GRCC GALLUP

Monzeglio, Hope, NMENV

From: Rajen, Gaurav [Gaurav.Rajen@wnr.com]
Sent: Monday, December 08, 2008 7:24 PM
To: Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD
Cc: Riege, Ed; Johnson, Cheryl; Cobrain, Dave, NMENV
Subject: Sampling results for NAPIS wells from November 2008
Attachments: 0811156-Nov.pdf; Comparison July and Sep and Nov.xls; Table 1-November 2008.doc; _1208182437_001.pdf

Dear Hope and Carl:

It is a pleasure to send to you the laboratory results from our sampling of NAPIS wells in November 2008. These wells are NAPIS-1, NAPIS-2 and NAPIS 3. Earlier they were called KA-1R, KA-2R and KA-3R respectively. An earlier well KA-3 has been dry in previous events and was not sampled in previous events as had been specified by NMED at that time.

In our last sampling event in September 2008, NAPIS-3 (KA-3R) was not able to provide enough liquid volume for any sample analyses at all, and the other two wells, NAPIS-1 and NAPIS-2, did not provide enough volumes for the complete range of laboratory analyses. For this reason, Well KA-3 was again asked to be sampled by NMED.

This time in November we found enough water in all wells, NAPIS-1, NAPIS-2, including in NAPIS 3, as well as KA-3. therefore, we have sampled all four of these wells, and the laboratory results are attached.

I have also attached a Table summarizing the results for all of these wells from the November sampling event; and have attached a Table comparing the data from July, September and November for well NAPIS-2, the well with the most contaminants detected. I have also attached a copy of the field notes our staff took during the sampling event.

During this November event, we were unable to take basic water quality parameters (such as pH, Specific Conductivity, Dissolved Oxygen, etc.) in the field - we could take these now if needed, though they would not coincide with the sampling event. The probes were in use for another project related to the design of our new proposed Wastewater Treatment Plant, and could not be found by our staff at the time of the sampling event. The laboratory, however. did test for pH and Specific Conductivity - unfortunately, Dissolved Oxygen was not tested in the field (as NMED requires) by our staff, nor by the laboratory.

You will recall that the Disolved Oxygen levels in NAPIS-1 and NAPIS-3 have been much higher (greater than 4 mg/L) than the Dissolved Oxygen levels in NAPIS-2 (around 0.3-0.4 mg/L) in previous sampling events. This might indicate some level of microbial degradation of MTBE - you will note that MTBE levels have come down slightly from those acquired in July 2008. Now that we are also collecting data on major cations and anions, we should be able to better evaluate such possible biodegradtion that may be occurring. It is interesting also that total sulfates are lower in NAPIS-2 than in other wells, and this may also indicate reduction of sulfates to sulfides by bacterial degradation. We also hope to evaluate better the groundwater flow velocities and the mass flux that is passing through this area. There is too little data at this time to definitively understand the rate of degradation occurring, but there are some indications that this is happenning. What is encouraging to note is that the MTBE levels have come down slightly in NAPIS-2 and other hydrocarbons have fluctuated very slightly either up or down around the low levels we have found them at in the past - there are no significant increases of any contaminants found. (Please look at the Table comparing July, September, and November data for these level fluctuations.) Please also note that these comments are extremely preliminary (and entirely my sole first reaction) - so please read them in that context. We look forward to discussing the results with you all further, and conducting further discussions among ourselves and more detailed assessments to reach a better understanding of what the data signify.

Please do not hesitate to contact me if I can provide any further information. Also, please let us know if we should redo the field sampling event to take the field data that NMED requires.

With my best regards,

Gaurav Rajen

This inbound email has been scanned by the MessageLabs Email Security System.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

COVER LETTER

Friday, December 05, 2008

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

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

RE: 2008 4th QTR OCD Samples

Order No.: 0811156

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 5 sample(s) on 11/12/2008 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

ACCREDITED IN ACCORDANCE WITH nelac

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

Hall Environmental Analysis Laboratory, Inc.

