Monzeglio, Hope, NMENV

GRCC

July MTBE Results

ENTERED

From: Rajen, Gaurav [Gaurav.Rajen@wnr.com]
Sent: Tuesday, August 11, 2009 12:59 PM
To: Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD
Cc: Cobrain, Dave, NMENV; Riege, Ed
Subject: Latest data from NE Monitoring wells
Attachments: July 2009.pdf; TABLE 1-updated.doc

Dear Hope:

I am sending you the latest data we have received from the NE monitoring wells. For those not as familiar with our site, I have copied the diagram we had prepared earlier. (Please note it is representative and not to scale.)

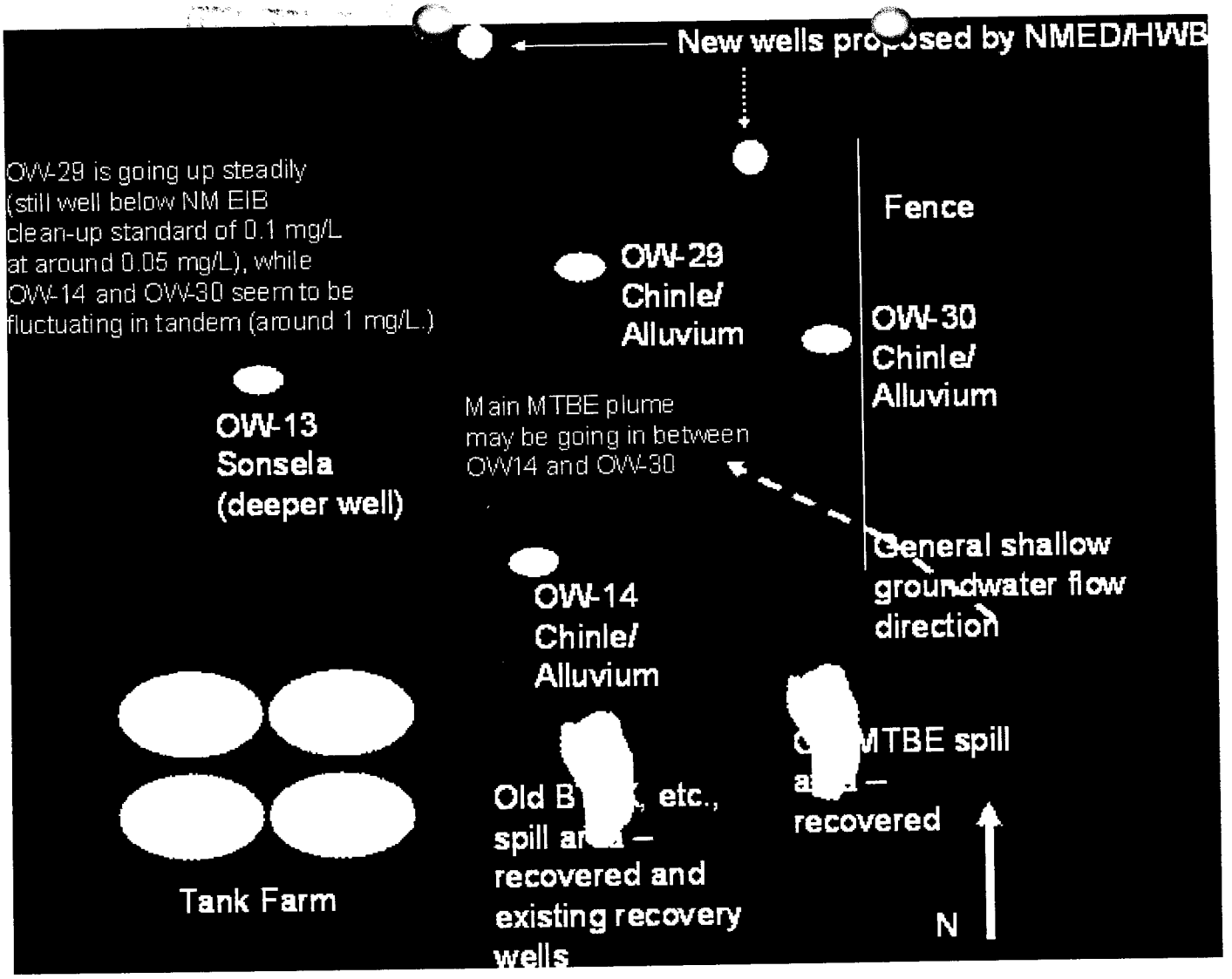
As we somewhat suspected earlier (please see previous letter below), OW-14 and OW-30 are still fluctuating around 1 ppm of MTBE levels, and OW-29 has shown further steady increase – at levels just a little above the Residential Screening Standard for Residential Tap Water of 0.012 ppm. The plume appears to be moving north-west towards OW-29 – not likely north. I have not added the new data to the graphs we sent earlier (and which are attached below to refresh your memory) – however, there is an updated Table attached, and the Laboratory report. The previous graphs we believe still show the same trends – OW-14 and OW-30 fluctuating around the same levels and OW-29 with a small but steady increase.

