GW - ___032____

REPORT

Facility-wide GW Monitoring Plan

DATE: May 2009

Chavez, Carl J, EMNRD

From: Van Horn, Kristen, NMENV
Sent: Wednesday, March 10, 2010 8:23 AM
To: eriege@giant.com
Cc: Kieling, John, NMENV; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD; Rajen, Gaurav; Martinez, Cynthia, NMENV
Subject: New Monitoring Wells OW-50 and OW-52 Installation Report
Attachments: WRG10-001_NOD.pdf

Attached is the Notice of Disapproval for the New Monitoring Wells (OW-50 and OW-52) Installation Report and Initial Sampling Results. The hard copy will be mailed.

Kristen Van Horn
NMED Hazardous Waste Bureau
2905 Rodeo Park Drive East Building 1
Santa Fe, NM 87505
Phone: 505-476-6046

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

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 10, 2010

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

RE: NOTICE OF DISAPPROVAL
NEW MONITORING WELLS (OW-50 AND OW-52) INSTALLATION REPORT AND INITIAL SAMPLING RESULTS: GALLUP REFINERY
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-10-001

Dear Mr. Riege:

The New Mexico Environment Department (NMED) received the *New Monitoring Wells (OW-50 and OW-52) Installation Report and Initial Sampling Results: Gallup Refinery* (Report), dated December 30, 2009, submitted on behalf of Western Refining Company, Southwest Inc., Gallup Refinery (the Permittee). NMED has reviewed the Report and hereby issues this Notice of Disapproval (NOD). The Permittee must revise the Report to address the following comments.

Comment 1
In the "Well Locations, Installation and Construction Details" section, page 8, paragraph 3, the Permittee states that "[d]uring 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 35-55 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 of on-site." This is not the proper procedure for the disposal of drill cuttings. Generally, soil samples (either from the soil cutting or soil samples) are collected for analytical analysis in order to determine the disposal pathway of the investigation derived waste. Field screening is not an acceptable method to determine the proper disposal pathway for drill cuttings. In the future, the Permittee must propose methods and procedures for the disposition of drill cuttings for NMED approval. In the revised Report, the Permittee must provide more details, such as the type (e.g., make, model, and amp voltage) of the PID used, and descriptions of where the soils were disposed of on-site (i.e., returned to borehole, land applied), and whether any drill cuttings samples were submitted for laboratory analyses.

Comment 2
In the "Well Locations, Installation and Construction Details" section, page 8, paragraph 4, the Permittee states "[f]or both the completed wells the casing is made of Schedule 40 PVC of 2 inches diameter. The backfill is expansive grout, the seal is bentonite, and the filter pack is 10/20 silica sand." The Permittee does not provide detail in the text to explain the methods and procedures used to drill the wells. The Permittee must revise the Report to include details, such as whether drilling fluids were used, the groundwater level encountered, the borehole diameter, the placement and thickness of the filter pack, and the surface completion of the well. The Permittees may reference the well diagrams located in Appendix 2 (Report from AMEC on drilling logs and well construction details) for this information.

Comment 3
The Permittee presents the surface elevation and coordinates of the wells, but does not describe how the elevations were surveyed. In the revised Report, the Permittee must describe how the monitoring wells were surveyed (e.g., methods and equipment used and benchmark reference point). Additionally, the Permittee provides the coordinates of the wells, but does not give the coordinate system that the coordinates are based on. The Permittee must provide this information in the revised Report.

Comment 4
In the "Sampling Activities and Results" section, page 11, paragraph 1, the Permittee states "[g]roundwater 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 3. Purged groundwater was assumed clean and disposed at the well site by AMEC personnel. In the future, Western Refining will ensure that purged groundwater is disposed in the refinery's wastewater treatment system if it is of unknown quality." In the future, the Permittee must adhere to the methods and procedures for the characterization and disposition of purge water. The Permittee may propose to dispose of purge water (or any investigation derived waste water) upstream of the API separator in the process wastewater sewer system or propose to sample for analytical analysis to determine the disposition of the water.

Comment 5

The Permittee does not discuss the development of the monitoring wells. In the revised Report, the Permittee must discuss in detail the development of the wells (e.g., the wells were pumped, bailed, or surged and the type of instruments used to measure water quality; the procedures used to measure the pH, temperature, and specific conductivity). The Permittee may reference Appendix 3 (Field investigation notes) for this information.

The Permittee must address all comments contained in this letter and submit the revised Report to NMED and OCD on or before May 10, 2010. As part of the response letter that accompanies the revised Report, the Permittee must include a letter that details where all revisions have been made to the Report and that cross-references NMED's numbered comments. In addition, the Permittees must submit a redline-strikeout version that includes all changes and edits to the Report (electronic copy) with the response to this NOD.

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 WRG 2010 File
HWB-WRG-10-001

Western Refining
GALLUP

WNR
LISTED
NYSE

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 25, 2009

John E. Kieling, Program Manager,
Permits Management Program,
Hazardous Waste Bureau,
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico, 87505-6303

Re: **Requirement to Install Monitoring Wells**
Western Refining Southwest Inc., Gallup refinery
NMED ID # NMD000333211
HWB-GRCC-MISC

Dear Mr. Kieling:

It is a pleasure to submit our response to your letters of May 28, 2009 and August 14, 2009, regarding installation of monitoring wells.

We plan to install two monitoring wells, as described in your Figure 1 attachment to your letter of May 28, 2009. Our tentative dates for installation are in the week of October 5-9, 2009. We will confirm an exact date as soon as the drilling sub-contractor provides us with a firm date for execution.

The specifications for the installation of monitoring wells will follow those described in paragraphs numbered a-f in your letter of May 28, 2009. We will submit a well installation report by December 31, 2009. Subsequently, we will add these wells to our Facility Wide Groundwater Monitoring Plan currently under review by the NMED. We will test for parameters and with a sampling frequency that we will propose and have approved by the NMED based on our initial set of monitoring data to be described in our well installation report.

Please do not hesitate to contact Gaurav Rajen of our staff with further questions at 505-722-0227 if we can provide you with any further clarifications.

Sincerely,

Ed Riege

cc: Hope Monzeglio, Environmental Specialist, Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1, Santa Fe, New Mexico, 87505-6303
Carl J. Chavez, CHMM, NM Energy, Minerals & Natural Resources Department, Oil Conservation Division, Environmental Bureau, 1220 South St. Francis Drive, Santa Fe, NM 87505
/File

Chavez, Carl J, EMNRD

From: Rajen, Gaurav [Gaurav.Rajen@wnr.com]
Sent: Tuesday, August 11, 2009 2:00 PM
To: Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD
Cc: Riege, Ed
Subject: Sampling results for NAPIS wells
Attachments: Copy of NAPIS 1ST QTR 2009 RESAMPLING.xls; March 2009.pdf; May 2009.pdf; June 2009.pdf; NAPIS WELL LOGS 6-09.xls

Dear Hope:

It is a pleasure to send on to you our sampling results for the NAPIS wells. We sampled these wells in February and again in March as some of our required tests had not been conducted in February.

We again sampled in May. Although we did sample NAPIS-1, NAPIS-2 and KA-3, we were unable to get to NAPIS-3 as construction work was ongoing on a buried pipeline in the area. We were able to sample this well in June.

All of the data from these events are attached, as are the sampler's field notes, well logs, and data (such as pH, conductivity, etc.) collected in the field.

With my best regards,

Raj

WESTERN REFINING - GALLUP REFINERY
WELL SAMPLING DATA - 1st QTR 2009

WELL #	NAPIS 1 (KA-1R)	NAPIS 2 (KA-2R)	NAPIS 3 (KA-3R)	KA-3
PURGE DATE	3/23/2009	3/23/2009	3/23/2009	3/23/2009
PURGE TIME	1050 HRS	1100 HRS	1115 HRS	1130 HRS
LIQUID DEPTH	8.92	9.35	9.93	9.23
DEPTH TO BTM	14	14.5	30.7	25
DIFFERENCE	5.08	5.15	20.77	15.77
1WVA = 0.163	0.82804	0.83945	3.38551	2.57051
3WVA'S	2.48412	2.51835	10.15653	7.71153
TEMP (DEG F)	58.7	62.1	62.6	74.6
Ph	7.2	6.96	8.15	7.08
COND	875us	1.65mS	2.47mS	1.228mS
DO	74.01	56.1	63.7	46.5
SAL	.450ppt	.891ppt	1.299 ppt	0.609ppt
TDS	439	N/A	1.235	6.2

NAPIS 1	Sample Day	Sample Time
	3/24/2009	1400 HRS

Weather: Clear, slight breeze. Temp 60- 65 Deg. On 3/23/09 started bailing with new bailer at 1050 hrs. First bail clear no apparent odor. 3 well volumes = 2.48 gals. Bailed approximately 2.1 gals.

Took sample on 3/24/09 at 1400 hours for the following paramaters. 8021B, 8015B GRO/DRO, 8310, RCRA 8 metals, General Chem (ph, Cations, Anions, conductivity)

NAPIS 2	Sample Day	Sample Time
	3/24/2009	1415 HRS

Weather: Clear day, windy conditions. Temp 60-65 Deg. On 3/23/09 started bailing at 1100 hrs. Bailer was decontaminated with Alconox/water mixture and rinsed with distilled water before use. First bail water has a slight yellowish tint, no apparent odor. 3 well volumes = 2.51 gals. Bailed approximately 2.2 gals.

Took sample on 3/24/09 at 1415 hours for the following paramaters. 8021B, 8015B GRO/DRO, 8310, RCRA 8 metals, General Chem (ph, Cations, Anions, conductivity)

NAPIS 3	Sample Day	Sample Time
	3/25/2009	0745 HRS

Weather: Clear day. Temp 60-65 Deg. On 3/23/09 started bailing at 1115 hrs. Bailer was decontaminated with Alconox/water mixture and rinsed with distilled water before use. First bail water is clear in color, no apparent odor. 3 well volumes = 10.15 gals. Bailed only 7.5 gals of water, level low. Water was clear at start but turned cloudy at end of bailing due to water level being low and disturbance of sediment.

Alvin Dorsey took sample on 3/25/09 at 0745 hours for the following paramaters. 8021B, 8015B GRO/DRO, 8310, RCRA 8 metals, General Chem (ph, Cations, Anions, conductivity)

KA-3	Sample Day	Sample Time
	3/25/2009	0815 HRS

Weather: Windy, snowy day. Temp 30-20 Deg. On 3/23/09 started bailing at 1130 hrs. Bailer was decontaminated with Alconox/water mixture and rinsed with distilled water before use. First bail water has a slight yellowish tint, no apparent odor. 3 well volumes = 7.71 gals. Bailed 7 gals of water. Water was clear at start but turned murky at end of bailing due to water level being low and disturbance of sediment.

Alvin Dorsey took sample on 3/25/09 at 0815 hours for the following paramaters. 8021B, 8015B GRO/DRO, 8310, RCRA 8 metals, General Chem (ph, Cations, Anions, conductivity)

NOTES:

Samples labeled & sealed; Stored in environmental refrigerator until shipment date of 3/25/09.

Samples packed in ice and shipped UPS Red to Hall Labs on 3/25/09.

SAMPLER NAME/TITLE: Cheryl Johnson & Alvin Dorsey: Environmental specialists

WESTERN REFINING - GALLUP REFINERY
WELL SAMPLING DATA - 2nd QTR 2009

WELL #	NAPIS 1 (KA-1R)	NAPIS 2 (KA-2R)	NAPIS 3 (KA-3R)	KA-3
PURGE DATE			6/15/2009	
PURGE TIME			0925 HRS	
LIQUID DEPTH			8.59	
DEPTH TO BTM			30.7	
DIFFERENCE			22.11	
1WVA = 0.163			3.60393	
3WVA'S			10.81179	
TEMP (DEG F)			67.5	
Ph			7.92	
COND			2.55mS	
DO			53.40%	
SAL			1.324 ppt	
TDS			1.274 ppm	

NAPIS 1	Sample Day	Sample Time

NAPIS 2	Sample Day	Sample Time

NAPIS 3	Sample Day	Sample Time
	6/15/2009	1015 HRS

Weather: Clear day. Temp 65- 70 Deg. On 5/28/09 unable to get to this well. Repair work being d well.

KA-3	Sample Day	Sample Time
		0930 HRS

NOTES:

Samples labeled, sealed, completed COC. Packed in cooler and shipped off UPS Red to Hall Labs

SAMPLER NAME/TITLE: Cheryl Johnson Environmental speciali

one on a line near the

6/15/09.

st

WESTERN REFINING - GALLUP REFINERY
WELL SAMPLING DATA - 2nd QTR 2009

WELL #	NAPIS 1 (KA-1R)	NAPIS 2 (KA-2R)	NAPIS 3 (KA-3R)	KA-3
PURGE DATE	5/28/2009	5/28/2009	6/15/2009	5/28/2009
PURGE TIME	0758 HRS	0829 HRS	0925 HRS	0901 HRS
LIQUID DEPTH	8.67	9.22	8.59	9.12
DEPTH TO BTM	14	14.5	30.7	25
DIFFERENCE	5.33	5.28	22.11	15.88
1WVA = 0.163	0.86879	0.86064	3.60393	2.58844
3WVA'S	2.60637	2.58192	10.81179	7.76532
TEMP (DEG F)	61.1	73.2	67.5	80.8
Ph	6.95	7.15	7.92	6.98
COND	1.081mS	1.124mS	2.55mS	1.168mS
DO	39.00%	16.76%	53.40%	32.20%
SAL	.548ppt	.555 ppt	1.324 ppt	.576 ppt
TDS	539 ppm	566 ppm	1.274 ppm	589 ppm

NAPIS 1	Sample Day	Sample Time
	5/28/2009	0805 HRS

Weather: Clear, slight breeze. Temp 65- 70 Deg. 3 well volumes = 2.6 gals. On 5/28/09 started ba 0758 hrs. First bail water clear to slightly cloudy, no apparent odor. Bailed approximately 2.5 gals. cloudy on last bail possibly due to low water level from bailing.

Took sample on 5/28/09 at 0805 hours for the following paramaters. 8021B, 8015B GRO/DRO, 831(General Chem (ph, Cations, Anions, conductivity). Samples labeled and placed in cooler with ice.

NAPIS 2	Sample Day	Sample Time
	5/28/2009	0840 HRS

Weather: Clear day, slight breeze. Temp 65-70 Deg. 3 well volumes = 2.58 Gals. On 5/28/09 star New bailer used for the purging of well and same bailer used for the sample. First bail water has a sl apparent odor. Bailed approximately 2.5 gals. Water turned slightly cloudy on last bail possibly due bailing.

Took sample on 5/28/09 at 0840 hours for the following paramaters. 8021B, 8015B GRO/DRO, 831 General Chem (ph, Cations, Anions, conductivity). Samples labeled and placed in cooler with ice.

NAPIS 3	Sample Day	Sample Time
	5/28/2009	NOT DONE

Weather: Clear day. Temp 65- 70 Deg. On 5/28/09 unable to get to this well. Repair work being d well.

KA-3	Sample Day	Sample Time
	5/28/2009	0930 HRS

Weather: Clear day, slight breeze. Temp65- 70 Deg. 3 well volumes = 7.76 gals. On 5/28/09 start New bailer used for the purging of well and same bailer used for the sample. First bail water is slight odor. Bailed approximately 7.5 gals of water. Water still cloudy at end of bailing.

Took sample on 5/28/09 at 0930 hours for the followiung parameters. 8021B, 8015B GRO/DRO, 83 Chem (ph, Cations, Anions, Conductivity). Samples labeled and placed in cooler with ice.

NOTES:

Samples labeled, sealed, completed COC. Packed in cooler and shipped off UPS Red to Hall Labs

SAMPLER NAME/TITLE: Cheryl Johnson Environmental speciali

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Water turned slighly

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ight yellowish tint, no
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10, RCRA 8 metals,

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one on a line near the

:ed bailing at 0901 hrs.
ty cloudy, no apparent

10 RCRA 8 Metals, Gen

5/28/09.

st

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, April 21, 2009

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

TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2009 1st QTR

Order No.: 0903415

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 3/26/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Apr-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-1
Lab Order:	0903415	**Collection Date:**	3/24/2009 2:00:00 PM
Project:	2009 1st QTR	**Date Received:**	3/26/2009
Lab ID:	0903415-01	**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	3/30/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	3/30/2009
Surr: DNOP	116	58-140		%REC	1	3/30/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	3/31/2009 4:32:48 PM
Surr: BFB	87.5	59.9-122		%REC	1	3/31/2009 4:32:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	3/31/2009 4:32:48 PM
Benzene	ND	1.0		µg/L	1	3/31/2009 4:32:48 PM
Toluene	1.0	1.0		µg/L	1	3/31/2009 4:32:48 PM
Ethylbenzene	ND	1.0		µg/L	1	3/31/2009 4:32:48 PM
Xylenes, Total	ND	2.0		µg/L	1	3/31/2009 4:32:48 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/31/2009 4:32:48 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/31/2009 4:32:48 PM
Surr: 4-Bromofluorobenzene	92.3	65.9-130		%REC	1	3/31/2009 4:32:48 PM
EPA METHOD 8310: PAHS						Analyst: **DMG**
Naphthalene	ND	2.0		µg/L	1	4/3/2009 5:45:00 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	4/3/2009 5:45:00 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	4/3/2009 5:45:00 PM
Acenaphthylene	ND	2.5		µg/L	1	4/3/2009 5:45:00 PM
Acenaphthene	ND	5.0		µg/L	1	4/3/2009 5:45:00 PM
Fluorene	ND	0.80		µg/L	1	4/3/2009 5:45:00 PM
Phenanthrene	ND	0.60		µg/L	1	4/3/2009 5:45:00 PM
Anthracene	ND	0.60		µg/L	1	4/3/2009 5:45:00 PM
Fluoranthene	ND	0.30		µg/L	1	4/3/2009 5:45:00 PM
Pyrene	ND	0.30		µg/L	1	4/3/2009 5:45:00 PM
Benz(a)anthracene	ND	0.070		µg/L	1	4/3/2009 5:45:00 PM
Chrysene	ND	0.20		µg/L	1	4/3/2009 5:45:00 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	4/3/2009 5:45:00 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	4/3/2009 5:45:00 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	4/3/2009 5:45:00 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	4/3/2009 5:45:00 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	4/3/2009 5:45:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	4/3/2009 5:45:00 PM
Surr: Benzo(e)pyrene	66.4	44.8-104		%REC	1	4/3/2009 5:45:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **IC**
Fluoride	0.69	0.10		mg/L	1	3/26/2009 11:31:28 PM
Chloride	120	1.0		mg/L	10	3/26/2009 11:48:53 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: *21-Apr-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-1
Lab Order:	0903415	**Collection Date:**	3/24/2009 2:00:00 PM
Project:	2009 1st QTR	**Date Received:**	3/26/2009
Lab ID:	0903415-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **IC**
Nitrate (As N)+Nitrite (As N)	ND	1.0		mg/L	5	4/19/2009 5:57:43 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	3/26/2009 11:31:28 PM
Sulfate	38	0.50		mg/L	1	3/26/2009 11:31:28 PM
EPA METHOD 7470: MERCURY						Analyst: **SNV**
Mercury	ND	0.00020		mg/L	1	4/6/2009 5:29:17 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	4/6/2009 11:53:56 AM
Barium	0.10	0.020		mg/L	1	4/6/2009 11:53:56 AM
Cadmium	ND	0.0020		mg/L	1	4/6/2009 11:53:56 AM
Calcium	67	1.0		mg/L	1	4/6/2009 11:53:56 AM
Chromium	ND	0.0060		mg/L	1	4/6/2009 11:53:56 AM
Lead	ND	0.0050		mg/L	1	4/6/2009 11:53:56 AM
Magnesium	12	1.0		mg/L	1	4/6/2009 11:53:56 AM
Potassium	ND	1.0		mg/L	1	4/6/2009 11:53:56 AM
Selenium	ND	0.25		mg/L	5	4/8/2009 8:27:38 AM
Silver	ND	0.0050		mg/L	1	4/6/2009 11:53:56 AM
Sodium	340	10		mg/L	10	4/6/2009 12:43:06 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **NSB**
Specific Conductance	2000	0.010		µmhos/cm	1	3/27/2009
SM4500-H+B: PH						Analyst: **NSB**
pH	7.69	0.1		pH units	1	3/28/2009

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Apr-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-2
Lab Order:	0903415	**Collection Date:**	3/24/2009 2:15:00 PM
Project:	2009 1st QTR	**Date Received:**	3/26/2009
Lab ID:	0903415-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	4.3	1.0		mg/L	1	3/30/2009
Motor Oil Range Organics (MRO)	5.1	5.0		mg/L	1	3/30/2009
Surr: DNOP	118	58-140		%REC	1	3/30/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	0.37	0.050		mg/L	1	4/2/2009 11:34:12 AM
Surr: BFB	101	59.9-122		%REC	1	4/2/2009 11:34:12 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	90	25		µg/L	10	3/31/2009 5:03:20 PM
Benzene	19	1.0		µg/L	1	4/2/2009 11:34:12 AM
Toluene	1.1	1.0		µg/L	1	4/2/2009 11:34:12 AM
Ethylbenzene	8.1	1.0		µg/L	1	4/2/2009 11:34:12 AM
Xylenes, Total	ND	2.0		µg/L	1	4/2/2009 11:34:12 AM
1,2,4-Trimethylbenzene	2.0	1.0		µg/L	1	4/2/2009 11:34:12 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/2/2009 11:34:12 AM
Surr: 4-Bromofluorobenzene	91.9	65.9-130		%REC	1	4/2/2009 11:34:12 AM
EPA METHOD 8310: PAHS						Analyst: **DMG**
Naphthalene	ND	4.0		µg/L	1	4/3/2009 6:05:00 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/3/2009 6:05:00 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/3/2009 6:05:00 PM
Acenaphthylene	ND	5.0		µg/L	1	4/3/2009 6:05:00 PM
Acenaphthene	ND	10		µg/L	1	4/3/2009 6:05:00 PM
Fluorene	ND	1.6		µg/L	1	4/3/2009 6:05:00 PM
Phenanthrene	ND	1.2		µg/L	1	4/3/2009 6:05:00 PM
Anthracene	ND	1.2		µg/L	1	4/3/2009 6:05:00 PM
Fluoranthene	ND	0.60		µg/L	1	4/3/2009 6:05:00 PM
Pyrene	ND	0.60		µg/L	1	4/3/2009 6:05:00 PM
Benz(a)anthracene	ND	0.14		µg/L	1	4/3/2009 6:05:00 PM
Chrysene	ND	0.40		µg/L	1	4/3/2009 6:05:00 PM
Benzo(b)fluoranthene	ND	0.20		µg/L	1	4/3/2009 6:05:00 PM
Benzo(k)fluoranthene	ND	0.14		µg/L	1	4/3/2009 6:05:00 PM
Benzo(a)pyrene	ND	0.14		µg/L	1	4/3/2009 6:05:00 PM
Dibenz(a,h)anthracene	ND	0.14		µg/L	1	4/3/2009 6:05:00 PM
Benzo(g,h,i)perylene	ND	0.16		µg/L	1	4/3/2009 6:05:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.16		µg/L	1	4/3/2009 6:05:00 PM
Surr: Benzo(e)pyrene	64.6	44.8-104		%REC	1	4/3/2009 6:05:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **IC**
Fluoride	1.5	0.10		mg/L	1	3/27/2009 12:06:17 AM
Chloride	240	1.0		mg/L	10	3/27/2009 12:23:43 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Apr-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-2
Lab Order:	0903415	**Collection Date:**	3/24/2009 2:15:00 PM
Project:	2009 1st QTR	**Date Received:**	3/26/2009
Lab ID:	0903415-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **IC**
Nitrate (As N)+Nitrite (As N)	ND	1.0		mg/L	5	4/19/2009 6:32:33 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	3/27/2009 12:06:17 AM
Sulfate	23	0.50		mg/L	1	3/27/2009 12:06:17 AM
EPA METHOD 7470: MERCURY						Analyst: **SNV**
Mercury	ND	0.00020		mg/L	1	4/6/2009 5:31:02 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	4/6/2009 11:58:19 AM
Barium	0.76	0.020		mg/L	1	4/6/2009 11:58:19 AM
Cadmium	ND	0.0020		mg/L	1	4/6/2009 11:58:19 AM
Calcium	53	1.0		mg/L	1	4/6/2009 11:58:19 AM
Chromium	ND	0.0060		mg/L	1	4/6/2009 11:58:19 AM
Lead	ND	0.0050		mg/L	1	4/6/2009 11:58:19 AM
Magnesium	10	1.0		mg/L	1	4/6/2009 11:58:19 AM
Potassium	ND	1.0		mg/L	1	4/6/2009 11:58:19 AM
Selenium	ND	0.25		mg/L	5	4/8/2009 8:30:48 AM
Silver	ND	0.0050		mg/L	1	4/6/2009 11:58:19 AM
Sodium	280	10		mg/L	10	4/6/2009 12:45:52 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **NSB**
Specific Conductance	1800	0.010		µmhos/cm	1	3/27/2009
SM4500-H+B: PH						Analyst: **NSB**
pH	7.47	0.1		pH units	1	3/28/2009

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Apr-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	KA-3
Lab Order:	0903415	**Collection Date:**	3/25/2009 8:15:00 AM
Project:	2009 1st QTR	**Date Received:**	3/26/2009
Lab ID:	0903415-03	**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	3/30/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	3/30/2009
Surr: DNOP	113	58-140		%REC	1	3/30/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	0.18	0.050		mg/L	1	3/31/2009 5:33:56 PM
Surr: BFB	86.1	59.9-122		%REC	1	3/31/2009 5:33:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	110	25		µg/L	10	4/2/2009 2:07:02 PM
Benzene	ND	1.0		µg/L	1	3/31/2009 5:33:56 PM
Toluene	ND	1.0		µg/L	1	3/31/2009 5:33:56 PM
Ethylbenzene	ND	1.0		µg/L	1	3/31/2009 5:33:56 PM
Xylenes, Total	ND	2.0		µg/L	1	3/31/2009 5:33:56 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/31/2009 5:33:56 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/31/2009 5:33:56 PM
Surr: 4-Bromofluorobenzene	89.4	65.9-130		%REC	1	3/31/2009 5:33:56 PM
EPA METHOD 8310: PAHS						Analyst: **DMG**
Naphthalene	ND	2.0		µg/L	1	4/3/2009 6:25:00 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	4/3/2009 6:25:00 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	4/3/2009 6:25:00 PM
Acenaphthylene	ND	2.5		µg/L	1	4/3/2009 6:25:00 PM
Acenaphthene	ND	5.0		µg/L	1	4/3/2009 6:25:00 PM
Fluorene	ND	0.80		µg/L	1	4/3/2009 6:25:00 PM
Phenanthrene	ND	0.60		µg/L	1	4/3/2009 6:25:00 PM
Anthracene	ND	0.60		µg/L	1	4/3/2009 6:25:00 PM
Fluoranthene	ND	0.30		µg/L	1	4/3/2009 6:25:00 PM
Pyrene	ND	0.30		µg/L	1	4/3/2009 6:25:00 PM
Benz(a)anthracene	ND	0.070		µg/L	1	4/3/2009 6:25:00 PM
Chrysene	ND	0.20		µg/L	1	4/3/2009 6:25:00 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	4/3/2009 6:25:00 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	4/3/2009 6:25:00 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	4/3/2009 6:25:00 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	4/3/2009 6:25:00 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	4/3/2009 6:25:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	4/3/2009 6:25:00 PM
Surr: Benzo(e)pyrene	57.2	44.8-104		%REC	1	4/3/2009 6:25:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **IC**
Fluoride	1.5	0.10		mg/L	1	3/26/2009 10:56:39 PM
Chloride	340	1.0		mg/L	10	3/26/2009 11:14:04 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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Apr-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	KA-3
Lab Order:	0903415	**Collection Date:**	3/25/2009 8:15:00 AM
Project:	2009 1st QTR	**Date Received:**	3/26/2009
Lab ID:	0903415-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **IC**
Nitrogen, Nitrite (As N)	ND	1.0		mg/L	10	3/26/2009 11:14:04 PM
Nitrogen, Nitrate (As N)	0.90	0.10		mg/L	1	3/26/2009 10:56:39 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	3/26/2009 10:56:39 PM
Sulfate	76	0.50		mg/L	1	3/26/2009 10:56:39 PM
EPA METHOD 7470: MERCURY						Analyst: **SNV**
Mercury	ND	0.00020		mg/L	1	4/6/2009 5:32:49 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	4/8/2009 8:56:41 AM
Barium	0.22	0.020		mg/L	1	4/8/2009 8:56:41 AM
Cadmium	ND	0.0020		mg/L	1	4/8/2009 8:56:41 AM
Calcium	67	1.0		mg/L	1	4/8/2009 8:56:41 AM
Chromium	ND	0.0060		mg/L	1	4/8/2009 8:56:41 AM
Lead	0.0055	0.0050		mg/L	1	4/8/2009 8:56:41 AM
Magnesium	10	1.0		mg/L	1	4/8/2009 8:56:41 AM
Potassium	ND	1.0		mg/L	1	4/8/2009 8:56:41 AM
Selenium	ND	0.050		mg/L	1	4/11/2009 4:23:03 PM
Silver	ND	0.0050		mg/L	1	4/8/2009 8:56:41 AM
Sodium	360	10		mg/L	10	4/8/2009 12:01:26 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **NSB**
Specific Conductance	2400	0.010		µmhos/cm	1	3/27/2009
SM4500-H+B: PH						Analyst: **NSB**
pH	7.64	0.1		pH units	1	3/28/2009

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Apr-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-3
Lab Order:	0903415	**Collection Date:**	3/25/2009 7:45:00 AM
Project:	2009 1st QTR	**Date Received:**	3/26/2009
Lab ID:	0903415-04	**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	3/30/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	3/30/2009
Surr: DNOP	118	58-140		%REC	1	3/30/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	3/31/2009 6:04:30 PM
Surr: BFB	90.7	59.9-122		%REC	1	3/31/2009 6:04:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	3/31/2009 6:04:30 PM
Benzene	ND	1.0		µg/L	1	3/31/2009 6:04:30 PM
Toluene	ND	1.0		µg/L	1	3/31/2009 6:04:30 PM
Ethylbenzene	ND	1.0		µg/L	1	3/31/2009 6:04:30 PM
Xylenes, Total	ND	2.0		µg/L	1	3/31/2009 6:04:30 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/31/2009 6:04:30 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/31/2009 6:04:30 PM
Surr: 4-Bromofluorobenzene	98.9	65.9-130		%REC	1	3/31/2009 6:04:30 PM
EPA METHOD 8310: PAHS						Analyst: **DMG**
Naphthalene	ND	2.0		µg/L	1	4/3/2009 6:46:00 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	4/3/2009 6:46:00 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	4/3/2009 6:46:00 PM
Acenaphthylene	ND	2.5		µg/L	1	4/3/2009 6:46:00 PM
Acenaphthene	ND	5.0		µg/L	1	4/3/2009 6:46:00 PM
Fluorene	ND	0.80		µg/L	1	4/3/2009 6:46:00 PM
Phenanthrene	ND	0.60		µg/L	1	4/3/2009 6:46:00 PM
Anthracene	ND	0.60		µg/L	1	4/3/2009 6:46:00 PM
Fluoranthene	ND	0.30		µg/L	1	4/3/2009 6:46:00 PM
Pyrene	ND	0.30		µg/L	1	4/3/2009 6:46:00 PM
Benz(a)anthracene	ND	0.070		µg/L	1	4/3/2009 6:46:00 PM
Chrysene	ND	0.20		µg/L	1	4/3/2009 6:46:00 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	4/3/2009 6:46:00 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	4/3/2009 6:46:00 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	4/3/2009 6:46:00 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	4/3/2009 6:46:00 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	4/3/2009 6:46:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	4/3/2009 6:46:00 PM
Surr: Benzo(e)pyrene	57.4	44.8-104		%REC	1	4/3/2009 6:46:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **IC**
Fluoride	0.43	0.10		mg/L	1	3/26/2009 10:21:50 PM
Chloride	1200	5.0		mg/L	50	4/19/2009 7:07:22 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Apr-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-3
Lab Order:	0903415	**Collection Date:**	3/25/2009 7:45:00 AM
Project:	2009 1st QTR	**Date Received:**	3/26/2009
Lab ID:	0903415-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **IC**
Nitrogen, Nitrite (As N)	ND	1.0		mg/L	10	3/26/2009 10:39:14 PM
Nitrogen, Nitrate (As N)	14	0.10		mg/L	1	3/26/2009 10:21:50 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	3/26/2009 10:21:50 PM
Sulfate	340	5.0		mg/L	10	3/26/2009 10:39:14 PM
EPA METHOD 7470: MERCURY						Analyst: **SNV**
Mercury	ND	0.00020		mg/L	1	4/6/2009 5:34:36 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	4/8/2009 9:01:13 AM
Barium	0.13	0.020		mg/L	1	4/8/2009 9:01:13 AM
Cadmium	ND	0.0020		mg/L	1	4/8/2009 9:01:13 AM
Calcium	47	1.0		mg/L	1	4/8/2009 9:01:13 AM
Chromium	ND	0.0060		mg/L	1	4/8/2009 9:01:13 AM
Lead	ND	0.0050		mg/L	1	4/8/2009 9:01:13 AM
Magnesium	6.5	1.0		mg/L	1	4/8/2009 9:01:13 AM
Potassium	3.9	1.0		mg/L	1	4/8/2009 9:01:13 AM
Selenium	ND	0.050		mg/L	1	4/11/2009 4:28:15 PM
Silver	ND	0.0050		mg/L	1	4/8/2009 9:01:13 AM
Sodium	880	10		mg/L	10	4/8/2009 12:04:08 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **NSB**
Specific Conductance	5200	0.010		µmhos/cm	1	3/27/2009
SM4500-H+B: PH						Analyst: **NSB**
pH	8.11	0.1		pH units	1	3/28/2009

