab ID: 0812512-03 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	12/30/2008
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/30/2008
Surr: DNOP	95.8	61.7-135		%REC	1	12/30/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/1/2009 6:22:10 AM
Surr: BFB	87.2	58.8-123		%REC	1	1/1/2009 6:22:10 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	1/1/2009 6:22:10 AM
Benzene	ND	0.050		mg/Kg	1	1/1/2009 6:22:10 AM
Toluene	ND	0.050		mg/Kg	1	1/1/2009 6:22:10 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/1/2009 6:22:10 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/1/2009 6:22:10 AM
Surr: 4-Bromofluorobenzene	88.2	66.8-139		%REC	1	1/1/2009 6:22:10 AM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	190	3.0		mg/Kg	10	12/30/2008 3:26:58 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: 05-Jan-09

CLIENT: Western Refining Southwest, Gallup **Client Sample ID:** Central LF Cell 110
Lab Order: 0812512 **Collection Date:** 12/22/2008 11:30:00 AM
Project: OCD Landfarms Soil Samples December 2008 **Date Received:** 12/24/2008
Lab ID: 0812512-04 **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	12/30/2008
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/30/2008
Surr: DNOP	96.9	61.7-135		%REC	1	12/30/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/1/2009 6:52:25 AM
Surr: BFB	89.5	58.8-123		%REC	1	1/1/2009 6:52:25 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	1/1/2009 6:52:25 AM
Benzene	ND	0.050		mg/Kg	1	1/1/2009 6:52:25 AM
Toluene	ND	0.050		mg/Kg	1	1/1/2009 6:52:25 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/1/2009 6:52:25 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/1/2009 6:52:25 AM
Surr: 4-Bromofluorobenzene	90.2	66.8-139		%REC	1	1/1/2009 6:52:25 AM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	650	3.0		mg/Kg	10	12/31/2008 7:43:05 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: 05-Jan-09

CLIENT:	Western Refining Southwest, Gallup	Client Sample ID:	NE-LF Cell 25
Lab Order:	0812512	Collection Date:	12/23/2008 9:00:00 AM
Project:	OCD Landfarms Soil Samples December 2008	Date Received:	12/24/2008
Lab ID:	0812512-05	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	12/30/2008
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/30/2008
Surr: DNOP	81.0	61.7-135		%REC	1	12/30/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/1/2009 7:22:43 AM
Surr: BFB	85.5	58.8-123		%REC	1	1/1/2009 7:22:43 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	1/1/2009 7:22:43 AM
Benzene	ND	0.050		mg/Kg	1	1/1/2009 7:22:43 AM
Toluene	ND	0.050		mg/Kg	1	1/1/2009 7:22:43 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/1/2009 7:22:43 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/1/2009 7:22:43 AM
Surr: 4-Bromofluorobenzene	84.4	66.8-139		%REC	1	1/1/2009 7:22:43 AM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	67	3.0		mg/Kg	10	12/30/2008 4:36:37 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: 05-Jan-09

CLIENT: Western Refining Southwest, Gallup Client Sample ID: NE-LF Cell 58
Lab Order: 0812512 Collection Date: 12/23/2008 9:30:00 AM
Project: OCD Landfarms Soil Samples December 2008 Date Received: 12/24/2008
Lab ID: 0812512-06 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	12/30/2008
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/30/2008
Surr: DNOP	95.0	61.7-135		%REC	1	12/30/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/1/2009 7:53:06 AM
Surr: BFB	84.2	58.8-123		%REC	1	1/1/2009 7:53:06 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	1/1/2009 7:53:06 AM
Benzene	ND	0.050		mg/Kg	1	1/1/2009 7:53:06 AM
Toluene	ND	0.050		mg/Kg	1	1/1/2009 7:53:06 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/1/2009 7:53:06 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/1/2009 7:53:06 AM
Surr: 4-Bromofluorobenzene	83.1	66.8-139		%REC	1	1/1/2009 7:53:06 AM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	110	0.30		mg/Kg	1	12/30/2008 4:54:02 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: 05-Jan-09