You will note that OW-14 has MTBE at 1.3 ppm (up from 0.97 ppm in the last quarter), OW-30 at 1.1 ppm (steady at 1.1 ppm from the last quarter), and OW-29 has gone up from 0.041 to 0.049. While OW-14 and OW-30 fluctuate in MTBE levels around 1 ppm, OW-29 has gone up consistently – this seems to indicate that the plume is moving generally north-west, but not straight north past OW-30. Also, if the main mass of the plume had passed by OW-29, then it might have started reducing in concentration – but levels are going steadily up. If any contamination has gone by OW-29, it may be even lower in levels.

Just to inform you, we have subcontracted with Kleinfelder for the one well you have suggested as a first step. In your opinion do you think the data might suggest that we should continue to monitor the situation and reassess after perhaps one or two more quarters? This may allow us to select the location of the new well to be most strategically suitable. Please don't misunderstand the question as we certainly do not wish to appear recalcitrant. Data are always hard to interpret and we would like your help to make the most effective decision.

Best regards,

Raj



From: Rajen, Gaurav
Sent: Tuesday, June 09, 2009 4:53 PM
To: 'Monzeglio, Hope, NMENV'; Cobrain, Dave, NMENV
Cc: Riege, Ed; Turri, Mark
Subject: Some more of our reasoning regarding MTBE and BTEX monitoring wells needed in our NE section

Dear Hope:

It is a pleasure to write further and present more of our thinking on adding two new monitoring wells in the North-east section of our facility. What we would like to suggest for your consideration is that we add one new monitoring well (let's call it OW-31) north and slightly west of OW-30. If contamination is found here that warrants another well west of this new well, we will add one more. However, if OW-31 is clean enough, then we have existing wells OW-29 and OW-13 to the west from OW-14 and OW-30 that will serve to track the westward movement of a plume. Simultaneously, we would work with you to get an approved work plan and start remediating the MTBE to prevent any further spread. We feel the clean-up goal could be the one set by the NM EIB of 0.1 mg/L at MTBE sites, instead of a residential tap water level, as no drinking water source can be impacted.

Please take a look at the three graphs below and the explanatory figure. We understand that you believe that a plume has moved north from OW-14 and has gone past OW-30. However, levels in OW-14 and OW-30 are rising and falling in tandem. And, OW-29 is showing a steady increase. This to us seems to indicate that the plume is moving west – and, OW-29 and OW-13 are already in place to the west to serve as good observation wells. If the plume was moving north, the results for OW-14 and OW-30 would not be rising and falling together. Rather, we feel that these wells are representative of the area of initial contamination, which is being pushed to the west by up-gradient groundwater entering from the east.

Further, there is BTEX detected at OW-14 – but none elsewhere. Like MTBE, benzene also dissolves in water. So, why has benzene not shown up in OW-30 if the plume is moving north? This may be because the BTEX came from a spill to the south and

more west than the MTBE spill. The MTBE spill may have lain along a path more in line with OW-30. This shows that movement from OW-14 is very slow, and not in the northward direction – at least BTEX is not traveling that way. The MTBE more dissolved in groundwater not sorbing with soil particles as much as BTEX and moving more rapidly than BTEX may be passing between OW-14 and OW-30, with the edges having touched OW-14 and now OW-30, and rising and falling in tandem. In this case, the plume will be heading straight for OW-29.

This is an issue that needs clarification, which is why we initially suggested waiting two more quarters to see if the plume is moving north and west from OW-30, or mainly west. However, after more deliberation, we would like to suggest that one new well (OW-31) to the north could be established on your schedule. This should let us know if the plume has passed by OW-30 in a northward direction. If this new well is clean, we will not need new wells to the west, as OW-29 and OW-13 are in place. If OW-31 is dirty, we will establish a second well (OW-32) to the west of OW-31 as you suggest.

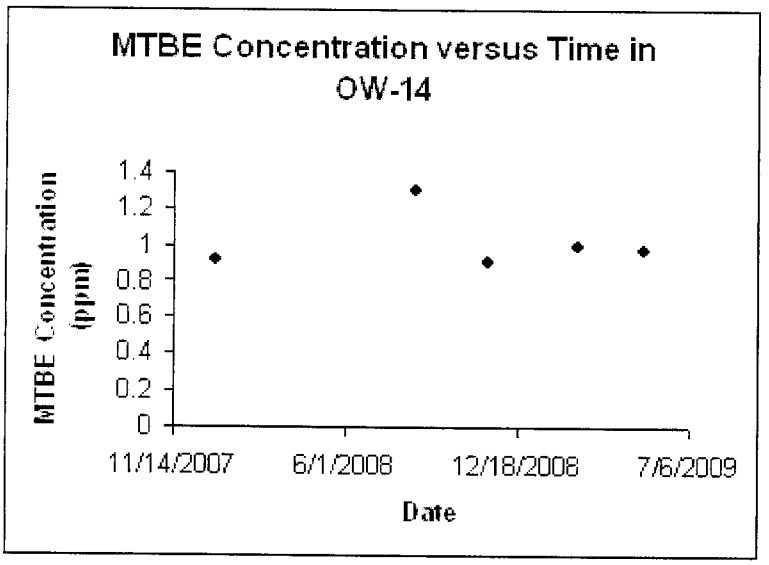
If you feel that our thinking is plausible, it might behoove us all to wait two quarters, as then we could put both wells in simultaneously – the key marker would be if OW-30 went up further and became greater than OW-14, and also if OW-29 kept steadily increasing. If the pattern demonstrated in our attached graphs continues, we may consider putting in only one well first.

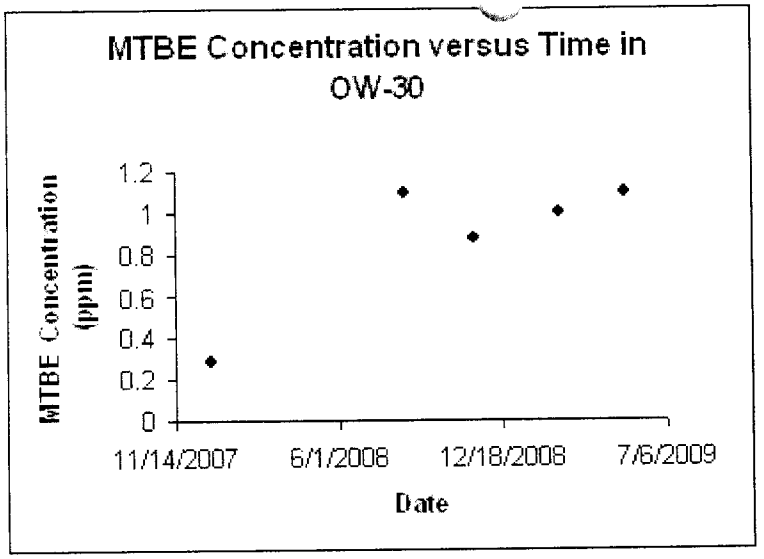
Also, please consider that some extremely effective remediation technologies have been developed for MTBE – a solar-powered pump for instance could be dropped into OW-30 to aerate the groundwater and remove the MTBE through enhanced natural attenuation. We have also been following projects that have had great success with deep-rooted trees (phytoremediation). Do you concur that remediation may be an option to consider as an alternative to additional monitoring wells?

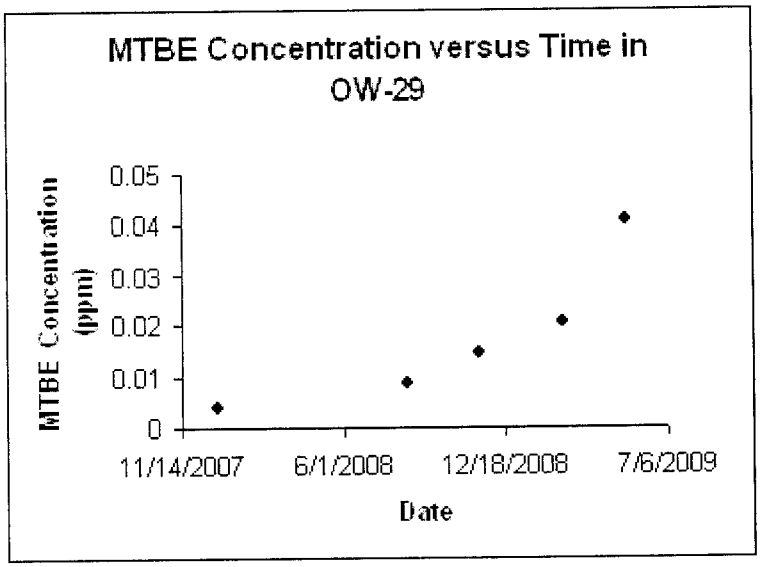
We look forward to your response with great interest.

Best regards,

Raj







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

TABLE 1: Levels in OW 13, 14, 29, and 30: All units of concentrations are in mg/l. Quarterly sampling began Fourth Quarter, 2008. (OW-14 also had trace levels of some volatiles – 0.0033 ppm Isopropylbenzene; 0.0011 ppm of nButylbenzene; 0.0026 ppm of secButylbenzene; 0.021 ppm of 1Methylnapthalene)

	Year	Date Sampl-ed	Benze-ne	Toluene	Ethylb-enzene	Xylene	1,2,4 Trimeth yl-benzene	MTBE	1,2 Dichloroet hane
OW#13[1]	2009	7/28	<0.001	<0.001	<0.001	<0.002	<0.001	0.0023	
	2009	5/14	<0.001	<0.001	<0.001	<0.002	<0.001	<0.0025	
	2009	2/25	<0.001	<0.001	<0.001	<0.002	<0.001	<0.0025	
	2008	11/13	<0.001	<0.001	<0.001	<0.0015		0.0016	
	2008	8/19	<0.001	<0.001	<0.001	<0.0015		<0.001	
	2007	12/27	<0.001	<0.001	<0.001	<0.0015		0.0013	
	2006	10/27	<0.001	<0.001	<0.001	<0.001		<0.0025	
OW#14[2]	2009	7/30	0.074	0.0033	<0.001	<0.0015	<0.001	1.3	0.0017
	2009	5/12	0.11	0.029	0.049	<0.002	0.0016	0.97	
	2009	2/23	0.013	0.0014	0.0055	<0.002	0.0014	1.0	
	2008	11/12	0.0082	<0.001	<0.001	<0.002		0.91	
	2008	8/21	.0035	<0.001	<0.001	<0.0015		1.3	
	2007	1/1	0.014	<0.001	<0.001	<0.0015		0.92	
	2006	12/28	0.0042	<0.001	0.0025	<0.003		0.18	
	2006	10/27	0.0034	<0.001	<0.001	<0.003		0.016	
	2005	9/27	0.017	0.0022	0.0023	0.0014		0.077	
OW#29[1]	2009	7/29	<0.001	<0.001	<0.001	<0.002	<0.001	0.049	
	2009	5/14	<0.001	<0.001	<0.001	<0.002	<0.001	0.041	
	2009	2/24	<0.001	<0.001	<0.001	<0.002	<0.001	0.021	
	2008	11/14	<0.001	<0.001	<0.001	<0.0015		0.015	
	2008	8/19	<0.001	<0.001	<0.001	<0.0015		.0092	
	2007	12/28	<0.001	<0.001	<0.001	<0.0015		0.0043	
	2006	10/27	<0.001	<0.001	<0.001	<0.003		<0.0025	
	2005	9/27	<0.001	<0.001	<0.001	<0.0005		<0.0025	
OW#30[2]	2009	7/30	<0.001	<0.001	<0.001	<0.002	<0.001	1.1	0.0013
	2009	5/13	<0.001	<0.001	<0.001	<0.002	<0.001	1.1	
	2009	2/23	<0.001	<0.001	<0.001	<0.002	<0.001	1.0	
	2008	11/12	<0.001	<0.001	<0.001	<0.002		0.88	
	2008	8/20	<0.001	<0.001	<0.001	<0.0015		1.1	
	2007	12/28	<0.001	<0.001	<0.001	<0.0015		0.29	
	2006	10/27	<0.001	<0.001	<0.001	<0.003		<0.0025	
	2005	9/27	<0.001	<0.001	<0.001	<0.0005		0.018	
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.)**	

[1] Method EPA 8260B Volatiles used for Fourth Quarter Analysis.

[2] Method EPA 8021B Semi-Volatiles used for Fourth Quarter Analysis.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, August 04, 2009

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

TEL: (505) 722-0227
FAX (505) 722-0210

RE: 2009 Annual Well Samples

Order No.: 0907576

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 6 sample(s) on 7/31/2009 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,

John Caldwell
For 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: *04-Aug-09*

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0907576
Project: 2009 Annual Well Samples
Lab ID: 0907576-01

Client Sample ID: OW-13
Collection Date: 7/28/2009 12:15:00 PM
Date Received: 7/31/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
Benzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Toluene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Ethylbenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Methyl tert-butyl ether (MTBE)	2.3	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Naphthalene	ND	2.0		µg/L	1	7/31/2009 5:47:23 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/31/2009 5:47:23 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/31/2009 5:47:23 PM
Acetone	ND	10		µg/L	1	7/31/2009 5:47:23 PM
Bromobenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Bromodichloromethane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Bromoform	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Bromomethane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
2-Butanone	ND	10		µg/L	1	7/31/2009 5:47:23 PM
Carbon disulfide	ND	10		µg/L	1	7/31/2009 5:47:23 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Chlorobenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Chloroethane	ND	2.0		µg/L	1	7/31/2009 5:47:23 PM
Chloroform	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Chloromethane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
2-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
4-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
cis-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/31/2009 5:47:23 PM
Dibromochloromethane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Dibromomethane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/31/2009 5:47:23 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
2-Hexanone	ND	10		µg/L	1	7/31/2009 5:47:23 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *04-Aug-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	OW-13
Lab Order:	0907576	**Collection Date:**	7/28/2009 12:15:00 PM
Project:	2009 Annual Well Samples	**Date Received:**	7/31/2009
Lab ID:	0907576-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
Isopropylbenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/31/2009 5:47:23 PM
Methylene Chloride	ND	3.0		µg/L	1	7/31/2009 5:47:23 PM
n-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
n-Propylbenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
sec-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Styrene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
tert-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/31/2009 5:47:23 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
trans-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/31/2009 5:47:23 PM
Vinyl chloride	ND	1.0		µg/L	1	7/31/2009 5:47:23 PM
Xylenes, Total	ND	1.5		µg/L	1	7/31/2009 5:47:23 PM
Surr: 1,2-Dichloroethane-d4	110	68.1-123		%REC	1	7/31/2009 5:47:23 PM
Surr: 4-Bromofluorobenzene	97.7	53.2-145		%REC	1	7/31/2009 5:47:23 PM
Surr: Dibromofluoromethane	108	68.5-119		%REC	1	7/31/2009 5:47:23 PM
Surr: Toluene-d8	110	64-131		%REC	1	7/31/2009 5:47:23 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: *04-Aug-09*

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0907576
Project: 2009 Annual Well Samples
Lab ID: 0907576-02

Client Sample ID: OW-12
Collection Date: 7/29/2009 9:45:00 AM
Date Received: 7/31/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: HL
EPA METHOD 8260B: VOLATILES						
Benzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Toluene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Ethylbenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Naphthalene	ND	2.0		µg/L	1	7/31/2009 7:14:07 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/31/2009 7:14:07 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/31/2009 7:14:07 PM
Acetone	ND	10		µg/L	1	7/31/2009 7:14:07 PM
Bromobenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Bromodichloromethane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Bromoform	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Bromomethane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
2-Butanone	ND	10		µg/L	1	7/31/2009 7:14:07 PM
Carbon disulfide	ND	10		µg/L	1	7/31/2009 7:14:07 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Chlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Chloroethane	ND	2.0		µg/L	1	7/31/2009 7:14:07 PM
Chloroform	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Chloromethane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
2-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
4-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
cis-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/31/2009 7:14:07 PM
Dibromochloromethane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Dibromomethane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/31/2009 7:14:07 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
2-Hexanone	ND	10		µg/L	1	7/31/2009 7:14:07 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: *04-Aug-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	OW-12
Lab Order:	0907576	**Collection Date:**	7/29/2009 9:45:00 AM
Project:	2009 Annual Well Samples	**Date Received:**	7/31/2009
Lab ID:	0907576-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
Isopropylbenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/31/2009 7:14:07 PM
Methylene Chloride	ND	3.0		µg/L	1	7/31/2009 7:14:07 PM
n-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
n-Propylbenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
sec-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Styrene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
tert-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/31/2009 7:14:07 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
trans-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/31/2009 7:14:07 PM
Vinyl chloride	ND	1.0		µg/L	1	7/31/2009 7:14:07 PM
Xylenes, Total	ND	1.5		µg/L	1	7/31/2009 7:14:07 PM
Surr: 1,2-Dichloroethane-d4	109	68.1-123		%REC	1	7/31/2009 7:14:07 PM
Surr: 4-Bromofluorobenzene	99.2	53.2-145		%REC	1	7/31/2009 7:14:07 PM
Surr: Dibromofluoromethane	108	68.5-119		%REC	1	7/31/2009 7:14:07 PM
Surr: Toluene-d8	115	64-131		%REC	1	7/31/2009 7:14:07 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: *04-Aug-09*

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0907576
Project: 2009 Annual Well Samples
Lab ID: 0907576-03

Client Sample ID: OW-29
Collection Date: 7/29/2009 2:44:00 PM
Date Received: 7/31/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: HL
EPA METHOD 8260B: VOLATILES						
Benzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Toluene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Ethylbenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Methyl tert-butyl ether (MTBE)	49	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Naphthalene	ND	2.0		µg/L	1	7/31/2009 7:42:58 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/31/2009 7:42:58 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/31/2009 7:42:58 PM
Acetone	ND	10		µg/L	1	7/31/2009 7:42:58 PM
Bromobenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Bromodichloromethane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Bromoform	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Bromomethane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
2-Butanone	ND	10		µg/L	1	7/31/2009 7:42:58 PM
Carbon disulfide	ND	10		µg/L	1	7/31/2009 7:42:58 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Chlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Chloroethane	ND	2.0		µg/L	1	7/31/2009 7:42:58 PM
Chloroform	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Chloromethane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
2-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
4-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
cis-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/31/2009 7:42:58 PM
Dibromochloromethane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Dibromomethane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/31/2009 7:42:58 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
2-Hexanone	ND	10		µg/L	1	7/31/2009 7:42:58 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *04-Aug-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	OW-29
Lab Order:	0907576	**Collection Date:**	7/29/2009 2:44:00 PM
Project:	2009 Annual Well Samples	**Date Received:**	7/31/2009
Lab ID:	0907576-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **HL**
Isopropylbenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/31/2009 7:42:58 PM
Methylene Chloride	ND	3.0		µg/L	1	7/31/2009 7:42:58 PM
n-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
n-Propylbenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
sec-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Styrene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
tert-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/31/2009 7:42:58 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
trans-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/31/2009 7:42:58 PM
Vinyl chloride	ND	1.0		µg/L	1	7/31/2009 7:42:58 PM
Xylenes, Total	ND	1.5		µg/L	1	7/31/2009 7:42:58 PM
Surr: 1,2-Dichloroethane-d4	107	68.1-123		%REC	1	7/31/2009 7:42:58 PM
Surr: 4-Bromofluorobenzene	100	53.2-145		%REC	1	7/31/2009 7:42:58 PM
Surr: Dibromofluoromethane	108	68.5-119		%REC	1	7/31/2009 7:42:58 PM
Surr: Toluene-d8	118	64-131		%REC	1	7/31/2009 7:42:58 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: *04-Aug-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	OW-30
Lab Order:	0907576	**Collection Date:**	7/30/2009 9:28:00 AM
Project:	2009 Annual Well Samples	**Date Received:**	7/31/2009
Lab ID:	0907576-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: HL
EPA METHOD 8260B: VOLATILES						
Benzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Toluene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Ethylbenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Methyl tert-butyl ether (MTBE)	1100	10		µg/L	10	7/31/2009 8:13:20 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,2-Dichloroethane (EDC)	1.3	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Naphthalene	ND	2.0		µg/L	1	7/31/2009 8:42:18 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/31/2009 8:42:18 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/31/2009 8:42:18 PM
Acetone	ND	10		µg/L	1	7/31/2009 8:42:18 PM
Bromobenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Bromodichloromethane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Bromoform	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Bromomethane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
2-Butanone	ND	10		µg/L	1	7/31/2009 8:42:18 PM
Carbon disulfide	ND	10		µg/L	1	7/31/2009 8:42:18 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Chlorobenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Chloroethane	ND	2.0		µg/L	1	7/31/2009 8:42:18 PM
Chloroform	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Chloromethane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
2-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
4-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
cis-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/31/2009 8:42:18 PM
Dibromochloromethane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Dibromomethane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/31/2009 8:42:18 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
2-Hexanone	ND	10		µg/L	1	7/31/2009 8:42:18 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: *04-Aug-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	OW-30
Lab Order:	0907576	**Collection Date:**	7/30/2009 9:28:00 AM
Project:	2009 Annual Well Samples	**Date Received:**	7/31/2009
Lab ID:	0907576-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
Isopropylbenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/31/2009 8:42:18 PM
Methylene Chloride	ND	3.0		µg/L	1	7/31/2009 8:42:18 PM
n-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
n-Propylbenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
sec-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Styrene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
tert-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/31/2009 8:42:18 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
trans-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/31/2009 8:42:18 PM
Vinyl chloride	ND	1.0		µg/L	1	7/31/2009 8:42:18 PM
Xylenes, Total	ND	1.5		µg/L	1	7/31/2009 8:42:18 PM
Surr: 1,2-Dichloroethane-d4	108	68.1-123		%REC	1	7/31/2009 8:42:18 PM
Surr: 4-Bromofluorobenzene	93.5	53.2-145		%REC	1	7/31/2009 8:42:18 PM
Surr: Dibromofluoromethane	107	68.5-119		%REC	1	7/31/2009 8:42:18 PM
Surr: Toluene-d8	106	64-131		%REC	1	7/31/2009 8:42:18 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: *04-Aug-09*

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0907576
Project: 2009 Annual Well Samples
Lab ID: 0907576-05

Client Sample ID: OW-14
Collection Date: 7/30/2009 11:01:00 AM
Date Received: 7/31/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: HL
EPA METHOD 8260B: VOLATILES						
Benzene	74	1.0		µg/L	1	7/31/2009 9:41:32 PM
Toluene	3.3	1.0		µg/L	1	7/31/2009 9:41:32 PM
Ethylbenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Methyl tert-butyl ether (MTBE)	1300	10		µg/L	10	7/31/2009 9:12:37 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,2-Dichloroethane (EDC)	1.7	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Naphthalene	ND	2.0		µg/L	1	7/31/2009 9:41:32 PM
1-Methylnaphthalene	21	4.0		µg/L	1	7/31/2009 9:41:32 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/31/2009 9:41:32 PM
Acetone	ND	10		µg/L	1	7/31/2009 9:41:32 PM
Bromobenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Bromodichloromethane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Bromoform	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Bromomethane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
2-Butanone	ND	10		µg/L	1	7/31/2009 9:41:32 PM
Carbon disulfide	ND	10		µg/L	1	7/31/2009 9:41:32 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Chlorobenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Chloroethane	ND	2.0		µg/L	1	7/31/2009 9:41:32 PM
Chloroform	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Chloromethane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
2-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
4-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
cis-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/31/2009 9:41:32 PM
Dibromochloromethane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Dibromomethane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/31/2009 9:41:32 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
2-Hexanone	ND	10		µg/L	1	7/31/2009 9:41:32 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: *04-Aug-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	OW-14
Lab Order:	0907576	**Collection Date:**	7/30/2009 11:01:00 AM
Project:	2009 Annual Well Samples	**Date Received:**	7/31/2009
Lab ID:	0907576-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **HL**
Isopropylbenzene	3.3	1.0		µg/L	1	7/31/2009 9:41:32 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/31/2009 9:41:32 PM
Methylene Chloride	ND	3.0		µg/L	1	7/31/2009 9:41:32 PM
n-Butylbenzene	1.1	1.0		µg/L	1	7/31/2009 9:41:32 PM
n-Propylbenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
sec-Butylbenzene	2.6	1.0		µg/L	1	7/31/2009 9:41:32 PM
Styrene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
tert-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/31/2009 9:41:32 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
trans-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/31/2009 9:41:32 PM
Vinyl chloride	ND	1.0		µg/L	1	7/31/2009 9:41:32 PM
Xylenes, Total	ND	1.5		µg/L	1	7/31/2009 9:41:32 PM
Surr: 1,2-Dichloroethane-d4	114	68.1-123		%REC	1	7/31/2009 9:41:32 PM
Surr: 4-Bromofluorobenzene	116	53.2-145		%REC	1	7/31/2009 9:41:32 PM
Surr: Dibromofluoromethane	115	68.5-119		%REC	1	7/31/2009 9:41:32 PM
Surr: Toluene-d8	113	64-131		%REC	1	7/31/2009 9:41:32 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: *04-Aug-09*

CLIENT: Western Refining Southwest, Gallup
Lab Order: 0907576
Project: 2009 Annual Well Samples
Lab ID: 0907576-06

Client Sample ID: Trip Blank
Collection Date:
Date Received: 7/31/2009
Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: HL
EPA METHOD 8260B: VOLATILES						
Benzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Toluene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Ethylbenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Naphthalene	ND	2.0		µg/L	1	7/31/2009 10:10:33 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	7/31/2009 10:10:33 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	7/31/2009 10:10:33 PM
Acetone	ND	10		µg/L	1	7/31/2009 10:10:33 PM
Bromobenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Bromodichloromethane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Bromoform	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Bromomethane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
2-Butanone	ND	10		µg/L	1	7/31/2009 10:10:33 PM
Carbon disulfide	ND	10		µg/L	1	7/31/2009 10:10:33 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Chlorobenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Chloroethane	ND	2.0		µg/L	1	7/31/2009 10:10:33 PM
Chloroform	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Chloromethane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
2-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
4-Chlorotoluene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
cis-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/31/2009 10:10:33 PM
Dibromochloromethane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Dibromomethane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	7/31/2009 10:10:33 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
2-Hexanone	ND	10		µg/L	1	7/31/2009 10:10:33 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: *04-Aug-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	Trip Blank
Lab Order:	0907576	**Collection Date:**	
Project:	2009 Annual Well Samples	**Date Received:**	7/31/2009
Lab ID:	0907576-06	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HL
Isopropylbenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	7/31/2009 10:10:33 PM
Methylene Chloride	ND	3.0		µg/L	1	7/31/2009 10:10:33 PM
n-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
n-Propylbenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
sec-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Styrene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
tert-Butylbenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/31/2009 10:10:33 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
trans-1,2-DCE	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/31/2009 10:10:33 PM
Vinyl chloride	ND	1.0		µg/L	1	7/31/2009 10:10:33 PM
Xylenes, Total	ND	1.5		µg/L	1	7/31/2009 10:10:33 PM
Surr: 1,2-Dichloroethane-d4	111	68.1-123		%REC	1	7/31/2009 10:10:33 PM
Surr: 4-Bromofluorobenzene	98.0	53.2-145		%REC	1	7/31/2009 10:10:33 PM
Surr: Dibromofluoromethane	108	68.5-119		%REC	1	7/31/2009 10:10:33 PM
Surr: Toluene-d8	113	64-131		%REC	1	7/31/2009 10:10:33 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.

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: 2009 Annual Well Samples
Work Order: 0907576

Method: EPA Method 8260B: VOLATILES

Sample ID: 0907576-01a MSD — *MSD* — Batch ID: R34748 — Analysis Date: 7/31/2009 6:45:10 PM

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19.92	µg/L	1.0	99.6	84.9	122	4.01	15	
Toluene	19.00	µg/L	1.0	95.0	80.3	114	1.07	15	
Chlorobenzene	18.17	µg/L	1.0	90.8	71.9	134	2.33	15	
1,1-Dichloroethene	21.08	µg/L	1.0	105	88	144	2.91	17.8	
Trichloroethene (TCE)	18.80	µg/L	1.0	94.0	87.1	114	0.330	19.8	

Sample ID: 5ml rb — *MBLK* — Batch ID: R34748 — Analysis Date: 7/31/2009 10:52:41 AM

Analyte	Result	Units	PQL
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

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: 2009 Annual Well Samples **Work Order:** 0907576

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 5ml rb		*MBLK*			Batch ID:	**R34748**	Analysis Date:	7/31/2009 10:52:41 AM	
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: b5		*MBLK*			Batch ID:	**R34748**	Analysis Date:	8/1/2009 12:36:25 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						

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 Well Samples
Work Order: 0907576

Method: EPA Method 8260B: VOLATILES
Sample ID: b5 *MBLK*
Batch ID: R34748 Analysis Date: 8/1/2009 12:36:25 AM

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

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 Well Samples
Work Order: 0907576

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: b5		*MBLK*			Batch ID:	**R34748**	Analysis Date:	8/1/2009 12:36:25 AM	
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: b9		*MBLK*			Batch ID:	**R34748**	Analysis Date:	8/1/2009 1:36:54 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						
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						

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 Well Samples
Work Order: 0907576

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: b9		*MBLK*			Batch ID: **R34748**		Analysis Date:	8/1/2009 1:36:54 PM	
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_b		*LCS*			Batch ID: **R34748**		Analysis Date:	7/31/2009 1:26:36 PM	
Benzene	19.44	µg/L	1.0	97.2	76.7	114			
Toluene	18.75	µg/L	1.0	93.8	78.4	117			
Chlorobenzene	18.33	µg/L	1.0	91.7	80.7	127			
1,1-Dichloroethene	20.96	µg/L	1.0	105	80.2	128			
Trichloroethene (TCE)	18.65	µg/L	1.0	93.3	77.4	115			
Sample ID: 100ng lcs_c		*LCS*			Batch ID: **R34748**		Analysis Date:	8/1/2009 2:31:47 AM	
Benzene	20.55	µg/L	1.0	103	76.7	114			
Toluene	18.44	µg/L	1.0	91.4	78.4	117			
Chlorobenzene	18.29	µg/L	1.0	91.5	80.7	127			
1,1-Dichloroethene	22.54	µg/L	1.0	113	80.2	128			
Trichloroethene (TCE)	18.65	µg/L	1.0	93.3	77.4	115			
Sample ID: 0907576-01a MS		*MS*			Batch ID: **R34748**		Analysis Date:	7/31/2009 6:16:17 PM	
Benzene	20.74	µg/L	1.0	104	84.9	122			
Toluene	18.80	µg/L	1.0	94.0	80.3	114			
Chlorobenzene	18.60	µg/L	1.0	93.0	71.9	134			

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 Well Samples

Work Order: 0907576

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 0907576-01a MS		*MS*			Batch ID:	**R34748**	Analysis Date:	7/31/2009 6:16:17 PM	
1,1-Dichloroethene	21.70	µg/L	1.0	109	88	144			
Trichloroethene (TCE)	18.74	µg/L	1.0	93.7	87.1	114			

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: **7/31/2009**

Work Order Number **0907576**

Received by: TLS

Sample ID labels checked by: TJ (Initials)

Checklist completed by: _____ (Signature) 7/31/09 (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?	**1.1°**	*<6° C Acceptable* If given sufficient time to cool.		

Number of preserved bottles checked for pH: _____

<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)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 2009 Annual Well Samples
Project #: 2009 OW Sampling
Project Manager: G. Rajen
Sampler: Cheryl Johnson
On Ice: ☒ Yes ☐ No
Sample Temperature: 4

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. 0907576	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or
7/28/09	1215	H2O	OW-13	3-40ml	HCl	1										X					
7/29/09	0945		OW-12	3-40ml	HCl	2										X					
7/29/09	1444		OW-29	3-40ml	HCl	3										X					
7/30/09	0928		OW-30	3-40ml	HCl	4										X					
7/30/09	1101		OW-14	3-40ml	HCl	5										X					
			Trip Blank			6															

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/30/09	1159			7/31/09	1123
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.