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: 2009 1st QTR **Work Order:** 0903415

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: MB		*MBLK*			Batch ID:	**R32985**	Analysis Date:	3/26/2009 11:20:19 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
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:	**R32986**	Analysis Date:	3/27/2009 1:15:57 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB-2		*MBLK*			Batch ID:	**R32985**	Analysis Date:	3/27/2009 9:58:09 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
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:	**R33317**	Analysis Date:	4/18/2009 7:13:34 PM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
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:	**R32985**	Analysis Date:	3/26/2009 11:37:43 AM	
Fluoride	0.5332	mg/L	0.10	107	90	110			
Chloride	5.231	mg/L	0.10	105	90	110			
Nitrogen, Nitrite (As N)	0.9374	mg/L	0.10	93.7	90	110			
Nitrogen, Nitrate (As N)	2.670	mg/L	0.10	107	90	110			
Nitrate (As N)+Nitrite (As N)	3.608	mg/L	0.20	103	90	110			
Phosphorus, Orthophosphate (As P)	5.417	mg/L	0.50	108	90	110			
Sulfate	10.67	mg/L	0.50	107	90	110			
Sample ID: LCS		*LCS*			Batch ID:	**R32986**	Analysis Date:	3/27/2009 1:33:22 AM	
Fluoride	0.5740	mg/L	0.10	115	90	110			S
Chloride	5.344	mg/L	0.10	107	90	110			
Nitrogen, Nitrite (As N)	1.151	mg/L	0.10	115	90	110			S

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: 2009 1st QTR **Work Order:** 0903415

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: LCS		*LCS*			Batch ID: **R32986**		Analysis Date:		3/27/2009 1:33:22 AM
Nitrogen, Nitrate (As N)	2.605	mg/L	0.10	104	90	110			
Nitrate (As N)+Nitrite (As N)	3.757	mg/L	0.20	107	90	110			
Phosphorus, Orthophosphate (As P)	5.545	mg/L	0.50	111	90	110			S
Sulfate	10.89	mg/L	0.50	109	90	110			
Sample ID: LCS-2		*LCS*			Batch ID: **R32985**		Analysis Date:		3/27/2009 10:15:34 AM
Fluoride	0.5105	mg/L	0.10	102	90	110			
Chloride	5.202	mg/L	0.10	104	90	110			
Nitrogen, Nitrite (As N)	1.136	mg/L	0.10	114	90	110			S
Nitrogen, Nitrate (As N)	2.555	mg/L	0.10	102	90	110			
Nitrate (As N)+Nitrite (As N)	3.690	mg/L	0.20	105	90	110			
Phosphorus, Orthophosphate (As P)	5.363	mg/L	0.50	107	90	110			
Sulfate	10.50	mg/L	0.50	105	90	110			
Sample ID: LCS		*LCS*			Batch ID: **R33317**		Analysis Date:		4/18/2009 7:30:59 PM
Fluoride	0.5255	mg/L	0.10	105	90	110			
Chloride	5.284	mg/L	0.10	106	90	110			
Nitrogen, Nitrite (As N)	0.9148	mg/L	0.10	91.5	90	110			
Nitrogen, Nitrate (As N)	2.736	mg/L	0.10	109	90	110			
Nitrate (As N)+Nitrite (As N)	3.651	mg/L	0.20	104	90	110			
Phosphorus, Orthophosphate (As P)	5.280	mg/L	0.50	106	90	110			
Sulfate	10.39	mg/L	0.50	104	90	110			
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-18665		*MBLK*			Batch ID: **18665**		Analysis Date:		3/30/2009
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-18665		*LCS*			Batch ID: **18665**		Analysis Date:		3/30/2009
Diesel Range Organics (DRO)	6.364	mg/L	1.0	127	74	157			
Sample ID: LCSD-18665		*LCSD*			Batch ID: **18665**		Analysis Date:		3/30/2009
Diesel Range Organics (DRO)	5.941	mg/L	1.0	119	74	157	6.88	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R33032**		Analysis Date:		3/31/2009 8:24:28 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 5ML RB		*MBLK*			Batch ID: **R33070**		Analysis Date:		4/2/2009 8:00:37 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID: **R33032**		Analysis Date:		3/31/2009 6:35:10 PM
Gasoline Range Organics (GRO)	0.5046	mg/L	0.050	101	80	115			
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID: **R33070**		Analysis Date:		4/3/2009 3:19:09 AM
Gasoline Range Organics (GRO)	0.5306	mg/L	0.050	106	80	115			
Sample ID: 2.5UG GRO LCSD		*LCSD*			Batch ID: **R33070**		Analysis Date:		4/3/2009 3:49:28 AM
Gasoline Range Organics (GRO)	0.4966	mg/L	0.050	99.3	80	115	6.62	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 1st QTR **Work Order:** 0903415

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0903415-01A MSD		*MSD*			Batch ID:	**R33032**	Analysis Date:		4/1/2009 4:50:28 AM
Methyl tert-butyl ether (MTBE)	22.74	µg/L	2.5	111	51.2	138	2.83	28	
Benzene	20.74	µg/L	1.0	103	85.9	113	4.08	27	
Toluene	21.82	µg/L	1.0	104	86.4	113	7.06	19	
Ethylbenzene	20.38	µg/L	1.0	102	83.5	118	6.24	10	
Xylenes, Total	60.46	µg/L	2.0	101	83.4	122	5.45	13	
1,2,4-Trimethylbenzene	20.45	µg/L	1.0	102	83.5	115	6.52	21	
1,3,5-Trimethylbenzene	19.31	µg/L	1.0	96.6	85.2	113	6.17	10	
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R33032**	Analysis Date:		3/31/2009 8:24:28 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:	**R33032**	Analysis Date:		3/31/2009 7:05:44 PM
Methyl tert-butyl ether (MTBE)	21.76	µg/L	2.5	109	51.2	138			
Benzene	20.44	µg/L	1.0	102	85.9	113			
Toluene	21.64	µg/L	1.0	108	86.4	113			
Ethylbenzene	20.91	µg/L	1.0	105	83.5	118			
Xylenes, Total	62.94	µg/L	2.0	105	83.4	122			
1,2,4-Trimethylbenzene	20.51	µg/L	1.0	103	83.5	115			
1,3,5-Trimethylbenzene	20.58	µg/L	1.0	102	85.2	113			
Sample ID: 0903415-01A MS		*MS*			Batch ID:	**R33032**	Analysis Date:		4/1/2009 4:19:46 AM
Methyl tert-butyl ether (MTBE)	23.39	µg/L	2.5	115	51.2	138			
Benzene	21.60	µg/L	1.0	107	85.9	113			
Toluene	23.42	µg/L	1.0	112	86.4	113			
Ethylbenzene	21.69	µg/L	1.0	108	83.5	118			
Xylenes, Total	63.85	µg/L	2.0	106	83.4	122			
1,2,4-Trimethylbenzene	21.83	µg/L	1.0	109	83.5	115			
1,3,5-Trimethylbenzene	20.54	µg/L	1.0	103	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 1st QTR **Work Order:** 0903415

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8310: PAHs									
Sample ID: MB-18692		*MBLK*			Batch ID:	**18692**	Analysis Date:	4/3/2009 12:11:00 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-18692		*LCS*			Batch ID:	**18692**	Analysis Date:	4/3/2009 12:31:00 PM	
Naphthalene	53.74	µg/L	2.0	67.2	31.5	90.7			
1-Methylnaphthalene	59.57	µg/L	2.0	74.3	32.5	93.3			
2-Methylnaphthalene	53.93	µg/L	2.0	67.4	32.8	89.6			
Acenaphthylene	60.98	µg/L	2.5	76.0	37.8	92.4			
Acenaphthene	63.42	µg/L	5.0	79.3	36.6	93.9			
Fluorene	4.710	µg/L	0.80	58.7	38	95.5			
Phenanthrene	2.990	µg/L	0.60	68.9	32.9	107			
Anthracene	2.880	µg/L	0.60	71.6	35.2	98.3			
Fluoranthene	5.800	µg/L	0.30	72.3	36.4	104			
Pyrene	5.050	µg/L	0.30	63.0	37.1	102			
Benz(a)anthracene	0.6300	µg/L	0.070	78.6	33.7	101			
Chrysene	3.000	µg/L	0.20	74.6	35.2	96.1			
Benzo(b)fluoranthene	0.7600	µg/L	0.10	75.8	33.6	94.2			
Benzo(k)fluoranthene	0.4000	µg/L	0.070	80.0	25.4	110			
Benzo(a)pyrene	0.3600	µg/L	0.070	71.7	26.9	102			
Dibenz(a,h)anthracene	0.7600	µg/L	0.070	75.8	40.7	92.1			
Benzo(g,h,i)perylene	0.7500	µg/L	0.080	70.0	24.3	109			
Indeno(1,2,3-cd)pyrene	1.530	µg/L	0.080	76.3	42.6	99.9			
Method: EPA Method 7470: Mercury									
Sample ID: MB-18742		*MBLK*			Batch ID:	**18742**	Analysis Date:	4/6/2009 4:49:48 PM	
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-18742		*LCS*			Batch ID:	**18742**	Analysis Date:	4/6/2009 4:51:33 PM	
Mercury	0.005181	mg/L	0.00020	104	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: 2009 1st QTR **Work Order:** 0903415

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA 6010B: Total Recoverable Metals									
Sample ID: 0903415-04DMSD		*MSD*			Batch ID:	**18724**	Analysis Date:		4/8/2009 9:09:47 AM
Arsenic	0.5299	mg/L	0.020	106	75	125	1.65	20	
Barium	0.5860	mg/L	0.010	91.6	75	125	1.95	20	
Cadmium	0.4713	mg/L	0.0020	94.3	75	125	0.671	20	
Calcium	93.51	mg/L	0.50	93.3	75	125	3.59	20	
Chromium	0.4795	mg/L	0.0060	95.3	75	125	1.18	20	
Lead	0.4857	mg/L	0.0050	96.2	75	125	0.458	20	
Magnesium	53.12	mg/L	0.50	93.3	75	125	3.04	20	
Potassium	53.27	mg/L	1.0	98.8	75	125	2.79	20	
Silver	0.4767	mg/L	0.0050	95.2	75	125	2.37	20	
Sample ID: MBLK-18664		*MBLK*			Batch ID:	**18664**	Analysis Date:		4/6/2009 9:48:02 AM
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	0.01354	mg/L	0.0050						B
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: MB-18724		*MBLK*			Batch ID:	**18724**	Analysis Date:		4/8/2009 8:34:03 AM
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-18664		*LCS*			Batch ID:	**18664**	Analysis Date:		4/6/2009 9:51:16 AM
Arsenic	0.5031	mg/L	0.020	101	80	120			
Barium	0.4865	mg/L	0.010	97.3	80	120			
Cadmium	0.4949	mg/L	0.0020	99.0	80	120			
Calcium	50.36	mg/L	0.50	101	80	120			
Chromium	0.4955	mg/L	0.0060	99.1	80	120			
Lead	0.4870	mg/L	0.0050	94.7	80	120			B
Magnesium	50.90	mg/L	0.50	102	80	120			
Potassium	54.93	mg/L	1.0	110	80	120			
Selenium	0.4940	mg/L	0.050	98.8	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: 2009 1st QTR **Work Order:** 0903415

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA 6010B: Total Recoverable Metals									
Sample ID: LCS-18664		*LCS*			Batch ID:	**18664**	Analysis Date:		4/6/2009 9:51:16 AM
Silver	0.4909	mg/L	0.0050	98.2	80	120			
Sodium	54.90	mg/L	0.50	110	80	120			
Sample ID: LCS-18724		*LCS*			Batch ID:	**18724**	Analysis Date:		4/8/2009 8:36:30 AM
Arsenic	0.5519	mg/L	0.020	110	80	120			
Barium	0.5002	mg/L	0.010	100	80	120			
Cadmium	0.5107	mg/L	0.0020	102	80	120			
Calcium	50.14	mg/L	0.50	100	80	120			
Chromium	0.5241	mg/L	0.0060	105	80	120			
Lead	0.5378	mg/L	0.0050	108	80	120			
Magnesium	48.11	mg/L	0.50	96.2	80	120			
Potassium	50.32	mg/L	1.0	101	80	120			
Selenium	0.5100	mg/L	0.050	102	80	120			
Silver	0.5056	mg/L	0.0050	101	80	120			
Sodium	50.16	mg/L	0.50	100	80	120			
Sample ID: LCS-18664		*LCSD*			Batch ID:	**18664**	Analysis Date:		4/6/2009 9:54:43 AM
Arsenic	0.4943	mg/L	0.020	98.9	80	120	1.76	20	
Barium	0.4935	mg/L	0.010	98.7	80	120	1.43	20	
Cadmium	0.4938	mg/L	0.0020	98.8	80	120	0.215	20	
Calcium	49.66	mg/L	0.50	99.3	80	120	1.40	20	
Chromium	0.4958	mg/L	0.0060	99.2	80	120	0.0708	20	
Lead	0.4893	mg/L	0.0050	95.2	80	120	0.485	20	B
Magnesium	50.23	mg/L	0.50	100	80	120	1.32	20	
Potassium	54.00	mg/L	1.0	108	80	120	1.71	20	
Selenium	0.4947	mg/L	0.050	98.9	80	120	0.133	20	
Silver	0.4960	mg/L	0.0050	99.2	80	120	1.03	20	
Sodium	53.75	mg/L	0.50	108	80	120	2.11	20	
Sample ID: 0903415-04DMS		*MS*			Batch ID:	**18724**	Analysis Date:		4/8/2009 9:05:25 AM
Arsenic	0.5387	mg/L	0.020	108	75	125			
Barium	0.5975	mg/L	0.010	93.9	75	125			
Cadmium	0.4745	mg/L	0.0020	94.9	75	125			
Calcium	96.93	mg/L	0.50	100	75	125			
Chromium	0.4852	mg/L	0.0060	96.5	75	125			
Lead	0.4879	mg/L	0.0050	96.7	75	125			
Magnesium	54.76	mg/L	0.50	96.5	75	125			
Potassium	54.77	mg/L	1.0	102	75	125			
Silver	0.4881	mg/L	0.0050	97.4	75	125			

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: 3/26/2009

Work Order Number 0903415 Received by: ARS

Checklist completed by: _____ 3/26/09 Sample ID labels checked by: _____

Signature Date Initials

Matrix: *Carrier name:* FedEx

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 ☑ 3/26	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐
Water - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
Container/Temp Blank temperature?	3°	*<6° C Acceptable* If given sufficient time to cool.	

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

_____

_____

_____

_____

Corrective Action _____

_____

_____

Chain-of-Custody Record

Client: Western Refining
Gallup Refinery
Mailing Address: RT3 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 1st QTR

Project #: NAPIS

Project Manager: G. Rajen

Sampler: C. Johnson

On Ice: ☒ Yes ☐ No

Sample Temperature: 3

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0903115	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 6010	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Gen Chem				Air Bubbles (Y or N)
3/24/09	1400	Aqueous	NAPIS-1	3-VOA's	HCl	1	X															
				3-VOA's	HCl	1			X													
				1-500ml	HNO3	1							X									
				1L Amber	None	1						X										
				1-500ml	None	1												X				
				1-500ml	H2SO4	1												X				
				1-500ml	HNO3	1												X				
3/24/09	1415		NAPIS-2	3-VOA	HCl	2	X															
				3 VOA	HCl	2			X													
				1-500ml	HNO3	2							X									
				1L	None	2						X										
				1500ml	None	2												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/25/09				3/26/09	9:25
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Gen chem - anions, pH, ec, cations
AT 3/24/09

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

Chain-of-Custody Record

Client: Western Refining Gallup Refinery
Mailing Address: R+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 1st QTR
Project #: NAPIS
Project Manager: G. Rajen
Sampler: C Johnson
On Ice: ☒ Yes ☐ No
Sample Temperature: 3

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0903415	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)
3/24/09	1415	Aqueous	NAPIS-2	1-500ml	H_2SO_4	2												X				
3/24/09	1415	"	NAPIS-2	1-500ml	HNO_3	2												X				
3-25-09	0815	"	KA-3	3-VOA	HCl	3	X															
				3-VOA	HCl	3			X													
				1-500ml	HNO_3	3							X									
				1-L	None	3						X										
				1-500ml	None	3												X				
				1-500ml	H_2SO_4	3												X				
				1-500ml	HNO_3	3												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
032509	1200			3/26/09	9:25
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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

Chain-of-Custody Record

Client: Western Refining Gallup Refinery

Mailing Address: Rt 3 Box 7 Gallup ~~Refin~~ NM

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 1st QTR

Project #: NAPIS

Project Manager: G. Rajen

Sampler: C. Johnson

On Ice: ☒ Yes ☐ No

Sample Temperature: 3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No 0903455	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)
3/25/09	0845	Aqueous	NAPIS-3	3-VOA	HCl	4	X															
				3-VOA	HCl	4			X													
				1-500ml	HNO_3	4							X									
				1L	None	4						X										
				1-500ml	None	4												X				
				1-500ml	H_2SO_4	4												X				
				1-500ml	HNO_3	4												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
3/25/09	1200			3/26/09	9:25	
Date:	Time:	Relinquished by:	Received by:	Date	Time	

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

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,

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	**Client Sample ID:**	NAPIS-1
Lab Order:	0905544	**Collection Date:**	5/28/2009 8:05:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-01	**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	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: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-1
Lab Order:	0905544	**Collection Date:**	5/28/2009 8:05:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-01	**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

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-2
Lab Order:	0905544	**Collection Date:**	5/28/2009 8:40:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-02	**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	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: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-2
Lab Order:	0905544	**Collection Date:**	5/28/2009 8:40:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-02	**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		µmhos/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	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: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	KA-3
Lab Order:	0905544	**Collection Date:**	5/28/2009 9:30:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-03	**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 9:16:55 PM
Chloride	260	2.0		mg/L	20	6/9/2009 9:34:21 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: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	KA-3
Lab Order:	0905544	**Collection Date:**	5/28/2009 9:30:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-03	**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		µmhos/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	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: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	Trip Blank
Lab Order:	0905544	**Collection Date:**	
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-04	**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	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, 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		*MSD*			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		*MBLK*			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		*MBLK*			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		*MBLK*			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		*MBLK*			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		*LCS*			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		*LCS*			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		*LCS*			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)	4.862	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
Method: EPA 6010B: 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: _____ 5/29/09 | Sample ID labels checked by: _____

Signature | Date | Initials

Matrix: | Carrier name UPS

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 ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	<2 >12 unless noted below.
Container/Temp Blank temperature?	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: PO 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 Ice: ☒ Yes ☐ No
Sample Temperature: 2 °C

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No 2905514	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_2O	NAPLS-1	3VOA	HCl	-1	X															
				3VOA	HCl	-1			X													
				1-500ml	HNO3	-1						\	X									
				1L-Amber	None	-1						X										
				1-500	None	-1												X				
				1-125	H_2SO_4	-1												X				
				1-500	HNO3	-1												X				
5/28/09	1840		NAPLS-2	3-VOA	HCl	-2	X															
				2 VOA	HCl	-2		X														
				1-500ml	HNO3	-2							X									
				1 L Amber	None	-2						X										
				1-500ml	None	-2												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/28/09	1030				
Date:	Time:	Relinquished by:	Received by:	5/29/09	12:00

Remarks: GenChem - Cations, Anions, pH Cond. 8015B - GRO-DRO extended.

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

Chain-of-Custody Record

Client: Western Refining Gallup Refinery
Mailing Address: PT 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 #:
Project Manager: G. Rajen
Sampler: C Johnson
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.3

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0905c24	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)
5/28/09	0840	H_2O	NAPIS-2	1-125mL	H_2SO_4	-2												X				
"	"	"	"	1-500	HNO_3	-2												X				
5/28/09	0930		KA-3	3-VOA	HCl	-3	X															
				3-VOA	HCl	-3			X													
				1-500	HNO_3	-3							X									
				1-L Amb.	None	-3						X										
				1-500	None	-3												X				
				1-125	H_2SO_4	-3												X				
				1-500	HNO_3	-3												X				
			TRIP BLANK			-4																

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/28/09	1030				
Date:	Time:	Relinquished by:	Received by:	Date	Time
				5/29/09	12:00

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

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

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,

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	**Client Sample ID:**	NAPIS-3
Lab Order:	0906335	**Collection Date:**	6/15/2009 10:15:00 AM
Project:	2009 2nd QTR NAPIS	**Date Received:**	6/17/2009
Lab ID:	0906335-01	**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	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: *02-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-3
Lab Order:	0906335	**Collection Date:**	6/15/2009 10:15:00 AM
Project:	2009 2nd QTR NAPIS	**Date Received:**	6/17/2009
Lab ID:	0906335-01	**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	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

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Est. 1970

REPORT OF ANALYSIS

June 26, 2009

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

ESC Sample # : L408295-01

Date Received : June 18, 2009
Description :

Site ID :

Sample ID : NAPIS-3

Project # : 0906335

Collected By :
Collection Date : 06/15/09 10:15

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.

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

Albuquerque, NM 87109

Quality Assurance Report
Level II

L408295

June 26, 2009

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Mercury	[illegible]	mg/l			WG427240	07/10/09 08:40
Arsenic	< .02	mg/l			WG427956	06/25/09 15:05
Barium	< .005	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
Chromium	< .01	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
Potassium	< .5	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
Sodium	[illegible]	mg/l			WG427956	06/25/09 15:05

Laboratory Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Mercury	mg/l	0.00	0.00	0.00	20	L408207-16	WG427240
Arsenic	mg/l	0.00	0.00	0.00	20	L408277-06	WG427956
Barium	mg/l	0.00786	0.00788	0.216	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
Chromium	mg/l	0.0100	0.0100	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
Potassium	mg/l	1.96	1.97	0.739	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
Sodium	mg/l	16.0	16.3	1.86	20	L408277-06	WG427956

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Mercury	mg/l	0.003	0.00298	99.3	85-115	WG427240
Arsenic	mg/l	1.13	1.02	90.3	85-115	WG427956
Barium	mg/l	1.13	1.07	94.7	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
Chromium	mg/l	1.13	1.08	95.2	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
Potassium	mg/l	11.3	10.3	91.2	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
Sodium	mg/l	11.3	10.8	95.4	85-115	WG427956

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Mercury	mg/l	0.00288	0.000	0.003	96.0	70-130	L408207-16	WG427240
Arsenic	mg/l	1.01	0.00	1.13	89.4	75-125	L408277-06	WG427956
Barium	mg/l	1.01	0.00786	1.13	88.7	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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Albuquerque, NM 87109

Quality Assurance Report
Level II

L408295

June 26, 2009

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Cadmium	mg/l	1.01	0.00	1.13	89.4	75-125	L408277-06	WG427956
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
Lead	mg/l	1.00	0.00	1.13	88.6	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	82.6	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

Matrix Spike Duplicate

Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Mercury	mg/l	0.0022	0.0022	[illegible]	70-130	[illegible]	20	L408297-16	WG427240
Arsenic	mg/l	1.03	1.01	91.2	75-125	1.96	20	L408277-06	WG427956
Barium	mg/l	1.04	1.01	[illegible]	75-125	[illegible]	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
Chromium	mg/l	1.02	0.994	90.3	75-125	2.5	20	L408277-06	WG427956
Lead	mg/l	1.03	1.00	91.2	75-125	2.95	20	L408277-06	WG427956
Magnesium	mg/l	126.	123.	88.5	75-125	2.41	20	L408277-06	WG427956
Potassium	mg/l	11.7	11.6	91.5	75-125	0.868	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
Sodium	mg/l	27.3	27.2	97.3	75-125	[illegible]	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)	3.496	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	
Benz(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 | 6/17/09 Date | Sample ID labels checked by: TSB Initials

Matrix: | Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	
Container/Temp Blank temperature?	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 Ice: ☒ Yes ☐ No
Sample Temperature: 4.2

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	HEAL No 0901335	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	1105	H2O	NAPIS-3	3-VOA	HCl	1	X															
				3-VOA	HCl	1			X													
				1-500	HNO3	1							X									
				1-L	None	1						X										
				1-500	HNO3	1												X				
				1-500	None	1												X				
				1-125	H_2SO_4	1												X				

Date: 6/15/09 Time: 1058 Relinquished by:
Date: Time: Relinquished by:

Received by: Date: 6/17/09 Time: 10:50
Received by: Date: Time:

Remarks: Gen Chem: Cations, Anions pH, cond.
8015B - GRO/DRO extended

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

Chavez, Carl J, EMNRD

From: Rajen, Gaurav [Gaurav.Rajen@wnr.com]
Sent: Monday, August 10, 2009 7:47 AM
To: Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD
Cc: Riege, Ed
Subject: Latest sampling results for BW wells at Gallup Refinery
Attachments: BW wells July 2009.pdf

Dear Hope and Carl:

It is a pleasure to write and share with you our latest sampling results for our BW wells.

You will notice that for one our wells, BW-3B, Bis(2-ethylhexyl) phthalate had a hit of 0.01 ppm; however, as all other semi-volatiles and volatiles are Non-detect (for all wells) and the detection limit for this analyte was also 0.01ppm we feel that this result is probably a laboratory artifact. We will stay alert to see if this result reappears in our next round of sampling.

Best regards,

Raj

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 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.

Refinery representatives collected one composite sample from the excavated soil for characterization purposes. NMED cannot make a determination based on one composite sample. The Permittee must collect two undisturbed discrete soil samples from at least 0.5 foot beneath the surface of the stockpiled soil from the most apparently contaminated soils. The discrete soil samples must be collected using a Shelby tube/Encore Sampler or other comparable device to minimize the loss of volatiles. The discrete soil samples must be analyzed for TCLP volatiles, flashpoint, and gasoline range organics (GRO) using EPA Method 8015 modified. Upon receipt of the analytical data, NMED will then make a determination as to the status of the excavated soils. In addition, the Permittee must explain to NMED how the composite sample was collected. Depending on how the composite sample was collected, additional sampling may be required. An explanation of the composite sampling and the proposed sampling must be submitted to NMED on or before August 21, 2009. Emailed correspondence is acceptable in this case.

If you have questions please contact Hope Monzeglio of my staff at 505-428-2545.

Sincerely,

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

cc: D. Cobrain, NMED HWB
H. Monzeglio, NMED HWB
C. Chavez, NMEMNRD OCD
File: Reading GRCC 2009
GRCC-MISC

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, July 28, 2009

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

TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2009 Annual BW Sampling

Order No.: 0907192

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 7 sample(s) on 7/10/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

Hall Environmental Analysis Laboratory, Inc. **Date:** *28-Jul-09*

CLIENT: Western Refining Southwest, Gallup
Project: 2009 Annual BW Sampling
Lab Order: 0907192

CASE NARRATIVE

Analytical Comments for METHOD 8260_W, SAMPLE 0907192-04a: pH=5.0

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-1C
Lab Order:	0907192	**Collection Date:**	7/6/2009 11:45:00 AM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						Analyst: **MMS**
Mercury	ND	0.00020		mg/L	1	7/17/2009 5:14:05 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **SNV**
Arsenic	ND	0.020		mg/L	1	7/19/2009 9:17:11 PM
Barium	ND	0.020		mg/L	1	7/19/2009 9:17:11 PM
Cadmium	ND	0.0020		mg/L	1	7/19/2009 9:17:11 PM
Chromium	ND	0.0060		mg/L	1	7/19/2009 9:17:11 PM
Copper	ND	0.0060		mg/L	1	7/19/2009 9:17:11 PM
Iron	ND	0.050		mg/L	1	7/19/2009 9:17:11 PM
Lead	ND	0.0050		mg/L	1	7/19/2009 9:17:11 PM
Magnesium	ND	1.0		mg/L	1	7/19/2009 9:17:11 PM
Manganese	0.0027	0.0020		mg/L	1	7/19/2009 9:17:11 PM
Potassium	ND	1.0		mg/L	1	7/19/2009 9:17:11 PM
Selenium	ND	0.050		mg/L	1	7/19/2009 9:17:11 PM
Silver	ND	0.0050		mg/L	1	7/19/2009 9:17:11 PM
Zinc	ND	0.050		mg/L	1	7/19/2009 9:17:11 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	10		µg/L	1	7/15/2009
Acenaphthylene	ND	10		µg/L	1	7/15/2009
Aniline	ND	10		µg/L	1	7/15/2009
Anthracene	ND	10		µg/L	1	7/15/2009
Azobenzene	ND	10		µg/L	1	7/15/2009
Benz(a)anthracene	ND	10		µg/L	1	7/15/2009
Benzo(a)pyrene	ND	10		µg/L	1	7/15/2009
Benzo(b)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/15/2009
Benzo(k)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzoic acid	ND	20		µg/L	1	7/15/2009
Benzyl alcohol	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/15/2009
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/15/2009
Butyl benzyl phthalate	ND	10		µg/L	1	7/15/2009
Carbazole	ND	10		µg/L	1	7/15/2009
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/15/2009
4-Chloroaniline	ND	10		µg/L	1	7/15/2009
2-Chloronaphthalene	ND	10		µg/L	1	7/15/2009
2-Chlorophenol	ND	10		µg/L	1	7/15/2009
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-1C
Lab Order:	0907192	**Collection Date:**	7/6/2009 11:45:00 AM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Chrysene	ND	10		µg/L	1	7/15/2009
Di-n-butyl phthalate	ND	10		µg/L	1	7/15/2009
Di-n-octyl phthalate	ND	10		µg/L	1	7/15/2009
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/15/2009
Dibenzofuran	ND	10		µg/L	1	7/15/2009
1,2-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,3-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,4-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/15/2009
Diethyl phthalate	ND	10		µg/L	1	7/15/2009
Dimethyl phthalate	ND	10		µg/L	1	7/15/2009
2,4-Dichlorophenol	ND	20		µg/L	1	7/15/2009
2,4-Dimethylphenol	ND	10		µg/L	1	7/15/2009
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrophenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
2,6-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
Fluoranthene	ND	10		µg/L	1	7/15/2009
Fluorene	ND	10		µg/L	1	7/15/2009
Hexachlorobenzene	ND	10		µg/L	1	7/15/2009
Hexachlorobutadiene	ND	10		µg/L	1	7/15/2009
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/15/2009
Hexachloroethane	ND	10		µg/L	1	7/15/2009
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/15/2009
Isophorone	ND	10		µg/L	1	7/15/2009
2-Methylnaphthalene	ND	10		µg/L	1	7/15/2009
2-Methylphenol	ND	10		µg/L	1	7/15/2009
3+4-Methylphenol	ND	10		µg/L	1	7/15/2009
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodimethylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/15/2009
Naphthalene	ND	10		µg/L	1	7/15/2009
2-Nitroaniline	ND	10		µg/L	1	7/15/2009
3-Nitroaniline	ND	10		µg/L	1	7/15/2009
4-Nitroaniline	ND	10		µg/L	1	7/15/2009
Nitrobenzene	ND	10		µg/L	1	7/15/2009
2-Nitrophenol	ND	10		µg/L	1	7/15/2009
4-Nitrophenol	ND	10		µg/L	1	7/15/2009
Pentachlorophenol	ND	20		µg/L	1	7/15/2009
Phenanthrene	ND	10		µg/L	1	7/15/2009
Phenol	ND	10		µg/L	1	7/15/2009
Pyrene	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-1C
Lab Order:	0907192	**Collection Date:**	7/6/2009 11:45:00 AM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Pyridine	ND	10		µg/L	1	7/15/2009
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/15/2009
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/15/2009
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/15/2009
Surr: 2,4,6-Tribromophenol	76.5	16.6-150		%REC	1	7/15/2009
Surr: 2-Fluorobiphenyl	67.6	19.6-134		%REC	1	7/15/2009
Surr: 2-Fluorophenol	55.0	9.54-113		%REC	1	7/15/2009
Surr: 4-Terphenyl-d14	75.9	22.7-145		%REC	1	7/15/2009
Surr: Nitrobenzene-d5	75.2	14.6-134		%REC	1	7/15/2009
Surr: Phenol-d5	39.2	10.7-80.3		%REC	1	7/15/2009
EPA METHOD 8260B: VOLATILES						Analyst: **HL**
Benzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Toluene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Ethylbenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Naphthalene	ND	2.0		µg/L	1	7/13/2009 11:07:19 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/13/2009 11:07:19 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/13/2009 11:07:19 PM
Acetone	ND	10		µg/L	1	7/13/2009 11:07:19 PM
Bromobenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Bromodichloromethane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Bromoform	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Bromomethane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
2-Butanone	ND	10		µg/L	1	7/13/2009 11:07:19 PM
Carbon disulfide	ND	10		µg/L	1	7/13/2009 11:07:19 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Chlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Chloroethane	ND	2.0		µg/L	1	7/13/2009 11:07:19 PM
Chloroform	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Chloromethane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
2-Chlorotoluene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
4-Chlorotoluene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
cis-1,2-DCE	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/13/2009 11:07:19 PM
Dibromochloromethane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Dibromomethane	ND	1.0		µg/L	1	7/13/2009 11:07:19 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: 28-Jul-09

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-1C
Lab Order:	0907192	**Collection Date:**	7/6/2009 11:45:00 AM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/13/2009 11:07:19 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
2-Hexanone	ND	10		µg/L	1	7/13/2009 11:07:19 PM
Isopropylbenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/13/2009 11:07:19 PM
Methylene Chloride	ND	3.0		µg/L	1	7/13/2009 11:07:19 PM
n-Butylbenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
n-Propylbenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
sec-Butylbenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Styrene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
tert-Butylbenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/13/2009 11:07:19 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
trans-1,2-DCE	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/13/2009 11:07:19 PM
Vinyl chloride	ND	1.0		µg/L	1	7/13/2009 11:07:19 PM
Xylenes, Total	ND	1.5		µg/L	1	7/13/2009 11:07:19 PM
Surr: 1,2-Dichloroethane-d4	108	68.1-123		%REC	1	7/13/2009 11:07:19 PM
Surr: 4-Bromofluorobenzene	105	53.2-145		%REC	1	7/13/2009 11:07:19 PM
Surr: Dibromofluoromethane	118	68.5-119		%REC	1	7/13/2009 11:07:19 PM
Surr: Toluene-d8	114	64-131		%REC	1	7/13/2009 11:07:19 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: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2B
Lab Order:	0907192	**Collection Date:**	7/6/2009 1:42:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						Analyst: **MMS**
Mercury	ND	0.00020		mg/L	1	7/17/2009 5:15:56 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **SNV**
Arsenic	ND	0.020		mg/L	1	7/19/2009 9:34:13 PM
Barium	0.099	0.020		mg/L	1	7/19/2009 9:34:13 PM
Cadmium	ND	0.0020		mg/L	1	7/19/2009 9:34:13 PM
Chromium	ND	0.0060		mg/L	1	7/19/2009 9:34:13 PM
Copper	ND	0.0060		mg/L	1	7/19/2009 9:34:13 PM
Iron	1.8	0.25		mg/L	5	7/19/2009 10:27:24 PM
Lead	ND	0.0050		mg/L	1	7/19/2009 9:34:13 PM
Magnesium	4.1	1.0		mg/L	1	7/19/2009 9:34:13 PM
Manganese	0.47	0.0020		mg/L	1	7/19/2009 9:34:13 PM
Potassium	1.8	1.0		mg/L	1	7/19/2009 9:34:13 PM
Selenium	ND	0.050		mg/L	1	7/19/2009 9:34:13 PM
Silver	ND	0.0050		mg/L	1	7/19/2009 9:34:13 PM
Zinc	ND	0.050		mg/L	1	7/19/2009 9:34:13 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	10		µg/L	1	7/15/2009
Acenaphthylene	ND	10		µg/L	1	7/15/2009
Aniline	ND	10		µg/L	1	7/15/2009
Anthracene	ND	10		µg/L	1	7/15/2009
Azobenzene	ND	10		µg/L	1	7/15/2009
Benz(a)anthracene	ND	10		µg/L	1	7/15/2009
Benzo(a)pyrene	ND	10		µg/L	1	7/15/2009
Benzo(b)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/15/2009
Benzo(k)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzoic acid	ND	20		µg/L	1	7/15/2009
Benzyl alcohol	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/15/2009
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/15/2009
Butyl benzyl phthalate	ND	10		µg/L	1	7/15/2009
Carbazole	ND	10		µg/L	1	7/15/2009
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/15/2009
4-Chloroaniline	ND	10		µg/L	1	7/15/2009
2-Chloronaphthalene	ND	10		µg/L	1	7/15/2009
2-Chlorophenol	ND	10		µg/L	1	7/15/2009
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 28-Jul-09

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2B
Lab Order:	0907192	**Collection Date:**	7/6/2009 1:42:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Chrysene	ND	10		µg/L	1	7/15/2009
Di-n-butyl phthalate	ND	10		µg/L	1	7/15/2009
Di-n-octyl phthalate	ND	10		µg/L	1	7/15/2009
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/15/2009
Dibenzofuran	ND	10		µg/L	1	7/15/2009
1,2-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,3-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,4-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/15/2009
Diethyl phthalate	ND	10		µg/L	1	7/15/2009
Dimethyl phthalate	ND	10		µg/L	1	7/15/2009
2,4-Dichlorophenol	ND	20		µg/L	1	7/15/2009
2,4-Dimethylphenol	ND	10		µg/L	1	7/15/2009
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrophenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
2,6-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
Fluoranthene	ND	10		µg/L	1	7/15/2009
Fluorene	ND	10		µg/L	1	7/15/2009
Hexachlorobenzene	ND	10		µg/L	1	7/15/2009
Hexachlorobutadiene	ND	10		µg/L	1	7/15/2009
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/15/2009
Hexachloroethane	ND	10		µg/L	1	7/15/2009
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/15/2009
Isophorone	ND	10		µg/L	1	7/15/2009
2-Methylnaphthalene	ND	10		µg/L	1	7/15/2009
2-Methylphenol	ND	10		µg/L	1	7/15/2009
3+4-Methylphenol	ND	10		µg/L	1	7/15/2009
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodimethylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/15/2009
Naphthalene	ND	10		µg/L	1	7/15/2009
2-Nitroaniline	ND	10		µg/L	1	7/15/2009
3-Nitroaniline	ND	10		µg/L	1	7/15/2009
4-Nitroaniline	ND	10		µg/L	1	7/15/2009
Nitrobenzene	ND	10		µg/L	1	7/15/2009
2-Nitrophenol	ND	10		µg/L	1	7/15/2009
4-Nitrophenol	ND	10		µg/L	1	7/15/2009
Pentachlorophenol	ND	20		µg/L	1	7/15/2009
Phenanthrene	ND	10		µg/L	1	7/15/2009
Phenol	ND	10		µg/L	1	7/15/2009
Pyrene	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2B
Lab Order:	0907192	**Collection Date:**	7/6/2009 1:42:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Pyridine	ND	10		µg/L	1	7/15/2009
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/15/2009
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/15/2009
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/15/2009
Surr: 2,4,6-Tribromophenol	81.6	16.6-150		%REC	1	7/15/2009
Surr: 2-Fluorobiphenyl	77.3	19.6-134		%REC	1	7/15/2009
Surr: 2-Fluorophenol	52.2	9.54-113		%REC	1	7/15/2009
Surr: 4-Terphenyl-d14	76.9	22.7-145		%REC	1	7/15/2009
Surr: Nitrobenzene-d5	80.7	14.6-134		%REC	1	7/15/2009
Surr: Phenol-d5	35.8	10.7-80.3		%REC	1	7/15/2009
EPA METHOD 8260B: VOLATILES						Analyst: **HL**
Benzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Toluene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Ethylbenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Naphthalene	ND	2.0		µg/L	1	7/13/2009 11:36:27 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/13/2009 11:36:27 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/13/2009 11:36:27 PM
Acetone	ND	10		µg/L	1	7/13/2009 11:36:27 PM
Bromobenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Bromodichloromethane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Bromoform	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Bromomethane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
2-Butanone	ND	10		µg/L	1	7/13/2009 11:36:27 PM
Carbon disulfide	ND	10		µg/L	1	7/13/2009 11:36:27 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Chlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Chloroethane	ND	2.0		µg/L	1	7/13/2009 11:36:27 PM
Chloroform	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Chloromethane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
2-Chlorotoluene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
4-Chlorotoluene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
cis-1,2-DCE	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/13/2009 11:36:27 PM
Dibromochloromethane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Dibromomethane	ND	1.0		µg/L	1	7/13/2009 11:36:27 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: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2B
Lab Order:	0907192	**Collection Date:**	7/6/2009 1:42:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/13/2009 11:36:27 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
2-Hexanone	ND	10		µg/L	1	7/13/2009 11:36:27 PM
Isopropylbenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/13/2009 11:36:27 PM
Methylene Chloride	ND	3.0		µg/L	1	7/13/2009 11:36:27 PM
n-Butylbenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
n-Propylbenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
sec-Butylbenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Styrene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
tert-Butylbenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/13/2009 11:36:27 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
trans-1,2-DCE	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/13/2009 11:36:27 PM
Vinyl chloride	ND	1.0		µg/L	1	7/13/2009 11:36:27 PM
Xylenes, Total	ND	1.5		µg/L	1	7/13/2009 11:36:27 PM
Surr: 1,2-Dichloroethane-d4	110	68.1-123		%REC	1	7/13/2009 11:36:27 PM
Surr: 4-Bromofluorobenzene	107	53.2-145		%REC	1	7/13/2009 11:36:27 PM
Surr: Dibromofluoromethane	112	68.5-119		%REC	1	7/13/2009 11:36:27 PM
Surr: Toluene-d8	104	64-131		%REC	1	7/13/2009 11:36:27 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: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2A
Lab Order:	0907192	**Collection Date:**	7/6/2009 3:01:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						Analyst: **MMS**
Mercury	ND	0.00020		mg/L	1	7/17/2009 5:21:30 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **SNV**
Arsenic	ND	0.020		mg/L	1	7/19/2009 9:38:11 PM
Barium	0.15	0.020		mg/L	1	7/19/2009 9:38:11 PM
Cadmium	ND	0.0020		mg/L	1	7/19/2009 9:38:11 PM
Chromium	ND	0.0060		mg/L	1	7/19/2009 9:38:11 PM
Copper	ND	0.0060		mg/L	1	7/19/2009 9:38:11 PM
Iron	0.50	0.050		mg/L	1	7/19/2009 9:38:11 PM
Lead	ND	0.0050		mg/L	1	7/19/2009 9:38:11 PM
Magnesium	3.4	1.0		mg/L	1	7/19/2009 9:38:11 PM
Manganese	0.15	0.0020		mg/L	1	7/19/2009 9:38:11 PM
Potassium	ND	1.0		mg/L	1	7/19/2009 9:38:11 PM
Selenium	ND	0.050		mg/L	1	7/19/2009 9:38:11 PM
Silver	ND	0.0050		mg/L	1	7/19/2009 9:38:11 PM
Zinc	ND	0.050		mg/L	1	7/19/2009 9:38:11 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	10		µg/L	1	7/15/2009
Acenaphthylene	ND	10		µg/L	1	7/15/2009
Aniline	ND	10		µg/L	1	7/15/2009
Anthracene	ND	10		µg/L	1	7/15/2009
Azobenzene	ND	10		µg/L	1	7/15/2009
Benz(a)anthracene	ND	10		µg/L	1	7/15/2009
Benzo(a)pyrene	ND	10		µg/L	1	7/15/2009
Benzo(b)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/15/2009
Benzo(k)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzoic acid	ND	20		µg/L	1	7/15/2009
Benzyl alcohol	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/15/2009
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/15/2009
Butyl benzyl phthalate	ND	10		µg/L	1	7/15/2009
Carbazole	ND	10		µg/L	1	7/15/2009
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/15/2009
4-Chloroaniline	ND	10		µg/L	1	7/15/2009
2-Chloronaphthalene	ND	10		µg/L	1	7/15/2009
2-Chlorophenol	ND	10		µg/L	1	7/15/2009
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 28-Jul-09

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2A
Lab Order:	0907192	**Collection Date:**	7/6/2009 3:01:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Chrysene	ND	10		µg/L	1	7/15/2009
Di-n-butyl phthalate	ND	10		µg/L	1	7/15/2009
Di-n-octyl phthalate	ND	10		µg/L	1	7/15/2009
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/15/2009
Dibenzofuran	ND	10		µg/L	1	7/15/2009
1,2-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,3-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,4-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/15/2009
Diethyl phthalate	ND	10		µg/L	1	7/15/2009
Dimethyl phthalate	ND	10		µg/L	1	7/15/2009
2,4-Dichlorophenol	ND	20		µg/L	1	7/15/2009
2,4-Dimethylphenol	ND	10		µg/L	1	7/15/2009
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrophenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
2,6-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
Fluoranthene	ND	10		µg/L	1	7/15/2009
Fluorene	ND	10		µg/L	1	7/15/2009
Hexachlorobenzene	ND	10		µg/L	1	7/15/2009
Hexachlorobutadiene	ND	10		µg/L	1	7/15/2009
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/15/2009
Hexachloroethane	ND	10		µg/L	1	7/15/2009
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/15/2009
Isophorone	ND	10		µg/L	1	7/15/2009
2-Methylnaphthalene	ND	10		µg/L	1	7/15/2009
2-Methylphenol	ND	10		µg/L	1	7/15/2009
3+4-Methylphenol	ND	10		µg/L	1	7/15/2009
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodimethylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/15/2009
Naphthalene	ND	10		µg/L	1	7/15/2009
2-Nitroaniline	ND	10		µg/L	1	7/15/2009
3-Nitroaniline	ND	10		µg/L	1	7/15/2009
4-Nitroaniline	ND	10		µg/L	1	7/15/2009
Nitrobenzene	ND	10		µg/L	1	7/15/2009
2-Nitrophenol	ND	10		µg/L	1	7/15/2009
4-Nitrophenol	ND	10		µg/L	1	7/15/2009
Pentachlorophenol	ND	20		µg/L	1	7/15/2009
Phenanthrene	ND	10		µg/L	1	7/15/2009
Phenol	ND	10		µg/L	1	7/15/2009
Pyrene	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2A
Lab Order:	0907192	**Collection Date:**	7/6/2009 3:01:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Pyridine	ND	10		µg/L	1	7/15/2009
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/15/2009
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/15/2009
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/15/2009
Surr: 2,4,6-Tribromophenol	58.1	16.6-150		%REC	1	7/15/2009
Surr: 2-Fluorobiphenyl	41.1	19.6-134		%REC	1	7/15/2009
Surr: 2-Fluorophenol	27.5	9.54-113		%REC	1	7/15/2009
Surr: 4-Terphenyl-d14	54.0	22.7-145		%REC	1	7/15/2009
Surr: Nitrobenzene-d5	41.1	14.6-134		%REC	1	7/15/2009
Surr: Phenol-d5	18.9	10.7-80.3		%REC	1	7/15/2009
EPA METHOD 8260B: VOLATILES						Analyst: **HL**
Benzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Toluene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Ethylbenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Naphthalene	ND	2.0		µg/L	1	7/14/2009 12:05:24 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/14/2009 12:05:24 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/14/2009 12:05:24 AM
Acetone	ND	10		µg/L	1	7/14/2009 12:05:24 AM
Bromobenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Bromodichloromethane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Bromoform	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Bromomethane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
2-Butanone	ND	10		µg/L	1	7/14/2009 12:05:24 AM
Carbon disulfide	ND	10		µg/L	1	7/14/2009 12:05:24 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Chlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Chloroethane	ND	2.0		µg/L	1	7/14/2009 12:05:24 AM
Chloroform	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Chloromethane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
2-Chlorotoluene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
4-Chlorotoluene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
cis-1,2-DCE	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/14/2009 12:05:24 AM
Dibromochloromethane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Dibromomethane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2A
Lab Order:	0907192	**Collection Date:**	7/6/2009 3:01:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/14/2009 12:05:24 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
2-Hexanone	ND	10		µg/L	1	7/14/2009 12:05:24 AM
Isopropylbenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/14/2009 12:05:24 AM
Methylene Chloride	ND	3.0		µg/L	1	7/14/2009 12:05:24 AM
n-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
n-Propylbenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
sec-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Styrene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
tert-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/14/2009 12:05:24 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
trans-1,2-DCE	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/14/2009 12:05:24 AM
Vinyl chloride	ND	1.0		µg/L	1	7/14/2009 12:05:24 AM
Xylenes, Total	ND	1.5		µg/L	1	7/14/2009 12:05:24 AM
Surr: 1,2-Dichloroethane-d4	110	68.1-123		%REC	1	7/14/2009 12:05:24 AM
Surr: 4-Bromofluorobenzene	105	53.2-145		%REC	1	7/14/2009 12:05:24 AM
Surr: Dibromofluoromethane	109	68.5-119		%REC	1	7/14/2009 12:05:24 AM
Surr: Toluene-d8	106	64-131		%REC	1	7/14/2009 12:05:24 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	Field Blank
Lab Order:	0907192	**Collection Date:**	7/6/2009 12:20:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
Benzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Toluene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Ethylbenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Naphthalene	ND	2.0		µg/L	1	7/14/2009 12:34:29 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/14/2009 12:34:29 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/14/2009 12:34:29 AM
Acetone	ND	10		µg/L	1	7/14/2009 12:34:29 AM
Bromobenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Bromodichloromethane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Bromoform	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Bromomethane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
2-Butanone	ND	10		µg/L	1	7/14/2009 12:34:29 AM
Carbon disulfide	ND	10		µg/L	1	7/14/2009 12:34:29 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Chlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Chloroethane	ND	2.0		µg/L	1	7/14/2009 12:34:29 AM
Chloroform	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Chloromethane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
2-Chlorotoluene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
4-Chlorotoluene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
cis-1,2-DCE	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/14/2009 12:34:29 AM
Dibromochloromethane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Dibromomethane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/14/2009 12:34:29 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
2-Hexanone	ND	10		µg/L	1	7/14/2009 12:34:29 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 28-Jul-09

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	Field Blank
Lab Order:	0907192	**Collection Date:**	7/6/2009 12:20:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
Isopropylbenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/14/2009 12:34:29 AM
Methylene Chloride	ND	3.0		µg/L	1	7/14/2009 12:34:29 AM
n-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
n-Propylbenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
sec-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Styrene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
tert-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/14/2009 12:34:29 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
trans-1,2-DCE	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/14/2009 12:34:29 AM
Vinyl chloride	ND	1.0		µg/L	1	7/14/2009 12:34:29 AM
Xylenes, Total	ND	1.5		µg/L	1	7/14/2009 12:34:29 AM
Surr: 1,2-Dichloroethane-d4	112	68.1-123		%REC	1	7/14/2009 12:34:29 AM
Surr: 4-Bromofluorobenzene	107	53.2-145		%REC	1	7/14/2009 12:34:29 AM
Surr: Dibromofluoromethane	106	68.5-119		%REC	1	7/14/2009 12:34:29 AM
Surr: Toluene-d8	107	64-131		%REC	1	7/14/2009 12:34:29 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2C
Lab Order:	0907192	**Collection Date:**	7/6/2009 12:31:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						Analyst: **MMS**
Mercury	ND	0.00020		mg/L	1	7/17/2009 5:23:20 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **SNV**
Arsenic	ND	0.020		mg/L	1	7/19/2009 9:42:20 PM
Barium	0.078	0.020		mg/L	1	7/19/2009 9:42:20 PM
Cadmium	ND	0.0020		mg/L	1	7/19/2009 9:42:20 PM
Chromium	ND	0.0060		mg/L	1	7/19/2009 9:42:20 PM
Copper	ND	0.0060		mg/L	1	7/19/2009 9:42:20 PM
Iron	0.85	0.050		mg/L	1	7/19/2009 9:42:20 PM
Lead	ND	0.0050		mg/L	1	7/19/2009 9:42:20 PM
Magnesium	1.5	1.0		mg/L	1	7/19/2009 9:42:20 PM
Manganese	0.20	0.0020		mg/L	1	7/19/2009 9:42:20 PM
Potassium	1.1	1.0		mg/L	1	7/19/2009 9:42:20 PM
Selenium	ND	0.050		mg/L	1	7/19/2009 9:42:20 PM
Silver	ND	0.0050		mg/L	1	7/19/2009 9:42:20 PM
Zinc	ND	0.050		mg/L	1	7/19/2009 9:42:20 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	10		µg/L	1	7/15/2009
Acenaphthylene	ND	10		µg/L	1	7/15/2009
Aniline	ND	10		µg/L	1	7/15/2009
Anthracene	ND	10		µg/L	1	7/15/2009
Azobenzene	ND	10		µg/L	1	7/15/2009
Benz(a)anthracene	ND	10		µg/L	1	7/15/2009
Benzo(a)pyrene	ND	10		µg/L	1	7/15/2009
Benzo(b)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/15/2009
Benzo(k)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzoic acid	ND	20		µg/L	1	7/15/2009
Benzyl alcohol	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/15/2009
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/15/2009
Butyl benzyl phthalate	ND	10		µg/L	1	7/15/2009
Carbazole	ND	10		µg/L	1	7/15/2009
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/15/2009
4-Chloroaniline	ND	10		µg/L	1	7/15/2009
2-Chloronaphthalene	ND	10		µg/L	1	7/15/2009
2-Chlorophenol	ND	10		µg/L	1	7/15/2009
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 28-Jul-09

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2C
Lab Order:	0907192	**Collection Date:**	7/6/2009 12:31:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Chrysene	ND	10		µg/L	1	7/15/2009
Di-n-butyl phthalate	ND	10		µg/L	1	7/15/2009
Di-n-octyl phthalate	ND	10		µg/L	1	7/15/2009
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/15/2009
Dibenzofuran	ND	10		µg/L	1	7/15/2009
1,2-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,3-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,4-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/15/2009
Diethyl phthalate	ND	10		µg/L	1	7/15/2009
Dimethyl phthalate	ND	10		µg/L	1	7/15/2009
2,4-Dichlorophenol	ND	20		µg/L	1	7/15/2009
2,4-Dimethylphenol	ND	10		µg/L	1	7/15/2009
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrophenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
2,6-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
Fluoranthene	ND	10		µg/L	1	7/15/2009
Fluorene	ND	10		µg/L	1	7/15/2009
Hexachlorobenzene	ND	10		µg/L	1	7/15/2009
Hexachlorobutadiene	ND	10		µg/L	1	7/15/2009
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/15/2009
Hexachloroethane	ND	10		µg/L	1	7/15/2009
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/15/2009
Isophorone	ND	10		µg/L	1	7/15/2009
2-Methylnaphthalene	ND	10		µg/L	1	7/15/2009
2-Methylphenol	ND	10		µg/L	1	7/15/2009
3+4-Methylphenol	ND	10		µg/L	1	7/15/2009
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodimethylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/15/2009
Naphthalene	ND	10		µg/L	1	7/15/2009
2-Nitroaniline	ND	10		µg/L	1	7/15/2009
3-Nitroaniline	ND	10		µg/L	1	7/15/2009
4-Nitroaniline	ND	10		µg/L	1	7/15/2009
Nitrobenzene	ND	10		µg/L	1	7/15/2009
2-Nitrophenol	ND	10		µg/L	1	7/15/2009
4-Nitrophenol	ND	10		µg/L	1	7/15/2009
Pentachlorophenol	ND	20		µg/L	1	7/15/2009
Phenanthrene	ND	10		µg/L	1	7/15/2009
Phenol	ND	10		µg/L	1	7/15/2009
Pyrene	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2C
Lab Order:	0907192	**Collection Date:**	7/6/2009 12:31:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Pyridine	ND	10		µg/L	1	7/15/2009
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/15/2009
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/15/2009
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/15/2009
Surr: 2,4,6-Tribromophenol	58.1	16.6-150		%REC	1	7/15/2009
Surr: 2-Fluorobiphenyl	52.6	19.6-134		%REC	1	7/15/2009
Surr: 2-Fluorophenol	35.2	9.54-113		%REC	1	7/15/2009
Surr: 4-Terphenyl-d14	52.0	22.7-145		%REC	1	7/15/2009
Surr: Nitrobenzene-d5	51.1	14.6-134		%REC	1	7/15/2009
Surr: Phenol-d5	26.2	10.7-80.3		%REC	1	7/15/2009
EPA METHOD 8260B: VOLATILES						Analyst: **HL**
Benzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Toluene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Ethylbenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Naphthalene	ND	2.0		µg/L	1	7/14/2009 1:03:47 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/14/2009 1:03:47 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/14/2009 1:03:47 AM
Acetone	ND	10		µg/L	1	7/14/2009 1:03:47 AM
Bromobenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Bromodichloromethane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Bromoform	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Bromomethane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
2-Butanone	ND	10		µg/L	1	7/14/2009 1:03:47 AM
Carbon disulfide	ND	10		µg/L	1	7/14/2009 1:03:47 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Chlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Chloroethane	ND	2.0		µg/L	1	7/14/2009 1:03:47 AM
Chloroform	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Chloromethane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
2-Chlorotoluene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
4-Chlorotoluene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
cis-1,2-DCE	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/14/2009 1:03:47 AM
Dibromochloromethane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Dibromomethane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-2C
Lab Order:	0907192	**Collection Date:**	7/6/2009 12:31:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/14/2009 1:03:47 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
2-Hexanone	ND	10		µg/L	1	7/14/2009 1:03:47 AM
Isopropylbenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/14/2009 1:03:47 AM
Methylene Chloride	ND	3.0		µg/L	1	7/14/2009 1:03:47 AM
n-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
n-Propylbenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
sec-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Styrene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
tert-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/14/2009 1:03:47 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
trans-1,2-DCE	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/14/2009 1:03:47 AM
Vinyl chloride	ND	1.0		µg/L	1	7/14/2009 1:03:47 AM
Xylenes, Total	ND	1.5		µg/L	1	7/14/2009 1:03:47 AM
Surr: 1,2-Dichloroethane-d4	113	68.1-123		%REC	1	7/14/2009 1:03:47 AM
Surr: 4-Bromofluorobenzene	105	53.2-145		%REC	1	7/14/2009 1:03:47 AM
Surr: Dibromofluoromethane	122	68.5-119	S	%REC	1	7/14/2009 1:03:47 AM
Surr: Toluene-d8	104	64-131		%REC	1	7/14/2009 1:03:47 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-3B
Lab Order:	0907192	**Collection Date:**	7/6/2009 2:21:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						Analyst: **MMS**
Mercury	ND	0.00020		mg/L	1	7/17/2009 5:25:04 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **SNV**
Arsenic	ND	0.020		mg/L	1	7/19/2009 9:46:27 PM
Barium	0.098	0.020		mg/L	1	7/19/2009 9:46:27 PM
Cadmium	ND	0.0020		mg/L	1	7/19/2009 9:46:27 PM
Chromium	ND	0.0060		mg/L	1	7/19/2009 9:46:27 PM
Copper	ND	0.0060		mg/L	1	7/19/2009 9:46:27 PM
Iron	0.62	0.050		mg/L	1	7/19/2009 9:46:27 PM
Lead	ND	0.0050		mg/L	1	7/19/2009 9:46:27 PM
Magnesium	2.6	1.0		mg/L	1	7/19/2009 9:46:27 PM
Manganese	0.11	0.0020		mg/L	1	7/19/2009 9:46:27 PM
Potassium	ND	1.0		mg/L	1	7/19/2009 9:46:27 PM
Selenium	ND	0.050		mg/L	1	7/19/2009 9:46:27 PM
Silver	ND	0.0050		mg/L	1	7/19/2009 9:46:27 PM
Zinc	ND	0.050		mg/L	1	7/19/2009 9:46:27 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	10		µg/L	1	7/15/2009
Acenaphthylene	ND	10		µg/L	1	7/15/2009
Aniline	ND	10		µg/L	1	7/15/2009
Anthracene	ND	10		µg/L	1	7/15/2009
Azobenzene	ND	10		µg/L	1	7/15/2009
Benz(a)anthracene	ND	10		µg/L	1	7/15/2009
Benzo(a)pyrene	ND	10		µg/L	1	7/15/2009
Benzo(b)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/15/2009
Benzo(k)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzoic acid	ND	20		µg/L	1	7/15/2009
Benzyl alcohol	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-ethylhexyl)phthalate	10	10		µg/L	1	7/15/2009
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/15/2009
Butyl benzyl phthalate	ND	10		µg/L	1	7/15/2009
Carbazole	ND	10		µg/L	1	7/15/2009
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/15/2009
4-Chloroaniline	ND	10		µg/L	1	7/15/2009
2-Chloronaphthalene	ND	10		µg/L	1	7/15/2009
2-Chlorophenol	ND	10		µg/L	1	7/15/2009
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 28-Jul-09

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-3B
Lab Order:	0907192	**Collection Date:**	7/6/2009 2:21:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Chrysene	ND	10		µg/L	1	7/15/2009
Di-n-butyl phthalate	ND	10		µg/L	1	7/15/2009
Di-n-octyl phthalate	ND	10		µg/L	1	7/15/2009
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/15/2009
Dibenzofuran	ND	10		µg/L	1	7/15/2009
1,2-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,3-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,4-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/15/2009
Diethyl phthalate	ND	10		µg/L	1	7/15/2009
Dimethyl phthalate	ND	10		µg/L	1	7/15/2009
2,4-Dichlorophenol	ND	20		µg/L	1	7/15/2009
2,4-Dimethylphenol	ND	10		µg/L	1	7/15/2009
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrophenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
2,6-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
Fluoranthene	ND	10		µg/L	1	7/15/2009
Fluorene	ND	10		µg/L	1	7/15/2009
Hexachlorobenzene	ND	10		µg/L	1	7/15/2009
Hexachlorobutadiene	ND	10		µg/L	1	7/15/2009
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/15/2009
Hexachloroethane	ND	10		µg/L	1	7/15/2009
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/15/2009
Isophorone	ND	10		µg/L	1	7/15/2009
2-Methylnaphthalene	ND	10		µg/L	1	7/15/2009
2-Methylphenol	ND	10		µg/L	1	7/15/2009
3+4-Methylphenol	ND	10		µg/L	1	7/15/2009
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodimethylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/15/2009
Naphthalene	ND	10		µg/L	1	7/15/2009
2-Nitroaniline	ND	10		µg/L	1	7/15/2009
3-Nitroaniline	ND	10		µg/L	1	7/15/2009
4-Nitroaniline	ND	10		µg/L	1	7/15/2009
Nitrobenzene	ND	10		µg/L	1	7/15/2009
2-Nitrophenol	ND	10		µg/L	1	7/15/2009
4-Nitrophenol	ND	10		µg/L	1	7/15/2009
Pentachlorophenol	ND	20		µg/L	1	7/15/2009
Phenanthrene	ND	10		µg/L	1	7/15/2009
Phenol	ND	10		µg/L	1	7/15/2009
Pyrene	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-3B
Lab Order:	0907192	**Collection Date:**	7/6/2009 2:21:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Pyridine	ND	10		µg/L	1	7/15/2009
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/15/2009
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/15/2009
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/15/2009
Surr: 2,4,6-Tribromophenol	61.9	16.6-150		%REC	1	7/15/2009
Surr: 2-Fluorobiphenyl	46.1	19.6-134		%REC	1	7/15/2009
Surr: 2-Fluorophenol	23.2	9.54-113		%REC	1	7/15/2009
Surr: 4-Terphenyl-d14	56.4	22.7-145		%REC	1	7/15/2009
Surr: Nitrobenzene-d5	36.3	14.6-134		%REC	1	7/15/2009
Surr: Phenol-d5	18.0	10.7-80.3		%REC	1	7/15/2009
EPA METHOD 8260B: VOLATILES						Analyst: HL
Benzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Toluene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Ethylbenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Naphthalene	ND	2.0		µg/L	1	7/14/2009 1:32:43 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/14/2009 1:32:43 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/14/2009 1:32:43 AM
Acetone	ND	10		µg/L	1	7/14/2009 1:32:43 AM
Bromobenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Bromodichloromethane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Bromoform	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Bromomethane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
2-Butanone	ND	10		µg/L	1	7/14/2009 1:32:43 AM
Carbon disulfide	ND	10		µg/L	1	7/14/2009 1:32:43 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Chlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Chloroethane	ND	2.0		µg/L	1	7/14/2009 1:32:43 AM
Chloroform	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Chloromethane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
2-Chlorotoluene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
4-Chlorotoluene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
cis-1,2-DCE	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/14/2009 1:32:43 AM
Dibromochloromethane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Dibromomethane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-3B
Lab Order:	0907192	**Collection Date:**	7/6/2009 2:21:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/14/2009 1:32:43 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
2-Hexanone	ND	10		µg/L	1	7/14/2009 1:32:43 AM
Isopropylbenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/14/2009 1:32:43 AM
Methylene Chloride	ND	3.0		µg/L	1	7/14/2009 1:32:43 AM
n-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
n-Propylbenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
sec-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Styrene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
tert-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/14/2009 1:32:43 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
trans-1,2-DCE	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/14/2009 1:32:43 AM
Vinyl chloride	ND	1.0		µg/L	1	7/14/2009 1:32:43 AM
Xylenes, Total	ND	1.5		µg/L	1	7/14/2009 1:32:43 AM
Surr: 1,2-Dichloroethane-d4	111	68.1-123		%REC	1	7/14/2009 1:32:43 AM
Surr: 4-Bromofluorobenzene	101	53.2-145		%REC	1	7/14/2009 1:32:43 AM
Surr: Dibromofluoromethane	116	68.5-119		%REC	1	7/14/2009 1:32:43 AM
Surr: Toluene-d8	101	64-131		%REC	1	7/14/2009 1:32:43 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-3C
Lab Order:	0907192	**Collection Date:**	7/6/2009 3:40:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						Analyst: **MMS**
Mercury	ND	0.00020		mg/L	1	7/17/2009 5:26:48 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **SNV**
Arsenic	ND	0.020		mg/L	1	7/19/2009 9:50:49 PM
Barium	0.054	0.020		mg/L	1	7/19/2009 9:50:49 PM
Cadmium	ND	0.0020		mg/L	1	7/19/2009 9:50:49 PM
Chromium	ND	0.0060		mg/L	1	7/19/2009 9:50:49 PM
Copper	ND	0.0060		mg/L	1	7/19/2009 9:50:49 PM
Iron	0.19	0.050		mg/L	1	7/19/2009 9:50:49 PM
Lead	ND	0.0050		mg/L	1	7/19/2009 9:50:49 PM
Magnesium	ND	1.0		mg/L	1	7/19/2009 9:50:49 PM
Manganese	0.020	0.0020		mg/L	1	7/19/2009 9:50:49 PM
Potassium	ND	1.0		mg/L	1	7/19/2009 9:50:49 PM
Selenium	ND	0.050		mg/L	1	7/19/2009 9:50:49 PM
Silver	ND	0.0050		mg/L	1	7/19/2009 9:50:49 PM
Zinc	ND	0.050		mg/L	1	7/19/2009 9:50:49 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	10		µg/L	1	7/15/2009
Acenaphthylene	ND	10		µg/L	1	7/15/2009
Aniline	ND	10		µg/L	1	7/15/2009
Anthracene	ND	10		µg/L	1	7/15/2009
Azobenzene	ND	10		µg/L	1	7/15/2009
Benz(a)anthracene	ND	10		µg/L	1	7/15/2009
Benzo(a)pyrene	ND	10		µg/L	1	7/15/2009
Benzo(b)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzo(g,h,i)perylene	ND	10		µg/L	1	7/15/2009
Benzo(k)fluoranthene	ND	10		µg/L	1	7/15/2009
Benzoic acid	ND	20		µg/L	1	7/15/2009
Benzyl alcohol	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	7/15/2009
Bis(2-chloroethyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	7/15/2009
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	7/15/2009
4-Bromophenyl phenyl ether	ND	10		µg/L	1	7/15/2009
Butyl benzyl phthalate	ND	10		µg/L	1	7/15/2009
Carbazole	ND	10		µg/L	1	7/15/2009
4-Chloro-3-methylphenol	ND	10		µg/L	1	7/15/2009
4-Chloroaniline	ND	10		µg/L	1	7/15/2009
2-Chloronaphthalene	ND	10		µg/L	1	7/15/2009
2-Chlorophenol	ND	10		µg/L	1	7/15/2009
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 28-Jul-09

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-3C
Lab Order:	0907192	**Collection Date:**	7/6/2009 3:40:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Chrysene	ND	10		µg/L	1	7/15/2009
Di-n-butyl phthalate	ND	10		µg/L	1	7/15/2009
Di-n-octyl phthalate	ND	10		µg/L	1	7/15/2009
Dibenz(a,h)anthracene	ND	10		µg/L	1	7/15/2009
Dibenzofuran	ND	10		µg/L	1	7/15/2009
1,2-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,3-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
1,4-Dichlorobenzene	ND	10		µg/L	1	7/15/2009
3,3'-Dichlorobenzidine	ND	10		µg/L	1	7/15/2009
Diethyl phthalate	ND	10		µg/L	1	7/15/2009
Dimethyl phthalate	ND	10		µg/L	1	7/15/2009
2,4-Dichlorophenol	ND	20		µg/L	1	7/15/2009
2,4-Dimethylphenol	ND	10		µg/L	1	7/15/2009
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrophenol	ND	20		µg/L	1	7/15/2009
2,4-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
2,6-Dinitrotoluene	ND	10		µg/L	1	7/15/2009
Fluoranthene	ND	10		µg/L	1	7/15/2009
Fluorene	ND	10		µg/L	1	7/15/2009
Hexachlorobenzene	ND	10		µg/L	1	7/15/2009
Hexachlorobutadiene	ND	10		µg/L	1	7/15/2009
Hexachlorocyclopentadiene	ND	10		µg/L	1	7/15/2009
Hexachloroethane	ND	10		µg/L	1	7/15/2009
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	7/15/2009
Isophorone	ND	10		µg/L	1	7/15/2009
2-Methylnaphthalene	ND	10		µg/L	1	7/15/2009
2-Methylphenol	ND	10		µg/L	1	7/15/2009
3+4-Methylphenol	ND	10		µg/L	1	7/15/2009
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodimethylamine	ND	10		µg/L	1	7/15/2009
N-Nitrosodiphenylamine	ND	10		µg/L	1	7/15/2009
Naphthalene	ND	10		µg/L	1	7/15/2009
2-Nitroaniline	ND	10		µg/L	1	7/15/2009
3-Nitroaniline	ND	10		µg/L	1	7/15/2009
4-Nitroaniline	ND	10		µg/L	1	7/15/2009
Nitrobenzene	ND	10		µg/L	1	7/15/2009
2-Nitrophenol	ND	10		µg/L	1	7/15/2009
4-Nitrophenol	ND	10		µg/L	1	7/15/2009
Pentachlorophenol	ND	20		µg/L	1	7/15/2009
Phenanthrene	ND	10		µg/L	1	7/15/2009
Phenol	ND	10		µg/L	1	7/15/2009
Pyrene	ND	10		µg/L	1	7/15/2009

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-3C
Lab Order:	0907192	**Collection Date:**	7/6/2009 3:40:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Pyridine	ND	10		µg/L	1	7/15/2009
1,2,4-Trichlorobenzene	ND	10		µg/L	1	7/15/2009
2,4,5-Trichlorophenol	ND	10		µg/L	1	7/15/2009
2,4,6-Trichlorophenol	ND	10		µg/L	1	7/15/2009
Surr: 2,4,6-Tribromophenol	79.6	16.6-150		%REC	1	7/15/2009
Surr: 2-Fluorobiphenyl	66.8	19.6-134		%REC	1	7/15/2009
Surr: 2-Fluorophenol	45.9	9.54-113		%REC	1	7/15/2009
Surr: 4-Terphenyl-d14	65.6	22.7-145		%REC	1	7/15/2009
Surr: Nitrobenzene-d5	67.1	14.6-134		%REC	1	7/15/2009
Surr: Phenol-d5	33.5	10.7-80.3		%REC	1	7/15/2009
EPA METHOD 8260B: VOLATILES						Analyst: **HL**
Benzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Toluene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Ethylbenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Naphthalene	ND	2.0		µg/L	1	7/14/2009 2:02:11 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/14/2009 2:02:11 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/14/2009 2:02:11 AM
Acetone	ND	10		µg/L	1	7/14/2009 2:02:11 AM
Bromobenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Bromodichloromethane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Bromoform	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Bromomethane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
2-Butanone	ND	10		µg/L	1	7/14/2009 2:02:11 AM
Carbon disulfide	ND	10		µg/L	1	7/14/2009 2:02:11 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Chlorobenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Chloroethane	ND	2.0		µg/L	1	7/14/2009 2:02:11 AM
Chloroform	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Chloromethane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
2-Chlorotoluene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
4-Chlorotoluene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
cis-1,2-DCE	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/14/2009 2:02:11 AM
Dibromochloromethane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Dibromomethane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 28-Jul-09

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BW-3C
Lab Order:	0907192	**Collection Date:**	7/6/2009 3:40:00 PM
Project:	2009 Annual BW Sampling	**Date Received:**	7/10/2009
Lab ID:	0907192-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/14/2009 2:02:11 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
2-Hexanone	ND	10		µg/L	1	7/14/2009 2:02:11 AM
Isopropylbenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/14/2009 2:02:11 AM
Methylene Chloride	ND	3.0		µg/L	1	7/14/2009 2:02:11 AM
n-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
n-Propylbenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
sec-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Styrene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
tert-Butylbenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/14/2009 2:02:11 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
trans-1,2-DCE	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/14/2009 2:02:11 AM
Vinyl chloride	ND	1.0		µg/L	1	7/14/2009 2:02:11 AM
Xylenes, Total	ND	1.5		µg/L	1	7/14/2009 2:02:11 AM
Surr: 1,2-Dichloroethane-d4	113	68.1-123		%REC	1	7/14/2009 2:02:11 AM
Surr: 4-Bromofluorobenzene	106	53.2-145		%REC	1	7/14/2009 2:02:11 AM
Surr: Dibromofluoromethane	116	68.5-119		%REC	1	7/14/2009 2:02:11 AM
Surr: Toluene-d8	110	64-131		%REC	1	7/14/2009 2:02:11 AM

Qualifiers:

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

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LABORATORY ANALYTICAL REPORT

Client: Hall Environmental
Site Name: 0907192
Report Date: 07/24/09

Lab ID: C09070529-001
Client Sample ID: BW-1C
Matrix: Aqueous
Collection Date: 07/06/09 11:45
DateReceived: 07/14/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	0.002	mg/L		0.001		SW6020	07/22/09 23:36 / sml

Lab ID: C09070529-002
Client Sample ID: BW-2B
Matrix: Aqueous
Collection Date: 07/06/09 13:42
DateReceived: 07/14/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	0.013	mg/L		0.001		SW6020	07/22/09 23:46 / sml

Lab ID: C09070529-003
Client Sample ID: BW-2A
Matrix: Aqueous
Collection Date: 07/06/09 15:01
DateReceived: 07/14/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	ND	mg/L		0.001		SW6020	07/22/09 23:51 / sml

Lab ID: C09070529-004
Client Sample ID: BW-2C
Matrix: Aqueous
Collection Date: 07/06/09 12:31
DateReceived: 07/14/09

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	0.005	mg/L		0.001		SW6020	07/22/09 23:56 / sml

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Hall Environmental
Site Name: 0907192 **Report Date:** 07/24/09

Lab ID: C09070529-005 **Collection Date:** 07/06/09 14:21
Client Sample ID: BW-3B **DateReceived:** 07/14/09
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	ND	mg/L		0.001		SW6020	07/23/09 00:21 / sml

Lab ID: C09070529-006 **Collection Date:** 07/06/09 15:40
Client Sample ID: BW-3C **DateReceived:** 07/14/09
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS - TOTAL							
Uranium	0.001	mg/L		0.001		SW6020	07/23/09 00:26 / sml

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level.
QCL - Quality control limit. ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Hall Environmental
Project: 0907192

Report Date: 07/24/09
Work Order: C09070529

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020									Batch: 23079
Sample ID: MB-23079	Method Blank				Run: ICPMS4-C_090722B				07/22/09 23:22
Uranium	ND	mg/L	5E-05						
Sample ID: LCS3-23079	Laboratory Control Sample				Run: ICPMS4-C_090722B				07/22/09 23:27
Uranium	0.508	mg/L	0.00030	102	85	115			
Sample ID: C09070577-003CMS3	Sample Matrix Spike				Run: ICPMS4-C_090722B				07/23/09 01:44
Uranium	0.557	mg/L	0.00030	109	75	125			
Sample ID: C09070577-003CMSD3	Sample Matrix Spike Duplicate				Run: ICPMS4-C_090722B				07/23/09 01:49
Uranium	0.567	mg/L	0.00030	111	75	125	1.7	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: 2009 Annual BW Sampling **Work Order:** 0907192

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C: Semivolatiles									
Sample ID: mb-19589		*MBLK*			Batch ID: **19589**		Analysis Date:		7/15/2009
Acenaphthene	ND	µg/L	10						
Acenaphthylene	ND	µg/L	10						
Aniline	ND	µg/L	10						
Anthracene	ND	µg/L	10						
Azobenzene	ND	µg/L	10						
Benz(a)anthracene	ND	µg/L	10						
Benzo(a)pyrene	ND	µg/L	10						
Benzo(b)fluoranthene	ND	µg/L	10						
Benzo(g,h,i)perylene	ND	µg/L	10						
Benzo(k)fluoranthene	ND	µg/L	10						
Benzoic acid	ND	µg/L	20						
Benzyl alcohol	ND	µg/L	10						
Bis(2-chloroethoxy)methane	ND	µg/L	10						
Bis(2-chloroethyl)ether	ND	µg/L	10						
Bis(2-chloroisopropyl)ether	ND	µg/L	10						
Bis(2-ethylhexyl)phthalate	ND	µg/L	10						
4-Bromophenyl phenyl ether	ND	µg/L	10						
Butyl benzyl phthalate	ND	µg/L	10						
Carbazole	ND	µg/L	10						
4-Chloro-3-methylphenol	ND	µg/L	10						
4-Chloroaniline	ND	µg/L	10						
2-Chloronaphthalene	ND	µg/L	10						
2-Chlorophenol	ND	µg/L	10						
4-Chlorophenyl phenyl ether	ND	µg/L	10						
Chrysene	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

Client: Western Refining Southwest, Gallup
Project: 2009 Annual BW Sampling **Work Order:** 0907192

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C: Semivolatiles									
Sample ID: mb-19589		*MBLK*			Batch ID:	**19589**	Analysis Date:		7/15/2009
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						
Phenanthrene	ND	µg/L	10						
Phenol	ND	µg/L	10						
Pyrene	ND	µg/L	10						
Pyridine	ND	µg/L	10						
1,2,4-Trichlorobenzene	ND	µg/L	10						
2,4,5-Trichlorophenol	ND	µg/L	10						
2,4,6-Trichlorophenol	ND	µg/L	10						
Sample ID: lcs-19589		*LCS*			Batch ID:	**19589**	Analysis Date:		7/15/2009
Acenaphthene	53.54	µg/L	10	53.5	33.2	88.1			
4-Chloro-3-methylphenol	109.0	µg/L	10	54.5	26.5	101			
2-Chlorophenol	92.30	µg/L	10	46.2	27.5	88.7			
1,4-Dichlorobenzene	43.48	µg/L	10	43.5	27.2	74.1			
2,4-Dinitrotoluene	58.54	µg/L	10	58.5	32.6	107			
N-Nitrosodi-n-propylamine	56.04	µg/L	10	56.0	27.1	96.3			
4-Nitrophenol	54.76	µg/L	10	27.4	6.78	74.7			
Pentachlorophenol	101.1	µg/L	20	50.5	14.8	113			
Phenol	55.80	µg/L	10	27.9	17	53.4			
Pyrene	59.02	µg/L	10	59.0	27	96.3			
1,2,4-Trichlorobenzene	50.20	µg/L	10	50.2	30	77.9			
Sample ID: lcsd-19589		*LCSD*			Batch ID:	**19589**	Analysis Date:		7/15/2009
Acenaphthene	61.14	µg/L	10	61.1	33.2	88.1	13.3	30.5	
4-Chloro-3-methylphenol	121.4	µg/L	10	60.7	26.5	101	10.8	28.6	
2-Chlorophenol	115.3	µg/L	10	57.7	27.5	88.7	22.2	107	
1,4-Dichlorobenzene	56.88	µg/L	10	56.9	27.2	74.1	26.7	62.1	
2,4-Dinitrotoluene	67.02	µg/L	10	67.0	32.6	107	13.5	14.7	

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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: 2009 Annual BW Sampling **Work Order:** 0907192

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C: Semivolatiles									
Sample ID: lcsd-19589		*LCSD*			Batch ID:	**19589**	Analysis Date:		7/15/2009
N-Nitrosodi-n-propylamine	67.18	µg/L	10	67.2	27.1	96.3	18.1	30.3	
4-Nitrophenol	45.28	µg/L	10	22.6	6.78	74.7	19.0	36.3	
Pentachlorophenol	107.8	µg/L	20	53.9	14.8	113	6.45	49	
Phenol	69.14	µg/L	10	34.6	17	53.4	21.4	52.4	
Pyrene	66.28	µg/L	10	66.3	27	96.3	11.6	16.3	
1,2,4-Trichlorobenzene	61.66	µg/L	10	61.7	30	77.9	20.5	36.4	
Method: EPA Method 7470: Mercury									
Sample ID: MBLK-19626		*MBLK*			Batch ID:	**19626**	Analysis Date:		7/17/2009 5:01:24 PM
Mercury	ND	mg/L	0.00020						
Sample ID: LCS1-19626		*LCS*			Batch ID:	**19626**	Analysis Date:		7/17/2009 5:03:12 PM
Mercury	0.005110	mg/L	0.00020	102	80	120			
Sample ID: LCS1-19626		*LCS*			Batch ID:	**19626**	Analysis Date:		7/17/2009 5:44:44 PM
Mercury	0.004754	mg/L	0.00020	94.6	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: 2009 Annual BW Sampling **Work Order:** 0907192

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA 6010B: Total Recoverable Metals									
Sample ID: MB-19607		*MBLK*			Batch ID:	**19607**	Analysis Date:		7/19/2009 8:45:14 PM
Arsenic	0.02216	mg/L	0.020						
Barium	ND	mg/L	0.010						
Cadmium	ND	mg/L	0.0020						
Chromium	ND	mg/L	0.0060						
Copper	ND	mg/L	0.0060						
Iron	ND	mg/L	0.050						
Lead	ND	mg/L	0.0050						
Magnesium	ND	mg/L	0.50						
Manganese	ND	mg/L	0.0020						
Potassium	ND	mg/L	1.0						
Selenium	ND	mg/L	0.050						
Silver	ND	mg/L	0.0050						
Zinc	ND	mg/L	0.020						
Sample ID: LCS-19607		*LCS*			Batch ID:	**19607**	Analysis Date:		7/19/2009 8:48:20 PM
Arsenic	0.5052	mg/L	0.020	96.6	80	120			B
Barium	0.4950	mg/L	0.010	99.0	80	120			
Cadmium	0.4931	mg/L	0.0020	98.6	80	120			
Chromium	0.4985	mg/L	0.0060	99.7	80	120			
Copper	0.5151	mg/L	0.0060	103	80	120			
Iron	0.5426	mg/L	0.050	109	80	120			
Lead	0.4878	mg/L	0.0050	97.6	80	120			
Magnesium	49.42	mg/L	0.50	98.8	80	120			
Manganese	0.4953	mg/L	0.0020	99.1	80	120			
Potassium	52.83	mg/L	1.0	106	80	120			
Selenium	0.4429	mg/L	0.050	88.6	80	120			
Silver	0.4992	mg/L	0.0050	99.7	80	120			
Zinc	0.4824	mg/L	0.020	96.0	80	120			
Sample ID: LCS-19607		*LCS*			Batch ID:	**19607**	Analysis Date:		7/19/2009 8:51:39 PM
Arsenic	0.4913	mg/L	0.020	93.8	80	120	2.79	0	B
Barium	0.4917	mg/L	0.010	98.3	80	120	0.669	0	
Cadmium	0.4914	mg/L	0.0020	98.3	80	120	0.346	0	
Chromium	0.4971	mg/L	0.0060	99.4	80	120	0.298	0	
Copper	0.5123	mg/L	0.0060	102	80	120	0.542	0	
Iron	0.5375	mg/L	0.050	107	80	120	0.948	0	
Lead	0.4779	mg/L	0.0050	95.6	80	120	2.05	0	
Magnesium	49.39	mg/L	0.50	98.7	80	120	0.0517	0	
Manganese	0.4912	mg/L	0.0020	98.2	80	120	0.825	0	
Potassium	52.75	mg/L	1.0	105	80	120	0.154	0	
Selenium	0.4716	mg/L	0.050	94.3	80	120	6.29	0	
Silver	0.4943	mg/L	0.0050	98.7	80	120	0.986	0	
Zinc	0.4783	mg/L	0.020	95.1	80	120	0.847	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 Annual BW Sampling **Work Order:** 0907192

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 5ml rb		*MBLK*			Batch ID: **R34506**		Analysis Date:	7/13/2009 8:57:08 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	µg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	µg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	µg/L	1.0						
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	µg/L	10						
Carbon Tetrachloride	ND	µg/L	1.0						
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	µg/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	µg/L	1.0						
2-Chlorotoluene	ND	µg/L	1.0						
4-Chlorotoluene	ND	µg/L	1.0						
cis-1,2-DCE	ND	µg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromethane	ND	µg/L	1.0						
Dibromomethane	ND	µg/L	1.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	µg/L	1.0						
1,4-Dichlorobenzene	ND	µg/L	1.0						
Dichlorodifluoromethane	ND	µg/L	1.0						
1,1-Dichloroethane	ND	µg/L	1.0						
1,1-Dichloroethene	ND	µg/L	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						
1,3-Dichloropropane	ND	µg/L	1.0						
2,2-Dichloropropane	ND	µg/L	2.0						
1,1-Dichloropropene	ND	µg/L	1.0						
Hexachlorobutadiene	ND	µg/L	1.0						
2-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	µg/L	1.0						
4-Isopropyltoluene	ND	µg/L	1.0						

Qualifiers:

E	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 Annual BW Sampling **Work Order:** 0907192

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 5ml rb		*MBLK*			Batch ID: **R34506**		Analysis Date:	7/13/2009 8:57:08 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						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	1.5						
Sample ID: b5		*MBLK*			Batch ID: **R34506**		Analysis Date:	7/13/2009 10:38:20 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						

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 Annual BW Sampling **Work Order:** 0907192

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: b5		*MBLK*			Batch ID: **R34506**		Analysis Date:	7/13/2009 10:38:20 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-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	µg/L	1.0						
4-Isopropyltoluene	ND	µg/L	1.0						
4-Methyl-2-pentanone	ND	µg/L	10						
Methylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/L	1.0						
sec-Butylbenzene	ND	µg/L	1.0						
Styrene	ND	µg/L	1.0						
tert-Butylbenzene	ND	µg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0						
Tetrachloroethene (PCE)	ND	µg/L	1.0						
trans-1,2-DCE	ND	µg/L	1.0						
trans-1,3-Dichloropropene	ND	µg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	µg/L	1.0						
1,2,3-Trichloropropane	ND	µg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	1.5						
Sample ID: 100ng lcs		*LCS*			Batch ID: **R34506**		Analysis Date:	7/13/2009 9:55:08 AM	

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 Annual BW Sampling **Work Order:** 0907192

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 100ng lcs		*LCS*			Batch ID: **R34506**		Analysis Date:	7/13/2009 9:55:08 AM	
Benzene	19.87	µg/L	1.0	99.3	76.7	114			
Toluene	20.12	µg/L	1.0	101	78.4	117			
Chlorobenzene	18.87	µg/L	1.0	94.4	80.7	127			
1,1-Dichloroethene	23.44	µg/L	1.0	117	80.2	128			
Trichloroethene (TCE)	20.86	µg/L	1.0	104	77.4	115			
Sample ID: 100ng lcs_b		*LCS*			Batch ID: **R34506**		Analysis Date:	7/13/2009 10:09:18 PM	
Benzene	20.49	µg/L	1.0	102	76.7	114			
Toluene	19.19	µg/L	1.0	96.0	78.4	117			
Chlorobenzene	18.79	µg/L	1.0	94.0	80.7	127			
1,1-Dichloroethene	23.18	µg/L	1.0	116	80.2	128			
Trichloroethene (TCE)	20.60	µg/L	1.0	103	77.4	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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name WESTERN REFINING GALLU | Date Received: 7/10/2009

Work Order Number 0907192 | Received by: TLS

Checklist completed by: Signature 7/10/09 Date | Sample ID labels checked by: Initials

Matrix: | Carrier name UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	
Container/Temp Blank temperature?	2.1°	<6° C Acceptable If given sufficient time to cool.		

Number of preserved bottles checked for pH: 12

(<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 Annual BW Sampling
Project #: BW Wells
Project Manager: G. Rajen
Sampler: Cheryl Johnson
On Ice: ☒ Yes ☐ No
Sample Temperature: 2.1

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0906492	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)	WQCC Metals				Air Bubbles (Y or N)
7/6/09	1145	H2O	BW-1C	3-40ml	HCl	-1										X						
				1L Amb.	None	-1											X					
				2-500ml	HNO3	-1												X				
7/6/09	1342		BW-2B	3-40ml	HCl	-2										X						
				1L Amb	None	-2											X					
				2-500ml	HNO3	-2												X				
7/6/09	1501		BW-2A	3-40ml	HCl	-3										X						
				1L Amb	None	-3											X					
* 7/13/09				2-500ml	HNO3	-3												X				
7/6/09	1220		Field Blank			-4																

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/9/09	1000			7/10/09	1135
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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

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 Annual BW Sampling

Project #: BW Wells

Project Manager: G. Rajen

Sampler: Chenae Johnson

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.1

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No 2909892	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)	WQCC Metals			Air Bubbles (Y or N)
7/7/09	1231	H20	BW-2C	3-40ml	HCl	-5										X					
	/			1L Amb	None	-5											X				
				2-500ml	HNO3	-5												X			
7/7/09	1421		BW-3B	3-40ml	HCl	-6										X					
	/			1L Amb	None	-6											X				
				2-500ml	HNO3	-6												X			
7/7/09	1540		BW-3C	3-40ml	HCl	-7										X					
	/			1L Amb	None	-7											X				
				2-500ml	HNO3	-7												X			

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
7/9/09	1000			7/10/09	1135	
Date:	Time:	Relinquished by:	Received by:	Date	Time	

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

Western Refining
GALLUP REFINERY

WNR LISTED NYSE

RECEIVED
2009 MAY 21 PM 1 21

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

Facility-wide Groundwater Monitoring Plan: Gallup Refinery

Western Refining
Gallup, New Mexico

May 2009

Facility-wide Groundwater Monitoring Plan
Gallup Refinery

Western Refining
Gallup, New Mexico

May 2009

Prepared by:

Gaurav Rajen, Ph.D.
Environmental Engineer

Reviewed by:

Ed Riege, M.P.H.
Environmental Manager

Executive Summary

This Site-Wide Groundwater Monitoring Plan (Plan) has been prepared in response to requirements stated in a letter from the New Mexico Environment Department's Hazardous Waste Bureau dated February 9, 2009 (see Appendix A.)

This Plan has been prepared to collect data that will be used to characterize the nature and extent of potential impacts to groundwater at the Gallup Refinery owned by Western Refining ("Gallup Refinery" or "Facility"). The monitoring plan is also designed to make the facility quickly aware of any levels of contaminants that exceed compliance standards.

This Plan divides the Facility into two areas for periodic monitoring: the East Side and the West Side. The East Side includes the Refinery Complex, recovery wells from which free products have been principally removed, but continue to be recovered in small quantities, and the North-East set of observation wells and monitoring wells. The West Side includes a cluster of wells in and around the wastewater treatment system, boundary wells, shallow monitoring wells in and around land treatment areas, and produced water wells. This plan also includes sampling requirements for aeration lagoons, influents, and evaporation ponds located in the West Side. Designated wells and sample points in these two areas will be monitored on an annual, semi-annual, quarterly, monthly, and weekly basis following the procedures presented in this Plan.

Gallup Refinery will periodically review facility-wide monitoring data, and assess the monitoring program presented in this Plan. Revisions to the Plan, as necessary, will then be presented for agency review and approval. These revisions may include, but not be limited to, a reduction or change in monitoring locations, monitoring frequency, and/or target chemicals to be analyzed.

We have created a monitoring Plan with quality assurance practices and controls as well as standard procedures for sampling, and a schedule of activities to monitor groundwater at select locations of the Gallup Refinery. The persons responsible for the implementation and oversight of this plan are:

Refinery Manager
- Mark Turri

Environmental Manager
- Ed Riege

Environmental Engineer
- Gaurav Rajen

Environmental Technicians
- Cheryl Johnson
- Alvin Dorsey

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LIST OF ACRONYMS

BMP	Best Management Practices
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
EPA	Environmental Protection Agency
GPM	Gallons per minute
HWB	Hazardous Waste Bureau
MTBE	Methyl Tert Butyl Ether
NAPIS	New American Petroleum Institute Separator
NMED	New Mexico Environment Department

OCD	Oil Conservation Division
PPE	Physical protective equipment
VOC	Volatile Organic Compounds
SVOC	Semi-volatile Organic Compounds
SWMU	Solid Waste Management Unit
SWPP	Storm Water Pollution Prevention program
WWTP	Wastewater treatment plant

1.0 Introduction

This Facility-Wide Groundwater Monitoring Plan (Plan) has been prepared for the implementation of a 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.

The Plan follows the requirements of the February 9, 2009 letter issued by the New Mexico Environment Department's Hazardous Waste Bureau (NMED/HWB) and includes the following information (a copy of this letter is provided in Appendix A):

Executive Summary
Tale of Contents
Background
- Historical site uses
- Potential receptors
- Type and characteristics of the waste and contaminants and any known and possible sources
- Summary of contaminant releases that could contribute to groundwater contamination

Site conditions
- Current site topography and location of natural and manmade structures
- Drainages
- Vegetation types
- Erosion features
- Current site uses
- Subsurface conditions
  - Soil types and associations
  - Stratigraphy
  - Presence and flow direction of groundwater

Scope of Activities
Sampling Locations and Procedures
Groundwater monitoring schedule

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).

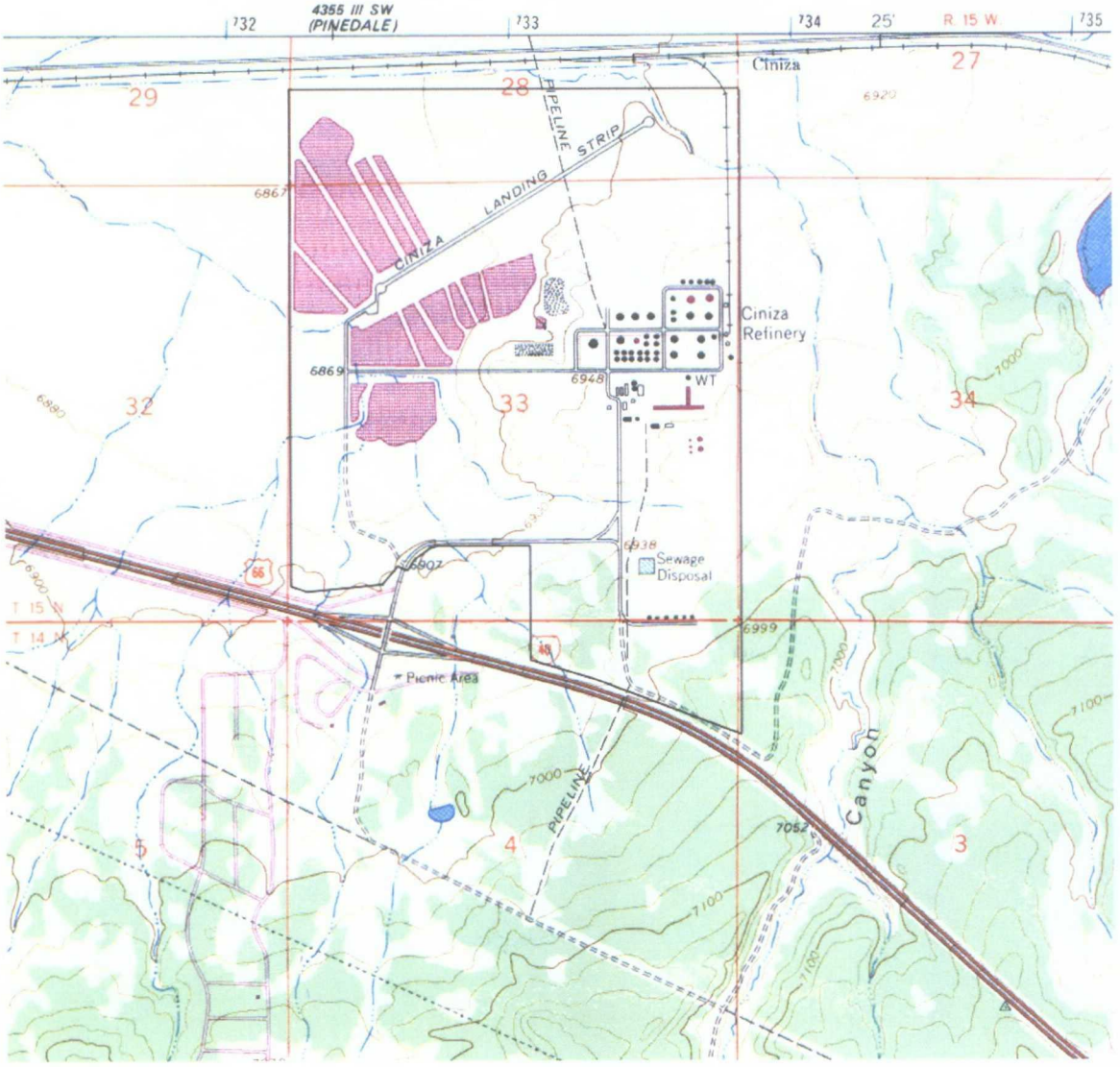

Figure 2: Topographic Map of the Gallup Refinery Site - USGS Topographical Map - Gallup Quadrangle (Revised 1980)

2.0 Background Information

2.1 Historical and current site uses

The Gallup Refinery is located within a rural and sparsely populated section of McKinley County in Jamestown New Mexico. The setting is a high desert plain on the western slope of the continental divide. The nearest population centers are the Pilot (formerly Giant) Travel Center refueling plaza, the Interstate 40 highway corridor, and a small cluster of residential homes located on the south side of Interstate 40 approximately 2 miles southwest of the refinery (Jamestown). The surrounding land is comprised primarily of public lands and is used for cattle and sheep grazing at a density of less than six cattle or 30 sheep per section. Except for the City of Gallup, McKinley County is a predominantly rural area, as are the adjoining portions of neighboring counties.

Historically, this area has been populated by Native Americans, as it is even today with the contemporary Navajo Nation and the Pueblo of Zuni located in the region. The area has always been a crossroads for East to West and North to South trade routes; and many modern highways in the area, such as Interstate-40, trace routes established well over a thousand years ago. Irrigated agriculture in the area also dates back to several thousands of years, and continues to this day. There are remnants of an irrigation ditch in the north-central portion of the site which attests to farming having occurred on the site.

Since the arrival of the Spanish in 1540, grazing of livestock became another major land use. In the early 1900s, highly intensive livestock grazing occurred in this region that led to severe degradation of the land.

Along with irrigated farming and livestock, artisan work has been a mainstay of the local economy and continues till current times. In 1880, coal mining began to be a major land use in the region; and in 1881 the railroad arrived. The railroad carried Indian made goods for sale across the nation. Today, a railroad line runs just north of the facility, and a rail spur brings railroad cars into the north-east end of the facility to deliver crude oil, ethanol and other feedstocks.

From the early 1900s to the 1940s extensive logging occurred in the region, especially thirty miles to the south-west of the facility in the Zuni Mountains. This aggravated the forming of arroyos from erosion, and impacted the local watersheds.

From the 1950s to the early 1980s, uranium mining was a major extractive industry in the region with a large number of mines located in the general area of the facility, with the nearest mines being around 20 miles distant towards the east. No historical mining has ever occurred on the facility. It is important to note that impacts have occurred to groundwater in the area from the mining and processing of uranium ore.

Today, built in the 1950s, and refurbished and expanded over time, a petroleum refinery is located on a man-made terrace towards the central and southern portions of the facility.

The refinery primarily receives crude oil via two 6 inch diameter pipelines; Bisti Pipeline comes down from the Four Corners Area and enters the refinery property from the north and Hospah Pipeline comes in from the northeast and is an interconnection with a main interstate pipeline. In addition, the refinery also receives natural gasoline feedstocks via a 4-inch diameter pipeline that comes in from the west along the Interstate 40 corridor from the Conoco gas plant. Crude oil and other products also arrive at the site via railroad cars. These feedstocks are then stored in tanks until refined into products. The refinery has an overall capacity to process up to 23,000 barrels per day of crude oil and additional natural gasoline feedstocks.

The refinery incorporates various processing units that convert crude oil and natural gasoline into finished products. These units are briefly described as follows.

- The crude distillation unit separates crude oil into various fractions; including gas, naphtha, light oil, heavy oil, and residuals.

- The fluidized catalytic cracking unit (FCCU) dissociates (cracks) long-chain hydrocarbon molecules into smaller molecules, and essentially converts heavier oils into naphtha and lighter oils.

- The alkylation unit combines specific types of hydrocarbon molecules into a high octane gasoline blending component.

- The reforming unit breaks up and reforms low octane naphtha molecules to form high octane naphtha.

- The hydrotreating unit removes undesirable sulfur and nitrogen compounds from intermediate feedstocks, and also saturates the feedstocks with hydrogen to make diesel fuel.

- Additional treater units later also remove impurities from various intermediate and blending feedstocks in order to produce finished products that comply with sales specifications.

- The isomerization unit converts low octane hydrocarbon molecules into high octane molecules.

- A set of acid gas treating and sulfur recovery units convert and recover various sulfur compounds from other processing units and then produce either Ammonium Thiosulfate or a solid elemental sulfur byproduct.

As a result of these processing steps, the refinery produces a wide range of petroleum products including propane, butane, unleaded gasoline, diesel, kerosene, and residual fuel. In addition to the aforementioned processing units, various other equipment and systems support the operation of the refinery and are briefly described as follows.

Storage tanks are used throughout the refinery to hold and store crude oil, natural gasoline, intermediate feedstocks, finished products, chemicals, and water. These tanks are all located aboveground and range in size from 80,000 barrels to less than a 1,000 barrels. A grouping of tanks is commonly referred to as a "tank farm" such as the hot oil "tank farm".

Pumps, valves, and piping systems are used throughout the refinery to transfer various liquids among storage tanks and processing units.

A railroad spur track and a railcar loading rack are used to transfer feed-stocks and products from refinery storage tanks into and out of railcars.

Several tank truck loading racks are used at the refinery to load out finished products and also may receive crude oil, other feedstocks, additives, and chemicals.

A pipeline from the refinery carries diesel fuel to the Pilot (formerly Giant) Travel Center. Gasoline is delivered to the Pilot Center via tanker truck.

A firefighting training facility is used to conduct employee firefighting training. Waste water from the facility, when training is conducted, is pumped into a tank which is then pumped out by a vacuum truck. The vacuum truck pumps the oily water into a process sewer leading to the New API Separator (NAPIS).

The process wastewater system is a network of curbing, paving, catch basins, and underground piping that collects waste water effluent from various processing areas within the refinery and then conveys this wastewater to the NAPIS.

The NAPIS is a two compartment oil water separator. Oil is separated from water based on the principle that, given a quiet surface, oil will float to the water surface where it can be skimmed off. The skimmed slop oil is passed to a collection chamber where it is pumped back into the refinery process. The clarified water is piped to the top of dual stripping columns where benzene is removed. The stripped water flows into the first aeration lagoon. Sludge sinks to the bottom of the NAPIS which is periodically vacuumed out by a vacuum truck and disposed as hazardous waste at an approved landfill or recycled and reused in refineries that have this allowable exemption under RCRA.

At the stripping columns, ambient air is blown upwards through the falling cascade of clarified wastewater as it passes through distillation column packing. Countercurrent desorption of benzene from the water occurs due to the high volume of air passing over the relatively large surface area provided by the packing. The desorbed benzene is absorbed into the air stream and vented to the atmosphere. Effluent from the stripper columns gravity flows through piping into the first aeration lagoon.

At the aeration basins, the treated wastewater is mixed with air in order to oxidize any remaining organic constituents and increase the dissolved oxygen concentration available in the water for growth of bacteria and other microbial organisms. The microbes degrade

hydrocarbons into carbon dioxide and water. Three 15-hp mechanical aerators provide aeration in the first aeration lagoon with two 15-hp aerators providing aeration in the second lagoon. Effluent from the second aeration lagoon flows onward into the first of several evaporation ponds of various sizes.

At the evaporation ponds, wastewater is converted into vapor via solar and mechanical wind-effect evaporation. No wastewater is discharged from the refinery to surface waters of the state because all of the waste water evaporates. Therefore, the refinery is not required to have a NPDES discharge permit for discharge of treated process water. However, the Gallup refinery does have a NPDES permit for storm water discharge.

The storm water system is a network of valves, gates, berms, embankments, culverts, trenches, ditches, natural arroyos, and retention ponds that collect, convey, control, treat, and release storm water that falls within or passes through refinery property. Storm water that falls within the processing areas is considered equivalent to process wastewater and is sent through the NAPIS, benzene strippers and wastewater treatment system for retention in evaporation ponds. Strom water that falls on undeveloped land is allowed to leave the property. Storm water discharge from the refinery is very infrequent due to the arid desert-like nature of the surrounding geographical area. The Gallup Refinery maintains a storm water pollution prevention plan (SWPPP) that includes Best Management Practices (BMPs) for effective storm water pollution prevention. The refinery has constructed several new berms in various areas and improved outfalls to minimize the possibility of contaminated runoff leaving the refinery property.

2.2 Potential receptors

Potential receptors at the facility also include those that may arise from future land uses. Currently, these include on-site workers, nearby residents, wildlife, and livestock.[1] The major route to exposure of humans would be from contaminants reaching a drinking water well. Other routes could be from showering, cooking, etc. with contaminated groundwater, raising crops and vegetables with contaminated groundwater, or getting exposed to or fishing in surface water that has commingled with shallow groundwater. Exposure can also occur through contact with soils and/or plants that have become contaminated themselves through contact with contaminated groundwater. However, drinking water wells remain the primary route of exposure

At this time, the nearest drinking water wells are located on-site at the south-west areas of the facility, at depths of approximately 3000 feet. These are operated by the facility to provide drinking water to nearby refinery-owned houses, to the refinery itself, and to the Pilot Travel Center. This system of deep wells also provides the refinery's process water. These wells are monitored and no contaminants have been detected in the deep aquifer that these wells are screened within.

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[1] Note: There is extensive and regular patrolling by security personnel of the facility which operates 24-hours – therefore, we can discount the possibility of an inadvertent or deliberate intruder becoming exposed to contamination in groundwater that has reached the surface in some form.

Other than the on-site wells, there are no drinking water wells within a 4-mile radius of the site. The nearest drinking water wells that could be used by off-site residents are located to the north-west of the site at a distance slightly greater than 4-miles located within the Navajo community of Iyanbito (shown on the USGS Topographical Map - Gallup Quadrangle (Revised 1980).) These wells are north-west of the South Fork of the Puerco River which heads towards the south-east from immediately north of the facility. As the shallowest groundwater will generally flow in the direction of surface water flow, any shallow groundwater contamination that left the facility either now or in the future would tend towards the south-east after leaving the facility and away from the community of Iyanbito. "Flowing Well" is a well marked on the USGS Quadrangle map approximately 2-miles north-west from the facility. The Flowing Well is likely a livestock watering well as it does not have any houses adjacent to it. However, residents of the area are known to use livestock water for human consumption if their houses do not have running water – such consumption is decreasing as increasingly residents in the area are getting connected to drinking water systems provided by local governments. The Flowing Well, too, is north of and across the South Fork of the Puerco River - shallow groundwater is unlikely to ever reach this well as it will tend towards the south-east along with the South Fork of the Puerco River. The Cibola National Forest lies in the south-east direction and there are no wells or residents in this protected area. Boundary monitoring wells along the south-west to north-west perimeter of the facility have not shown any evidence of contaminants having left the facility in shallow groundwater.

Artesian conditions at some locations of the site lead to the possibility of groundwater emerging onto the surface and thus being able to affect wildlife. No surface water on the site is used for human consumption or primary contact, such as immersion, or secondary contact, such as recreation. The man-made ponds on the site are routinely monitored and are a part of this Plan. Therefore, if they are in contact with shallow groundwater that has exhibited elevated levels of contaminants, the Plan will detect any commingling of groundwater and surface waters.

Fluctuating groundwater elevations can smear contaminants into subsurface soil and rocks, and there is a possibility that plant roots could reach such contaminated soils and bio-concentrate contaminants creating another route of exposure to potential receptors, such as birds and animals that eat the plants. No food crops are currently grown on the site.

In the future, if the land use became residential, and there were on-site residents, there would be increased potential to impact humans through a variety of uses of water from shallow groundwater wells (drinking, showering, etc.), produce grown in gardens that might be exposed to shallow groundwater, and construction activities that might reach shallow groundwater. However, if there is contamination, the site will remain zoned for industrial use even after the closure of the facility. In effect, the site will remain in perpetuity designated for industrial purposes. Therefore, while there is contamination at the site, future on-site residents are not a possibility.

2.3 Type and characteristics of the waste and contaminants and any known and possible sources

The types of waste likely include – volatile and semi-volatile organic compounds, primarily hydrocarbons, but could include various other industrial chemicals such as solvents; acids; spent caustic solutions; and heavy metals present in spent chemicals and wastewater. These wastes could be in the form of wastewater, spent chemicals destined for off-site shipping and disposal packed in drums, sludge, and dry solids. Dry wastes could stem from wind-blown metallic powders used as catalysts, and regular municipal solid wastes stored in covered containers destined for municipal landfills.

Most of the wastes and contaminants that could possibly reach groundwater have the characteristic that they would biodegrade and naturally attenuate. However, any heavy metals present in dirt and sludge could possibly leach into groundwater and would not attenuate. There is a possibility also that certain long-lived chemicals would not biodegrade, or, if they did, it would be at a very slow pace.

Possible sources include leaks from buried pipes, tanks, surface spills, and historical dumping of wastes in remote areas of the site.

All above-ground large tanks have leak detection or equivalent systems, such as radar gauges. Pumps that could leak hydrocarbons are within containment areas, and all tanks are also within berms to contain spills. The NAPIS has double walls and a leak detection system. This situation did not exist in the past. So, past spills and leaks could be a source of groundwater contamination.

Similarly, surface impoundments can serve as a source of groundwater contamination. In the past, liquids from the Railroad Rack lagoon in the north-east end of the facility were allowed to discharge into a field and drain into the ground and evaporate – this led to subsurface soil contamination that is currently in the process of being cleaned up. Such disposal of wastewater into open fields is not practiced at the Gallup Refinery.

There are fourteen Sold Waste Management Units (SWMU) identified at the Gallup Refinery, and one closed Land Treatment Area. These are –
RCRA Regulated Units

- Land Farm 1

SWMUs

- SWMU 1 – Aeration Basin
- SWMU 3 – Empty Container Storage Area
- SWMU 4 – Old Burn Pit
- SWMU 5 – Landfill Areas
- SWMU 6 – Tank Farm
- SWMU 7 – Fire Training Area
- SWMU 8 – Railroad Rack Lagoon, ditch & fan area
- SWMU 9 – Drainage Ditch Near Inactive Landfarm
- SWMU 10 – Sludge Pits

- SWMU 11 – Secondary Oil Skimmer
- SWMU 12 – Contact Wastewater Collection System 5
- SWMU 13 – Drainage Ditch between N & S Evaporation Ponds
- SWMU 14 – API Separator

Existing groundwater monitoring wells effectively surround all these SWMUs.

2.4 Summary of contaminant releases that could contribute to groundwater contamination

Spills and leaks are known to have occurred on the site in various locations. Although most hydrocarbons are rapidly picked up for recovery, some of the liquids present in a spill enter the subsurface. With precipitation, there is a possibility that some of the contaminants could leach out and reach groundwater.

Separate Phase Hydrocarbons (SPH) floating on shallow groundwater have been found at the north-east end of the facility, and a system of recovery wells has stopped migration of the SPH and recovered almost all such SPH. Recovery through hand-bailing is still underway, with the volumes recovered dropping substantially every year. Trace levels of Benzene have also been found in wells in this area, possibly linked to this spilled material.

A small tank that held Methyl Tert Butyl Ether (MTBE) has leaked and created a plume of MTBE in the shallow groundwater at the north-east end of the refinery. This tank is no longer in service and has been removed. MTBE has not been used at the refinery since April 2006.

A unit at the south-west end of the facility that is used to recover oil and recycle this oil back into the process has also – through leakage and spills – caused some MTBE and hydrocarbon contamination in shallow groundwater. This unit is known as the New American Petroleum Institute Separator (NAPIS) and has up-gradient and down-gradient shallow monitoring wells around it.

There 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 first aeration lagoon, known as AL-1, has received wastewater with benzene at levels greater than 0.5 ppm – either through ineffective treatment farther upstream in the process, or through overflows – making these liquids a hazardous waste; however the aeration process and biological action within this lagoon has brought the benzene levels to well below 0.5 ppm and of the order of 0.1 ppm and less.

Using 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. With benzene levels of 0.1 ppm the levels of benzene that could migrate into the subsurface drop off to negligible levels within a few feet even after many years have elapsed.

The fact remains, however, that the facility's aeration lagoons and ponds could be a possible source of groundwater contamination and this possibility is considered in this Plan.

3.0 Site Conditions

The Gallup Refinery is located within a rural and sparsely populated section of McKinley County. It is situated in the high desert plain on the western flank of the continental divide approximately 17 miles east of Gallup. The surrounding land is comprised primarily of public lands and is used for cattle and sheep grazing at low densities[2].

3.1 Current site topography and location of natural and manmade structures

Local topography consists of a gradually inclined down-slope from high ground in the southeast to a lowland fluvial plain in the northwest. The highest point on refinery property is located at the southeast corner boundary (elevation approximately 7,040 feet) and the lowest point is located at the northwest corner boundary (elevation approximately 6,860 feet). The refinery processing facility is located on a flat man-made terrace at an elevation of approximately 6,950 feet.

3.2 Drainages

Surface water in this region consists of the man-made evaporation ponds and aeration basins located within the refinery, a livestock watering pond (Jon Myer's Pond) located east of the refinery, two small unnamed spring fed ponds located south of the refinery, and the South Fork of the Puerco River and its tributary arroyos. The various ponds and basins typically contain water consistently throughout the year. The South Fork of the Puerco River and its tributaries are intermittent and generally contain water only during, and immediately after, the occurrence of precipitation.

[2] See, for example, the web site of McKinley County at http://www.co.mckinley.nm.us/

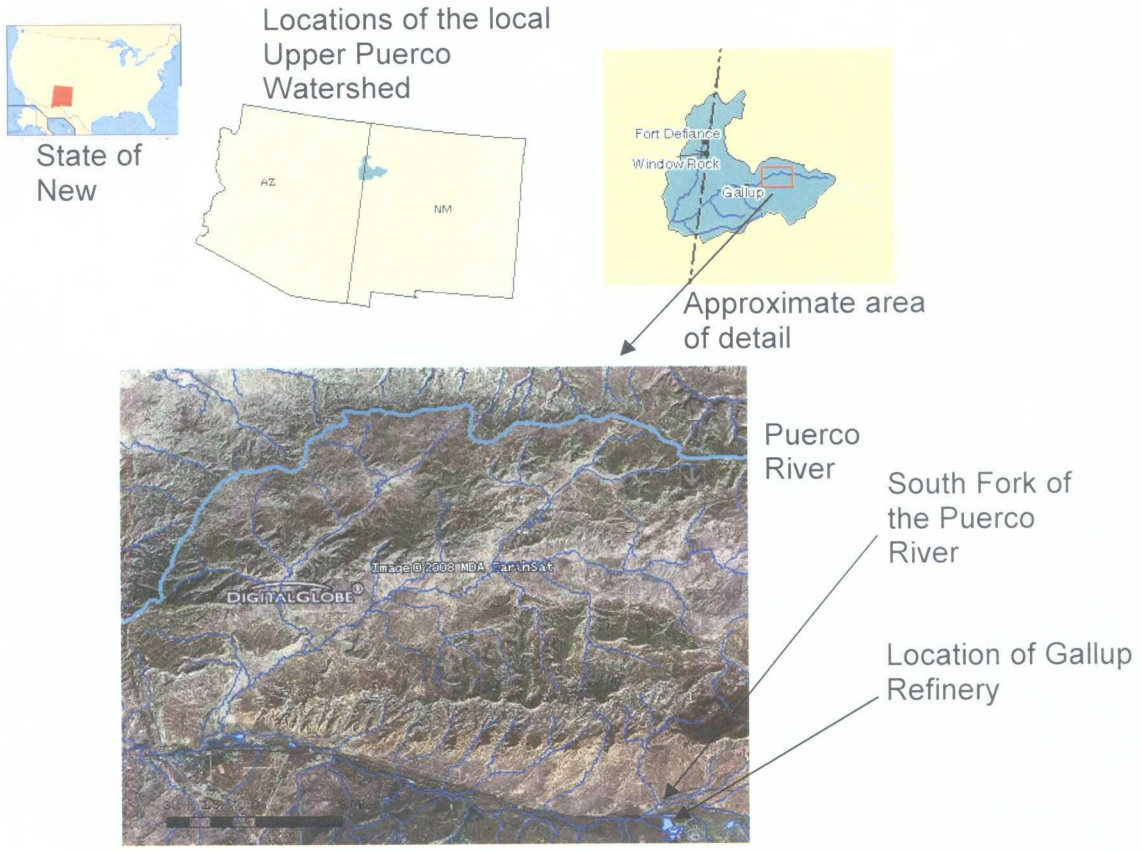

Figure 3: Regional scale: Flow lines and major surface water bodies (from: EPA Enviromapper - http://map24.epa.gov/EMR/?ZoomToWatershed=15020006) North is towards the top of the page.

Figure 4: Localized scale: Flow lines and major surface water bodies (from: EPA Enviromapper - http://map24.epa.gov/EMR/?ZoomToWatershed=15020006) North is towards the top of the page. The pond to the east is Jon Myers' Livestock Pond.

3.3 Vegetation types

Surface vegetation consists of native xerophytic vegetation including grasses, shrubs, small junipers, and some prickly pear cacti. Average rainfall at the refinery is less than 7 inches per year, although it can vary to slightly higher levels elsewhere in the county depending on elevation.

On alluvial fans on valley sides and drainage ways, the existing vegetation is usually alkali sacaton, western wheatgrass, Indian ricegrass, blue grama, bottlebrush squirreltail, broom snakeweed, fourwing saltbush, threeawn, winterfat, mat muhly and spike muhly. On fan remnants on valley sides we usually find blue grama, western wheatgrass, Indian ricegrass, big sagebrush, galleta, bottlebrush squirreltail, fourwing saltbrush, needleandthread, oneseed juniper, sand dropseed, spineless horsebrush, rabbitbrush, and twoneedle pinyon.

3.4 Erosion features

The impacts of historic overgrazing are visible at the north-side of the facility, in the form of arroyos that formed when surface run-off cut through the ground and washed away

soils that were not able to hold water with their ground cover lost to overgrazing. Now that the facility is fenced and no livestock grazing occurs on the site, vegetation has recovered in these areas. With the facility helping to bring back vegetation in its undeveloped areas the formation and deepening of erosion features on its land has reduced.

3.5 Subsurface conditions
3.5.1 Soil types and associations

Most of the soils found at the surface in the locations where wells are located consist of the Mentmore-Gish complex.[3] These soils occur in alluvial fans on valley sides and fan remnants on valley sides. The parent material for these soils is slope and fan alluvium derived from sandstone and shale. These are well drained soils with moderately slow (0.2 in/hr) to slow permeability (0.06 in/hr). In this association, the Gish and similar soils make up about 45 percent, the Mentmore and similar soils 35 percent, and minor components 20 percent. These minor components are - Berryhill and similar soils 10 percent, and Anodize and similar soils 10 percent. The typical profile for these soils is – 0 to 2 inches fine sandy loam, 2-72 inches various kinds of clay loam.

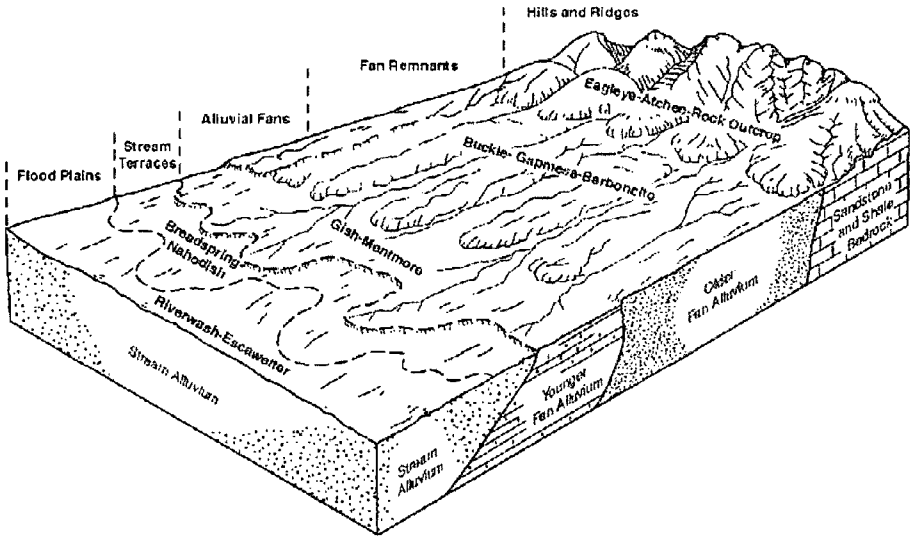

Figure 5: Generalized relationship of soils in the Gallup Refinery area: from NRCS/USDA Soil Survey of McKinley County.

[3] Soil Survey of McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties, Natural Resources Conservation Service (NRCS), US Department of Agriculture, available at - http://soildatamart.nrcs.usda.gov/Manuscripts/NM692/0/McKinley.Area%20NM.pdf

Drill logs for various wells are provided in Appendix B. From these well logs we can infer that the soils in the subsurface are generally composed of clays starting at the immediate subsurface, interbedded with narrow sand and silt layers. At about 100 to 150 feet, layers of mudstone, sandstone (from the Chinle formation, Petrified Forest group) and siltstone start to appear.

3.5.2 Stratigraphy

The 810 acre refinery property site is located on a layered geologic formation. Surface soils generally consist of fluvial and alluvial deposits; primarily clay and silt with minor inter-bedded sand layers. Below this surface layer is the Chinle Formation, which consists of low permeability claystones and siltstones that comprise the shales of this formation. As such, the Chinle Formation effectively serves as an aquiclude. Inter-bedded within the Chinle Formation is the Sonsela Sandstone bed, which represents the uppermost potential aquifer in the region.

The Sonsela Sandstone bed lies within and parallels the dip of the Chinle Formation. As such, its high point is located southeast of the refinery and it slopes downward to the northwest as it passes under the refinery. Due to the confinement of the Chinle Formation aquiclude, the Sonsela Sandstone bed acts as a water-bearing reservoir and is artesian at its lower extremis. Artesian conditions exist through much of the central and western portions of the refinery property.

3.5.3 Presence and flow direction of groundwater

Groundwater flow within the Chinle Formation is extremely slow and typically averages less than 10^{-10} centimeters per second (less than 0.01 feet per year). Groundwater flow within the surface soil layer above the Chinle Formation is highly variable due to the presence of complex and irregular stratigraphy; including sand stringers, cobble beds, and dense clay layers. As such, hydraulic conductivity may range from less than 10^{-2} centimeters per second in the gravelly sands immediately overlying the Chinle Formation up to 10^{-8} centimeters per second in the clay soil layers located near the surface.

Shallow groundwater located under refinery property generally flows along the upper contact of the Chinle Formation. The prevailing flow direction is from the southeast and toward the northwest; however, a subsurface ridge has been identified and is thought to deflect some flow in a northeasterly direction in the vicinity of the refinery tank farm.

Figure 6 provides a map of groundwater flow in the vicinity of the facility.

4.0 Investigation Methods

The purpose of this section is to describe the types of activities that will be conducted and the methods that will be used as part of this Plan. This section borrows liberally from the Plan produced by the Bloomfield Refinery of Western Refining and approved by the NMED/HWB. (Appendix C provides more detailed information on sampling procedures.)

4.1 Groundwater elevation surveys

Ground water elevation data will be collected from the wells listed in Table 1. As directed by NMED HWB, ground water elevation data will be collected on a quarterly or an annual basis. Groundwater levels and SPH thickness measurements (from the RW series of wells) will be collected on a quarterly or an annual basis to monitor groundwater elevation fluctuations over time.

The frequency for collection of groundwater elevation data may be adjusted based on review of data collected during the initial four quarters. Measurement data and the date and time of each measurement will be recorded on a site monitoring data sheet. The depth to groundwater and SPH thickness levels will be measured to the nearest 0.01 ft. The depth to groundwater and SPH thickness will be recorded relative to the surveyed well casing rim or other surveyed datum. A corrected water table elevation will be provided in wells containing SPH by adding 0.8 times the measured SPH thickness to the calculated water table elevation. Water level and SPH thickness measurements will be collected using an oil/water interface probe. Groundwater and SPH levels will be measured in all wells within 48 hours of the start of groundwater sampling activities. All automated and manual extraction of SPH and water from recovery wells, observation wells, and collection wells will be discontinued for 48 hours prior to the measurement of water and SPH levels.

4.2 Groundwater sampling

All monitoring wells scheduled for sampling during a groundwater sampling event will be sampled within 15 working days of the start of the monitoring and sampling event. Data collected in 2008 in accordance with the procedures, frequencies, and analyses described in this Plan are presented in Appendix D.

4.2.1 Well Purging

Each monitoring well will be purged by removing groundwater prior to sampling in order to ensure that formation water is being sampled. Total 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.

Table 1: Wells that will have groundwater elevation monitored and frequency of such monitoring

Well ID	Frequency of monitoring groundwater elevation
BW-1A	Annual
BW-1B	Annual
BW-1C	Annual
BW-2A	Annual
BW-2B	Annual
BW-2C	Annual
BW-3A	Annual
BW-3B	Annual
BW-3C	Annual
OW-1	Quarterly
OW-10	Quarterly
OW-11	Annual
OW-12	Annual
OW-13	Annual
OW-14	Annual
OW-29	Annual
OW-30	Annual
MW-1	Annual
MW-4	Annual
MW-5	Annual
RW-1	Quarterly (including SPH)
RW-2	Quarterly (including SPH)
RW-5	Quarterly (including SPH)
RW-6	Quarterly (including SPH)
SMW-2	Annual
SMW-4	Annual
SMW-6	Annual
GWM-1	Quarterly
GWM-2	Quarterly
GWM-3	Quarterly
NAPIS-1	Quarterly
NAPIS-2	Quarterly
NAPIS-3	Quarterly
KA-3	Quarterly

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. The volume of groundwater purged, the instruments used, and the readings obtained at each interval will be recorded on the field-monitoring log. Well purging and sampling will be performed using disposable bailers and/or appropriate sampling pumps.

4.2.2 Groundwater Sample Collection

Groundwater samples will be obtained from each well within 24 hours of the completion of well purging. 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. Sample handling and chain-of-custody procedures are described in Section 4.2.3. Decontamination procedures for reusable water sampling equipment are described in Section 4.2.4.

All purged groundwater and decontamination water will be disposed in the refinery wastewater treatment system upstream of the API Separator. The procedures for disposable materials are described in Section 4.2.6.

Groundwater samples intended for metals analysis will be submitted to the laboratory as total metals samples. Groundwater samples obtained for dissolved metals analysis will be filtered using disposable filters with a 0.45 micrometers mesh size.

4.2.3. Sample Handling

At a minimum, the following procedures will be used when collecting samples:

- Neoprene, nitrile, or other protective gloves will be worn when collecting samples. New disposable gloves will be used to collect each sample.
- All samples collected for chemical analysis will be transferred into clean sample containers supplied by the analytical laboratory. 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, as described in Section 4.3 of this Plan, 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. At a minimum, all samples will be submitted to the laboratory within 48 hours after their collection.

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. Temperature blanks will be included with each shipping container.
- 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.

4.2.4 Decontamination Procedures

The objective of the decontamination procedures is to minimize the potential for cross-contamination

The majority of field equipment used for groundwater sampling will be disposable and, therefore, not require decontamination. In order to prevent cross-contamination, field equipment that comes into contact with water or soil will be decontaminated between each sampling location. The decontamination procedure will consist of washing the equipment with a non-phosphate detergent solution (examples include Fantastik™, Liqui-Nox®), followed by two rinses of distilled water and air dried.

Decontamination water and rinsate will be contained and disposed of the same way as purge water, as described in Section 4.2.8. Decontamination procedures and the cleaning agents used will be documented in the daily field log.

4.2.5. Field Equipment Calibration Procedures

Field equipment requiring calibration will be calibrated to known standards, in accordance with the manufacturers' recommended schedules and procedures. Calibration checks will be conducted daily and the instruments will be recalibrated if necessary. Calibration measurements will be recorded in the daily field logs.

If field equipment becomes inoperable, its use will be discontinued until the necessary repairs are made. A properly calibrated replacement instrument will be used in the interim. Instrumentation used during sampling events will be recorded in the daily field logs.

4.2.6. Collection and Management of Investigation Derived Waste

Investigation derived waste (IDW) generated during each groundwater sampling event may include purge water, decontamination water, excess sample material, and disposable sampling equipment. All water generated during sampling and decontamination activities will be temporarily stored in labeled 55-gallon drums until disposed in the refinery wastewater treatment system upstream of the API separator. All other solid waste generated during sampling activities (including sampling gloves, tubing, etc) will be disposed of with the Refinery's general municipal waste.

4.2.7 Collection of surface water samples

At the ponds, samples may be collected at multiple sites and at multiple depths, or simply a grab sample at the pond edge. This will be noted in the field notebooks. For outfalls, a grab sample will be collected at the pipe end, and recorded.

The number of sampling sites and the depths where samples will be collected will be dictated by study objectives and the physical, chemical, and biological characteristics of the water body.

Thief-type samplers usually will be used to collect pond samples if required at various depths.

- Samples must be collected at a known depth.
- Sample integrity must be maintained to the degree possible while samples are being brought to the surface for further processing.

Be sure that the field effort is adequately staffed and equipped. Check QC requirements before departing—QC samples require additional equipment and supplies.

More details of these steps are provided in Appendix C.

Step 1. Prepare for sampling of inorganic and organic analytes. Upon arrival at the field site, set out safety equipment such as traffic cones and signs (if required). Park vehicle so as to prevent sample contamination from emissions. Assemble equipment and set up a clean work space.

Organic compounds. Select equipment with fluorocarbon polymer, glass, or metal components if components will directly contact samples to be analyzed for organic compounds. **Do not use plastics other than fluorocarbon polymers.**

Inorganic constituents. Select equipment with components made of fluorocarbon polymer or other relatively inert and uncolored plastics or glass if components will directly contact samples to be analyzed for inorganic constituents. **Do not use metal or rubber components for trace-element sampling.**

Microbiological analyses. Collect microbiological samples using equipment and techniques as mandated by the laboratory.

Step 2. Locate sampling site.

- Locate the first sampling point and maintain a sampling platform position at the site.
- Record depth to bottom.

Step 3. Select sampling depths.

- Make field measurements (such as specific electrical conductance, pH, temperature, and dissolved oxygen) in situ to obtain a vertical profile of field-measurement variation.
- Measure light penetration (if applicable).
- Select and record sampling depth(s) based on study objectives and the variation in field measurements for the vertical.

Step 4. Collect samples. Field rinse sampling equipment first. Collect samples by using the procedures listed in Appendix C.

Step 5. Process samples. Details are provided in Appendix C.

Step 6. Clean equipment.

Collect a field blank, if required, after sampling equipment has been cleaned at the sampling site. Place the cleaned sampler into a plastic bag and seal for transport to the next site.

4.3. Analytical Methods

Groundwater and surface water samples collected during the monitoring events will be analyzed for one or more of the following constituents:

- volatile organic compounds (VOCs) by EPA Method 8260B and EPA Method 8021B;
- semi-volatile organic compounds (SVOCs) by EPA Method 8270C;
- metals analysis (total and dissolved) by EPA Method 6010, except mercury which will be analyzed by EPA Method 7470.
- total petroleum hydrocarbons (TPH) – gasoline range organics (GRO) by EPA Method 8015B;TPH – diesel range organics (DRO) by EPA Method 8015B;
- specific conductance by EPA Method 120.1 or field measurement; and
- anions by EPA Method 300.0.

In addition, for various locations the list of metals is modified to either be the Skinner list of the NM Water Quality Control Commission list. Table 2 provides a summary of target analytes for each EPA analytical method.

Table 2: Target analytes for various EPA methods

EPA Method	Target Analytes
8260B	VOCs – method list
8270	Semi-VOCs – method list
8015B TPH-GRO	Gasoline Range Organics
8015B TPH-DRO	Diesel Range Organics Motor Range Organics
7470 Total recoverable Metals	Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium. Silver
7470 Dissolved Metals	Arsenic, barium, Cadmium, Calcium, Chromium, Copper, Iron, lead, Magnesium, Manganese, Mercury, Potassium, Selenium, Silver, Sodium, Uranium, Zinc
300.0	Fluoride, Chloride, Bromide, Nitrogen,, Nitrite (as N), Nitrogen (Nitrate as N), Phosphorous, Orthophosphate (as P), Sulfate
120.1	Specific Conductance

4.4. Documentation of Field Activities

4.4.1. General

Daily field activities, including observations and field procedures, will be recorded using indelible ink on field sampling forms. The original field forms will be maintained at Gallup Refinery. Completed forms will be maintained in a bound and sequentially numbered field file for reference during field activities. The daily record of field activities will include the following information:

- Well ID
- Date
- Start and finish sampling time
- Field team members, including visitors
- Weather conditions
- Daily activities and times conducted
- Observations
- Record of samples collected with sample designations
- Photo log (if needed)
- Field monitoring data, including health and safety monitoring (if needed)
- Equipment used and calibration records, if appropriate
- List of additional data sheets and maps completed
- An inventory of the waste generated and the method of storage or disposal
- Signature of personnel completing the field record

4.4.2. Sample Custody

All samples collected for analysis will be recorded in the field report or data sheets. Chain-of-custody forms will be completed at the end of each sampling day, prior to the transfer of samples off site, and will accompany the samples during shipment to the laboratory. A signed and dated custody seal will be affixed to the lid of the shipping container. Upon receipt of the samples at the laboratory, the custody seals will be broken, the chain-of-custody form will be signed as received by the laboratory, and the conditions of the samples will be recorded on the form. The original chain-of-custody form will remain with the laboratory. Gallup Refinery will maintain copies of all chain –of-custody forms generated as part of sampling activities. Copies of the chain-of-custody records will be included with all draft and final laboratory reports submitted to NMED and OCD.

4.5. Quality Assurance Procedures

Contract analytical laboratories will maintain internal quality assurance programs in accordance with EPA and industry accepted practices and procedures. At a minimum, the laboratories will use a combination of standards, blanks, surrogates, duplicates, matrix spike/matrix spike duplicates (MS/MSD), blank spike/blank spike duplicates (BS/BSD), and laboratory control samples to demonstrate analytical QA/QC. The laboratories will establish control limits for individual chemicals or groups of chemicals based on the long-term performance of the test methods. In addition, the laboratories will establish internal QA/QC that meets EPA's laboratory certification requirements. The specific procedures to be completed are identified in the following sections.

4.5.1. Equipment Calibration Procedures and Frequency

The laboratory's equipment calibration procedures, calibration frequency, and calibration standards will be in accordance with the EPA test methodology requirements and documented in the laboratory's quality assurance and SOP manuals. All instruments and equipment used by the laboratory will be operated, calibrated, and maintained according to manufacturers' guidelines and recommendations. Operation, calibration, and maintenance will be performed by personnel who have been properly trained in these procedures. A routine schedule and record of instrument calibration and maintenance will be kept on file at the laboratory.

4.5.2. Field QA/QC Samples

Field duplicates, field blanks, equipment rinsate blanks, and trip blanks will be obtained for quality assurance during sampling activities. The samples will be handled as described in Section 4.2.3.

Field duplicate water samples will be obtained at a frequency of ten percent of the total number of samples submitted for analysis. At a minimum, one duplicate sample per sampling event will be obtained.

Field blanks will be obtained at a minimum frequency of one per day. Field blanks will be generated by filling sample containers in the field with de-ionized water and

submitting the samples, along with the groundwater samples, to the analytical laboratory for the appropriate analyses.

Equipment rinsate blanks will be obtained for chemical analysis at the rate of one per sampling day when using disposable sampling equipment. For sampling equipment that is used at more than one location (e.g., sampling pumps), an equipment rinsate blank will be collected at a frequency of 10 percent, or a minimum of one per sampling day. Rinsate samples will be generated by rinsing de-ionized water through unused or decontaminated sampling equipment. The rinsate sample then will be placed in the appropriate sample container and submitted with the groundwater samples to the analytical laboratory for the appropriate analyses.

Trip blanks will accompany laboratory sample bottles and shipping and storage containers intended for VOC analyses. Trip blanks will consist of a sample of analyte free de-ionized water prepared by the laboratory and placed in an appropriate sample container. The trip blank will be prepared by the analytical laboratory prior to the sampling event and will be kept with the shipping containers and placed with other water samples obtained from the site each day. Trip blanks will be analyzed at a frequency of one for each shipping container of samples.

4.5.3. Laboratory QA/QC Samples

Analytical procedures will be evaluated by analyzing reagent or method blanks, surrogates, matrix spike/matrix spike duplicates (MS/MSDs), blank spike/blank spike duplicates (BS/BSDs) and/or laboratory duplicates, as appropriate for each method. The laboratory QA/QC samples and frequency of analysis to be completed will be documented in the cited EPA or other test methodologies. At a minimum, the laboratory will analyze laboratory blanks, MS/MSDs, BS/BSDs and laboratory duplicates at a frequency of one in twenty for all batch runs requiring EPA test methods and a frequency of one in ten for non-EPA test methods. Laboratory batch QA/QC samples will be project specific.

4.5.4. Laboratory Deliverables

The analytical data package will be prepared in accordance with EPA-established Level II analytical support protocol. As stated in the Order, the following will be included in the analytical laboratory reports:

- Transmittal letter, including information about the receipt of samples, the testing methodology performed, any deviations from the required procedures, any problems encountered in the analysis of the samples, any data quality exceptions, and any corrective actions taken by the laboratory relative to the quality of the data contained in the report;
- Sample analytical results, including sampling date; date of sample extraction or preparation; date of sample analysis; dilution factors and test method identification; water sample results in consistent units (milligrams per liter or

micrograms per liter (µg/L)); and detection limits for undetected analytes. Results will be reported for all field samples, including field duplicates and blanks, submitted for analysis;
- Method blank results, including reporting limits for undetected analytes;
- Surrogate recovery results and corresponding control limits for samples and method blanks (organic analyses only);
- MS/MSD and/or BS/BSD spike concentrations, percent recoveries, relative percent differences (RPDs), and corresponding control limits;
- Laboratory duplicate results for inorganic analyses, including relative percent differences and corresponding control limits;
- Sample chain-of-custody documentation;
- Holding times and conditions;
- Conformance with required analytical protocol(s);
- Instrument calibration;
- Blanks;
- Detection/quantitation limits;
- Recoveries of surrogates and/or matrix spikes (MS/MSDs);
- Variability for duplicate analyses;
- Completeness;
- Data report formats;

Data deliverables provided by the laboratory that include analysis of organic compounds will also include the following:

- A cover letter referencing the procedure used and discussing any analytical problems, deviations, and modifications, including signature from authority representative certifying to the quality and authenticity of data as reported;
- A report of sample collection, extraction, and analysis dates, including sample holding conditions,
- Tabulated results for samples in units as specified, including data qualification in conformance with EPA protocol, and definition of data descriptor codes;
- Reconstructed ion chromatograms for gas chromatograph/mass spectrometry (GC/MS) analyses for each sample and standard calibration;
- Selected ion chromatograms and mass spectra of detected target analytes (GCMS) for each sample and calibration with associated library/reference spectra;
- Gas Chromatograph/electron capture device (GC/ECD and/or gas chromatograph/flame ionization detector (GC/FID) chromatograms for each sample and standard calibration;
- Raw data quantification reports for each sample and calibrations, including areas and retention times for analytes, surrogates, and internal standards;
- A calibration data summary reporting calibration range used and a measure of linearity,
- Final extract volumes (and dilutions required), sample size, wet-to-dry weight ratios, and instrument practical detection/quantitation limit for each analyte,

- Analyte concentrations with reporting units identified, including data qualification in conformance with the contract laboratory program Statement of Work (SOW) (include definition of data descriptor codes),
- Quantification of analytes in all blank analyses, as well as identification of method blank associated with each sample,
- Recovery assessments and a replicate sample summary, including all surrogate spike recovery data with spike levels/concentrations for each sample and all MS/MSD results (recoveries and spike amounts), and
- Report of tentatively identified compounds with comparison of mass spectra to library/reference spectra.

Data deliverables provided by the laboratory that include analysis of inorganic compounds will include the following:

- A cover letter referencing the procedure used and discussing any analytical problems, deviations, and modifications; including signature from authority representative certifying to the quality and authenticity of data as reported,
- Report of sample collection, digestion, and analysis dates, with sample holding conditions,
- Tabulated results for samples in units as specified, including data qualification in conformance with the contract laboratory program (CLP) statement of work (including definition of data descriptor codes),
- Results of all method QA/QC checks, including inductively coupled plasma (ICP) Interference Check Sample and ICP serial dilution results,
- Tabulation of instrument and method practical detection/quantitation limits,
- Raw data quantification report for each sample,
- A calibration data summary reporting calibration range used and a measure of linearity, where appropriate,
- Final digestate volumes (and dilutions required), sample size, and wet-to-dry weight ratios,
- Quantification of analytes in all blank analyses, as well as identification of method blank associated with each sample, and
- Recovery assessments and a replicate sample summary, including post-digestate spike analysis; all MS data (including spike concentrations) for each sample, if accomplished; all MS results (recoveries and spike amounts); and laboratory control sample analytical results).

Gallup Refinery will present summary tables of these data in the formats suggested in the NMED/HWB letter of February 9 as an Appendix to the Periodic Groundwater Monitoring Report. The raw analytical data, including calibration curves, instrument calibration data, data calculation work sheets, and other laboratory support data for groundwater monitoring samples, will be compiled and kept on file locally at Gallup Refinery for reference. The data will be available to NMED upon request.

4.5.5. Review of Field and Laboratory QA/QC Data

The sample data, field, and laboratory QA/QC results will be evaluated for acceptability with respect to the data quality objectives (DQOs). Each group of samples will be compared with the DQOs and evaluated using data validation guidelines contained in EPA guidance documents: Guidance Document for the Assessment of RCRA Environmental Data Quality, National Functional Guidelines for Organic Data Review, and Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses, and the most recent version of SW-846, and industry-accepted QA/QC methods and procedures.

The laboratory will notify the Gallup Refinery Project Manager of data quality exceptions within one business day of identifying the data quality exception in order to allow for sample re-analysis, if possible. The Gallup Refinery Project Manager will contact NMED within one business day of receipt of laboratory notification of data quality exceptions in order to discuss the implementations and determine whether the data will still be considered acceptable, or if sample re-analysis or re-sampling is necessary. Following NMED notification, Gallup Refinery will submit written documentation summarizing discussions with NMED regarding the data quality exceptions identified. The memorandum will be submitted to NMED by fax or electronic mail within two business days of the conclusion of the data quality discussion.

4.5.6. Blanks, Field Duplicates, Reporting Limits and Holding Times

4.5.6.1. Blanks

The analytical results of field blanks and field rinsate blanks will be reviewed to evaluate the adequacy of the equipment decontamination procedures and the possibility of cross-contamination caused by decontamination of sampling equipment. The analytical results of trip blanks will be reviewed to evaluate the possibility for contamination resulting from the laboratory-prepared sample containers or the sample transport containers. The analytical results of laboratory blanks will be reviewed to evaluate the possibility of contamination caused by the analytical procedures. If contaminants are detected in field or laboratory blanks, the sample data will be qualified, as appropriate.

4.5.6.2. Field Duplicates

Field duplicates will consist of two samples either split from the same sample device or collected sequentially. Field duplicate samples will be collected at a minimum frequency of ten percent of the total number of samples submitted for analysis. Relative percent differences for field duplicates will be calculated. The analytical DQO for precision will be used for water duplicates.

4.5.6.3. Method Reporting Limits

Method reporting limits for sample analyses will be established at the lowest level practicable for the method and analyte concentrations and will not exceed groundwater or surface water cleanup standards and screening levels. Detection limits that exceed established standards or screening levels and are reported as "not detected" will be considered data quality exceptions and an explanation for the exceedance and its acceptability for use will be provided.

4.5.6.4. Holding Times

The sampling, extraction, and analysis dates will be reviewed to confirm that extraction and analyses were completed within the recommended holding times, as specified by EPA protocol. Appropriate data qualifiers will be noted if holding times were exceeded.

4.5.7. Representativeness and Comparability

4.5.7.1. Representativeness

Representativeness is a qualitative parameter related to the degree to which the sample data represent the relevant specific characteristics of the media sampled. Procedures will be implemented to assure representative samples are collected and analyzed, such as repeated measurements of the same parameter at the same location over several distinct sampling events. Any procedures or variations that may affect the collection or analysis of representative samples will be noted and the data will be qualified.

4.5.7.2. Comparability

Comparability is a qualitative parameter related to whether similar sample data can be compared. To assure comparability, analytical results will be reported in appropriate units for comparison with other data (past studies, comparable sites, screening levels, and cleanup standards), and standard collection and analytical procedures will be implemented. Any procedure or variation that may affect comparability will be noted and the data will be qualified.

4.5.8. Laboratory Reporting, Documentation, Data Reduction, and Corrective Action

Upon receipt of each laboratory data package, data will be evaluated against the criteria outlined in the previous sections. Any deviation from the established criteria will be noted and the data will be qualified. A full review and discussion of analytical data QA/QC and all data qualifiers will be submitted as appendices or attachments to the groundwater monitoring reports. Data validation procedures for all samples will include checking the following, when appropriate:

- Holding times
- Detection limits
- Field equipment rinsate blanks
- Field blanks
- Field Duplicates
- Trip blanks
- Reagent blanks
- Laboratory duplicates
- Laboratory blanks
- Laboratory matrix spikes
- Laboratory matrix spike duplicates
- Laboratory blank spikes
- Laboratory blank spike duplicates

- Surrogate recoveries

If significant quality assurance problems are encountered, appropriate corrective action will be implemented. All corrective action will be reported and the corrected data will be qualified.

5.0 Monitoring and Sampling Program

The primary objective of groundwater monitoring is to provide data which will be used to assess groundwater quality at and near the Facility. Groundwater elevation data will also be collected to evaluate groundwater flow conditions. The groundwater monitoring program for the Facility will consist of sample collection and analysis from a series of monitoring wells, recovery wells, outfalls, and pond locations.

The monitoring network is divided into two investigation areas (East Side and West Side). The sampling frequency, analyses and target analytes will vary for each investigation area and well/outfall/pond location. The combined data from these investigation areas will be used to establish background groundwater quality, assess groundwater quality beneath and immediately down-gradient of the Facility, and evaluate local groundwater flow conditions.

Samples will not be collected from monitoring wells that have measurable SPH. For wells that are purged dry, samples will be collected if recharge volume is sufficient for sample collection within 24 hours. Wells not sampled due to insufficient recharge will be documented in the field log.

A summary of the Facility-Wide Monitoring Plan is provided in Table 3.

Information regarding the construction details of all monitoring wells, including total well depth, screen interval, and top-of-casing elevation, is provided in Table E.1 in Appendix E.

The following sections outline the monitoring program for each investigation area.

5.1. East Side
5.1.1. Sampling Locations

The location of the East Side monitoring and recovery wells are shown in Figure 7.

These wells are –
<u>Recovery wells</u>

- RW-1
- RW-2
- RW-5
- RW-6

<u>Monitoring wells</u>

- OW-29
- OW-30
- OW-13
- OW-14

5.1.2. Sampling Frequency and Analyses

On a quarterly basis, groundwater samples will be collected from each of the OW wells in the East Side and analyzed for the following chemical constituents:

- VOAs (EPA method 8260B)
- BTEX plus MTBE (EPA method 8021B)

Table 3: Summary of sampling locations, frequencies, and tests required

SAMPLING REQUIREMENTS PER NMED/HWB REQUESTS

LOCATION	FREQUENCY	TEST METHOD
	Quarterly	
Pond 1		Gen Chem., VOC, WQCC Metals, BOD, COD, E-coli Bacteria)
Pond 2		Same as above
Pond 3		Same as above
Pond 4		Same as above
Pond 5		Same as above
Pond 6		Same as above
Pond 7		Same as above
Pond 8		Same as above
Al-2 to EP-1		8260, 8015B include C6-C10, C10-C36, RCRA 8 Metals total
Pilot Effluent		VOC/DRO Extended, GRO, BOD, COD, WQCC METALS
NAPIS Effluent		GEN CHEM, VOC, SVOC (PHENOL), DRO Extended GRO, WQCC METALS
AL-1 Inlet		BOD, COD, PHENOL
AL-2 Inlet	Monthly until 4/08 start quarterly (or more frequently)	Same as above
EP-1 Inlet		Same as above
Evap. Pond 1	monthly until 12/08 then change to qtrly	VOC, BOD, COD, Cl, DRO/GRO, MTBE, Ph, PHENOL
NAPIS 1		8021B (BTEX/MTBE), 8310 (Semi-VOCs), 8015B (DRO extended, GRO), RCRA metals, and GEN CHEM
NAPIS 2		8021B (BTEX/MTBE), 8310 (Semi-VOCs), 8015B (DRO extended, GRO), RCRA metals, and GEN CHEM
NAPIS-3		8021B (BTEX/MTBE), 8310 (Semi-VOCs), 8015B (DRO extended, GRO), RCRA metals, and GEN CHEM
KA-3		8021B (BTEX/MTBE), 8310 (Semi-VOCs), 8015B (DRO extended, GRO), RCRA metals, and GEN CHEM
NAPIS 2ndary Containment		8021, 8015B EXTENDED, METALS WQCC TOTALS
OW-13		VOAs (8260B), BTEX + MTBE (8021B)
OW-14 (HIGH-BENZENE)		VOAs (8260B), BTEX + MTBE (8021B)
OW-29		VOAs (8260B), BTEX + MTBE (8021B)

OW-30		VOAs (8260B), BTEX + MTBE (8021B)
Pond 1 Inlet (EPI-IN)	**Semi-Annual**	GenChem, VOC, SVOC Including Phenol, DRO extended/GRO, WQCC Metals
Boiler Water inlet to EP-2		Gen Chem
	ANNUAL	
BW-1A		Gen Chem, VOC, SVOC, MTBE, WQCC Metals
BW-1B		Same as above
BW-1C		Same as above
BW-2A		Same as above
BW-2B		Same as above
BW-2C		Same as above
BW-3A		Same as above
BW-3B		Same as above
BW-3C		Same as above
MW-1		Gen Chem / RCRA List Constituents
MW-4		Gen Chem / RCRA List Constituents. Modified skinner list metals & organics.
MW-5		Gen Chem / RCRA List Constituents. Modified skinner list metals & organics.
OW-11		Gen Chem, VOC, SVOC, MTBE, WQCC Metals
OW-12		VOC/MTBE
	ANNUAL	
SMW-2		Gen Chem / RCRA List Constituents. Modified skinner list metals & organics.
SMW-4		Gen Chem / RCRA List Constituents. Modified skinner list metals & organics.
EP2-INLET		VOC/MTBE, DRO extended/GRO, BOD, COD, TDS
GWM-1 HIGH-BENZENE		Gen Chem, VOC, SVOC, MTBE, WQCC Metals
PW-2	Every 3 yrs starting with 2008	VOC, SVOC, WQCC METALS, CYANIDE, NITRATES
PW-3	Every 3 yrs starting with 2008	Same as above
PW-4	Every 3 yrs starting with 2007	Same as above

5.2. West Side
5.2.1. Sampling Locations

The locations of wells on the West Side are shown in Figure 7.

The following wells, outfalls, and ponds will be sampled within the West Side area: (Note: these outfalls are from one section of the wastewater treatment system to another – they do not discharge to any location outside the facility.)

Monitoring wells

- NAPIS 1
- NAPIS 2
- NAPIS 3
- KA-3
- GWM-1
- SMW-2
- SMW-4
- MW-1
- MW-4
- MW-5
- OW-11
- OW-12
- BW-1A
- BW-1B
- BW-1C
- BW-2A
- BW-2B
- BW-2C
- BW-3A
- BW-2A
- BW-3A
- PW-2
- PW-3
- PW-4

Outfalls

- AL1 Inlet
- AL2 Inlet
- EP1 Inlet
- AL2 to EP-1
- Pilot Travel Center effluent
- NAPIS effluent
- Boiler water Inlet to EP-2

Ponds

- EP1 Inlet
- EP2 Inlet
- Pond 1
- Pond 2
- Pond 3
- Pond 4
- Pond 5
- Pond 6
- Pond 7
- Pond 8

5.2.2. Sampling Frequency and Analyses

The number of sampling locations on the West Side is much larger than on the East Side. A variety of types of samples are collected, some from wells, some from outfalls, and some from ponds. The frequencies are monthly, quarterly, semi-annually, and annually. All of these frequencies and analyses required are described in Table 3 and not repeated in this section.

5.3. Monitoring Program Revisions

Upon review of the analytical results from the monitoring events under this Plan, historic facility-wide monitoring data, available soil boring data, and other related information Western Refining will assess the monitoring program presented in this Plan. Revisions to the Plan, as necessary, will then be presented for agency review and approval. These revisions may include, but not be limited to, a reduction or change in monitoring locations, monitoring frequency, and/or target analytes.

Appendix A

Letter from NMED/HWB February 9

BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
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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.

The Permittee must use Attachment 1 of this letter as a general guide for preparing the Monitoring Plan. The Monitoring Plan must include, but is not limited to the following:

a. A general description of the hydrogeologic system beneath the facility.

b. A section or table to include, but not limited to, a description of all existing monitoring wells, recovery wells, and any other required sampling locations specifying their exact location, date the wells were installed including ground elevation, top of casing elevation, well casing stick up length, well depth, well casing diameter, screened interval, screen length, and stratigraphic unit(s) intersected by the well screen.

c. The initial submittal must include a section or appendix that includes all well construction diagrams.

d. A facility map showing all monitoring well locations. This map must be revised as necessary to reflect any well additions and well abandonments that occur during the year.

e. The current groundwater monitoring/sampling requirements found in the OCD Discharge Plan (items 16 (the Sampling Schedule Resulting from historical New API Separator Spills), 19, 20 (A & B), and 25).

f. The sampling requirements must include the proposed frequency of sampling, sampling methodology, field water quality parameters to be measured, and chemical analytical methods.

g. A description of all sampling methods and procedures that will be applied during each monitoring event.

h. Identification of all field instruments proposed for use as well as calibration procedures.

The Permittee must continue to submit their Annual Groundwater Monitoring Report to NMED and the OCD by September 1 of each subsequent year to include the specified items found in the OCD Discharge Permit and describe all groundwater monitoring activities. The annual updates to this Monitoring Plan must be submitted by April 1 of each year beginning in 2010, so that any changes will be implemented prior to the groundwater monitoring summaries provided in the Annual Groundwater Monitoring Report.

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).

- The Permittee must include a Schedule section that proposes a schedule for the groundwater monitoring.

- Tables, Figures, and Appendices must be included.

Appendix B

Well Logs
(Note: All well logs will be submitted by June 30, 2009)

Appendix C: **Gallup Field Sampling Collection and Handling Procedures**

Field Data Collection

All facility monitoring wells and recovery wells are gauged as required through the year. Gallup does not have any recovery well pumps that need to be shut off and removed prior to water elevation measurements.

All water/product levels are measured to an accuracy of the nearest 0.01 foot using an electrical Conductivity based meter. After determining water levels, well volumes are calculated using the appropriate conversion factors for a given well based ion its internal diameter, etc.

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Generally, at least three well volumes are purged from each well prior to sampling. Wells that don't have sufficient recovery to obtain 3 well volumes are pumped until loss of suction then sampled.

Electrical Conductivity (E.C.), pH, and temperature are monitored during purging using a meter. The wells are considered satisfactorily purged when the pH, E.C., and temperatures values did not vary by more than 10 percent for at least three measurements.

Well elevations can be found in Appendix E.

Purged well water from wells that have shown prior contamination is collected in fifty five gallon drums. The water is treated in the refinery's waste water treatment system. Purged water from historically non-contaminated wells is drained onto the ground.

Sampling Equipment at Gallup

The following sampling equipment is maintained at Gallup and used by the sampling personnel:

- Heron Instruments 100 ft. DipperT electric water depth tape complying with US GGG-T-106E, EEC Class II.
- Pall Corporation Acro 50A 0.45 micron disposable filter used with 60 ml. disposable syringe for filtering water in the field.
- YSI 63 pH/Conductivity meter, calibrated with a one-point, two-point, or three-point calibration procedure using pH standards of 7, 4 and 10.
- Grundfos 2-inch pumps with Grundfos 115-volt AC–to-Dc converter.

Groundwater Elevation

All water/product levels are measured using DipperT electric water depth tape. The technician records separate phase hydrocarbon (SPH), depth to water (DTW), and total well depth using the tape. Wash probe on DipperT electric water depth tape first with non-phosphate soap water then with deionized or distilled water before lowering into the well casing. Recovery wells with free product are checked using a reel gauge with water and hydrocarbon finding paste.

Water Quality/Groundwater Sampling

Water quality parameters are measured using a meter. Electrical Conductivity, pH, and temperature are monitored during purging.

Field Procedure for Purging Monitor Wells

In order to assure that the sample collected is representative of actual aquifer conditions, it is necessary to purge the well of stagnant water in the casing. This is accomplished by pumping three casing volumes of water from the well or until it is bailed dry, whichever occurs first. If a well can be pumped dry, it requires only that sufficient time elapse for an adequate volume of water to accumulate for the sampling event.

The casing volume is calculated according to the following formula:

One casing volume = L x F where

L = Length of water column = total depth – depth to water

F = gallons water per foot of well, based on the well casing diameter

F is provided on the *Well Volume Sheet* for the monitoring wells at Gallup provided at the end of this appendix.

The volume to be purged from each well is determined as follows:

Purge volume = casing volume x 3

Document the following information:

a. The amount of water purged from each well.
b. Weather conditions (dry or wet).
c. Depth to Water (DTW).
d. Purge date.
e. Purge time.

Well Evacuation

Before sample collection can begin, the water collected from each monitoring well must be fresh aquifer water. Well evacuation replaces stagnant well water with fresh aquifer water. The water level in the well, total depth of well and thickness of floating product (if any) will be measured using the DipperT electric water depth tape. A transparent bailer will be used to check for the presence and measure the thickness of floating product. If product is present, a ground water sample is typically not obtained.

Recovery wells are evacuated by use of an air driven pump. Wells MW-1, MW-2, MW-4, MW-5, BW-1C, BW-2A, BW-2B, BW-3B, and SMW-4 are each equipped with a dedicated electrical pump. The remaining wells are purged using a portable Grundfos pump.

In low yielding wells, the standing water will be removed until the well is essentially dry. The water level in the well will be allowed to recover until a sufficient volume is present to obtain a sample.

The first sample should be tested for pH, temperature, and specific Conductivity. Samples should then be collected and containerized in the order of the parameter's volatilization sensitivity (see *Order of Collection* below). The well should be retested for pH, temperature and specific Conductivity after sampling as a measure of purging efficiency and as a check on the stability of the water samples over time. All well evacuation information should be recorded in a log book.

Hand Bailing

Hand bailing is used to remove free product from recovery wells, and for wells NAPIS-1, NAPIS-2, NPIS-3 and KA-3. Hand bailing is performed by lowering a Teflon^{TM} bailer slowly into the well, allowing water to enter the bailer, and lifting the bailer out of the well. The bailer is positioned just below the top of the standing water in the well, so that the bailed product is removed from the top of the water column.

Pumping

An electric pump is used to remove water from all wells other than recovery wells with free product in them. Wells MW-1, MW-2, MW-4, MW-5, BW-1C, BW-2A, BW-2B, BW-3B, and SMW-4 are each equipped with a dedicated electrical pump. The other wells, except for recovery wells, are pumped using a portable 2-inch Grundfos pump. During sample collection, a maximum flow rate of 100 milliliters/minute should be used. The actual flow rate should be measured using a graduated container and timed using a stop watch or a watch with a second hand. This rate can change as the water level in the well drops. The flow rate can be determined by:

$$\text{Flow rate (gpm)} = \frac{\text{volume collected (gallons) x 60 seconds per minute}}{\text{Time to fill container (seconds)}}$$

Bottle Filling Procedure

If the well was not bailed dry and the water level is recovering to provide sufficient water to fill all the sample bottles, then samples should be collected immediately. If the well was completely evacuated and/or recovery is slow, wait for a sufficient volume of water to recover in the well to fill all of the sample bottles before beginning to collect samples. Do not overfill the bottles as this will dilute the preservative. When filling VOA and TOX containers, slowly fill the container until the meniscus is just above the lip of the container. Place the cap on the container and tighten. Check for air bubbles by inverting the container and tapping gently. There should be no headspace (air) in the container. If headspace is present, the sample should be discarded and the container refilled (add sufficient preservative if required by sample test).

Do not touch the inside of bottle caps or the inside of the containers. If a cap is accidentally dropped, it should be rinsed with de-ionized or distilled water followed by a rinse with the sample prior to being placed on the container. Record in the field notes whether this happens.
Filled containers should be placed on ice in the coolers immediately upon collection. Replace well cap and lock the cap.

Order of Collection

Samples should be collected in the order listed below:

Parameter	Bottle Type
Volatile Organics	VOA vials with septa cap of Teflon™
TOX	Pint amber glass with septa cap, H2SO4
TOC, Phenols, Nitrate, Ammonia	Quart glass jar, H2SO4
Extractable Organics	Quart glass jar with Teflon™ cap
Chloride and Sulfate	Quart plastic, no preservative
Cyanide	Quart glass, NaOH
Radionuclides	Quart plastic, HNO3
Metals*	Pint plastic

* Prefiltration bottle for dissolved metals which is subsequently filtered and transferred to a pint plastic bottle with HNO3.

Filtration

Ground water samples are filtered prior to *dissolved metals* analysis. For dissolved metals, sample water is poured into a jar and then extracted with a syringe. The syringe is then used to force the sample water through a 0.45 micron pore filter paper filter into the proper sample bottle to collect dissolved metals samples. Filtration must be performed within two hours of sample collection. Pour the filtrate into a sample bottle containing HNO3 preservative.

For samples destined for *total metals* analysis, do not filter the sample, and preserve with HNO3 to pH <2 in the field.

Gallup sampling personnel carry a cell phone when gathering groundwater and other water samples. While sampling procedures are generally well known and the appropriate sample bottles are ordered to match each sampling event, occasional questions do arise from unforeseen circumstances which may develop during sampling. At such times, sampling personnel contact Hall Environmental Analytical Laboratory to verify that sampling is correctly performed.

General Well Sampling and Sample Handling Procedures

For safety protection and sampling purity, rubber gloves are worn and changed between each activity.

Prepare for sampling event by making out sample bottle labels and have bottles separated into plastic bags for each well to be sampled and placed in an ice chest ready to take into the field.

Bring along a note book and sample log.

Starting with well MW-1, document weather conditions, sample date and time.

Fill in label with location, date, time, analysis, preservative, and your name.

Start sampling by adjusting converter speed for each well.

Affix sample label and fill bottle according to lab instructions. For samples intended for VOC analysis, use bottles with septa lids, fill bottle to neck and add final amount of water with cap to form meniscus. Turn bottles upside down to examine for bubbles. If bubbles show repeat previous sentence. If no bubbles show, secure lids and pack in bubble wrap and place in cooler until sampling is completed.

Decontaminate equipment that is not dedicated for use in a particular well. Decontaminate by first washing with a non-phosphate soapy water mixture then triple rinse with distilled or deionized water.

Refrigerate completed samples until shipping to lab. Be sure to check holding times and arrange the appropriate shipping.

Equipment Calibration Procedures

YSI 63 pH/Conductivity meter
Conductivity Calibration: none equired

pH Calibration:
1. Reading pH 7 buffer, push and hold button to enter calibration mode – then set reading to 7.0
2. Using pH 4 or 10 buffer, follow instruction to continue on to a two-point or a three point calibration – essentially setting the slope.

Guidelines for Sampling at Ponds

At the ponds, samples may be collected at multiple sites and at multiple depths, or simply a grab sample at the pond edge. This will be noted in the field notebooks.

The number of sampling sites and the depths where samples will be collected will be dictated by study objectives and the physical, chemical, and biological characteristics of the water body.

Thief-type samplers usually will be used to collect pond samples if required at various depths.

- Samples must be collected at a known depth.
- Sample integrity must be maintained to the degree possible while samples are being brought to the surface for further processing.

Be sure that the field effort is adequately staffed and equipped. Check QC requirements before departing—QC samples require additional equipment and supplies.

Step 1. Prepare for sampling of inorganic and organic analytes. Upon arrival at the field site, set out safety equipment such as traffic cones and signs (if required). Park vehicle so as to prevent sample contamination from emissions. Assemble equipment and set up a clean work space.

Organic compounds. Select equipment with fluorocarbon polymer, glass, or metal components if components will directly contact samples to be analyzed for organic compounds. **Do not use plastics other than fluorocarbon polymers.**

Inorganic constituents. Select equipment with components made of fluorocarbon polymer or other relatively inert and uncolored plastics or glass if components will directly contact samples to be analyzed for inorganic constituents. **Do not use metal or rubber components for trace-element sampling.**

Microbiological analyses. Collect microbiological samples using equipment and techniques as mandated by the laboratory.

Step 2. Locate sampling site.

- Locate the first sampling point and maintain a sampling platform position at the site.
- Record depth to bottom.

Step 3. Select sampling depths.

- Make field measurements (such as specific electrical conductance, pH, temperature, and dissolved oxygen) in situ to obtain a vertical profile of field-measurement variation.
- Measure light penetration (if applicable).
- Select and record sampling depth(s) based on study objectives and the variation in field measurements for the vertical.

Step 4. Collect samples. Field rinse sampling equipment first. Collect samples by using the procedures listed below under Step 4A for a thief-type sampler and under Step 4B for a pump sampler.

- **Thief-type sampler.** The instructions listed below are for samplers that operate with an open/close mechanism. If the sampler operates as a point-source bailer, follow steps (a) and (c) through (g) below. Pulling the bailer up will trigger the upper check valve to seal off the sample from the water overlying the targeted depth.
    - a. Lower opened sampler to the desired depth while minimizing disturbance of the water column.
    - b. Isolate the sample by activating the mechanism that closes the sampler.
    - c. Raise the sampler from the water body.
    - d. Dispense sample to sample bottle or compositing/splitting device.
        - If using a bailer, drain sample through the bottom-emptying device.

If sample compositing and (or) splitting is required, ensure that all particulates in the sampler are transferred with the sample by swirling the sample gently to keep particulates suspended and pouring the sample quickly into the churn or cone splitter.

    - e. Repeat steps a through d if more sample is needed from the same depth for that vertical section.

- Repeat steps a through e for each depth to be sampled in that vertical section. If a second sample from a different depth or vertical section will be composited, either

(1) clean and field rinse the splitter after processing the first sample and before collecting the second sample, or (2) use another clean splitter. g. Move to the next site if another vertical section will be sampled. Repeat steps a through f.

Step 5. Process samples. Follow the general sample handling procedures outlined in the previous section.

Step 6. Clean equipment. If the sampler will not be reused during a field trip, rinse the sampler components with deionized water (DIW) before they dry and place them in a plastic bag for transporting back to the office laboratory to be cleaned. If the sampler will be reused during the field trip, rinse the components with DIW while still wet from sampling and then field-clean while at the sampling site using the pre-scribed procedures. Reassemble the sampler.

Collect a field blank, if required, after sampling equipment has been cleaned at the sampling site. Place the cleaned sampler into a plastic bag and seal for transport to the next site.

Appendix D
Data from 2008

TABLE D.1
EPA METHOD 8260B VOLATILES. Levels of contaminants in Potable Water Wells – all units of concentrations are in mg/l. (For wells not sampled in 2007, data is presented from previous years.)

	Year[4]	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
PW-2	2004	12-9-2004	<0.001	<0.001	<0.001	<0.0015	-
PW-4	2004	8-4-2004	<0.001	<0.001	<0.001	<0.0015	-
PW-3	2006	10-27-2006	<0.001	<0.001	<0.001	<0.0015	<0.001
	2007	Sampling activities were primarily conducted from December 27-31, 2007 (Sampling of this well was completed on 1-1-2008 because of inclement weather.)	<0.001	<0.001	<0.001	<0.0015	<0.001
PW-2	2008	9/12/2008	<0.001	<0.001	<0.001	<0.0015	<0.001
PW-3	2008	8/21/08	<0.001	<0.001	<0.001	<0.0015	<0.001
PW-4	2008	9/12/2008	<0.001	<0.001	<0.001	<0.0015	<0.001
EPA MCLS			**0.005**	**1**	**0.7**	**10.0**	
Residential Risk Based Screening Levels for Tap Water (12ug/L)			**0.01**	**0.75**	**0.75**	**0.62**	**0.012** (Residential tap water Std)

TABLE D.2
EPA METHOD 300.0 ANIONS, 6010B RECOVERABLE METALS, 8260B VOLATILES, 8270C SEMI VOLATILES.
Levels of all contaminants in Potable Well # 2, 3 and 4 found at least above Levels of Detection in 2008- all units of concentrations are in mg/l. (Note: Contaminants not presented were not detected. For a complete list of contaminants analyzed, see Section 5.0.)

	Ba	Fe	Pb	Mn	U	Zn	Cyanide	Nitrate as N	Phenols
PW-2	0.013	0.07	<0.005	<0.002	.00161	<0.02	<0.01	<1.0	<0.001
PW-3	<0.02	<.05	<0.005	<0.002	.00063	<0.05	<0.004	.13	<0.001
PW-4	0.013	0.11	<0.005	<0.005	.0014	<0.02	<0.01	<1.0	<0.001
EPA MCLS	**2.0**	**0.3**		**0.3**			**0.2**	**10**	
NMWQS	**1.0**			**0.2**	**.03**	**10**	**0.2**		**.005**

[4] No potable wells were sampled in 2005.

TABLE D.3
EPA METHOD 300.0 ANIONS, EPA 120.1 SPECIFIC CONDUCTANCE, SM4500-H+B: pH. Level of contaminants in Boundary and Observation wells. (All units are in mg/l, except for pH and Specific Conductivity)

	Date Sampled	Fluoride	Chloride	Nitrate + Nitrite as N	Bromide	Phosphorous Orthophosphate (as P)	Sulfate	pH	Specific Conductance (umhos/cm)
OW-11	8/14/08	2.2	90	.75	.29	<.0.5	940	8.39	2600
	12/27/07								
	10/24/06	2.5	86			<.0.5	1100	8.4	3100
BW-1C	7/31/08	2.4	35	<1.0	<0.10	<0.5	260	8.68	1400
	12/31/07	2.6	35	<1.0		<0.5	270	8.5	1400
	10/27/06	2.7	36	<0.5		<0.5		8.39	1400
BW-2A	7/30/08	1.1	40	<1.0	.43	0.75	7.3	7.87	1400
	12/31/07	1.3	42	<1.0		0.70	7.7	7.76	1400
	10/27/06	1.3	39	<0.5		0.64	7.5	8.27	1400
BW-2B	7/30/08	1.6	30	<1.0	1.1	<.0.5	150	7.76	2200
	12/31/07	1.8	30	<1.0		<0.5	150	7.77	2400
	10/27/06	1.9	31	<0.5		<0.5	140	8.1	1400
BW-2C	7/30/08	1.9	44	<1.0	.14	<0.5	270	8.83	1400
	12/31/07	2.3	45	<1.0		<0.5	290	8.73	1400
	10/27/06	2.4	42	<0.5		<0.5	270	8.52	1300
BW-3B	7/31/08	1.4	34	<1.0	.42	1.1	55	7.95	1500
	12/31/07	1.6	35	<1.0		1.1	51	7.93	1600
	10/27/06	1.7	33	<0.5		1.1	250	8.5	1600
BW-3C	8/1/08	1.5	34	<2.0	<1.0	<5.0	240	8.63	1500
	12/31/07	1.8	38	<1.0		<0.5	300	8.59	1500
	10/27/06	1.9	37	<0.5		<0.5	280	8.39	1400
EPA MCLS		4.0	**250**	**10 Nitrate 1 Nitrite**			**250**	**6 - 9**	
NMWQS		1.6	**250** (domestic water)	**10**			**600**	**6 - 9**	

TABLE D.4
EPA METHOD 6010B TOTAL RECOVERABLE METALS.
Levels detected in Boundary Wells (Note: Only data for detected contaminants are presented. For a complete list of all metals analyzed see Section 5.0. All units are in mg/l.)

	Date Sampled	Ba	Ca	Cr	Fe	Mg	Mn	K	Na	Zn	U
OW-11	8/14/08	<0.01	11		<.0.05	1.3	.015	1.8	640		.249
	12/27/07	<0.01	11		<.0.05	1.3	.016	1.6	690		.22
	10/28/06	<0.02	12		<.0.05	1.4					
BW-1C	7/31/08	.016	3.0		<.0.05	.62	.013	<1.0	310		.00115
	12/31/07	0.023	3.6		<0.05	0.74	0.01	<1.0	360		<0.1
	10/28/06	<0.02	3.4		<0.05	<1.0					
BW-2A	7/30/08	0.14	8.6		0.37	3.2	0.14	<1.0	320		<.001
	12/31/07	0.18	11		0.7	3.9	0.22	<1/0	380		<0.1
	10/28/06	0.15	10		<0.05						
BW-2B	7/30/08	0.041	13		.064	3.0	0.16	<1.0	570		.0115
	12/31/07	0.07	16		0.62	3.6	0.29	1.6	640		<0.1
	10/28/06	0.071	23		<0.05						
BW-2C	7/30/08	0.13	24		1.3	2.0	.43	1.1	300		.00728
	12/31/07	0.026	2.9		0.16	0.68	0.024	<1.0	340		<0.1
	10/28/06	0.031	5.6		<0.05	<1.0					
BW-3B	7/31/08	0.11	8.3		0.43	2.6	0.12	<1.0	370		<.001
	12/31/07	0.099	9.0		0.64	2.9	0.13	<1.0	430		<0.1
	10/28/06	0.11	9.0		<0.05						
BW-3C	8/1/08	.27	28	.0078	3.0	2.2	0.41	1.6	350	.032	.00251
	12/31/07	0.068	4.2		0.14	0.81	0.015	1.1	360		<0.1
	10/28/06	0.029	6.0		<0.05						
EPA MCLS		**2.0**		**0.1**	**0.3**		**0.3**				**0.03**
NMWQS		**1.0**		**.05**	**1.0**		**0.2**			**10.0**	**.03**

TABLE D.5
EPA METHOD 8260B VOLATILES: Levels of contaminants found in the Boundary and Observation Wells – all units of concentrations are in mg/l

	Year	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
OW-11	2008	8/14/08	<0.001	<0.001	<0.001	<0.0015	<0.001
	2007	12/27/07	<0.001	<0.001	<0.001	<0.0015	<0.001
	2006	10/24/06	<0.001	<0.001	<0.001	<0.0015	<0.001
BW-1C	2008	7/31/2008	<0.001	<0.001	<0.001	<0.0015	<0.001
	2007	12/31/2007	<0.001	<0.001	<0.001	<0.0015	<0.001
	2006	10/27/2006	<0.001	<0.001	<0.001	<0.0015	<0.001
BW-2A	2008	7/30/2008	<0.001	<0.001	<0.001	<0.0015	<0.001
	2007	12/31/2007	<0.001	<0.001	<0.001	<0.0015	<0.001
	2006	10/27/2006	<0.001	<0.001	<0.001	<0.0015	<0.001
BW-2B	2008	7/30/08	<0.001	<0.001	<0.001	<0.0015	<0.001
	2007	12/31/2007	<0.001	<0.001	<0.001	<0.0015	<0.001
	2006	10/27/2006	<0.001	<0.001	<0.001	<0.0015	<0.001
BW-2C	2008	7/30/2008	<0.001	<0.001	<0.001	<0.0015	<0.001
	2007	12/31/2007	<0.001	<0.001	<0.001	<0.0015	<0.001
	2006	10/27/2006	<0.001	<0.001	<0.001	<0.0015	<0.001
BW-3B	2008	7/31/2008	<0.001	<0.001	<0.001	<0.0015	<0.001
	2007	12/31/2007	<0.001	<0.001	<0.001	<0.0015	<0.001
	2006	10/27/2006	<0.001	<0.001	<0.001	<0.0015	<0.001
BW-3C	2008	8/1/2008	<0.001	<0.001	<0.001	<0.0015	<0.001
	2007	12/31/2007	<0.001	<0.001	<0.001	<0.0015	<0.001
	2006	10/27/2006	<0.001	<0.001	<0.001	<0.0015	<0.001
EPA MCLS			**0.005**	**1.0**	**0.7**	**10.0**	
Residential Risk Based Screening Levels for Tap Water (12ug/L)			**0.01**	**0.75**	**0.75**	**0.62**	**0.012** (residential tap water std)

TABLE D.6
EPA METHOD 8260B VOLATILES, EPA METHOD 8021B SEMI VOLATILES: Levels in Observation Wells and Monitoring Well (GWM-1) – all units of concentrations are in mg/l. Quarterly Sampling of OW-13, 14, 29 & 30 began Fourth Quarter 2008.

	Year	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
OW#12	2008	8/19/08	<0.001	<0.001	<0.001	<0.0015	<0.001
	2007	12-27-2007	<0.001	<0.001	<0.001	<0.0015	<0.001
	2006	10-27-2006	<0.001	<0.001	<0.001	<0.001	<0.0025
OW#13 **	2008	11/13/08	<0.001	<0.001	<0.001	<0.0015	0.0016
	2008	8/19/08	<0.001	<0.001	<0.001	<0.0015	<0.001
	2007	12-27-2007	<0.001	<0.001	<0.001	<0.0015	0.0013
	2006	10-27-2006	<0.001	<0.001	<0.001	<0.001	<0.0025
OW#14 *	2008	11/12/08	0.0082	<0.001	<0.001	<0.002	0.91
	2008	8/21/08	.0035	<0.001	<0.001	<0.0015	1.3
	2007	1-1-2008	0.014	<0.001	<0.001	<0.0015	0.92
	2006	12-28-2006	0.0042	<0.001	0.0025	<0.003	0.18
	2006	10-27-2006	0.0034	<0.001	<0.001	<0.003	0.016
	2005	9-27-2005	0.017	0.0022	0.0023	0.0014	0.077
OW#29 **	2008	11/14/08	<0.001	<0.001	<0.001	<0.0015	0.015
	2008	8/19/08	<0.001	<0.001	<0.001	<0.0015	.0092
	2007	12-28-2007	<0.001	<0.001	<0.001	<0.0015	0.0043
	2006	10-27-2006	<0.001	<0.001	<0.001	<0.003	<0.0025
	2005	9-27-2005	<0.001	<0.001	<0.001	<0.0005	<0.0025
OW#30 *	2008	11/12/08	<0.001	<0.001	<0.001	<0.002	0.88
	2008	8/20/08	<0.001	<0.001	<0.001	<0.0015	1.1
	2007	12-28-2007	<0.001	<0.001	<0.001	<0.0015	0.29
	2006	10-27-2006	<0.001	<0.001	<0.001	<0.003	<0.0025
	2005	9-27-2005	<0.001	<0.001	<0.001	<0.0005	0.018
GWM-1	2008	7/10/08	.011	.0021	.0039	.019	0.12
	2007	5-24-2007	0.016	<0.001	<0.001	<0.0015	0.23
	2006	10-27-2006	0.012	<0.001	<0.001	<0.0015	0.16
EPA MCLS			**0.005**	**1.0**	**0.7**	**10.0**	
Residential Risk Based Screen Levels for Tap Water (12ug/L)			**0.01**	**0.75**	**0.75**	**0.62**	**0.012** (Residential tap water Std.)

* Method EPA 8021B Semi-Volatiles used for Fourth Quarter Analysis.
** Method EPA 8260B Volatiles used for Fourth Quarter Analysis.

TABLE D.7
EPA METHOD 8260B VOLATILES: Levels of All Contaminants in Ground Monitoring and Boundary Wells found at least above Levels of Detection in 2008- all units of concentrations are in mg/l (Note: Contaminants not presented were not detected.) Quarterly sampling began Fourth Quarter 2008 for OW-14, 29, 30

	DATE SAMPLED	GWM-1	OW-13	OW-14	OW-29	OW-30	SMW-2	Provisional - EPA MCLs/ATSDR Screening level/Health Advisory Level -	NMWQS
ACETONE	8/14/08						.00753		
	11/13/08		<0.01	<0.01	<0.01	<0.01			
1,2,4 TRIMETHYLBENZENE	7/10/08	0.0046						**0.005**	
	11/14/08		<0.001	<0.001	<0.001	<0.001			
1-METHYLNAPHTHALENE	8/21/08			0.012					**0.03**
	11/13/08		<0.004	0.016	<0.004	<0.04			
ISOPROPYLBENZENE	8/21/08			0.0016				**0.005**	
	11/13/08		<0.001	0.0015	<0.001	<0.001			
Sec-BUTYLBENZENE	8/21/08			0.002				**0.005**	
	11/13/08		<0.001	0.0025	<0.001	<0.001			
1,2-DICHLOROETHANE (EDC)	8/21/08							**0.005**	**.01**
	11/13/08		<0.001	0.0018	0.001	.0013			

TABLE D.8
EPA METHOD 8270C SEMI VOLATILES:
Levels of All Contaminants in Ground Monitoring and Boundary Wells found at least above Levels of Detection in 2008- all units of concentrations are in mg/l (Note: Contaminants not presented were not detected.)

	GWM-1	OW-14	MW-4	SMW-2	SMW-4	Provisional - EPA MCLs/ATSDR Screening level/Health Advisory Level -	NMWQS
BIS(2-ETHYLHEXL) PHTHALATE			.000679				
DIETHYL PHTHALATE				.000057	.0005		
2,4-DIMETHYLPHENOL	0.028					**0.71**	
1,4-DIOXANE				.0136			
PHENOL	0.0046				.00113		**.005**

TABLE D.9:
EPA METHOD 300.0 ANIONS and 120.1 SPECIFIC CONDUCTANCE, pH:
Levels in Monitoring Wells (All units are in mg/l, except for pH and Specific Conductivity)

	Date Sampled	Fluoride	Chloride	Nitrate + Nitrite as N	Bromide	Phosphorous Orthophospha te (as P)	Sulfate	pH	Specific Conductance (umhos/cm)
GWM-1	7/10/08	1.7	1800	<2.0		<0.5	110	6.92	7400
	5/24/07	1.9	1800	<2.0		<0.5	120	6.8	8100
	10/26/06	2.0	3700	<2.0		<2.5	120	6.87	
MW-1	8/4/08	.81	51	<1.0		<0.5	160	8.95	1100
	12/29/07	0.69	53	<1.0		<0.5	170	8.89	1100
	10/26/06	0.84	46	<0.5		<0.5	150	8.98	
MW-4	8/5/08	.37	17	<1.0		<0.5	160	8.63	1200
	12/29/07	0.42	17	<1.0		<0.5	160	8.63	1200
MW-5	8/13/08	0.85	63	<1.0	.15	<0.5	180	9.02	1200
	12/29/07								
SMW-2	8/14/08	.36	2000	<1.0	3.1	<0.5	1600	7.25	8700
	1/1/08								
SMW-4	8/14/08	1.1	52	.11	.15	<0.5	150	8.63	1200
	12/29/07	1.4	60	<1.0		<0.5	160	8.34	1300
EPA MCLS		**4.0**		**10 Nitrate 1 Nitrite**				**6 - 9**	
NMWQS		**1.6**	**250 (drinking water)**	**10**			**600**	**6 - 9**	

Note: Wells MW-4, MW-5, SMW-2 and SMW-4 were not sampled in 2006.

TABLE D.10
EPA 6010B TOTAL RECOVERABLE METALS. Levels detected in Monitoring Wells
(Note: Only data for detected contaminants are presented. All units are in mg/l.)

Well No.	Date Sampled	As	Ba	Ca	Cr	Mg	Mn	Ni	K	Na
GWM-1	7/10/08	0.070	0.45	350	<.0060	81	3.6	-	3.3	1400
	5/24/07	0.081	0.44	360	<0.006	87	-	<0.01	3.7	1300
	10/26/06	0.077	0.53	380	<0.006	93	-	<0.01	4.2	1400
MW-1	8/4/08	<0.02	<.0.02	1.7	<0.006	<1.0	-	<0.01	<1.0	260
	12/29/07	0.020	<0.02	3.2	<0.006	<1.0	0.018	-	<1.0	230
	10/26/06	<0.02			<0.006		-	<0.01		
MW-4	8/5/08	<0.02	<0.02	1.8	<0.0060	<1.0	-	<0.01	<1.0	280
	12/29/07	<0.02	0.021	1.9	<0.006	<1.0	0.0052	<0.01	<1.0	320
MW-5	8/13/08	<0.02	<0.02	1.4	<0.006	<1.0	-	<0.01	<1.0	260
	12/29/07	<0.02	<0.02	1.4	<0.006	<1.0	0.0045	-	<1.0	290
SMW-2	8/14/08	<0.02	<0.02	200	.0092	64	-	.017	<1.0	1900
	1/1/08	<0.02	<0.02	200	0.055	69	-	0.026	1.1	2200
SMW-4	8/14/08	<0.02	<0.02	3.0	<0.006	61.0	-	-	<1.0	280
	12/29/07	<0.02	0.024	4.6	<0.006	1.2	-	<0.01	<1.0	340
EPA MCLS		**0.01**	**2.0**				**0.3**			
NMWQS		**0.1**	**1.0**		**.05**		**0.2**			

Well No.	Date Sampled	Cu	Fe	Pb	Co	V	Zn
GWM-1	7/10/08	.014	14	.010	-	-	-
MW-1	8/4/08	-	-	<0.005	-	-	-
MW-4	8/5/08	-	-	<0.005	-	-	-
MW-5	8/13/08	-	-	<0.005	-	-	-
SMW-2	8/14/08	-	-	<0.005	-	-	.11
SMW-4	8/14/08	-	-	<0.005	.017	0.053	-
EPA MCLS		**1.3**		**0**			
NMWQS		**1.0**	**1.0**	**.05**			**10.0**

Note: Wells MW-4, MW-5, SMW-2 and SMW-4 were not sampled in 2006. Analyses for dissolved metals were not conducted in 2006

TABLE D.11
EPA METHOD 8260B VOLATILES, EPA METHOD 8015B DRO/GRO.
Levels in Monitoring Wells – all units of concentrations are in mg/l. (Only Well SMW-2 has contaminants above the level of non-detection: MTBE at 0.0099 significantly below regulatory standards, and Gasoline Range Organics at 0.69 mg/l. All other wells have non-detectable levels of contaminants.)

	Year	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	DRO	GRO
MW-1	2008	8/4/08	<0.005	<0.005	<0.005	<0.005	-	<1.0	<0.05
	2007	12/29/07	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<0.05
	2006	10/26/06	<0.001	<0.001	<0.001	<0.0015	<0.0015	<1.0	<0.05
MW-4	2008	8/5/08	<0.005	<0.005	<0.005	<0.005	-	<1.0	<0.05
	2007	12/29/07	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<0.05
	2005	10/12/05	<0.001	<0.001	<0.001	<0.0015	<0.0015	<1.0	<0.05
MW-5	2008	8/13/08	<0.005	<0.005	<0.005	-	-	<1.0	<0.05
	2007	12/29/07	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<0.05
	2005	10/12/05	<0.001	<0.001	<0.001	<0.0015	<0.0015	<1.0	<0.05
SMW-2	2008	8/14/08	<0.005	<0.005	<0.005	-	-	<1.0	.36
	2007	1/1/08	<0.001	<0.001	<0.001	<0.0015	0.0099	<1.0	0.69
	2005	10/12/05	<0.001	<0.001	<0.001	<0.0015	<0.0015	<1.0	<0.05
SMW-4	2008	8/14/08	<0.005	<0.005	<0.005	-	-	<1.0	<0.05
	2007	12/29/07	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<0.05
	2005	10/12/05	<0.001	<0.001	<0.001	<0.0015	<0.0015	<1.0	<0.05
EPA MCLS			**0.005**	**1**	**0.7**	**10.0**			
Residential Risk Based Screen Levels for Tap Water (12ug/L)			**0.01**	**0.75**	**0.75**	**0.62**	**0.012**		

TABLE D.12
EPA METHOD 8260B VOLATILES. Levels of contaminants in inlets to Evaporation Ponds 1 and 2 and from within Ponds 1 through 8 – all units of concentrations are in mg/l.

	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
Pond 1	12/2/08	.0083	0.089	0.033	0.26	<0.005
	9/9/08	.0033	.0058	.0026	.02	<.001
	6/17/08	<.001	.0056	.0016	.012	<.001
	3/11/08	0.19	0.47	.0087	0.54	.0059
Pond 2	12/2/08	.0018	0.02	.0072	.057	<.001
	9/9/08	<.001	.0011	<.001	.0044	<.001
	6/17/08	<.005	<.005	<.005	<.0075	<.005
	3/11/08	.0038	.011	.0021	.014	<.001
Pond 3	12/2/08	.0011	.012	.0043	.034	<.001
	9/9/08	<.010	<.010	<.010	<.015	<.010
	6/17/08	<.001	<.001	<.001	<.0015	<.001
	3/11/08	<.001	.0019	<.001	.004	<.001
Pond 4	12/2/08	<.001	.008	.0029	.022	<.001
	9/9/08	<.010	<.010	<.010	<.015	<.010
	6/17/08	<.001	<.001	<.001	<.0015	<.001
	3/11/08	<.001	<.001	<.001	.002	<.001
Pond 5	12/2/08	<.001	.0026	.0010	.0072	<.001
	9/9/08	<.010	<.010	<.010	<.015	<.010
	6/17/08	<.001	<.001	<.001	<.0015	<.001
	3/11/08	<.001	<.001	<.001	<.0015	<.001
Pond 6	12/2/08	<.001	<.001	<.001	<.0015	<.001
	9/9/08	<.010	<.010	<.010	<.015	<.010
	6/17/08	<.001	<.001	<.001	<.0015	<.001
	3/11/08	<.001	<.001	<.001	<.0015	<.001
Pond 7	12/2/08	<.001	<.001	<.001	<.0015	<.001
	9/9/08	<.010	<.010	<.010	<.015	<.010
	6/17/08	<.001	<.001	<.001	<.0015	<.001
	3/11/08	<.001	<.001	<.001	<.0015	<.001
Pond 8	12/2/08	<.001	<.001	<.001	<.0015	<.001
	9/9/08	<.010	<.010	<.010	<.015	<.010
	6/17/08	<.001	<.001	<.001	<.0015	<.001
	3/11/08	<.001	<.001	<.001	<.0015	<.001
EPA MCLS		**0.005**	**1**	**0.7**	**10.0**	
Residential Risk Based Screening Levels for Tap Water (12ug/L)		**0.01**	**0.75**	**0.75**	**0.62**	**0.012 (Residential Tap water Std.)**

TABLE D.13
EPA METHOD 300.0 ANIONS, EPA 120.1 SPECIFIC CONDUCTANCE, EPA 410.1 COD, EPA 405.1 BOD, SM4500-H+B: PH Levels of All Contaminants in Evaporation Ponds 1 through 8 found at least above Levels of Detection in 2008- all units of concentrations are in mg/l.

	DATE	pH	Specific Conductance (umhos/cm)	COD	BOD	E-Coli (cfu/100ml)	Fluoride	Chloride	NITROGEN Nitrite (as N) Nitrate (as N)	Phosphorus Orthophosphate (asP)	Sulfate
POND 1	12/2/08	7.76	4400				110	360	<1.0	7.2	780
	9/9/08	7.82	4500	3000	299	58	99	150	<1.0	<5.0	7700
	6/17/08	7.57	4600	1230	327		120	120	<1.0	15	1100
	3/11/08	3.81	4900	965	556	Absent	560	540	<5.0	<25	980
POND 2	12/2/08	7.80	8500				37	1800	<2.0	<2.0	1000
	9/9/08	7.97	10000	2500	122	300	48	2800	<1.0	<1.0	960
	6/17/08	7.90	11000	790	110		63	2900	<4.0	<5.0	1300
	3/11/08	6.81	8400	871	.71	Absent	63	2200	<5.0	<25	970
POND 3	12/2/08	7.86	8500				26	1800	<2.0	<10	980
	9/9/08	7.94	10000	950	73.0	310	51	2800	<1.0	<1.0	1100
	6/17/08	7.91	13000	691	96.9		44	3700	<4.0	<5.0	1400
	3/11/08	7.86	9800	871	323	Present	41	2700	<5.0	<5.0	1000
POND 4	12/2/08	7.89	9100				27	2000	<2.0	<2.0	1000
	6/17/08	7.90	11000	850	68.0	54.5	49	2900	<1.0	<1.0	1100
	6/17/08	7.94	15000	110	103		34	4500	<4.0	<5.0	1500
	3/11/08	8.06	10000	663	275	Present	32	2800	<5.0	<5.0	1000
POND 5	12/2/08	7.82	14000				29	2900	<4.0	<10	1200
	9/9/08	7.93	10000	667	59.0	54.5	33	3000	<1.0	<1.0	890
	6/7/08	7.86	17000	578	<128		26	5400	<10	<5.0	1800
	3/11/08	7.82	10000	506	178	Present	41	2900	<5.0	<5.0	1100
POND 6	12/2/08	7.70	19000				28	5500	<4.0	<10	7600
	9/9/08	7.83	16000	949	47.0	90.9	26	4900	<4.0	<5.0	1900
	6/17/08	7.64	25000	723	<128		29	6600	<10	<5.0	2600
	3/11/08	7.7	13000	847	126	Present	35	4100	<5.0	<5.0	1600
POND 7	12/2/08	7.55	140000				35	42000	<40	<10	8300
	9/9/08	7.52	110000	3330	47.8	27.9	25	38000	<40	<5.0	8500
	6/17/08	7.34	180000	4340	17.7		29	64000	<100	<5.0	15000
	3/11/08	7.61	68000	2118	15.7	Absent	22	22000	<5.0	<5.0	5600
POND 8	12/2/08	7.39	170000				31	46000	<40	<25	8600
	9/9/08	7.75	51000	3080	<16.0	102	26	17000	<20	<5.0	3400
	6/17/08	6.28	420000	16100	8.2		94	160000	<200	<5.0	20000
	3/11/08	7.47	94000	1770	17.4	Absent	25	3000	<5.0	<5.0	6100
EPA MCLS		**6-9**				**5%**	**4.0**				
NMWQS							**1.6**	**250** (Domestic Water)	**10 Nitrate 1 Nitrite**		**600**

TABLE: D.14
EPA METHOD 7470 MERCURY, 6010B TOTAL RECOVERABLE METALS. Levels of all contaminants in Evaporations Ponds 1 through 8 found at least above levels of detection in 2008. All units of concentrations are in mg/l. (Contaminants not presented were not detected.)

	DATE	Hg	Ba	Ca	Cr	Cu	Fe	Pb	Mg	Mn	K	Na	U	Zn
POND 1	12/2/08													
	9/9/08	<.0002	0.76	45	<.006	<.006		<.005	14	0.22	62	460	<.001	0.12
	6/17/08	.00035	0.10	57	.0085	.010	4.9	.0052	15	0.14	96	540	<.10	0.88
	3/11/08	<.0002	.029	18	.061	<.006	55		17	0.80	36	910	<0.50	1.8
POND 2	12/2/08													
	9/9/08	<.0002	0.10	340	<.006	<.006		<.0005	84	0.21	52	1900	<.00207	.086
	6/17/08	<.0002	.066	290	<.006	<.006	1.4	<0005	78	0.14	110	2200	<0.10	0.31
	3/11/08	<.0002	.022	81	<.006	<.006	5.4		55	0.28	88	1700	<0.10	0.12
POND 3	12/2/08													
	9/9/08	<.0002	0.11	340	<.006	<.006		<.005	87	0.21	54	2000	.00237	.047
	6/17/08	<.0002	.061	320	<.006	<.006	0.73	<.005	97	0.15	140	2700	<0.10	0.14
	3/11/08	<.0002	.037	170	<.006	<0006	1.4		71	0.23	93	2000	<0.10	.045
POND 4	12/2/08													
	9/9/08	<.0005	0.13	320	<.006	<.006		<.005	87	0.23	54	2000	.00187	.021
	6/17/08	<.0002	.065	340	<.030	<.030	0.42	<.025	130	0.19	160	3000	<0.50	<0.10
	3/11/08	<.0002	.045	230	<.006	<.006	0.73		80	0.21	94	2000	<0.10	.034
POND 5	12/2/08													
	9/9/08	<.0002	0.14	220	<.006	<.006		<.005	82	0.17	70	2000	.00142	<.020
	6/17/08	<.0002	0.074	390	<.030	<.030	<.25	<.025	150	0.44	190	3600	<0.50	<0.10
	3/11/08	<.0002	.059	290	<.006	<.006	0.64		80	0.28	83	1900	<0.10	0.029
POND 6	12/2/08													
	9/9/08	<.0002	0.11	330	<.006	<.006		<.005	130	0.46	130	3300	.00125	<.020
	6/17/08	<.0002	.093	460	<.030	<.030	<.025	<.025	170	1.1	190	4600	<0.50	<0.10
	3/11/08	<.0002	.073	300	<.030	<.030	1.3		100	0.52	110	2800	<0.50	<0.10
POND 7	12/2/08													
	9/9/08	<.0002	0.11	730	<.006	<.006		<.050	960	5.8	1100	28000	.00103	<.020
	6/17/08	<.0002	<0.20	1400	<0.12	<0.12	<0.25	<0.10	1400	8.1	1800	49000	<2.0	<0.40
	3/11/08	<.0002	.074	690	<.030	<.030	0.69		490	3.2	590	13000	<0.50	<0.10
POND 8	12/2/08													
	9/9/08	<.0002	0.12	530	<.030	<.030		<.025	420	2.4	800	9500	.00148	<0.10
	6/17/08	<.0008	<0.50	1100	<0.30	<0.30	<0.50	<0.25	8800	82	12000	99000	<5.0	<1.0
	3/11/08	<.0002	<0.10	590	<.060	<.060	1.4		760	5.8	1100	20000	<1.0	<0.20
EPA MCLS			**2.0**		**0.1**									0.29
NMWQS			**1.0**		**.05**					**.02**				

12-2-08 4TH QUARTER 6010B analysis not run.

TABLE D.15
EPA METHOD 8260B VOLATILES. Levels of contaminants in inlets to Evaporation Ponds 1 and 2 and from within Ponds 1 through 8 – all units of concentrations are in mg/l.

	POND 1 (MG/L)		POND 2 MG/L	POND 3 (MG/L)	POND 4 (MG/L)	POND 5 MG/L	POND 6 (MG/L)	POND 7 (MG/L)	POND 8 (MG/L)	*Provisional-* EPA MCLs/ATSDR Screening level/Health Advisory Level	NMWQS
1,2,4 TRIMETHYL BENZENE	12/2/08	0.13	.028	.018	.013	.048	.001	.0013	<.001		
	9/9/08	.027	.0064	<.01	<.01	<.01	<.01	<.01	<.01		
	6/17/08	.017	.015	.002	<.001	<.001	<.001	.0012	.0011		
	3/11/08	0.38	.012	.0043	.0028	.0015	.002	<.001			
1,3,5 TRIMETHYL BENZENE	12/2/08	.046	.0097	.0065	.0048	.019	<.001	<.001	<.001		
	9/9/08	.0095	.0021	<.01	<.01	<.01	<.01	<.01	<.01		
	6/17/08	.0044	<.005	<.001	<.001	<.001	<.001	<.001	<.001		
	3/11/08	0.11	.0032	.001	<.001	<.001	<.001	<.001	<.001		
NAPHTHALENE	12/2/08	.074	.016	.011	.0075	.0025	<.002	<.002	<.002		**0.03**
	9/9/08	.033	.0064	<.02	<.02	<.02	<.02	<.02	<.02		
	6/17/08	.031	.014	.003	<.002	<.002	<.002	<.002	<.002		
	3/11.0/	0.2	.020	.0087	.0066	.0037	.004	<.002	<.001		
1-METHYLNAPHTHALENE	12/2/08	.140	.037	.024	.014	.0061	<.004	<.004	<.004		**0.03**
	9/9/0/	.062	.016	<.04	<.04	<.04	<.04	<.04	<.04		
	6/17/08	.072	.033	.015	<.004	<.004	<.004	<.004	<.004		
	3/11/08	0.28	.034	.020	.015	.011	.015	<.004	<.004		
2-METHYLNAPHTHALENE	12/2/08	.220	.053	.035	.021	.0089	<.004	<.004	<.004		**0.03**
	9/9/08	.088	.023	<.04	<.04	<.04	<.04	<.04	<.04		
	6/17/08	0.3	.050	.023	<.004	<.004	<.004	<.004	<.004		
	3/11/08	0.39	.049	.028	.022	.017	.020	<.004	<.004		
ACETONE	12/2/08	1.0	.65	.67	.60	.20	<.01	.017	<.01		
	9/9/08	1.6	.36	.11	<.10	<0.1	<0.1	<0.1	<0.1		
	6/17/08	1.6	0.64	.16	.059	.046	<.010	.049	.12		
	3/11/08	1.4	1.7	.920	.80	.19	.64	.034	.024		
2-BUTANONE	12/2/08	.094	.072	.064	.043	.016	<.01	<.01	<.01		
	9/9/08	.15	.035	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	6/17/08	.19	.080	.018	<.01	<.01	<.01	<.01	.014		
	3/11/08	.16	.12	.064	.042	.023	.032	<.01	<.01		
CARBON DISULFIDE	12/2/08	<.05	.026	.028	.034	.015	<.01	<.01	<.01		
	9/9/08	.039	.025	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
	6/17/08	.011	<.05	.010	.050	.033	<.01	<.01	<.01		
	3/11/08	<.05	.018	.045	.063	.097	.040	<.01	<.01		
CHLORO METHANE	6/17/08								.0013		
ISOPROPYL BENZENE	12/2/08	.0081	.0018	.0011	.001	<.001	<.001	<.001	<.001	**0.005**	
	9/9/08	.0011	<.001	<.01	<.001	<.01	<.01	<.01	<.01		
	6/17/08	<.001	<.005	<.001	<.001	<.001	<.001	<.001	<.001		
	3/11/08	.01	<.001	<.001	<.001	<.001	<.001	<.001	<.001		
4-ISOPROPYL TOLUENE	12/2/08	.0072	.0015	<.001	<.001	<.001	<.001	<.001	<.001		
	9/9/08	.0020	<.001	<.01	<.001	<.01	<.01	<.01	<.01		
	6/17/08	<.001	<.005	<.001	<.001	<.001	<.001	<.001	<.001		
	3/11/08	.0052	<.001	<.001	<.001	<.001	<.001	<.001	<.001		
N-BUTYL BENZENE	12/2/08	.021	.0041	.0024	.0023	.0011	<.001	<.001	<.001		
	9/9/08	.0087	.0025	<.01	<.01	<.01	<.01	<.01	<.01		
	6/17/08	.0055	.009	<.001	<.001	<.001	<.001	<.001	<.001		
	3/11/08	.046	.0014	<.001	<.001	<.001	<.001	<.001	<.001		
N-PROPYL BENZENE	12/2/08	.015	.0030	.0019	.0018	<.001	<.001	<.001	<.001		
	9/9/08	.0029	<.001	<.01	<.01	<.01	<.01	<.01	<.01		
	6/17/08	.0015	<.005	<.001	<.001	<.001	<.001	<.001	<.001		
	3/11/08	.036	<.001	<.001	<.001	<.001	<.001	<.001	<.001		
SEC-BUTYL BENZENE	12/2/08	.0064	<.001	<.001	.001	<.001	<.001	<.001	<.001	**0.005**	
	9/9/08	.0024	<.001	<.01	<.01	<.01	<.01	<.01	<.01		
	6/17/08	<.001	<.005	<.001	<.001	<.001	<.001	<.001	<.001		
	3/11/08	.0086	<.001	<.001	<.001	<.001	<.001	<.001	<.001		

TABLE D.16
EPA METHOD 8260B VOLATILES. Levels of contaminants in inlets to Evaporation Ponds 1 and 2. All units of concentrations are in mg/l.

	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
Evaporation Pond 1 Inlet	8/21/08	.023	.028	<.005	.029	<.005
Evaporation Pond 2 Inlet	8/21/08	<.01	.026	.014	.010	<.0.01

TABLE D.17
EPA METHOD 300.0 ANIONS, EPA 120.1 SPECIFIC CONDUCTANCE, EPA 410.1 COD, EPA 405.1 BOD, SM4500-H+B: PH. Levels of all contaminants in inlets to Evaporation Ponds 1 and 2. All units of concentrations are in mg/l.

	DATE	pH	Specific Conductance (umhos/cm)	COD	BOD	E-Coli (cfu/100ml)	Fluoride	Chloride	NITROGEN Nitrite (as N) Nitrate (as N)	Phosphorus Orthophosphate (asP)	Sulfate
EP 1 INLET	8/21/08	7.9	4400				32	150	<1.0	<5.0	1300
EP 2 INLET	8/21/08			1540	345						

TABLE D.18
EPA METHOD 8260B VOLATILES. Levels of all contaminants in inlets to Evaporation Ponds 1 and 2. All units of concentrations are in mg/l. Contaminants not presented were not detected.

	DATE	Hg	Ba	Ca	Cr	Cu	Fe	Pb	Mg	Mn	K	Na	U	Zn
EP-1 INLET	8/21/08		0.92	77	<.006	<.0063			17	.13	32	420		.29
EP-2 INLET	8/21/08				<.006	<.006								

TABLE D.19
EPA METHOD 8260B VOLATILES.
Levels of all contaminants in Inlets to Evaporation Ponds 1 and 2 found at least above Levels of Detection in 2008 - all units of concentrations are in mg/l (Note: Contaminants not presented were not detected.)

	Evaporation Pond 1 Inlet Concentration Levels (mg/l)	Evaporation Pond 2 Inlet Concentration Levels (mg/l)	Provisional - EPA MCLs/ATSDR Screening level/Health Advisory Level -	NMWQS
1,2,4 TRIMETHYLBENZENE	.027	.0064	**0.005**	
1,3,5 TRIMETHYLBENZENE	.0095	.0021		
NAPTHALENE	.033	.0064		**0.03**
1-METHYLNAPHTHALENE	.062	.016		**0.03**
2-METHYLNAPHTHALENE	.088	.023		**0.03**
ACETONE	1.6	0.36		
2-BUTANONE	0.15	0.035		
CARBON DISULFIDE	.039	.025		
ISOPROPYLBENZENE	.0011		**0.005**	
4-ISOPROPYLTOLUENE	.002			
N-BUTYLBENZENE	.0087	.0025		
N-PROPYLBENZENE	.0029			
SEC-BUTYLBENZENE	.0024		**0.005**	

TABLE D.20
EPA METHOD 8260B VOLATILES.
Quarterly Sampling Requirements: Levels of All Contaminants in AL-2 to EP-1, Pilot Effluent and NAPIS Effluent and EP-1. All units of concentrations are in mg/l (Note: Contaminants not presented were not detected.)

	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
AL-2 TO EP-1	3/11/08	**.19**	.46	0.099	0.68	<0.01
	6/17/08	<0.02	<0.02	<0.02	<0.03	<002
	9/9/08	<0.02	<0.02	<0.02	<0.03	<0.02
	12/2/08	0.012	0.085	0.028	0.21	<0.005
PILOT EFFLUENT	3/11/08	<0.001	.0015	<0.001	<0.0015	<0.001
	6/17/08	<0.001	0.0062	<0.001	<0.0015	<0.001
	9/9/08	<0.005	<0.005	<0.005	<0.005	<0.0075
	12/2/08	<0.001	<0.001	<0.001	<0.001	<0.001
NAPIS EFFLUENT	3/10/08	0.47	0.73	0.150	0.970	<0.05
	6/17/08	0.84	1.5	0.14	0.89	<0.1
	9/9/08	0.36	0.39	.028	0.2	<0.02
	12/2/08	1.4	3.3	0.36	1.9	<0.05
EP-1	3/11/08	0.19	0.44	0.079	0.48	0.0058
	6/17/08	<0.01	0.012	<0.01	0.024	<0.01
	9/9/08	<0.01	<0.01	<0.01	0.018	<0.01
	12/2/08	0.007	0.081	0.030	0.23	<0.005
EPA MCLS		**0.005**	**1**	**0.7**	**10.0**	
Residential Risk Based Screening Levels for Tap Water (12ug/L)		**0.01**	**0.75**	**0.75**	**0.62**	**0.012 (Residential Tap water Std.)**

TABLE D.21: EPA METHOD 8260B VOLATILES. Quarterly Sampling Requirements. Levels of All Contaminants in AL-2 to EP-1, Pilot Effluent and NAPIS Effluent and EP-1. All units of concentrations are in mg/l (Note: Contaminants not presented were not detected.)

	AL-2 TO EP-1 (MG/L)		PILOT EFFLUENT MG/L	NAPIS EFFLUENT (MG/L)	EP-1 (MG/L)	Provisional-EPA MCLs/ATSDR Screening level/Health Advisory Level	NMWQS
1,2,4 TRIMETHYLBENZENE	3/10/08	0.60	<0.001	0.590	0.3		
	6/17/08	0.039	<0.001	0.26	0.033		
	9/9/08	<0.02	<0.005	0.053	0.04		
	12/208	0.12	<0.001	0.4	0.11		
1,3,5 TRIMETHYLBENZENE	3/10/08	0.170	<0.001	0.170	0.09		
	6/17/08	<0.02	<0.001	<0.1	<0.01		
	9/9/08	<0.02	<0.005	<0.02	<0.01		
	12/2/08	0.041	<0.001	0.1	0.037		
NAPHTHALENE	3/10/08	0.330	<0.002	0.200	0.17		**0.03**
	6/17/08	0.051	<0.002	0.29	0.053		
	9/9/08	<0.04	<0.010	0.087	0.067		
	12/2/08	0.078	<0.002	0.43	0.072		
1-METHYLNAPHTHALENE	3/10/08	0.340	<0.004	0.250	0.19		**0.03**
	6/17/08	0.18	<0.004	0.4	0.087		
	9/9/08	<0.08	<0.02	<0.08	0.24		
	12/2/08	0.19	<0.004	0.29	0.14		
2-METHYLNAPHTHALENE	3/10/08	0.520	<0.004	0.380	0.29		**0.03**
	6/17/08	0.26	<0.004	<0.4	0.13		
	9/9/08	<0.08	<0.02	<0.08	0.35		
	12/2/08	0.28	<0.004	0.46	0.22		
ACETONE	3/10/08	2.2	0.490	0.500	1.2		
	6/17/08	3.8	0.078	17.0	1.6		
	9/9/08	2.2	0.3	17.0	1.7		
	12/2/08	1.9	0.058	4.7	1.7		
2-BUTANONE	3/10/08	0.480	<0.01	<0.5	0.17		
	6/17/08	0.350	0.010	2.5	0.32		
	9/9/08	<0.2	<0.05	1.9	0.21		
	12/2/08	0.095	<0.001	<0.5	0.10		
CHLOROFORM	3/11/08	<0.01	0.0069	<0.05	<0.005		
	6/17/08	<0.02	0.0044	<0.1	<0.01		
	9/9/08	<0.02	<0.005	<0.02	<0.01		
	12/2/08	<0.005	<0.001	<0.05	<0.005		
ISOPROPYLBENZENE	3/10/08	0.012	<0.001	<0.05	.0079	**0.005**	
	6/17/08	<0.02	<0.001	<0.1	<0.01		
	9/9/08	<0.02	<0.005	<0.02	<0.01		
	12/2/08	0.0066	<0.001	<0.05	0.0073		
4-ISOPROPYLTOLUENE	3/10/08	0.015	<0.001	<0.05	<0.005		
	6/17/08	<0.02	<0.001	<0.1	<0.01		
	9/9/08	<0.02	<0.005	<0.02	<0.01		
	12/2/08	0.0067	<0.001	<0.05	0.0055		
N-BUTYLBENZENE	3/10/08	0.055	<0.001	<0.05	<0.005		
	6/17/08	<0.02	<0.001	<0.1	<0.01		
	9/9/08	<0.02	<0.005	<0.02	<0.011		
	12/2/08	<0.005	<0.001	<0.05	0.0019		
N-PROPYLBENZENE	3/10/08	0.045	<0.001	<0.05	0.027		
	6/17/08	<0.02	<0.001	<0.1	<0.01		
	9/9/08	<0.02	<0.005	<0.02	<0.01		
	12/2/08	0.013	<0.001	<0.05	0.0013		
SEC-BUTYLBENZENE	3/11/08	<0.01	<0.001	<0.05	0.005	**0.005**	
	6/17/08	<0.02	<0.01	<0.1	<0.01		
	9/9/08	<0.02	<0.05	<0.02	<0.01		
	12/2/08	<0.05	<0.001	<0.05	<0.01		
1-4 DICHLORABENZENE	3/11/08	<0.01	<0.001	<0.05	<0.01		
	6/17/08	<0.02	0.0018	<0.1	<0.01		
	9/9/08	<0.02	<0.05	<0.02	<0.01		
	12/2/08	<0.05	<0.001	<0.05	<0.01		

TABLE D.22
EPA METHOD 8260B VOLATILES, EPA METHOD 8015B DRO/GRO.
Quarterly Levels in Al-2 to EP-1, Pilot Effluent, NAPIS Effluent, and EP-1. All units of concentrations are in mg/l.

	DATE	DRO	GRO	Hg	As	Ba	Cd	Ca	Cr	Cu
Al-2 to EP-1	3/10/08	24	1.7	<0.0002	<0.20	0.017	<0.002		0.1	<0.006
	6/17/08	140	1.4	0.00076	<0.02	0.14	<0.002		0.013	0.015
	9/9/08	44	<5.0	<0.0002	<0.02	0.069	<0.002		0.0072	<0.006
	12/2/08	160	<5.0	0.00048	<0.02	0.20	<0.005		<0.01	<0.02
PILOT EFFLUENT	3/11/08	12	<0.05	<0.0002	<0.02	0.022	<0.002		<0.006	0.018
	6/17/08	5.4	0.078	<0.0002	<0.02	0.019	<0.002		<0.006	0.012
	9/9/08	6.3	<1.0	<0.0002	<0.02	0.017	<0.002		<0.006	0.021
	12/2/08	10	<0.5	<0.0002	<0.02	0.021	<0.005	220	<0.01	0.040
NAPIS EFFLUENT	3/10/08	290	11	0.00028	<0.2	0.32	<0.002	120	0.019	0.053
	6/17/08	44	11	<0.0002	<0.02	0.081	<0.002	50	<0.006	<0.006
	9/9/08	35	<10	<0.0002	<0.02	0.062	<0.002	42	<0.006	<0.006
	12/2/08	68	20	0.00026	<0.02	0.11	<0.005		<0.01	<0.02
EP-1	3/11/08	32	1.9							
	6/17/08	140	2.7							
	9/9/08	140	<20							
	12/2/08	120	<5.0							
EPA MCLS					**0.01**	**2.0**			**0.1**	**1.3**
NMWQS					**0.1**	**1.0**			**.05**	**1.0**

	DATE	Fe	Pb	Mg	Mn	K	Se	Ag	Na	U	Zn
Al-2 to EP-1	3/10/08	110	<0.005		1.4		<0.05	<0.005		1.9	1.9
	6/17/08	9.0	0.0057		0.13		<0.05	<0.005		.00071	1.6
	9/9/08	2.5	<0.005		0.13		<0.05	<0.005		<0.001	0.19
	12/2/08	6.8	<0.005		0.40		0.034	<0.01			0.59
PILOT EFFLUENT	3/11/08	0.35	<0.005		0.092		<0.5	<0.005		<0.1	0.055
	6/17/08	0.44	<0.005		0.1		<0.05	<0.005		.0009	0.043
	9/9/08	0.49	<0.005		0.085		<0.05	<0.005		<0.001	0.057
	12/2/08	0.36	<0.005	51	0.086	31	<0.02	<0.01	260		0.068
NAPIS EFFLUENT	3/10/08	10	0.013	28	0.2	22	<0.5	<0.005	550	<0.1	1.3
	6/17/08	1.1	<0.005	12	0.057	13	<0.05	<0.005	320	<0.00063	0.19
	9/9/08	0.073	<0.005	9.0	0.057	7.7	0.052	<0.005	200	<0.001	<0.02
	12/2/08	1.8	<0.005		0.17		<0.02	<0.01			0.23
EPA MCLS		**0.3**	**0**		**0.3**					**0.03**	
NMWQS		**1.0**	**.05**		**0.2**					**0.03**	**10.0**

TABLE D.23
EPA METHOD 300.0 ANIONS, EPA 120.1 SPECIFIC CONDUCTANCE, EPA 410.1 COD, EPA 405.1 BOD, SM4500-H+B: PH.
Quarterly Sampling Requirements for Pilot Effluent and NAPIS Effluent, EP-1 and Boiler Water to EP-2. All units of concentrations are in mg/l.

	Date Sampled	pH	Specific Conductance (umhos/cm)	COD	BOD	Fluoride	Chloride	Nitrogen Nitrite (as N)	Nitrogen Nitrate (as N)	Phosphorus Orthophosphate (as P)	Sulfate
NAPIS EFFLUENT	3/10/08					69	480	<5.0	<5.0	<25	570
	6/17/08	9.07	4600			19	93	<1.0	3.4	37	630
	9/9/08	9.44	3300			11	78	1.8		14	440
	12/2/08	8.63	2200			12	160	<1.0	1.2	<5.0	510
PILOT EFFLUENT	3/11/08			824	618						
	6/17/08			699	399						
	9/9/08			795	375						
				336	642						
EP-1	3/11/08	3.81		965	510		500				
	6/17/08	7.43		2650	294						
	9/9/08	7.93		1360	262		170				
	12/2/08	7.62		840	231		350				
Boiler Water to EP-2	6/17/08	7.90	6500			1.3	67	<1.0	<0.10	<0.50	2600
EPA MCLs		**6-9**				**4.0**	**1**	**1**	**10**		**250**
NMWQS		**6-9**				**1.6**	**250 Domestic Water**	**10**	**10**		**600**

TABLE D.24
EPA METHOD 8270C SEMIVOLATILES. Quarterly Sampling Requirements.
Levels of All Contaminants in NAPIS Effluent and EP-1. All units of concentrations are in mg/l
(Note: Contaminants not presented were not detected.)

	NAPIS EFFLUENT (MG/L)		EP-1 MG/L	Provisional-EPA MCLs/ATSDR Screening level/Health Advisory Level	NMWQS
	DATE	RESULTS	RESULTS		
2,4-DIMETHYLPHENOL	3/10/08		0.1		
	6/17/08	0.15	0.13		
	9/9/08	0.49	0.2		
	12/208	0.12	0.087		
CARBAZOLE	3/10/08	0.071			
	6/17/08				
	9/9/08				
	12/2/08				
CHRYSENE	3/10/08	0.12			
	6/17/08				
	9/9/08				
	12/2/08				
FLUORENE	3/10/08	0.093			
	6/17/08				
	9/9/08				
	12/2/08				
2-METHYLNAPHTHALENE	3/10/08	0.59			
	6/17/08	0.5			
	9/9/08	0.063			
	12/2/08				
2-METHYLPHENOL	3/10/08	0.15	0.88		
	6/17/08	4.9	0.37		
	9/9/08	7.4	0.45		
	12/2/08	0.62	0.55		
3+4-METHYLPHENOL	3/10/08	0.17	1.3		
	6/17/08	8.5	0.40		
	9/9/08	13	0.6		
	12/2/08	3.2	0.86		
PHENANTHRENE	3/11/08	0.44			
	6/17/08	0.16			
	9/9/08				
	12/2/08				
PHENOL	3/10/08	0.19	0.45		
	6/17/08	17	1.2		**.005**
	9/9/08	25	1.3		
	12/2/08	6.8	15		
PYRENE	3/10/08	0.15			
	6/17/08				
	9/9/08				
	12/2/08				
ANILINE	3/10/08				
	6/17/08	0.4			
	9/9/08	2.1			
	12/2/08				
NAPHTHALENE	3/10/08				
	6/17/08	0.24			**0.03**
	9/9/08	0.076			
	12/2/08				

TABLE D.25
EPA METHOD 8015B GRO/DRO, EPA METHOD 300.0 ANIONS, EPA 120:1 SPECIFIC CONDUCTANCE, SM4500-H+B: PH. Levels of all contaminants found in NAPIS Wells 1, 2, 3 (Formerly tagged as KA-1R, KA-2R, KA-3R), AND KA-3. All units of concentrations are in mg/l.)

	DATE	pH	Specific Conductance (umhos/cm)	GRO	DRO	Fluoride	Chloride	Nitrate + Nitrite as N	Phosphorus Orthophosphate (as P)	Sulfate
NAPIS 1 (KA-1R)	4/11/08	7.26	2000	<0.05	<1.0	0.79	170	0.55 <0.10	<0.50	80
	7/9/08	7.27	1900	<0.05	<1.0	1.4	180	<1.0	<0.50	98
	9/30/08			<0.05	<1.0					
	11/10/08	7.30	1900	<0.05	<1.0	0.73	160	1.6 <0.10	<0.50	63
NAPIS 2 (KA-2R)	4/11/08	7.0	2100	2.2	1.5	0.92	360	<0.10 <1.0	<0.50	42
	7/9/08	7.18	2000	0.74	2.4	1.1	270	<1.0	<0.50	33
	9/30/08			0.45	3.9					
	11/10/08	7.21	1600	0.59	4.0	1.4	200	<0.1	<0.50	32
NAPIS 3 (KA-3R)	7/9/08	8.29	4200	<0.05	<1.0	0.46	1100	9.1	<0.50	270
	9/30/08	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	11/10/08	8.05	4300	<0.05	<1.0	1.1	1100	2.6 <1.0	<0.50	310
KA-3	11/10/08	7.34	2700	0.15	<1.0	0.46	590	11 2.0	<0.50	140
EPA MCLS		**6-9**				**4.0**		**0.2**	**10**	
NMWQS						**1.6**	**250** (Domestic Water)	**10 Nitrate 1 Nitrite**		**600**

Note: NAPIS 1 & NAPIS 2 - began sampling in second quarter 2008.
NAPIS 3 – began sampling third quarter 2008.
KA3 – Began sampling Fourth Quarter 2008.

TABLE D.26
EPA METHOD 8021B, VOLATILES, EPA 6010B TOTAL RECOVERABLE METALS, EPA METHOD 8310: PAHS.. Levels of all contaminants found in NAPIS Wells 1, 2, 3 (Formerly tagged as KA-1R, KA-2R, KA-3R), AND KA-3. EPA Method 8310 – PAHS showed only one hit in the Fourth Quarter in NAPIS 2 (KA-2R) for Fluorene .00099mg/l. All units of concentrations are in mg/l.)

	DATE	BENZENE	TOLUENE	ETHYL BENZENE	XYLENE	MTBE	Ba	Ca	Pb	Mg	K	Na	Fluorene
NAPIS 1 (KA-1R)	4/11/08	<0.001	<0.001	<0.001	<0.002	<0.0025		72		13	1.5	370	
	7/9/08	<0.001	<0.001	<0.001	<0.002	<0.0025		70		12	2.1	430	
	9/30/08	<0.001	<0.001	<0.001	<0.002	*	*	*	*	*	*	*	
	11/10/08	<0.001	<0.001	<0.001	<0.002	<0.0025	0.13	78		14	1.2	390	
NAPIS 2 (KA-2R)	4/11/08	0.91	0.019	0.051	0.12	0.32		110		19	1.3	380	
	7/9/08	0.013	<0.001	0.011	0.0056	0.2		70		13	<0.001	360	
	9/30/08	0.016	<0.001	0.0016	0.0041	*	*	*	*	*	*	*	*
	11/10/08	0.025	<0.001	0.011	<0.002	0.18	0.42	50	.0065	9.7		330	.00099
NAPIS 3 (KA-3R)	7/9/08	<0.001	<0.001	<0.001	<0.002	<0.0025		65		7.8	4.1	910	
	9/30/08	*	*	*	*	*	*	*	*	*	*	*	*
	11/10/08	<0.001	<0.001	<0.001	<0.002	<0.0025	0.13	41		6.6	4.4	960	
KA-3	11/10/08	<0.001	<0.001	<0.001	<0.002	0.13	0.20	65	.0095	11	1.8	570	
EPA MCLS		**0.005**	**1**	**0.7**	**10.0**		**20**		**0**				
Residential Risk Based Screening Levels for Tap Water (12ug/L)		**0.01**	**0.75**	**0.75**	**0.62**	**0.012** (Residential Tap Water Std)	**1.0**		**.05**				

*Third Quarter 2008 - Not analyzed for MTBE, or EPA 6010B. NAPIS 3 Well not sampled – not enough water in well for testing after purging.

Appendix E:

Groundwater elevations and well descriptions

APPENDIX E: TABLE E.1: WELL DATA 2008 SUMMARY TABLE

Well ID Number	Measurement date	A Well Casing Rim Elevations (ft)	Well Casing Bottom Elevations (ft)	Total Well Depth (ft)	Depth to SPH (ft)	B SPH Thickness (ft)	C Depth to Water	D = A-C Groundwater Elevation (ft)	= 0.8B + D Corrected Water Table Elevation (ft)
BW-1A	7/30/2008	6,876.73	6,836.73	40.00	NA	NA	DRY	DRY	NA
BW-1B	7/30/2008	6,876.91	6,811.71	67.55	NA	NA	DRY	DRY	NA
BW-1C	7/30/2008	6,876.75	6,719.75	157.00	NA	NA	6.84	6,869.91	NA
BW-2A	7/30/2008	6,874.72	6,809.22	65.50	NA	NA	31.97	6,842.75	NA
BW-2B	7/30/2008	6,874.58	6,784.08	90.50	NA	NA	27.91	6,846.67	NA
BW-2C	7/30/2008	6,875.40	6,724.40	151.00	NA	NA	20.64	6,854.76	NA
BW-3A	7/30/2008	6,878.22	6,828.22	52.60	NA	NA	DRY	DRY	NA
BW-3B	7/31/2008	6,878.79	6,803.79	75.00	NA	NA	32.73	6,846.06	NA
BW-3C	7/31/2008	6,878.08	6,723.08	155.00	NA	NA	8.08	6,870.00	NA
OW-1	2/18/2008	6,868.00	6,773.96	94.04	NA	NA	1.75	6,866.25	NA
OW-1	5/21/2008	6,868.00	6,773.96	94.04	NA	NA	1.75	6,866.25	NA
OW-1	9/15/2008	6,868.00	6,773.96	94.04	NA	NA	1.78	6,866.22	NA
OW-1	11/3/2008	6,868.00	6,773.96	94.04	NA	NA	2.78	6,865.22	NA
OW-10	2/18/2008	6,872.00	6,804.00	68.00	NA	NA	1.25	6,870.75	NA
OW-10	5/21/2008	6,872.00	6,804.00	68.00	NA	NA	1.61	6,870.39	NA
OW-10	9/10/2008	6,872.00	6,804.00	68.00	NA	NA	1.59	6,870.41	NA
OW-10	11/3/2008	6,872.00	6,804.00	68.00	NA	NA	2.04	6,869.96	NA
OW-11	8/14/2008	6,923.89	6,857.27	66.62	NA	NA	20.91	6,902.98	NA
OW-12	8/18/2008	6,940.43	6,795.43	145*	NA	NA	49.05	6,891.38	NA
OW-13	8/18/2008	6,920.12	6,820.12	100.00	NA	NA	24.41	6,895.71	NA
OW-14	8/21/2008	6,926.64	6,881.64	45.00	NA	NA	27.13	6,899.51	NA
OW-29	8/19/2008	6,913.50	6,864.50	49.00	NA	NA	21.95	6,891.55	NA
OW-30	8/20/2008	6,921.60	6,873.20	48.40	NA	NA	26.34	6,895.26	NA
MW-1	8/4/2008	6,878.52	6,746.50	132.02	NA	NA	7.28	6,871.24	NA
MW-4	8/4/2008	6,882.54	6,760.40	122.14	NA	NA	7.95	6,874.59	NA
MW-5	8/14/2008	6,883.32	6,750.30	133.02	NA	NA	11.37	6,871.95	NA
RW-1	2/18/2008	6,943.50			30.18	4.59	34.77	6,908.73	6912.402
(OW-27)	5/21/2008	6,943.50			30.40	4.17	34.57	6,908.93	6912.266
	9/12/2008	6,943.50			30.03	4.56	34.59	6,908.91	6912.558
	11/3/2008	6,943.50			30.02	4.61	34.63	6,908.87	6912.558
RW-2	2/18/2008	6,927.20				NA	28.16	6,899.04	N/A
(OW-28)	5/21/2008	6,927.20				NA	27.22	6,899.98	N/A
	9/12/2008	6,927.20				NA	27.03	6,900.17	N/A
	11/3/2008	6,927.20				NA	27.10	6,900.10	N/A
RW-5	2/18/2008	6,942.50	6,902.50	40.00	33.1875	0.7604	33.9479	6,908.55	6909.16042

Well ID Number	Measurement date	A Well Casing Rim Elevations (ft)	Well Casing Bottom Elevations (ft)	Total Well Depth (ft)	Depth to SPH (ft)	B SPH Thickness (ft)	C Depth to Water	D = A-C Groundwater Elevation (ft)	= 0.8B + D Corrected Water Table Elevation (ft)
	5/21/2008	6,942.50	6,902.50	40.00	32.77	1.07	33.84	6,908.66	6909.516
	9/10/2008	6,942.50	6,902.50	40.00	32.62	0.23	32.85	6,909.65	6909.834
	11/3/2008	6,942.50	6,902.50	40.00	31.05	1.29	32.34	6,910.16	6911.192
RW-6	2/18/2008	6,972.60	6,933.80	38.80	33.4375	0.9165	34.354	6,938.25	6938.9792
	5/21/2008	6,972.60	6,933.80	38.80	33.02	1.1	34.12	6,938.48	6939.36
	9/10/2008	6,972.60	6,933.80	38.80	32.83	0.29	33.12	6,939.48	6939.712
	11/3/2008	6,972.60	6,933.80	38.80	32.46	0.23	32.69	6,939.91	6940.094
SMW-2	8/14/2008	6,884.44	6,827.10	57.34	NA	NA	25.89	6,858.55	N/A
SMW-4	8/13/2008	6,882.54	6,760.40	122.14	NA	NA	29.57	6,852.97	N/A
SMW-6		6,880.71	6,807.60	73.11				6,880.71	N/A
GWM-1	2/18/2008	6,912.65	6,888.95	23.70	NA	NA	19.91	6,892.74	N/A
	5/21/2008	6,912.65	6,888.95	23.70	NA	NA	19.47	6,893.18	N/A
	9/10/2008	6,912.65	6,888.95	23.70	NA	NA	20.24	6,892.41	N/A
	11/3/2008	6,912.65	6,888.95	23.70	NA	NA	20.55	6,892.10	N/A
GWM-2	2/18/2008	6,913.17	6,896.97	18.97	NA	NA	18.45	6,894.72	N/A
	3/17/2008	6,913.17	6,896.97	18.97	NA	NA	DRY	NA	N/A
	5/21/2008	6,913.17	6,896.97	18.97	NA	NA	DRY	NA	N/A
	9/10/2008	6,913.17	6,896.97	18.97	NA	NA	DRY	NA	N/A
	11/3/2008	6,913.17	6,896.97	18.97	NA	NA	DRY	NA	N/A
GWM-3	2/18/2008	6,912.65	6,896.15	17.94	NA	NA	DRY	NA	N/A
	5/21/2008	6,912.65	6,896.15	17.94	NA	NA	DRY	NA	N/A
	9/10/2008	6,912.65	6,896.15	17.94	NA	NA	DRY	NA	N/A
	11/3/2008	6,912.65	6,896.15	17.94	NA	NA	DRY	NA	N/A
NAPIS 1(KA-1R)	4/11/2008	6,918.43	6,904.40	14.00	NA	NA	8.58	6,909.85	N
	7/11/2008	6,918.43	6,904.40	14.00	NA	NA	8.98	6,909.45	N
	11/4/2008	6,918.43	6,904.40	14.00	NA	NA	8.83	6,909.60	N
NAPIS 2 (KA-2R)	4/11/2008	6,917.27	6,902.80	14.50	NA	NA	8.83	6,908.44	N
	7/11/2008	6,917.27	6,902.80	14.50	NA	NA	8.96	6,908.31	N
	11/4/2008	6,917.27	6,902.80	14.50	NA	NA	9.23	6,908.04	N
NAPIS 3 (KA-3R)	4/11/2008	6,917.31	6,886.60	30.70	NA	NA	14.98	6,902.33	N
	7/11/2008	6,917.31	6,886.60	30.70	NA	NA	9.72	6,907.59	N
	11/4/2008	6,917.31	6,886.60	30.70	NA	NA	8.71	6,908.60	N
KA-3	11/4/2008	6,917.17	6,892.40	25.00	NA	NA	9.01	6,908.16	N

NAPIS 1(KA-1R), NAPIS 2 (KA-2R), NAPIS 3 (KA-3R): NAPIS wells installed on 3/15/08. Quarterly monitoring began third quarter of 2008.

KA-3: Began sampling 4th Quarter 2008.

SPH = Separate Phase Hydrocarbons

NA = If no SPH was detected then this is shown on the table as NA (not applicable)

Corrected water table elevations are only provided if SPH was detected.

*OW-12: Annual inspection revealed well depth measurement to be 126 feet instead of 145 feet as listed.

WELL CLOSURES

WELL ID NUMBER	YEAR CLOSED
OW-2	2004
OW-3	2004
OW-7	2004
OW-9	2004
OW-24	2004
SMW-1	2004
SMW-3	2004
SMW-5	2004