CLIENT: Western Refining Southwest, Gallup **Client Sample ID:** NE-LF Cell 113
Lab Order: 0812512 **Collection Date:** 12/23/2008 10:00:00 AM
Project: OCD Landfarms Soil Samples December 2008 **Date Received:** 12/24/2008
Lab ID: 0812512-07 **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	12/30/2008
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/30/2008
Surr: DNOP	74.0	61.7-135		%REC	1	12/30/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/1/2009 8:23:40 AM
Surr: BFB	80.3	58.8-123		%REC	1	1/1/2009 8:23:40 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	1/1/2009 8:23:40 AM
Benzene	ND	0.050		mg/Kg	1	1/1/2009 8:23:40 AM
Toluene	ND	0.050		mg/Kg	1	1/1/2009 8:23:40 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/1/2009 8:23:40 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/1/2009 8:23:40 AM
Surr: 4-Bromofluorobenzene	77.6	66.8-139		%REC	1	1/1/2009 8:23:40 AM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	86	3.0		mg/Kg	10	12/30/2008 5:11:26 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

Hall Environmental Analysis Laboratory, Inc.

Date: 05-Jan-09

CLIENT: Western Refining Southwest, Gallup Client Sample ID: NE-LF Cell 148
 Lab Order: 0812512 Collection Date: 12/23/2008 10:30:00 AM
 Project: OCD Landfarms Soil Samples December 2008 Date Received: 12/24/2008
 Lab ID: 0812512-08 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	12/30/2008
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/30/2008
Surr: DNOP	94.5	61.7-135		%REC	1	12/30/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/1/2009 8:54:01 AM
Surr: BFB	82.1	58.8-123		%REC	1	1/1/2009 8:54:01 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	1/1/2009 8:54:01 AM
Benzene	ND	0.050		mg/Kg	1	1/1/2009 8:54:01 AM
Toluene	ND	0.050		mg/Kg	1	1/1/2009 8:54:01 AM
Ethylbenzene	ND	0.050		mg/Kg	1	1/1/2009 8:54:01 AM
Xylenes, Total	ND	0.10		mg/Kg	1	1/1/2009 8:54:01 AM
Surr: 4-Bromofluorobenzene	80.1	66.8-139		%REC	1	1/1/2009 8:54:01 AM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	140	3.0		mg/Kg	10	12/31/2008 8:00:30 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: 05-Jan-09

CLIENT: Western Refining Southwest, Gallup Client Sample ID: NE-TZ
Lab Order: 0812512 Collection Date: 12/23/2008 1:30:00 PM
Project: OCD Landfarms Soil Samples December 2008 Date Received: 12/24/2008
Lab ID: 0812512-09 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	76	10		mg/Kg	1	1/5/2009
Motor Oil Range Organics (MRO)	64	50		mg/Kg	1	1/5/2009
Surr: DNOP	99.6	61.7-135		%REC	1	1/5/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/2/2009 12:43:30 PM
Surr: BFB	87.1	58.8-123		%REC	1	1/2/2009 12:43:30 PM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	280	3.0		mg/Kg	10	12/31/2008 8:17:55 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

Page 9 of 10

Hall Environmental Analysis Laboratory, Inc.

Date: 05-Jan-09

CLIENT: Western Refining Southwest, Gallup
 Lab Order: 0812512
 Project: OCD Landfarms Soil Samples December 2008
 Lab ID: 0812512-10

Client Sample ID: Central TZ
 Collection Date: 12/23/2008 2:30:00 PM
 Date Received: 12/24/2008
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	3400	500		mg/Kg	50	12/30/2008
Motor Oil Range Organics (MRO)	ND	2500		mg/Kg	50	12/30/2008
Surr: DNOP	0	61.7-135	S	%REC	50	12/30/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	10		mg/Kg	2	1/2/2009 1:13:56 PM
Surr: BFB	88.5	58.8-123		%REC	2	1/2/2009 1:13:56 PM
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	220	3.0		mg/Kg	10	12/31/2008 8:35:19 PM

Qualifiers:

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

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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
 Project: OCD Landfarms Soil Samples December 2008

Work Order: 0812512

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: MB-17971		MBLK			Batch ID: 17971	Analysis Date: 12/30/2008 1:25:06 PM			
Chloride	ND	mg/Kg	0.30						
Sample ID: LCS-17971		LCS			Batch ID: 17971	Analysis Date: 12/30/2008 1:42:30 PM			
Chloride	15.29	mg/Kg	0.30	102	90	110			
Method: EPA Method 8015B: Diesel Range Organics									
Sample ID: MB-17952		MBLK			Batch ID: 17952	Analysis Date: 12/30/2008			
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-17952		LCS			Batch ID: 17952	Analysis Date: 12/30/2008			
Diesel Range Organics (DRO)	43.27	mg/Kg	10	86.5	64.6	116			
Sample ID: LCSD-17952		LCSD			Batch ID: 17952	Analysis Date: 12/30/2008			
Diesel Range Organics (DRO)	43.19	mg/Kg	10	86.4	64.6	116	0.192	17.4	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: MB-17946		MBLK			Batch ID: 17946	Analysis Date: 12/31/2008 7:14:09 PM			
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Method: EPA Method 8021B: Volatiles									
Sample ID: 0812512-05A MSD		MSD			Batch ID: 17946	Analysis Date: 1/1/2009 3:20:22 AM			
1 tert-butyl ether (MTBE)	0.9938	mg/Kg	0.10	99.4	67.9	135	0.504	28	
Benzene	0.9089	mg/Kg	0.050	90.9	78.8	132	3.00	27	
Toluene	1.028	mg/Kg	0.050	103	78.9	112	3.45	19	
Ethylbenzene	1.074	mg/Kg	0.050	107	69.3	125	4.00	10	
Xylenes, Total	3.213	mg/Kg	0.10	107	73	128	5.08	13	
Sample ID: MB-17946		MBLK			Batch ID: 17946	Analysis Date: 12/31/2008 7:14:09 PM			
Methyl tert-butyl ether (MTBE)	ND	mg/Kg	0.10						
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: 0812512-05A MS		MS			Batch ID: 17946	Analysis Date: 1/1/2009 2:49:58 AM			
Methyl tert-butyl ether (MTBE)	0.9888	mg/Kg	0.10	98.9	67.9	135			
Benzene	0.8820	mg/Kg	0.050	88.2	78.8	132			
Toluene	0.9935	mg/Kg	0.050	99.4	78.9	112			
Ethylbenzene	1.032	mg/Kg	0.050	103	69.3	125			
Xylenes, Total	3.054	mg/Kg	0.10	102	73	128			

ifiers:

- | | | | |
|---|--|----|--|
| 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 GALLU

Date Received:

12/24/2008

Work Order Number 0812512

Received by: AT

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/> Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA vials have zero headspace?	No VOA vials submitted <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
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
Company - Gallup
 Mailing Address: Route 3 Box 7
Gallup, NM 87301
 Phone #: 505 722 3833
 email or Fax#: 505 722 0210

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

Date	Time	Matrix	Sample Request ID
12-22-08	0900	Soil	Central LF Cell 29
"	0945	"	Central LF Cell 91
"	1030	"	Central LF Cell 94
"	1130	"	Central LF Cell 110
12-23-08	0900	"	NE-LF Cell 25
"	0930	"	NE-LF Cell 58
"	1000	"	NE-LF Cell 113
"	1030	"	NE-LF Cell 148
"	1330	"	NE-TZ
"	1430	"	Central TZ

Date: _____ Time: _____
 Relinquished by: Ata Galt
 Date: _____ Time: _____
 Relinquished by: _____

Turn-Around Time:
☒ Standard
☐ Rush

Project Name: OC D Landfills
Soil samples December
2008
 Project #: _____

Project Manager:

Sampler: Ganar Rajan
Ata Galt
Office: Altes Inc.
Sample Temperature: 3

Container Type and #

Preservative Type

Sealing

Analysis Request	BTX + MTBE + TMB's (8021)	BTX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RORA 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)
-1	X		X					X				
-2	X		X					X				
-3	X		X					X				
-4	X		X					X				
-5	X		X					X				
-6	X		X					X				
-7	X		X					X				
-8	X		X					X				
-9			X					X				
-10			X					X				

Remarks:

Received by: Ata Galt Date: 12/24/08 Time: 0930
 Received by: _____ Date: _____ Time: _____



COVER LETTER

Friday, July 10, 2009

Gaurav Rajen
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-0227

FAX (505) 722-0210

RE: Landfarms Semi-Annual

Order No.: 0906596

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 12 sample(s) on 6/29/2009 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,

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

Andy Freeman, Business Manager

Nancy McDuffie, Laboratory Manager

NM Lab # NM9425

AZ license # AZ0682

ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



Full Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Project: Landfarms Semi-Annual
Lab Order: 0906596

CASE NARRATIVE

Analytical Comments for METHOD 8015DRO_S, SAMPLE 0906596-12A: DNOP not recovered due to dilution

all Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-01

Client Sample ID: LFOCD-001-062509
Collection Date: 6/25/2009 1:30:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	7/7/2009 5:38:54 PM
Toluene	ND	0.050		mg/Kg	1	7/7/2009 5:38:54 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2009 5:38:54 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/7/2009 5:38:54 PM
Surr: 4-Bromofluorobenzene	97.4	66.8-139		%REC	1	7/7/2009 5:38:54 PM
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	1500	15		mg/Kg	50	7/7/2009 1:29:04 PM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	72	20		mg/Kg	1	7/1/2009

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

all Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-02

Client Sample ID: LFOCD-002-062509
Collection Date: 6/25/2009 1:45:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	7/7/2009 6:09:20 PM
Toluene	ND	0.050		mg/Kg	1	7/7/2009 6:09:20 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2009 6:09:20 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/7/2009 6:09:20 PM
Surr: 4-Bromofluorobenzene	96.4	66.8-139		%REC	1	7/7/2009 6:09:20 PM
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	240	6.0		mg/Kg	20	7/6/2009 6:50:21 PM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	7/1/2009

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

Ill Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-03

Client Sample ID: LFOCD-003-062509
Collection Date: 6/25/2009 2:00:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
Chloride	230	1.5		mg/Kg	5	Analyst: TAF 7/7/2009 1:11:40 PM
EPA METHOD 418.1: TPH						
Petroleum Hydrocarbons, TR	12000	400		mg/Kg	20	Analyst: LRW 7/1/2009

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

all Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-04

Client Sample ID: LFOCD-004-062509
Collection Date: 6/25/2009 2:15:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	7/7/2009 7:10:20 PM
Toluene	ND	0.050		mg/Kg	1	7/7/2009 7:10:20 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2009 7:10:20 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/7/2009 7:10:20 PM
Surr: 4-Bromofluorobenzene	98.5	66.8-139		%REC	1	7/7/2009 7:10:20 PM
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	240	3.0		mg/Kg	10	7/6/2009 7:07:46 PM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	7/1/2009

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

Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-05

Client Sample ID: LFOCD-005-062509
Collection Date: 6/25/2009 2:30:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	7/7/2009 7:40:50 PM
Toluene	ND	0.050		mg/Kg	1	7/7/2009 7:40:50 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2009 7:40:50 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/7/2009 7:40:50 PM
Surr: 4-Bromofluorobenzene	92.3	66.8-139		%REC	1	7/7/2009 7:40:50 PM
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	180	6.0		mg/Kg	20	7/6/2009 11:11:30 PM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	7/1/2009

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

Ill Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-06

Client Sample ID: LFOCD-006-062509
Collection Date: 6/25/2009 2:45:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	7/7/2009 8:11:23 PM
Toluene	ND	0.050		mg/Kg	1	7/7/2009 8:11:23 PM
Ethylbenzene	ND	0.050		mg/Kg	1	7/7/2009 8:11:23 PM
Xylenes, Total	ND	0.10		mg/Kg	1	7/7/2009 8:11:23 PM
Surr: 4-Bromofluorobenzene	91.6	66.8-139		%REC	1	7/7/2009 8:11:23 PM
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	240	6.0		mg/Kg	20	7/6/2009 11:28:55 PM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	180	20		mg/Kg	1	7/1/2009

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

II Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-07

Client Sample ID: LFNE-007-062509
Collection Date: 6/25/2009 3:15:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	140	6.0		mg/Kg	20	7/6/2009 11:46:19 PM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	240	20		mg/Kg	1	7/1/2009

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

Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-08

Client Sample ID: LFNE-008-062509
Collection Date: 6/25/2009 3:30:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	7/8/2009 2:16:09 AM
Toluene	ND	0.050		mg/Kg	1	7/8/2009 2:16:09 AM
Ethylbenzene	ND	0.050		mg/Kg	1	7/8/2009 2:16:09 AM
Xylenes, Total	ND	0.10		mg/Kg	1	7/8/2009 2:16:09 AM
Surr: 4-Bromofluorobenzene	96.5	66.8-139		%REC	1	7/8/2009 2:16:09 AM
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	87	6.0		mg/Kg	20	7/7/2009 12:55:56 AM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	24	20		mg/Kg	1	7/1/2009

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

II Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-09

Client Sample ID: LFNE-009-062509
Collection Date: 6/25/2009 3:45:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	7/8/2009 2:46:27 AM
Toluene	ND	0.050		mg/Kg	1	7/8/2009 2:46:27 AM
Ethylbenzene	ND	0.050		mg/Kg	1	7/8/2009 2:46:27 AM
Xylenes, Total	ND	0.10		mg/Kg	1	7/8/2009 2:46:27 AM
Surr: 4-Bromofluorobenzene	96.8	66.8-139		%REC	1	7/8/2009 2:46:27 AM
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	130	6.0		mg/Kg	20	7/7/2009 1:13:21 AM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	39	20		mg/Kg	1	7/1/2009

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

II Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-10

Client Sample ID: LFNE-010-062509
Collection Date: 6/25/2009 4:00:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	7/8/2009 3:17:04 AM
Toluene	ND	0.050		mg/Kg	1	7/8/2009 3:17:04 AM
Ethylbenzene	ND	0.050		mg/Kg	1	7/8/2009 3:17:04 AM
Xylenes, Total	ND	0.10		mg/Kg	1	7/8/2009 3:17:04 AM
Sum: 4-Bromofluorobenzene	90.9	66.8-139		%REC	1	7/8/2009 3:17:04 AM
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	150	6.0		mg/Kg	20	7/7/2009 1:30:45 AM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	36	20		mg/Kg	1	7/1/2009

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

Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-11

Client Sample ID: LFNE-011-062509
Collection Date: 6/25/2009 4:30:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	7/8/2009 3:47:29 AM
Toluene	ND	0.050		mg/Kg	1	7/8/2009 3:47:29 AM
Ethylbenzene	ND	0.050		mg/Kg	1	7/8/2009 3:47:29 AM
Xylenes, Total	ND	0.10		mg/Kg	1	7/8/2009 3:47:29 AM
Surr: 4-Bromofluorobenzene	93.1	66.8-139		%REC	1	7/8/2009 3:47:29 AM
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	150	6.0		mg/Kg	20	7/7/2009 1:48:10 AM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	7/1/2009

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

JL Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0906596
Project: Landfarms Semi-Annual
Lab ID: 0906596-12

Client Sample ID: RRFOA-001-062509
Collection Date: 6/25/2009 4:30:00 PM
Date Received: 6/29/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	2900	100		mg/Kg	10	7/6/2009
Motor Oil Range Organics (MRO)	ND	500		mg/Kg	10	7/6/2009
Surr: DNOP	0	61.7-135	S	%REC	10	7/6/2009

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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
 Project: Landfarms Semi-Annual

Work Order: 0906596

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: 0906596-04AMSD		MSD				Batch ID: 19543	Analysis Date: 7/6/2009 7:42:34 PM		
Chloride	250.6	mg/Kg	3.0	101	53.9	146	9.04	20	
Sample ID: MB-19525		MBLK				Batch ID: 19525	Analysis Date: 7/2/2009 9:32:42 AM		
Chloride	ND	mg/Kg	0.30						
Sample ID: MB-19543		MBLK				Batch ID: 19543	Analysis Date: 7/6/2009 6:15:33 PM		
Chloride	ND	mg/Kg	0.30						
Sample ID: LCS-19525		LCS				Batch ID: 19525	Analysis Date: 7/2/2009 9:50:06 AM		
Chloride	14.59	mg/Kg	0.30	97.3	90	110			
Sample ID: LCS-19543		LCS				Batch ID: 19543	Analysis Date: 7/6/2009 6:32:57 PM		
Chloride	14.73	mg/Kg	0.30	98.2	90	110			
Sample ID: 0906596-04AMS		MS				Batch ID: 19543	Analysis Date: 7/6/2009 7:25:10 PM		
Chloride	229.0	mg/Kg	3.0	-43.8	53.9	146			S

Method: EPA Method 418.1: TPH									
Sample ID: 0906596-10AMSD		MSD				Batch ID: 19521	Analysis Date: 7/1/2009		
Petroleum Hydrocarbons, TR	127.7	mg/Kg	20	92.0	82	114	1.74	20	
Sample ID: MB-19521		MBLK				Batch ID: 19521	Analysis Date: 7/1/2009		
Petroleum Hydrocarbons, TR	ND	mg/Kg	20						
Sample ID: LCS-19521		LCS				Batch ID: 19521	Analysis Date: 7/1/2009		
Petroleum Hydrocarbons, TR	94.90	mg/Kg	20	94.9	82	114			
Sample ID: 0906596-10AMS		MS				Batch ID: 19521	Analysis Date: 7/1/2009		
Petroleum Hydrocarbons, TR	125.5	mg/Kg	20	89.8	82	114			

Method: EPA Method 8015B: Diesel Range Organics									
Sample ID: MB-19509		MBLK				Batch ID: 19509	Analysis Date: 7/2/2009		
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-19509		LCS				Batch ID: 19509	Analysis Date: 7/2/2009		
Diesel Range Organics (DRO)	54.78	mg/Kg	10	110	64.6	116			
Sample ID: LCSD-19509		LCSD				Batch ID: 19509	Analysis Date: 7/2/2009		
Diesel Range Organics (DRO)	56.89	mg/Kg	10	114	64.6	116	3.77	17.4	

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, Gallup
 Project: Landfarms Semi-Annual

Work Order: 0906596

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8021B: Volatiles

Sample ID: MB-19506

MBLK

Batch ID: 19506 Analysis Date: 7/6/2009 7:08:00 PM

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-19506

LCS

Batch ID: 19506 Analysis Date: 7/6/2009 6:07:04 PM

Benzene	0.8697	mg/Kg	0.050	85.3	78.8	132			
Toluene	0.8987	mg/Kg	0.050	89.9	78.9	112			
Ethylbenzene	0.9764	mg/Kg	0.050	97.6	69.3	125			
Xylenes, Total	2.908	mg/Kg	0.10	96.9	73	128			

Sample ID: LCSD-19506

LCSD

Batch ID: 19506 Analysis Date: 7/6/2009 6:37:31 PM

Benzene	0.9850	mg/Kg	0.050	96.9	78.8	132	12.4	27	
Toluene	0.9929	mg/Kg	0.050	99.3	78.9	112	9.96	19	
Ethylbenzene	1.082	mg/Kg	0.050	108	69.3	125	10.2	10	R
Xylenes, Total	3.232	mg/Kg	0.10	108	73	128	10.6	13	

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 GALLU

Date Received:

6/29/2009

Work Order Number 0906596

Received by: AMF

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name: Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/> Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA vials have zero headspace?	No VOA vials submitted <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

Number of preserved bottles checked for pH:

<2 >12 unless noted below.

Container/Temp Blank temperature?

7.5°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Western Refining Gallup**Air Quality Permit 0633M7-R3 Condition 3s, 4p and 3r****Compliance Determination Method For VOC Emission Limits
MONTHLY SAMPLING BTEX**

Month	IN	OUT	Gallons (G) TOTAL FLOW/month
	ppb benzene	ppb benzene	
Jan-09	Z84-V7 inlet	Z84-V7 outlet	
	36500	6175	937,440
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	6450	4220	9,167,711
Feb-09	Z84-V7 inlet	Z84-V7 outlet	
	26950	12160	937,440
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	7400	1162.5	8,817,392
Mar-09	Z84-V7 inlet	Z84-V7 outlet	
	59650	3450	937,440
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	4475	630	10,136,803
Apr-09	Z84-V7 inlet	Z84-V7 outlet	
	30000	4100	937,440
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	2400	180	9,172,250
May-09	Z84-V7 inlet	Z84-V7 outlet	
	34500	4000	937,440
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	7167	1013	8,591,211
Jun-09	Z84-V7 inlet	Z84-V7 outlet	
	32500	6472.5	937,440
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	4875	1082.5	10,969,408
Jul-09	Z84-V7 inlet	Z84-V7 outlet	
	26750	4320	825,840
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	2760	500	12,008,160
Aug-09	Z84-V7 inlet	Z84-V7 outlet	
	81250	2330	848,160
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	6100	360	11,784,960
Sep-09	Z84-V7 inlet	Z84-V7 outlet	
	40400	3350	741,360
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	5650	262.5	8,441,280
Oct-09	Z84-V7 inlet	Z84-V7 outlet	
	23600	3924	669,600
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	5800	608	9,329,760
Nov-09	Z84-V7 inlet	Z84-V7 outlet	

Dec-09	21250	2700	950,400
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	11325	755	9,720,000
	Z84-V7 inlet	Z84-V7 outlet	
	31800	2036	814,044
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	16000	314	9,925,642

QUARTERLY SAMPLING TOTAL VOC

1st QTR 09	Z84-V7 inlet	Z84-V7 outlet	
	83140	6888	2,812,320
	Z84-V1-2 inlet	Z84-V1-2 outlet	
2nd QTR 09	24190	10837	28,121,906
	Z84-V7 inlet	Z84-V7 outlet	
	75010	12529	2,812,320
3rd QTR 09	Z84-V1-2 inlet	Z84-V1-2 outlet	
	16468	5121	28,732,869
	Z84-V7 inlet	Z84-V7 outlet	
4th QTR 09	102130	36658	2,700,720
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	31463	13061	32,234,400
4th QTR 09	Z84-V7 inlet	Z84-V7 outlet	
	128500	34630	2,611,440
	Z84-V1-2 inlet	Z84-V1-2 outlet	
	35680	13934	28,975,402

API OIL WATER SEPARATOR Z84-T5 Condition 3.t.

Z84-T5 Flow (gal)

1st QTR 09	28,121,906
2nd QTR 09	28,732,869
3rd QTR 09	32,234,400
4th QTR 09	28,975,402
	118,064,577