

AP-111

BINDER 2

5 of 5

**Annual Ground Water Monitoring Report:
Gallup Refinery – 2012**



Western Refining

Gallup, New Mexico

April 17, 2012

Appendix K



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

December 14, 2012

Cheryl Johnson

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL: (505) 722-0231

FAX (505) 722-0210

RE: 4th QTR 2012 Groundwater Sampling

OrderNo.: 1212233

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/5/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1212233

Date Reported: 12/14/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Infl to AL-2

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 9:55:00 AM

Lab ID: 1212233-001

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Acenaphthylene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Aniline	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Anthracene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Azobenzene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Benz(a)anthracene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Benzo(a)pyrene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Benzo(b)fluoranthene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Benzo(g,h,i)perylene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Benzo(k)fluoranthene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Benzoic acid	ND	100		µg/L	1	12/7/2012 6:14:58 PM
Benzyl alcohol	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Bis(2-chloroethoxy)methane	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Bis(2-chloroethyl)ether	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Bis(2-chloroisopropyl)ether	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Bis(2-ethylhexyl)phthalate	ND	50		µg/L	1	12/7/2012 6:14:58 PM
4-Bromophenyl phenyl ether	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Butyl benzyl phthalate	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Carbazole	ND	50		µg/L	1	12/7/2012 6:14:58 PM
4-Chloro-3-methylphenol	ND	50		µg/L	1	12/7/2012 6:14:58 PM
4-Chloroaniline	ND	50		µg/L	1	12/7/2012 6:14:58 PM
2-Chloronaphthalene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
2-Chlorophenol	ND	50		µg/L	1	12/7/2012 6:14:58 PM
4-Chlorophenyl phenyl ether	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Chrysene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Di-n-butyl phthalate	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Di-n-octyl phthalate	ND	100		µg/L	1	12/7/2012 6:14:58 PM
Dibenz(a,h)anthracene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Dibenzofuran	ND	50		µg/L	1	12/7/2012 6:14:58 PM
1,2-Dichlorobenzene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
1,3-Dichlorobenzene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
1,4-Dichlorobenzene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
3,3'-Dichlorobenzidine	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Diethyl phthalate	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Dimethyl phthalate	ND	50		µg/L	1	12/7/2012 6:14:58 PM
2,4-Dichlorophenol	ND	100		µg/L	1	12/7/2012 6:14:58 PM
2,4-Dimethylphenol	ND	50		µg/L	1	12/7/2012 6:14:58 PM
4,6-Dinitro-2-methylphenol	ND	100		µg/L	1	12/7/2012 6:14:58 PM
2,4-Dinitrophenol	ND	100		µg/L	1	12/7/2012 6:14:58 PM
2,4-Dinitrotoluene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
2,6-Dinitrotoluene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Fluoranthene	ND	50		µg/L	1	12/7/2012 6:14:58 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1212233

Date Reported: 12/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Infl to AL-2

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 9:55:00 AM

Lab ID: 1212233-001

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Fluorene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Hexachlorobenzene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Hexachlorobutadiene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Hexachlorocyclopentadiene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Hexachloroethane	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Indeno(1,2,3-cd)pyrene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Isophorone	ND	50		µg/L	1	12/7/2012 6:14:58 PM
1-Methylnaphthalene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
2-Methylnaphthalene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
2-Methylphenol	ND	50		µg/L	1	12/7/2012 6:14:58 PM
3+4-Methylphenol	ND	50		µg/L	1	12/7/2012 6:14:58 PM
N-Nitrosodi-n-propylamine	ND	50		µg/L	1	12/7/2012 6:14:58 PM
N-Nitrosodimethylamine	ND	50		µg/L	1	12/7/2012 6:14:58 PM
N-Nitrosodiphenylamine	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Naphthalene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
2-Nitroaniline	ND	50		µg/L	1	12/7/2012 6:14:58 PM
3-Nitroaniline	ND	50		µg/L	1	12/7/2012 6:14:58 PM
4-Nitroaniline	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Nitrobenzene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
2-Nitrophenol	ND	50		µg/L	1	12/7/2012 6:14:58 PM
4-Nitrophenol	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Pentachlorophenol	ND	100		µg/L	1	12/7/2012 6:14:58 PM
Phenanthrene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Phenol	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Pyrene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Pyridine	ND	50		µg/L	1	12/7/2012 6:14:58 PM
1,2,4-Trichlorobenzene	ND	50		µg/L	1	12/7/2012 6:14:58 PM
2,4,5-Trichlorophenol	ND	50		µg/L	1	12/7/2012 6:14:58 PM
2,4,6-Trichlorophenol	ND	50		µg/L	1	12/7/2012 6:14:58 PM
Surr: 2,4,6-Tribromophenol	90.6	42.9-124		%REC	1	12/7/2012 6:14:58 PM
Surr: 2-Fluorobiphenyl	81.9	40-108		%REC	1	12/7/2012 6:14:58 PM
Surr: 2-Fluorophenol	59.4	23.6-94.8		%REC	1	12/7/2012 6:14:58 PM
Surr: 4-Terphenyl-d14	69.0	41.9-103		%REC	1	12/7/2012 6:14:58 PM
Surr: Nitrobenzene-d5	81.1	42.6-114		%REC	1	12/7/2012 6:14:58 PM
Surr: Phenol-d5	38.0	20.3-74.7		%REC	1	12/7/2012 6:14:58 PM

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1212233

Date Reported: 12/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Infl to EP-1

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 10:11:00 AM

Lab ID: 1212233-002

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Acenaphthylene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Aniline	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Anthracene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Azobenzene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Benz(a)anthracene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Benzo(a)pyrene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Benzo(b)fluoranthene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Benzo(g,h,i)perylene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Benzo(k)fluoranthene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Benzoic acid	ND	100		µg/L	1	12/7/2012 6:45:25 PM
Benzyl alcohol	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Bis(2-chloroethoxy)methane	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Bis(2-chloroethyl)ether	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Bis(2-chloroisopropyl)ether	ND	50		µg/L	1	12/7/2012 6:45:25 PM
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4-Bromophenyl phenyl ether	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Butyl benzyl phthalate	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Carbazole	ND	50		µg/L	1	12/7/2012 6:45:25 PM
4-Chloro-3-methylphenol	ND	50		µg/L	1	12/7/2012 6:45:25 PM
4-Chloroaniline	ND	50		µg/L	1	12/7/2012 6:45:25 PM
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2-Chlorophenol	ND	50		µg/L	1	12/7/2012 6:45:25 PM
4-Chlorophenyl phenyl ether	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Chrysene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
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Dibenz(a,h)anthracene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Dibenzofuran	ND	50		µg/L	1	12/7/2012 6:45:25 PM
1,2-Dichlorobenzene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
1,3-Dichlorobenzene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
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2,4-Dinitrophenol	ND	100		µg/L	1	12/7/2012 6:45:25 PM
2,4-Dinitrotoluene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
2,6-Dinitrotoluene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Fluoranthene	ND	50		µg/L	1	12/7/2012 6:45:25 PM

Qualifiers:

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- E Value above quantitation range
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- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1212233

Date Reported: 12/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Infl to EP-1

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 10:11:00 AM

Lab ID: 1212233-002

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Hexachlorobenzene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Hexachlorobutadiene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Hexachlorocyclopentadiene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Hexachloroethane	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Indeno(1,2,3-cd)pyrene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Isophorone	ND	50		µg/L	1	12/7/2012 6:45:25 PM
1-Methylnaphthalene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
2-Methylnaphthalene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
2-Methylphenol	ND	50		µg/L	1	12/7/2012 6:45:25 PM
3+4-Methylphenol	ND	50		µg/L	1	12/7/2012 6:45:25 PM
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N-Nitrosodimethylamine	ND	50		µg/L	1	12/7/2012 6:45:25 PM
N-Nitrosodiphenylamine	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Naphthalene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
2-Nitroaniline	ND	50		µg/L	1	12/7/2012 6:45:25 PM
3-Nitroaniline	ND	50		µg/L	1	12/7/2012 6:45:25 PM
4-Nitroaniline	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Nitrobenzene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
2-Nitrophenol	ND	50		µg/L	1	12/7/2012 6:45:25 PM
4-Nitrophenol	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Pentachlorophenol	ND	100		µg/L	1	12/7/2012 6:45:25 PM
Phenanthrene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Phenol	62	50		µg/L	1	12/7/2012 6:45:25 PM
Pyrene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Pyridine	ND	50		µg/L	1	12/7/2012 6:45:25 PM
1,2,4-Trichlorobenzene	ND	50		µg/L	1	12/7/2012 6:45:25 PM
2,4,5-Trichlorophenol	ND	50		µg/L	1	12/7/2012 6:45:25 PM
2,4,6-Trichlorophenol	ND	50		µg/L	1	12/7/2012 6:45:25 PM
Surr: 2,4,6-Tribromophenol	77.0	42.9-124		%REC	1	12/7/2012 6:45:25 PM
Surr: 2-Fluorobiphenyl	66.6	40-108		%REC	1	12/7/2012 6:45:25 PM
Surr: 2-Fluorophenol	45.4	23.6-94.8		%REC	1	12/7/2012 6:45:25 PM
Surr: 4-Terphenyl-d14	66.2	41.9-103		%REC	1	12/7/2012 6:45:25 PM
Surr: Nitrobenzene-d5	69.1	42.6-114		%REC	1	12/7/2012 6:45:25 PM
Surr: Phenol-d5	35.5	20.3-74.7		%REC	1	12/7/2012 6:45:25 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1212233

Date Reported: 12/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 11:45:00 AM

Lab ID: 1212233-003

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Toluene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Ethylbenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Naphthalene	ND	2.0		µg/L	1	12/7/2012 1:36:03 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/7/2012 1:36:03 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/7/2012 1:36:03 AM
Acetone	ND	10		µg/L	1	12/7/2012 1:36:03 AM
Bromobenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Bromodichloromethane	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Bromoform	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Bromomethane	ND	3.0		µg/L	1	12/7/2012 1:36:03 AM
2-Butanone	ND	10		µg/L	1	12/7/2012 1:36:03 AM
Carbon disulfide	ND	10		µg/L	1	12/7/2012 1:36:03 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Chlorobenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Chloroethane	ND	2.0		µg/L	1	12/7/2012 1:36:03 AM
Chloroform	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Chloromethane	ND	3.0		µg/L	1	12/7/2012 1:36:03 AM
2-Chlorotoluene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
4-Chlorotoluene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
cis-1,2-DCE	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/7/2012 1:36:03 AM
Dibromochloromethane	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Dibromomethane	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	12/7/2012 1:36:03 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
2-Hexanone	ND	10		µg/L	1	12/7/2012 1:36:03 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1212233

Date Reported: 12/14/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 11:45:00 AM

Lab ID: 1212233-003

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	12/7/2012 1:36:03 AM
Methylene Chloride	ND	3.0		µg/L	1	12/7/2012 1:36:03 AM
n-Butylbenzene	ND	3.0		µg/L	1	12/7/2012 1:36:03 AM
n-Propylbenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
sec-Butylbenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Styrene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
tert-Butylbenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/7/2012 1:36:03 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
trans-1,2-DCE	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/7/2012 1:36:03 AM
Vinyl chloride	ND	1.0		µg/L	1	12/7/2012 1:36:03 AM
Xylenes, Total	ND	1.5		µg/L	1	12/7/2012 1:36:03 AM
Surr: 1,2-Dichloroethane-d4	92.2	70-130		%REC	1	12/7/2012 1:36:03 AM
Surr: 4-Bromofluorobenzene	95.9	70-130		%REC	1	12/7/2012 1:36:03 AM
Surr: Dibromofluoromethane	89.9	70-130		%REC	1	12/7/2012 1:36:03 AM
Surr: Toluene-d8	100	70-130		%REC	1	12/7/2012 1:36:03 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1212233

Date Reported: 12/14/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB-2

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 11:49:00 AM

Lab ID: 1212233-004

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Toluene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Ethylbenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Naphthalene	ND	2.0		µg/L	1	12/7/2012 2:04:18 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/7/2012 2:04:18 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/7/2012 2:04:18 AM
Acetone	ND	10		µg/L	1	12/7/2012 2:04:18 AM
Bromobenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Bromodichloromethane	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Bromoform	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Bromomethane	ND	3.0		µg/L	1	12/7/2012 2:04:18 AM
2-Butanone	ND	10		µg/L	1	12/7/2012 2:04:18 AM
Carbon disulfide	ND	10		µg/L	1	12/7/2012 2:04:18 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Chlorobenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Chloroethane	ND	2.0		µg/L	1	12/7/2012 2:04:18 AM
Chloroform	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Chloromethane	ND	3.0		µg/L	1	12/7/2012 2:04:18 AM
2-Chlorotoluene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
4-Chlorotoluene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
cis-1,2-DCE	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/7/2012 2:04:18 AM
Dibromochloromethane	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Dibromomethane	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	12/7/2012 2:04:18 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
2-Hexanone	ND	10		µg/L	1	12/7/2012 2:04:18 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.**Analytical Report**

Lab Order 1212233

Date Reported: 12/14/2012

CLIENT: Western Refining Southwest, Gallup**Client Sample ID:** EB-2**Project:** 4th QTR 2012 Groundwater Sampling**Collection Date:** 12/5/2012 11:49:00 AM**Lab ID:** 1212233-004**Matrix:** AQUEOUS**Received Date:** 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	12/7/2012 2:04:18 AM
Methylene Chloride	ND	3.0		µg/L	1	12/7/2012 2:04:18 AM
n-Butylbenzene	ND	3.0		µg/L	1	12/7/2012 2:04:18 AM
n-Propylbenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
sec-Butylbenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Styrene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
tert-Butylbenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/7/2012 2:04:18 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
trans-1,2-DCE	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/7/2012 2:04:18 AM
Vinyl chloride	ND	1.0		µg/L	1	12/7/2012 2:04:18 AM
Xylenes, Total	ND	1.5		µg/L	1	12/7/2012 2:04:18 AM
Surr: 1,2-Dichloroethane-d4	93.1	70-130		%REC	1	12/7/2012 2:04:18 AM
Surr: 4-Bromofluorobenzene	98.3	70-130		%REC	1	12/7/2012 2:04:18 AM
Surr: Dibromofluoromethane	87.4	70-130		%REC	1	12/7/2012 2:04:18 AM
Surr: Toluene-d8	97.5	70-130		%REC	1	12/7/2012 2:04:18 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212233

14-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R7320	RunNo:	7320					
Prep Date:		Analysis Date:	12/5/2012	SeqNo:	212359	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	12		10.00		117	70	130			
Surr: 4-Bromofluorobenzene	8.6		10.00		85.9	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Sample ID	100ng lcsd	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R7320	RunNo:	7320					
Prep Date:		Analysis Date:	12/5/2012	SeqNo:	212368	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.5	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.3	70	130			
Surr: Toluene-d8	9.7		10.00		96.6	70	130			

Sample ID	5ml-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R7346	RunNo:	7346					
Prep Date:		Analysis Date:	12/6/2012	SeqNo:	213165	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								

Qualifiers:

- | | |
|--|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212233

14-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ml-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R7346	RunNo:	7346					
Prep Date:		Analysis Date:	12/6/2012	SeqNo:	213165	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
Dichloropropene	ND	1.0								
1,3-Dichlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
Value above quantitation range	H	Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212233

14-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ml-rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID:	PBW	Batch ID: R7346		RunNo: 7346						
Prep Date:		Analysis Date: 12/6/2012		SeqNo: 213165		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.0	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.4	70	130			
Surr: Dibromofluoromethane	8.7		10.00		87.0	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R7346	RunNo:	7346					
Prep Date:		Analysis Date:	12/6/2012	SeqNo:	213168	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.7	70	130			
Toluene	19	1.0	20.00	0	96.2	80	120			
Chlorobenzene	19	1.0	20.00	0	93.5	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	99.1	73.7	122			
Trichloroethene (TCE)	16	1.0	20.00	0	79.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.4	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.5	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.1	70	130			
Surr: Toluene-d8	9.6		10.00		96.0	70	130			

Sample ID	5ml rb	SampType:	MBLK		TestCode:	EPA Method 8260B: VOLATILES				
Client ID:	PBW	Batch ID:	R7320		RunNo:	7320				
Prep Date:		Analysis Date:	12/5/2012		SeqNo:	214604		Units:	%REC	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	12		10.00		117	70	130			
Surr: 4-Bromofluorobenzene	8.6		10.00		85.9	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Sample ID	100ng lcsd	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R7320			RunNo: 7320					
Prep Date:		Analysis Date: 12/5/2012			SeqNo: 214605		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.5	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.3	70	130			
Surr: Toluene-d8	9.7		10.00		96.6	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212233

14-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	mb-5155	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	5155	RunNo:	7389					
Prep Date:	12/7/2012	Analysis Date:	12/7/2012	SeqNo:	214031	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
1-benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	20								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								

Qualifiers:

Value exceeds Maximum Contaminant Level.
Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212233

14-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	mb-5155	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	5155	RunNo:	7389					
Prep Date:	12/7/2012	Analysis Date:	12/7/2012	SeqNo:	214031	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2,4,6-Tribromophenol	180		200.0		90.4	42.9	124			
Surr: 2-Fluorobiphenyl	86		100.0		86.3	40	108			
Surr: 2-Fluorophenol	150		200.0		76.6	23.6	94.8			
Surr: 4-Terphenyl-d14	76		100.0		76.2	41.9	103			
Surr: Nitrobenzene-d5	92		100.0		92.3	42.6	114			
Surr: Phenol-d5	100		200.0		50.8	20.3	74.7			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212233

14-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	Ics-5155		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSW		Batch ID: 5155			RunNo: 7389				
Prep Date:	12/7/2012		Analysis Date: 12/7/2012			SeqNo: 214038		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	80	10	100.0	0	79.8	43.3	92			
4-Chloro-3-methylphenol	150	10	200.0	0	77.0	46.3	108			
2-Chlorophenol	140	10	200.0	0	70.0	38	99.3			
1,4-Dichlorobenzene	71	10	100.0	0	70.8	30.8	80.6			
2,4-Dinitrotoluene	82	10	100.0	0	82.4	46.1	117			
N-Nitrosodi-n-propylamine	75	10	100.0	0	74.7	39.3	110			
4-Nitrophenol	74	10	200.0	0	36.9	29.8	67			
Pentachlorophenol	110	20	200.0	0	55.6	32.2	95.7			
Phenol	83	10	200.0	0	41.4	27	64.8			
Pyrene	73	10	100.0	0	72.7	44.7	97.3			
1,2,4-Trichlorobenzene	72	10	100.0	0	71.6	36.6	86.7			
Surr: 2,4,6-Tribromophenol	170		200.0		86.8	42.9	124			
Surr: 2-Fluorobiphenyl	90		100.0		90.2	40	108			
Surr: 2-Fluorophenol	130		200.0		65.5	23.6	94.8			
Surr: 4-Terphenyl-d14	76		100.0		75.8	41.9	103			
Surr: Nitrobenzene-d5	87		100.0		86.7	42.6	114			
Surr: Phenol-d5	98		200.0		49.0	20.3	74.7			

Sample ID	Icsd-5155		SampType: LCSD			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSS02		Batch ID: 5155			RunNo: 7389				
Prep Date:	12/7/2012		Analysis Date: 12/7/2012			SeqNo: 214043		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	76	10	100.0	0	75.9	43.3	92	5.11	25	
4-Chloro-3-methylphenol	150	10	200.0	0	75.7	46.3	108	1.61	32.7	
2-Chlorophenol	150	10	200.0	0	76.2	38	99.3	8.54	20	
1,4-Dichlorobenzene	73	10	100.0	0	72.8	30.8	80.6	2.76	20	
2,4-Dinitrotoluene	80	10	100.0	0	80.3	46.1	117	2.56	29.9	
N-Nitrosodi-n-propylamine	78	10	100.0	0	77.7	39.3	110	3.88	23.1	
4-Nitrophenol	72	10	200.0	0	36.0	29.8	67	2.30	40.5	
Pentachlorophenol	110	20	200.0	0	54.6	32.2	95.7	1.80	37.3	
Phenol	88	10	200.0	0	43.9	27	64.8	5.79	20	
Pyrene	69	10	100.0	0	69.4	44.7	97.3	4.67	26.5	
1,2,4-Trichlorobenzene	71	10	100.0	0	71.2	36.6	86.7	0.588	27.2	
Surr: 2,4,6-Tribromophenol	190		200.0		93.4	42.9	124	0	0	
Surr: 2-Fluorobiphenyl	83		100.0		82.9	40	108	0	0	
Surr: 2-Fluorophenol	140		200.0		71.3	23.6	94.8	0	0	
Surr: 4-Terphenyl-d14	75		100.0		74.5	41.9	103	0	0	
Surr: Nitrobenzene-d5	88		100.0		88.0	42.6	114	0	0	
Surr: Phenol-d5	100		200.0		51.8	20.3	74.7	0	0	

Qualifiers:

Value exceeds Maximum Contaminant Level.

Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87105
TEL: 505-345-3975 FAX: 505-345-4101
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name:	Western Refining Gallup	Work Order Number:	1212233
Received by/date:	MG 12/05/12		
Logged By:	Anne Thorne	12/5/2012 2:05:00 PM	Anne Thorne
Completed By:	Anne Thorne	12/5/2012	Anne Thorne
Reviewed By:	IO	12/05/2012	

Chain of Custody

1. Were seals intact? Yes ