

GRCC  
May MTBE Results**Monzeglio, Hope, NMENV**

**From:** Rajen, Gaurav [Gaurav.Rajen@wnr.com]  
**Sent:** Thursday, August 13, 2009 7:57 AM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Riege, Ed  
**Subject:** May reports for MTBE in OW wells  
**Attachments:** TABLE 1.doc; 2nd qtr-2009 Ow29 30 13.pdf; 2nd qtr OW 14.pdf; Feb 23-25, 2009.pdf; Explanatory figure.ppt

Dear Hope:

Could the attached laboratory reports be the ones you are asking for? I do not work on Wednesdays, so am sorry for this delayed response.

Many thanks,

Raj

---

**From:** Rajen, Gaurav  
**Sent:** Thursday, June 04, 2009 12:07 PM  
**To:** 'Monzeglio, Hope, NMENV'; Cobrain, Dave, NMENV  
**Cc:** Riege, Ed; Turri, Mark  
**Subject:** In relation to the installation of two new monitoring wells at the Gallup Refinery

Dear Hope:

It is a pleasure to write to you in relation to the letter from John Kieling of May 28, 2009, requiring us to install two new monitoring wells, north and west of existing wells OW-29 and OW-30.

We understand that your concern is that a plume of MTBE contamination may have passed by wells OW-29 and OW-30. As you will see in our attached table and explanatory graphic, the levels in existing wells OW-14, OW-29, OW-30, and OW-13 are fluctuating. In some wells, the levels have gone up then down and then up again. The depth to groundwater has also fluctuated in this area as the table below shows. This may have played a role in the MTBE levels fluctuating anomalously. As we are monitoring the OW-13, OW-14, OW-29 and OW-30 wells now every quarter, we should be able to establish the role of the fluctuating groundwater table if any.

Well #	Date	Depth to water	Date	Depth to water
OW-13	8/18/2008	24.41	2/24/2009	23.93
OW-14	8/21/2008	27.13	2/23/2009	26.73
OW-29	8/19/2008	21.95	2/25/2009	21.43
OW-30	8/20/2008	26.34	2/23/2009	28.87

We would like to request that we continue sampling and monitoring for two more quarters – i.e. till the end of 2009 - before we decide on whether new monitoring wells are needed. As we have recovery wells up-gradient of the wells in question, there is a possibility that the plume may have reversed course, which is why we see levels going down and then up again. If OW-29 levels continue to go up, then we will know with greater certainty that the plume has passed by the existing monitoring wells.

We would also like to review options of remediating the low levels of MTBE we see in this area – by aeration of the groundwater, or by phytoremediation using deep-rooted trees, techniques that have been proven effective at other MTBE in groundwater sites. If we decide to remediate the groundwater, the new wells we establish may have designs that are different from simple monitoring wells.

We hope you will consider our request with due consideration. We look forward to your response.

Sincerely

8/13/2009

Gaurav Rajen

---

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.

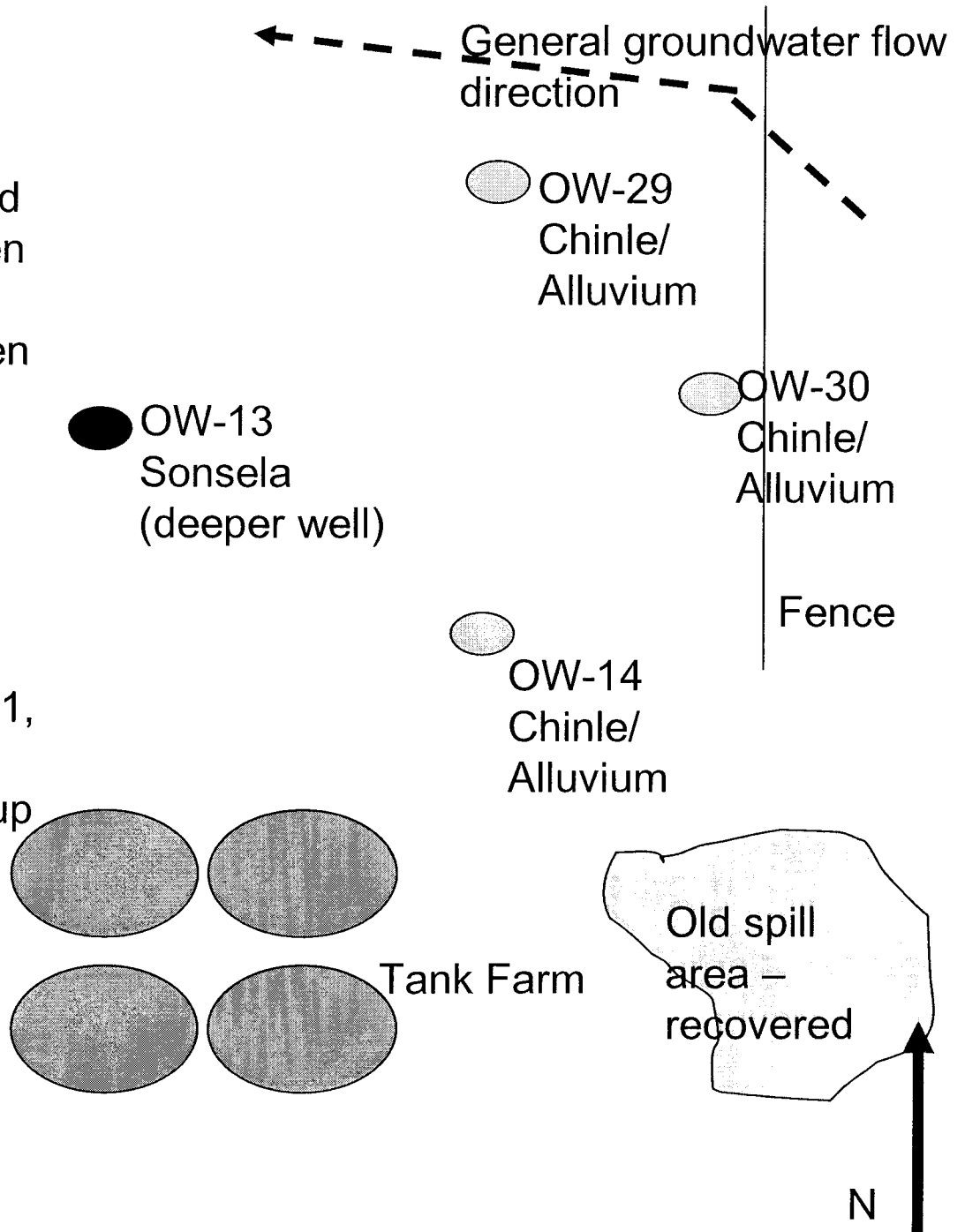
	Year	Date Sampled	Benzene	Toluene	Ethylbenzene	Xylene	1,2,4 Trimethylbenzene	MTBE
<b>OW#13</b> **	2009	5/14/2009	<0.001	<0.001	<0.001	<0.002	<0.001	<0.0025
	2009	2/25/2009	<0.001	<0.001	<0.001	<0.002	<0.001	<0.0025
	2008	11/13/08	<0.001	<0.001	<0.001	<0.0015		0.0016
	2008	8/19/08	<0.001	<0.001	<0.001	<0.0015		<0.001
	2007	12-27-2007	<0.001	<0.001	<0.001	<0.0015		0.0013
	2006	10-27-2006	<0.001	<0.001	<0.001	<0.001		<0.0025
<b>OW#14</b> *	2009	5/12/2009	0.11	0.029	0.049	<0.002	0.0016	0.97
	2009	2/23/2009	0.013	0.0014	0.0055	<0.002	0.0014	1.0
	2008	11/12/08	0.0082	<0.001	<0.001	<0.002		0.91
	2008	8/21/08	.0035	<0.001	<0.001	<0.0015		1.3
	2007	1-1-2008	0.014	<0.001	<0.001	<0.0015		0.92
	2006	12-28-2006	0.0042	<0.001	0.0025	<0.003		0.18
	2006	10-27-2006	0.0034	<0.001	<0.001	<0.003		0.016
	2005	9-27-2005	0.017	0.0022	0.0023	0.0014		0.077
<b>OW#29</b> **	2009	5/14/2009	<0.001	<0.001	<0.001	<0.002	<0.001	0.041
	2009	2/24/2009	<0.001	<0.001	<0.001	<0.002	<0.001	0.021
	2008	11/14/08	<0.001	<0.001	<0.001	<0.0015		0.015
	2008	8/19/08	<0.001	<0.001	<0.001	<0.0015		.0092
	2007	12-28-2007	<0.001	<0.001	<0.001	<0.0015		0.0043
	2006	10-27-2006	<0.001	<0.001	<0.001	<0.003		<0.0025
	2005	9-27-2005	<0.001	<0.001	<0.001	<0.0005		<0.0025
<b>OW#30</b> *	2009	5/13/2009	<0.001	<0.001	<0.001	<0.002	<0.001	1.1
	2009	2/23/2009	<0.001	<0.001	<0.001	<0.002	<0.001	1.0
	2008	11/12/08	<0.001	<0.001	<0.001	<0.002		0.88
	2008	8/20/08	<0.001	<0.001	<0.001	<0.0015		1.1
	2007	12-28-2007	<0.001	<0.001	<0.001	<0.0015		0.29
	2006	10-27-2006	<0.001	<0.001	<0.001	<0.003		<0.0025
	2005	9-27-2005	<0.001	<0.001	<0.001	<0.0005		0.018
<b>EPA MCLS</b>			<b>0.005</b>	<b>1.0</b>	<b>0.7</b>	<b>10.0</b>		
<b>Residential Risk Based Screen Levels for Tap Water (12ug/L)</b>			<b>0.01</b>	<b>0.75</b>	<b>0.75</b>	<b>0.62</b>		<b>0.012 (Residential tap water Std.)</b>

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

\*\* Method EPA 8260B Volatiles used for Fourth Quarter Analysis.

Benzene is only found in OW-14; recently, Toluene, Ethylbenzene, and 1,2,4 Trimethylbenzene found at trace levels in OW-14 (last seen in 2005). In last five years, Benzene went up, then down, then up in OW-14 ( 0.017, 0.0034, 0.0042, 0.014, 0,.0035, 0.0082, 0.013, 0.11 ppm).

In last four quarters, respectively, MTBE went up, then down, then up, then down in OW-14 (1.3, 0.91, 1.0, 0.97 ppm) and OW-30 (1.1, 0.88, 1.0, 1.1 ppm). MTBE went up in OW-29 (0.0092, 0.015, 0.021, 0.041 ppm). Similarly, MTBE fluctuated in OW-13 (<0.001, 0.0016, <0.0025, <0.0025 ppm).





## COVER LETTER

Wednesday, June 03, 2009

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

TEL: (505) 722-3833

FAX (505) 722-0210

RE: 2009 2nd QTR OW-Well

Dear Gaurav Rajen:

Order No.: 0905336

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 5/19/2009 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425

AZ license # AZ0682

ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



# Hall Environmental Analysis Laboratory, Inc.

Date: 03-Jun-09

**CLIENT:** Western Refining Southwest, Gallup  
**Project:** 2009 2nd QTR OW-Well

**Lab Order:** 0905336

**Lab ID:** 0905336-01  
**Client Sample ID:** OW-30

**Collection Date:** 5/13/2009 3:05:00 PM  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: DAM
<b>EPA METHOD 8021B: VOLATILES</b>						
Benzene	ND	1.0		µg/L	1	5/22/2009 1:39:31 AM
Toluene	ND	1.0		µg/L	1	5/22/2009 1:39:31 AM
Ethylbenzene	ND	1.0		µg/L	1	5/22/2009 1:39:31 AM
Xylenes, Total	ND	2.0		µg/L	1	5/22/2009 1:39:31 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2009 1:39:31 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2009 1:39:31 AM
Surr: 4-Bromofluorobenzene	80.1	65.9-130		%REC	1	5/22/2009 1:39:31 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: HL
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>						
Methyl tert-butyl ether (MTBE)	1100	50		µg/L	50	5/26/2009 5:28:15 PM
Surr: 4-Bromofluorobenzene	104	80.4-119		%REC	50	5/26/2009 5:28:15 PM

**Lab ID:** 0905336-02  
**Client Sample ID:** OW-29

**Collection Date:** 5/14/2009 11:06:00 AM  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: DAM
<b>EPA METHOD 8021B: VOLATILES</b>						
Methyl tert-butyl ether (MTBE)	41	2.5		µg/L	1	5/22/2009 2:09:59 AM
Benzene	ND	1.0		µg/L	1	5/22/2009 2:09:59 AM
Toluene	ND	1.0		µg/L	1	5/22/2009 2:09:59 AM
Ethylbenzene	ND	1.0		µg/L	1	5/22/2009 2:09:59 AM
Xylenes, Total	ND	2.0		µg/L	1	5/22/2009 2:09:59 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2009 2:09:59 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2009 2:09:59 AM
Surr: 4-Bromofluorobenzene	72.6	65.9-130		%REC	1	5/22/2009 2:09:59 AM

**Lab ID:** 0905336-03  
**Client Sample ID:** OW-13

**Collection Date:** 5/14/2009 3:22:00 PM  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: NSB
<b>EPA METHOD 8021B: VOLATILES</b>						
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	5/22/2009 10:44:10 PM
Benzene	ND	1.0		µg/L	1	5/22/2009 10:44:10 PM
Toluene	ND	1.0		µg/L	1	5/22/2009 10:44:10 PM
Ethylbenzene	ND	1.0		µg/L	1	5/22/2009 10:44:10 PM
Xylenes, Total	ND	2.0		µg/L	1	5/22/2009 10:44:10 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2009 10:44:10 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/22/2009 10:44:10 PM
Surr: 4-Bromofluorobenzene	85.0	65.9-130		%REC	1	5/22/2009 10:44:10 PM

**Qualifiers:**

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

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

## QA/QC SUMMARY REPORT

**Client:** Western Refining Southwest, Gallup  
**Project:** 2009 2nd QTR OW-Well

**Work Order:** 0905336

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

**Method:** EPA Method 8021B: Volatiles

**Sample ID:** 5ML RB **Batch ID:** R33777 **Analysis Date:** 5/21/2009 9:22:24 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 **Batch ID:** R33820 **Analysis Date:** 5/22/2009 10:02:47 AM

Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5
Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	2.0
1,2,4-Trimethylbenzene	ND	µg/L	1.0
1,3,5-Trimethylbenzene	ND	µg/L	1.0

**Sample ID:** 100NG BTEX LCS **Batch ID:** R33777 **Analysis Date:** 5/22/2009 6:13:09 AM

Methyl tert-butyl ether (MTBE)	23.53	µg/L	2.5	58.8	51.2	138
Benzene	21.86	µg/L	1.0	109	85.9	113
Toluene	22.53	µg/L	1.0	113	86.4	113
Ethylbenzene	21.99	µg/L	1.0	110	83.5	118
Xylenes, Total	62.02	µg/L	2.0	103	83.4	122
1,2,4-Trimethylbenzene	21.04	µg/L	1.0	104	83.5	115
1,3,5-Trimethylbenzene	20.22	µg/L	1.0	100	85.2	113

**Sample ID:** 100NG BTEX LCS **Batch ID:** R33820 **Analysis Date:** 5/22/2009 6:39:59 PM

Methyl tert-butyl ether (MTBE)	24.85	µg/L	2.5	62.1	51.2	138
Benzene	21.70	µg/L	1.0	108	85.9	113
Toluene	22.22	µg/L	1.0	111	86.4	113
Ethylbenzene	22.31	µg/L	1.0	112	83.5	118
Xylenes, Total	64.10	µg/L	2.0	107	83.4	122
1,2,4-Trimethylbenzene	23.13	µg/L	1.0	116	83.5	115
1,3,5-Trimethylbenzene	21.79	µg/L	1.0	109	85.2	113

**Sample ID:** 100NG BTEX LCSD **Batch ID:** R33820 **Analysis Date:** 5/22/2009 7:10:32 PM

Methyl tert-butyl ether (MTBE)	23.56	µg/L	2.5	58.9	51.2	138	5.33	28
Benzene	20.62	µg/L	1.0	103	85.9	113	5.07	27
Toluene	20.79	µg/L	1.0	104	86.4	113	6.67	19
Ethylbenzene	20.90	µg/L	1.0	104	83.5	118	6.56	10
Xylenes, Total	59.42	µg/L	2.0	99.0	83.4	122	7.57	13
1,2,4-Trimethylbenzene	21.06	µg/L	1.0	105	83.5	115	9.37	21
1,3,5-Trimethylbenzene	20.20	µg/L	1.0	101	85.2	113	7.60	10

**Method:** EPA Method 8260: Volatiles Short List

**Sample ID:** 5ml rb **Batch ID:** R33844 **Analysis Date:** 5/26/2009 8:43:52 AM

Methyl tert-butyl ether (MTBE)	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    |

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name WESTERN REFINING GALEU

Date Received: 5/19/2009

Work Order Number 0905336

Received by: ARS

Checklist completed by: [Signature]  
Signature

5/19/09  
Date

Sample ID labels checked by: TS  
Initials

Matrix:

Carrier name: FedEx

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present  Not Shipped
- Custody seals intact on sample bottles? Yes  No  N/A
- Chain of custody present? Yes  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? 13.2° <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 2nd OTR OW-Well  
 Project #:  
 Project Manager:  
G. Rajen  
 Sampler: C. Johnson  
 Date: 5/19/09  
 Sample temperature: 32



## 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	FE# 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 <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)	
5-13-09	1505	H <sub>2</sub> O	OW-30	3VOA	HCl	0905336	X												
5-14-09	1106	/	OW-29	/	/														
5-14-09	1522	/	OW-13	/	/														

Date: 05-18-09 Time: 1000 Relinquished by: [Signature]  
 Received by: [Signature] Date: 5/19/09 Time: 9:00

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 noted on the analytical report.



## COVER LETTER

Wednesday, June 03, 2009

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

TEL: (505) 722-3833

FAX (505) 722-0210

RE: 2009 2nd QTR OW-Wells

Order No.: 0905242

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 5/14/2009 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425

AZ license # AZ0682

ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



# Hall Environmental Analysis Laboratory, Inc.

Date: 03-Jun-09

CLIENT: Western Refining Southwest, Gallup  
 Lab Order: 0905242  
 Project: 2009 2nd QTR OW-Wells  
 Lab ID: 0905242-01

Client Sample ID: OW-14  
 Collection Date: 5/12/2009 11:12:00 AM  
 Date Received: 5/14/2009  
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	110	10		µg/L	10	5/22/2009 4:38:11 PM
Toluene	2.9	1.0		µg/L	1	5/21/2009 11:37:59 PM
Ethylbenzene	4.9	1.0		µg/L	1	5/21/2009 11:37:59 PM
Xylenes, Total	ND	2.0		µg/L	1	5/21/2009 11:37:59 PM
1,2,4-Trimethylbenzene	1.6	1.0		µg/L	1	5/21/2009 11:37:59 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/21/2009 11:37:59 PM
Surr: 4-Bromofluorobenzene	97.3	65.9-130		%REC	1	5/21/2009 11:37:59 PM
<b>EPA METHOD 8260: VOLATILES SHORT LIST</b>						Analyst: HL
Methyl tert-butyl ether (MTBE)	970	50		µg/L	50	5/26/2009 12:08:21 PM
Surr: 4-Bromofluorobenzene	117	80.4-119		%REC	50	5/26/2009 12:08:21 PM

**Qualifiers:**

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

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

## QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup  
 Project: 2009 2nd QTR OW-Wells

Work Order: 0905242

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
<b>Method: EPA Method 8021B: Volatiles</b>									
<b>Sample ID: 5ML RB</b>		<i>MBLK</i>			Batch ID: <b>R33777</b>		Analysis Date: <b>5/21/2009 9:22:24 AM</b>		
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						
<b>Sample ID: 5ML RB</b>		<i>MBLK</i>			Batch ID: <b>R33820</b>		Analysis Date: <b>5/22/2009 10:02:47 AM</b>		
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						
<b>Sample ID: 100NG BTEX LCS</b>		<i>LCS</i>			Batch ID: <b>R33777</b>		Analysis Date: <b>5/22/2009 6:13:09 AM</b>		
Benzene	21.86	µg/L	1.0	109	85.9	113			
Toluene	22.53	µg/L	1.0	113	86.4	113			
Ethylbenzene	21.99	µg/L	1.0	110	83.5	118			
Xylenes, Total	62.02	µg/L	2.0	103	83.4	122			
1,2,4-Trimethylbenzene	21.04	µg/L	1.0	104	83.5	115			
1,3,5-Trimethylbenzene	20.22	µg/L	1.0	100	85.2	113			
<b>Sample ID: 100NG BTEX LCS</b>		<i>LCS</i>			Batch ID: <b>R33820</b>		Analysis Date: <b>5/22/2009 6:39:59 PM</b>		
Benzene	21.70	µg/L	1.0	108	85.9	113			
Toluene	22.22	µg/L	1.0	111	86.4	113			
Ethylbenzene	22.31	µg/L	1.0	112	83.5	118			
Xylenes, Total	64.10	µg/L	2.0	107	83.4	122			
1,2,4-Trimethylbenzene	23.13	µg/L	1.0	116	83.5	115			S
1,3,5-Trimethylbenzene	21.79	µg/L	1.0	109	85.2	113			
<b>Sample ID: 100NG BTEX LCSD</b>		<i>LCSD</i>			Batch ID: <b>R33820</b>		Analysis Date: <b>5/22/2009 7:10:32 PM</b>		
Benzene	20.62	µg/L	1.0	103	85.9	113	5.07	27	
Toluene	20.79	µg/L	1.0	104	86.4	113	6.67	19	
Ethylbenzene	20.90	µg/L	1.0	104	83.5	118	6.56	10	
Xylenes, Total	59.42	µg/L	2.0	99.0	83.4	122	7.57	13	
1,2,4-Trimethylbenzene	21.06	µg/L	1.0	105	83.5	115	9.37	21	
1,3,5-Trimethylbenzene	20.20	µg/L	1.0	101	85.2	113	7.60	10	

Method: EPA Method 8260: Volatiles Short List

Sample ID: 5ml rb

*MBLK*Batch ID: **R33844**Analysis Date: **5/26/2009 8:43:52 AM**

Methyl tert-butyl ether (MTBE) 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

# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name WESTERN REFINING GALLU

Date Received:

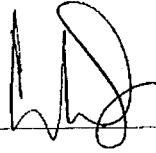
5/14/2009

Work Order Number 0905242

Received by: ARS

Checklist completed by: \_\_\_\_\_

Signature



5/14/09

Date

Sample ID labels checked by: \_\_\_\_\_

Initials

TS

Matrix:

Carrier name: UPS

- |   |   |   |   |   |
|---|---|---|---|---|
| Shipping container/cooler in good condition?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                           | Not Present <input type="checkbox"/>    |   |
| Custody seals intact on shipping container/cooler?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                           | Not Present <input type="checkbox"/>    | Not Shipped <input type="checkbox"/>  |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>            | No <input type="checkbox"/>                           | N/A <input checked="" type="checkbox"/> |   |
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                           |   |   |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                           |   |   |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                           |   |   |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                           |   |   |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                           |   |   |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                           |   |   |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                           |   |   |
| Water - VOA vials have zero headspace?                  | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/>                | No <input type="checkbox"/>             | Number of preserved bottles checked for pH: _____<br><br><2 >12 unless noted below. |
| Water - Preservation labels on bottle and cap match?    | Yes <input type="checkbox"/>            | No <input type="checkbox"/>                           | N/A <input checked="" type="checkbox"/> |   |
| Water - pH acceptable upon receipt?                     | Yes <input type="checkbox"/>            | No <input type="checkbox"/>                           | N/A <input checked="" type="checkbox"/> |   |
| Container/Temp Blank temperature?                       | 2.0°                                    | <6° C Acceptable<br>If given sufficient time to cool. |   |   |

COMMENTS:

-----

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Corrective Action \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