Date: *05-Dec-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-1
Lab Order:	0811156	**Collection Date:**	11/10/2008 3:45:00 PM
Project:	2008 4th QTR OCD Samples	**Date Received:**	11/12/2008
Lab ID:	0811156-01	**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	11/14/2008
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/14/2008
Surr: DNOP	134	58-140		%REC	1	11/14/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/15/2008 6:40:06 AM
Surr: BFB	82.4	59.9-122		%REC	1	11/15/2008 6:40:06 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/15/2008 6:40:06 AM
Benzene	ND	1.0		µg/L	1	11/15/2008 6:40:06 AM
Toluene	ND	1.0		µg/L	1	11/15/2008 6:40:06 AM
Ethylbenzene	ND	1.0		µg/L	1	11/15/2008 6:40:06 AM
Xylenes, Total	ND	2.0		µg/L	1	11/15/2008 6:40:06 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2008 6:40:06 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2008 6:40:06 AM
Surr: 4-Bromofluorobenzene	99.5	65.9-130		%REC	1	11/15/2008 6:40:06 AM
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	2.0		µg/L	1	11/18/2008 4:52:08 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	11/18/2008 4:52:08 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	11/18/2008 4:52:08 PM
Acenaphthylene	ND	2.5		µg/L	1	11/18/2008 4:52:08 PM
Acenaphthene	ND	5.0		µg/L	1	11/18/2008 4:52:08 PM
Fluorene	ND	0.80		µg/L	1	11/18/2008 4:52:08 PM
Phenanthrene	ND	0.60		µg/L	1	11/18/2008 4:52:08 PM
Anthracene	ND	0.60		µg/L	1	11/18/2008 4:52:08 PM
Fluoranthene	ND	0.30		µg/L	1	11/18/2008 4:52:08 PM
Pyrene	ND	0.30		µg/L	1	11/18/2008 4:52:08 PM
Benz(a)anthracene	ND	0.070		µg/L	1	11/18/2008 4:52:08 PM
Chrysene	ND	0.20		µg/L	1	11/18/2008 4:52:08 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	11/18/2008 4:52:08 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	11/18/2008 4:52:08 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	11/18/2008 4:52:08 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	11/18/2008 4:52:08 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	11/18/2008 4:52:08 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	11/18/2008 4:52:08 PM
Surr: Benzo(e)pyrene	70.6	44.8-104		%REC	1	11/18/2008 4:52:08 PM
EPA METHOD 300.0: ANIONS						Analyst: **SLB**
Fluoride	0.73	0.10		mg/L	1	11/12/2008 2:57:05 PM
Chloride	160	1.0		mg/L	10	11/12/2008 4:02:56 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *05-Dec-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-1
Lab Order:	0811156	**Collection Date:**	11/10/2008 3:45:00 PM
Project:	2008 4th QTR OCD Samples	**Date Received:**	11/12/2008
Lab ID:	0811156-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **SLB**
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/12/2008 2:57:05 PM
Nitrogen, Nitrate (As N)	1.6	0.10		mg/L	1	11/12/2008 2:57:05 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/12/2008 2:57:05 PM
Sulfate	63	5.0		mg/L	10	11/12/2008 4:02:56 PM
EPA METHOD 7470: MERCURY						Analyst: **SNV**
Mercury	ND	0.00020		mg/L	1	11/16/2008 7:41:42 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **TES**
Arsenic	ND	0.020		mg/L	1	12/1/2008 10:11:33 PM
Barium	0.13	0.020		mg/L	1	12/1/2008 10:11:33 PM
Cadmium	ND	0.0020		mg/L	1	12/1/2008 10:11:33 PM
Calcium	78	1.0		mg/L	1	12/1/2008 10:11:33 PM
Chromium	ND	0.0060		mg/L	1	12/1/2008 10:11:33 PM
Lead	ND	0.0050		mg/L	1	12/1/2008 10:11:33 PM
Magnesium	14	1.0		mg/L	1	12/1/2008 10:11:33 PM
Potassium	1.2	1.0		mg/L	1	12/1/2008 10:11:33 PM
Selenium	ND	0.25		mg/L	5	12/1/2008 11:36:01 PM
Silver	ND	0.0050		mg/L	1	12/1/2008 10:11:33 PM
Sodium	390	5.0		mg/L	5	12/1/2008 11:36:01 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMB**
Specific Conductance	1900	0.010		µmhos/cm	1	11/14/2008
SM4500-H+B: PH						Analyst: **KMS**
pH	7.30	0.1		pH units	1	11/13/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *05-Dec-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-2
Lab Order:	0811156	**Collection Date:**	11/10/2008 3:40:00 PM
Project:	2008 4th QTR OCD Samples	**Date Received:**	11/12/2008
Lab ID:	0811156-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	4.0	1.0		mg/L	1	11/14/2008
Motor Oil Range Organics (MRO)	7.7	5.0		mg/L	1	11/14/2008
Surr: DNOP	136	58-140		%REC	1	11/14/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	0.59	0.050		mg/L	1	11/15/2008 7:10:20 AM
Surr: BFB	97.1	59.9-122		%REC	1	11/15/2008 7:10:20 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	180	13		µg/L	5	11/20/2008 12:19:19 PM
Benzene	25	1.0		µg/L	1	11/15/2008 7:10:20 AM
Toluene	ND	1.0		µg/L	1	11/15/2008 7:10:20 AM
Ethylbenzene	11	1.0		µg/L	1	11/15/2008 7:10:20 AM
Xylenes, Total	ND	2.0		µg/L	1	11/15/2008 7:10:20 AM
1,2,4-Trimethylbenzene	11	1.0		µg/L	1	11/15/2008 7:10:20 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2008 7:10:20 AM
Surr: 4-Bromofluorobenzene	111	65.9-130		%REC	1	11/15/2008 7:10:20 AM
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	2.0		µg/L	1	11/18/2008 5:23:34 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	11/18/2008 5:23:34 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	11/18/2008 5:23:34 PM
Acenaphthylene	ND	2.5		µg/L	1	11/18/2008 5:23:34 PM
Acenaphthene	ND	5.0		µg/L	1	11/18/2008 5:23:34 PM
Fluorene	0.99	0.80		µg/L	1	11/18/2008 5:23:34 PM
Phenanthrene	ND	0.60		µg/L	1	11/18/2008 5:23:34 PM
Anthracene	ND	0.60		µg/L	1	11/18/2008 5:23:34 PM
Fluoranthene	ND	0.30		µg/L	1	11/18/2008 5:23:34 PM
Pyrene	ND	0.30		µg/L	1	11/18/2008 5:23:34 PM
Benz(a)anthracene	ND	0.070		µg/L	1	11/18/2008 5:23:34 PM
Chrysene	ND	0.20		µg/L	1	11/18/2008 5:23:34 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	11/18/2008 5:23:34 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	11/18/2008 5:23:34 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	11/18/2008 5:23:34 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	11/18/2008 5:23:34 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	11/18/2008 5:23:34 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	11/18/2008 5:23:34 PM
Surr: Benzo(e)pyrene	41.3	44.8-104	S	%REC	1	11/18/2008 5:23:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **SLB**
Fluoride	1.4	0.10		mg/L	1	11/12/2008 2:39:40 PM
Chloride	200	1.0		mg/L	10	11/12/2008 3:45:32 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *05-Dec-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-2
Lab Order:	0811156	**Collection Date:**	11/10/2008 3:40:00 PM
Project:	2008 4th QTR OCD Samples	**Date Received:**	11/12/2008
Lab ID:	0811156-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **SLB**
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/12/2008 2:39:40 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/12/2008 2:39:40 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/12/2008 2:39:40 PM
Sulfate	32	5.0		mg/L	10	11/12/2008 3:45:32 PM
EPA METHOD 7470: MERCURY						Analyst: **SNV**
Mercury	ND	0.00020		mg/L	1	11/16/2008 7:43:27 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **TES**
Arsenic	ND	0.020		mg/L	1	12/1/2008 10:15:43 PM
Barium	0.42	0.020		mg/L	1	12/1/2008 10:15:43 PM
Cadmium	ND	0.0020		mg/L	1	12/1/2008 10:15:43 PM
Calcium	50	1.0		mg/L	1	12/1/2008 10:15:43 PM
Chromium	ND	0.0060		mg/L	1	12/1/2008 10:15:43 PM
Lead	0.0065	0.0050		mg/L	1	12/1/2008 10:15:43 PM
Magnesium	9.7	1.0		mg/L	1	12/1/2008 10:15:43 PM
Potassium	ND	1.0		mg/L	1	12/1/2008 10:15:43 PM
Selenium	ND	0.050		mg/L	1	12/1/2008 10:15:43 PM
Silver	ND	0.0050		mg/L	1	12/1/2008 10:15:43 PM
Sodium	330	5.0		mg/L	5	12/1/2008 11:39:05 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMB**
Specific Conductance	1600	0.010		µmhos/cm	1	11/14/2008
SM4500-H+B: PH						Analyst: **KMS**
pH	7.21	0.1		pH units	1	11/13/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *05-Dec-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-3
Lab Order:	0811156	**Collection Date:**	11/10/2008 3:20:00 PM
Project:	2008 4th QTR OCD Samples	**Date Received:**	11/12/2008
Lab ID:	0811156-03	**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	11/14/2008
Motor Oil Range Organics (MRO)	5.1	5.0		mg/L	1	11/14/2008
Surr: DNOP	132	58-140		%REC	1	11/14/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/15/2008 8:10:53 AM
Surr: BFB	80.1	59.9-122		%REC	1	11/15/2008 8:10:53 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/15/2008 8:10:53 AM
Benzene	ND	1.0		µg/L	1	11/15/2008 8:10:53 AM
Toluene	ND	1.0		µg/L	1	11/15/2008 8:10:53 AM
Ethylbenzene	ND	1.0		µg/L	1	11/15/2008 8:10:53 AM
Xylenes, Total	ND	2.0		µg/L	1	11/15/2008 8:10:53 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2008 8:10:53 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2008 8:10:53 AM
Surr: 4-Bromofluorobenzene	96.1	65.9-130		%REC	1	11/15/2008 8:10:53 AM
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	2.0		µg/L	1	11/18/2008 5:54:52 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	11/18/2008 5:54:52 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	11/18/2008 5:54:52 PM
Acenaphthylene	ND	2.5		µg/L	1	11/18/2008 5:54:52 PM
Acenaphthene	ND	5.0		µg/L	1	11/18/2008 5:54:52 PM
Fluorene	ND	0.80		µg/L	1	11/18/2008 5:54:52 PM
Phenanthrene	ND	0.60		µg/L	1	11/18/2008 5:54:52 PM
Anthracene	ND	0.60		µg/L	1	11/18/2008 5:54:52 PM
Fluoranthene	ND	0.30		µg/L	1	11/18/2008 5:54:52 PM
Pyrene	ND	0.30		µg/L	1	11/18/2008 5:54:52 PM
Benz(a)anthracene	ND	0.070		µg/L	1	11/18/2008 5:54:52 PM
Chrysene	ND	0.20		µg/L	1	11/18/2008 5:54:52 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	11/18/2008 5:54:52 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	11/18/2008 5:54:52 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	11/18/2008 5:54:52 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	11/18/2008 5:54:52 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	11/18/2008 5:54:52 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	11/18/2008 5:54:52 PM
Surr: Benzo(e)pyrene	69.6	44.8-104		%REC	1	11/18/2008 5:54:52 PM
EPA METHOD 300.0: ANIONS						Analyst: **SLB**
Fluoride	1.1	0.10		mg/L	1	11/12/2008 2:22:15 PM
Chloride	1100	5.0		mg/L	50	12/3/2008 4:43:36 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *05-Dec-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-3
Lab Order:	0811156	**Collection Date:**	11/10/2008 3:20:00 PM
Project:	2008 4th QTR OCD Samples	**Date Received:**	11/12/2008
Lab ID:	0811156-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **SLB**
Nitrogen, Nitrite (As N)	ND	1.0		mg/L	10	11/12/2008 3:10:42 PM
Nitrogen, Nitrate (As N)	2.6	0.10		mg/L	1	11/12/2008 2:22:15 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/12/2008 2:22:15 PM
Sulfate	310	5.0		mg/L	10	11/12/2008 3:10:42 PM
EPA METHOD 7470: MERCURY						Analyst: **SNV**
Mercury	ND	0.00020		mg/L	1	11/16/2008 7:45:13 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **TES**
Arsenic	ND	0.020		mg/L	1	12/1/2008 10:19:36 PM
Barium	0.13	0.020		mg/L	1	12/1/2008 10:19:36 PM
Cadmium	ND	0.0020		mg/L	1	12/1/2008 10:19:36 PM
Calcium	41	1.0		mg/L	1	12/1/2008 10:19:36 PM
Chromium	ND	0.0060		mg/L	1	12/1/2008 10:19:36 PM
Lead	ND	0.0050		mg/L	1	12/1/2008 10:19:36 PM
Magnesium	6.6	1.0		mg/L	1	12/1/2008 10:19:36 PM
Potassium	4.4	1.0		mg/L	1	12/1/2008 10:19:36 PM
Selenium	ND	0.50		mg/L	10	12/1/2008 11:43:53 PM
Silver	ND	0.0050		mg/L	1	12/1/2008 10:19:36 PM
Sodium	960	10		mg/L	10	12/1/2008 11:43:53 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMB**
Specific Conductance	4300	0.010		µmhos/cm	1	11/14/2008
SM4500-H+B: PH						Analyst: **KMS**
pH	8.05	0.1		pH units	1	11/13/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *05-Dec-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	KA-3
Lab Order:	0811156	**Collection Date:**	11/10/2008 3:30:00 PM
Project:	2008 4th QTR OCD Samples	**Date Received:**	11/12/2008
Lab ID:	0811156-04	**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	11/14/2008
Motor Oil Range Organics (MRO)	5.2	5.0		mg/L	1	11/14/2008
Surr: DNOP	132	58-140		%REC	1	11/14/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	0.15	0.050		mg/L	1	11/15/2008 8:41:19 AM
Surr: BFB	86.7	59.9-122		%REC	1	11/15/2008 8:41:19 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	130	13		µg/L	5	11/20/2008 12:52:22 PM
Benzene	ND	1.0		µg/L	1	11/15/2008 8:41:19 AM
Toluene	ND	1.0		µg/L	1	11/15/2008 8:41:19 AM
Ethylbenzene	ND	1.0		µg/L	1	11/15/2008 8:41:19 AM
Xylenes, Total	ND	2.0		µg/L	1	11/15/2008 8:41:19 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2008 8:41:19 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2008 8:41:19 AM
Surr: 4-Bromofluorobenzene	101	65.9-130		%REC	1	11/15/2008 8:41:19 AM
EPA METHOD 8310: PAHS						Analyst: **DMF**
Naphthalene	ND	2.0		µg/L	1	11/18/2008 6:26:09 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	11/18/2008 6:26:09 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	11/18/2008 6:26:09 PM
Acenaphthylene	ND	2.5		µg/L	1	11/18/2008 6:26:09 PM
Acenaphthene	ND	5.0		µg/L	1	11/18/2008 6:26:09 PM
Fluorene	ND	0.80		µg/L	1	11/18/2008 6:26:09 PM
Phenanthrene	ND	0.60		µg/L	1	11/18/2008 6:26:09 PM
Anthracene	ND	0.60		µg/L	1	11/18/2008 6:26:09 PM
Fluoranthene	ND	0.30		µg/L	1	11/18/2008 6:26:09 PM
Pyrene	ND	0.30		µg/L	1	11/18/2008 6:26:09 PM
Benz(a)anthracene	ND	0.070		µg/L	1	11/18/2008 6:26:09 PM
Chrysene	ND	0.20		µg/L	1	11/18/2008 6:26:09 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	11/18/2008 6:26:09 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	11/18/2008 6:26:09 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	11/18/2008 6:26:09 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	11/18/2008 6:26:09 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	11/18/2008 6:26:09 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	11/18/2008 6:26:09 PM
Surr: Benzo(e)pyrene	74.9	44.8-104		%REC	1	11/18/2008 6:26:09 PM
EPA METHOD 300.0: ANIONS						Analyst: **SLB**
Fluoride	0.46	0.10		mg/L	1	11/12/2008 2:04:51 PM
Chloride	590	1.0		mg/L	10	11/12/2008 3:28:07 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *05-Dec-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	KA-3
Lab Order:	0811156	**Collection Date:**	11/10/2008 3:30:00 PM
Project:	2008 4th QTR OCD Samples	**Date Received:**	11/12/2008
Lab ID:	0811156-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **SLB**
Nitrogen, Nitrite (As N)	2.0	1.0		mg/L	10	11/12/2008 3:28:07 PM
Nitrogen, Nitrate (As N)	11	0.10		mg/L	1	11/12/2008 2:04:51 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/12/2008 2:04:51 PM
Sulfate	140	5.0		mg/L	10	11/12/2008 3:28:07 PM
EPA METHOD 7470: MERCURY						Analyst: **SNV**
Mercury	ND	0.00020		mg/L	1	11/16/2008 7:46:59 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **TES**
Arsenic	ND	0.020		mg/L	1	12/1/2008 10:23:53 PM
Barium	0.20	0.020		mg/L	1	12/1/2008 10:23:53 PM
Cadmium	ND	0.0020		mg/L	1	12/1/2008 10:23:53 PM
Calcium	65	1.0		mg/L	1	12/1/2008 10:23:53 PM
Chromium	ND	0.0060		mg/L	1	12/1/2008 10:23:53 PM
Lead	0.0095	0.0050		mg/L	1	12/1/2008 10:23:53 PM
Magnesium	11	1.0		mg/L	1	12/1/2008 10:23:53 PM
Potassium	1.8	1.0		mg/L	1	12/1/2008 10:23:53 PM
Selenium	ND	0.50		mg/L	10	12/1/2008 11:46:58 PM
Silver	ND	0.0050		mg/L	1	12/1/2008 10:23:53 PM
Sodium	570	10		mg/L	10	12/1/2008 11:46:58 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **KMB**
Specific Conductance	2700	0.010		µmhos/cm	1	11/14/2008
SM4500-H+B: PH						Analyst: **KMS**
pH	7.34	0.1		pH units	1	11/13/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *05-Dec-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	Trip Blank
Lab Order:	0811156	**Collection Date:**	
Project:	2008 4th QTR OCD Samples	**Date Received:**	11/12/2008
Lab ID:	0811156-05	**Matrix:**	TRIP BLANK

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	11/15/2008 9:11:36 AM
Surr: BFB	79.4	59.9-122		%REC	1	11/15/2008 9:11:36 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/15/2008 9:11:36 AM
Benzene	ND	1.0		µg/L	1	11/15/2008 9:11:36 AM
Toluene	ND	1.0		µg/L	1	11/15/2008 9:11:36 AM
Ethylbenzene	ND	1.0		µg/L	1	11/15/2008 9:11:36 AM
Xylenes, Total	ND	2.0		µg/L	1	11/15/2008 9:11:36 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2008 9:11:36 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2008 9:11:36 AM
Surr: 4-Bromofluorobenzene	93.8	65.9-130		%REC	1	11/15/2008 9:11:36 AM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: 2008 4th QTR OCD Samples
Work Order: 0811156

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: MB		*MBLK*			Batch ID:	**R31145**	Analysis Date:	11/12/2008 10:35:56 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB		*MBLK*			Batch ID:	**R31149**	Analysis Date:	11/12/2008 10:14:42 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB		*MBLK*			Batch ID:	**R31460**	Analysis Date:	12/3/2008 12:57:17 PM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS		*LCS*			Batch ID:	**R31145**	Analysis Date:	11/12/2008 10:53:21 AM	
Fluoride	0.5047	mg/L	0.10	101	90	110			
Chloride	4.994	mg/L	0.10	99.9	90	110			
Nitrogen, Nitrite (As N)	0.9925	mg/L	0.10	99.2	90	110			
Nitrogen, Nitrate (As N)	2.528	mg/L	0.10	101	90	110			
Phosphorus, Orthophosphate (As P)	4.885	mg/L	0.50	97.7	90	110			
Sulfate	10.67	mg/L	0.50	107	90	110			
Sample ID: LCS		*LCS*			Batch ID:	**R31149**	Analysis Date:	11/12/2008 10:32:06 AM	
Fluoride	0.5429	mg/L	0.10	109	90	110			
Chloride	4.776	mg/L	0.10	95.5	90	110			
Nitrogen, Nitrite (As N)	0.9363	mg/L	0.10	93.6	90	110			
Nitrogen, Nitrate (As N)	2.483	mg/L	0.10	99.3	90	110			
Phosphorus, Orthophosphate (As P)	4.979	mg/L	0.50	99.6	90	110			
Sulfate	9.918	mg/L	0.50	99.2	90	110			
Sample ID: LCS		*LCS*			Batch ID:	**R31460**	Analysis Date:	12/3/2008 1:14:41 PM	
Fluoride	0.5250	mg/L	0.10	105	90	110			
Chloride	5.009	mg/L	0.10	100	90	110			
Nitrogen, Nitrate (As N)	2.396	mg/L	0.10	95.8	90	110			
Phosphorus, Orthophosphate (As P)	5.235	mg/L	0.50	105	90	110			
Sulfate	10.21	mg/L	0.50	102	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: 2008 4th QTR OCD Samples **Work Order:** 0811156

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-17619		*MBLK*			Batch ID:	**17619**	Analysis Date:		11/13/2008
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-17619		*LCS*			Batch ID:	**17619**	Analysis Date:		11/13/2008
Diesel Range Organics (DRO)	6.135	mg/L	1.0	123	74	157			
Sample ID: LCSD-17619		*LCSD*			Batch ID:	**17619**	Analysis Date:		11/13/2008
Diesel Range Organics (DRO)	6.155	mg/L	1.0	123	74	157	0.314	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R31186**	Analysis Date:		11/14/2008 9:10:56 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID:	**R31186**	Analysis Date:		11/15/2008 12:43:57 PM
Gasoline Range Organics (GRO)	0.4030	mg/L	0.050	80.6	80	115			
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R31251**	Analysis Date:		11/14/2008 9:10:56 AM
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R31251**	Analysis Date:		11/14/2008 9:10:56 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:	**R31251**	Analysis Date:		11/14/2008 6:28:37 PM
Methyl tert-butyl ether (MTBE)	24.90	µg/L	2.5	125	51.2	138			
Benzene	22.03	µg/L	1.0	110	85.9	113			
Toluene	22.64	µg/L	1.0	113	86.4	113			S
Ethylbenzene	22.93	µg/L	1.0	115	83.5	118			
Xylenes, Total	68.94	µg/L	2.0	115	83.4	122			
1,2,4-Trimethylbenzene	23.83	µg/L	1.0	119	83.5	115			S
1,3,5-Trimethylbenzene	22.43	µg/L	1.0	112	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: 2008 4th QTR OCD Samples
Work Order: 0811156

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8310: PAHs									
Sample ID: MB-17637		*MBLK*			Batch ID:	**17637**	Analysis Date:	11/18/2008 1:06:38 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-17637		*LCS*			Batch ID:	**17637**	Analysis Date:	11/18/2008 1:44:39 PM	
Naphthalene	67.69	µg/L	2.0	84.6	31.5	90.7			
1-Methylnaphthalene	70.15	µg/L	2.0	87.5	32.5	93.3			
2-Methylnaphthalene	71.77	µg/L	2.0	89.7	32.8	89.6			S
Acenaphthylene	63.15	µg/L	2.5	78.7	37.8	92.4			
Acenaphthene	71.15	µg/L	5.0	88.9	38.6	93.9			
Fluorene	5.840	µg/L	0.80	72.8	38	95.5			
Phenanthrene	3.470	µg/L	0.60	86.3	32.9	107			
Anthracene	3.160	µg/L	0.60	78.6	35.2	98.3			
Fluoranthene	7.000	µg/L	0.30	87.3	36.4	104			
Pyrene	6.950	µg/L	0.30	86.7	37.1	102			
Benz(a)anthracene	0.6400	µg/L	0.070	79.8	33.7	101			
Chrysene	3.290	µg/L	0.20	81.8	35.2	96.1			
Benzo(b)fluoranthene	0.9000	µg/L	0.10	89.8	33.6	94.2			
Benzo(k)fluoranthene	0.4000	µg/L	0.070	80.0	25.4	110			
Benzo(a)pyrene	0.4300	µg/L	0.070	85.7	26.9	102			
Dibenz(a,h)anthracene	0.7900	µg/L	0.070	78.8	40.7	92.1			
Benzo(g,h,i)perylene	0.8100	µg/L	0.080	76.0	24.3	109			
Indeno(1,2,3-cd)pyrene	1.540	µg/L	0.080	76.8	42.6	99.9			
Method: EPA Method 7470: Mercury									
Sample ID: MB-17649		*MBLK*			Batch ID:	**17649**	Analysis Date:	11/16/2008 7:03:52 PM	
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-17649		*LCS*			Batch ID:	**17649**	Analysis Date:	11/16/2008 7:05:36 PM	
Mercury	0.004893	mg/L	0.00020	97.9	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: 2008 4th QTR OCD Samples **Work Order:** 0811156

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA 6010B: Total Recoverable Metals									
Sample ID: MB-17690		*MBLK*			Batch ID:	**17690**	Analysis Date:	12/1/2008 8:38:14 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-17690		*LCS*			Batch ID:	**17690**	Analysis Date:	12/1/2008 8:41:27 PM	
Arsenic	0.5037	mg/L	0.020	101	80	120			
Barium	0.4974	mg/L	0.010	99.5	80	120			
Cadmium	0.5020	mg/L	0.0020	100	80	120			
Calcium	47.23	mg/L	0.50	94.5	80	120			
Chromium	0.4979	mg/L	0.0060	99.6	80	120			
Lead	0.4845	mg/L	0.0050	96.9	80	120			
Magnesium	47.92	mg/L	0.50	95.8	80	120			
Potassium	50.18	mg/L	1.0	100	80	120			
Selenium	0.4777	mg/L	0.050	95.5	80	120			
Silver	0.5114	mg/L	0.0050	102	80	120			
Sodium	51.30	mg/L	0.50	103	80	120			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name WESTERN REFINING GALLU

Date Received: 11/12/2008

Work Order Number 0811156

Received by: ARS

Sample ID labels checked by: _____ Initials

Checklist completed by: _____ Signature _____ 11/12/08 Date

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?	1°	*<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: Rt 3 Bx 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: 2008 4th QRR OCD Samples
Project #: NAPIS=1-3, KA-3
Project Manager: G. Rajen
Sampler: C. Johnson
On Ice: ☒ Yes ☐ No
Sample Temperature: [illegible]

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.	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)	GenCHEM	RCRA 8 Metals			Air Bubbles (Y or N)
11-10-08	1545	H_2O	NAPIS-1			-1	X		X			X						X	X			
/	1540	/	NAPIS-2			-2	|		|			|						|	|		
/	1520	/	NAPIS-3			-3	|		|			|						|	|		
/	1530	/	KA-3			-4	|		|			|						|	|		
			TRIP Blank			-5	X		X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
11-10-08	1645	[signature]	[signature]	10:15	11/12/08
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: GenChem = Cations, Anions, pH, Conductivity

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.

Comparison of Sampling Results for NAPIS-2 from July, September and November 2008 for NAPIS-2

	DRO	MRO	GRO	Benzene	Toluene	Ethylbenzene
Units	mg/L		mg/L	mg/L	mg/L	mg/L
Jul-08	2.4	<5.0	0.74	0.013	<0.001	0.011
Sep-08	3.9	7.7	0.45	0.016	<0.001	0.0016
Nov-08	4	7.7	0.59	0.025	<0.001	0.011

Comparison of Basic Water Quality Parameters from July and September 2008 for NAPIS-2

	pH	Specific Conductivity	Salinity	Dissolved Oxygen
Units		milliSiemens/cm	ppt	mg/L
Jul-08	7.18	1.759	0.9	0.33
Sep-08	7.08	1.665	0.8	0.44
Nov-08	7.21	1.6	Not sampled in field	

(November pH and Specific Conductivity tested in laboratory.)

Xylene mg/L	1,2,4 Trimethylbenzene mg/L	MTBE mg/L
0.0056	0.014	0.2
0.0041	0.01	Not analyzed by laboratory
<0.002	0.011	0.18

Table 1: Sampling Results for NAPIS Wells – November 2008

Date	Parameter	NAPIS 1	NAPIS 2	NAPIS 3	KA-3
11/10/08	pH (laboratory analysis)	7.3	7.21	8.05	7.34
	Temperature	Not sampled in field	Not sampled in field	Not sampled in field	Not sampled in field
	Specific Conductivity (laboratory analysis) microSiemens/cm	1900	1600	4300	2700
	Dissolved Oxygen	Not sampled in field	Not sampled in field	Not sampled in field	Not sampled in field
	Benzene	ND	0.025 mg/L	ND	ND
	Toluene	ND	ND	ND	ND
	Ethylbenzene	ND	0.011 mg/L	ND	ND
	Xylene	ND	ND	ND	ND
	1.2.4 Trimethylbenzene	ND	0.011 mg/L	ND	ND
	MTBE	ND	0.18 mg/L	ND	0.13 mg/L
	DRO	ND	4.0 mg/L	ND	ND
	MRO	ND	7.7 mg/L	5.1 mg/L	5.2 mg/L
	GRO	ND	0.59 mg/L	ND	0.15 mg/L
	Fluorene	ND	0.00099 mg/L	ND	ND
	Nitrogen (Nitrite as N)	ND	ND	ND	2.0 mg/L
	Nitrogen (Nitrate as N)	1.6 mg/L	ND	2.5 mg/L	11 mg/L
	Sulfate	63 mg/L	32 mg/L	310 mg/L	140 mg/L
	Barium	0.13 mg/L	0.42 mg/L	0.13 mg/L	0.20 mg/L
	Calcium	78 mg/L	50 mg/L	41 mg/L	65 mg/L
	Lead	ND	0.0085 mg/L	ND	0.0095 mg/L
	Magnesium	14 mg/L	9.7 mg/L	6.6 mg/L	11 mg/L
	Potassium	1.2 mg/L	ND	4.4 mg/L	1.8 mg/L
	Sodium	390 mg/L	330 mg/L	960 mg/L	570 mg/L

WELL SAMPLING DATA

WELL #	NAPIS 1 (KA-1R) 14	NAPIS 2 (KA-2R) 14.5	NAPIS 3 (KA-3R) 30.7	KA-3 25.0	.163 x 3	3WVA'S
PURGE DATE	11/7/08	11/7/08	11/7/08	11/7/08	KA1R	2.52
PURGE TIME	1425	1410	1330	1350	KA2R	2.57
OVA READING					KA3R	10.75
LIQUID DEPTH	8.83	9.23	8.71	9.01	KA3	7.82
PUMP DEPTH	hand bailed					
SAMPLE DAY	11/10/08	11/10/08	11/10/08	11/10/08		
SAMPLE TIME	1545	1540	1520	1530		
OVA READING						
LIQUID DEPTH						
1) TEMP DEG F						
pH						
Sp. COND.						
2) TEMP DEG F						
pH						
Sp. COND.						
3) TEMP DEG F						
pH						
Sp. COND.						
4) TEMP DEG F						
pH						
Sp. COND.						

NOTES: 11/7/08 KA-3 Water cloudy - No odor detected.

11-7-08 - Naps-1: Wtr clear, No odor detected - turned brownish color (silt) at end of bailing.

11-7-08 Napis 2,3; Water clear, no odor detected.

11-10-08; Sampled wells; Cloudy, windy weather. No pH, temp, SC taken - meter not available.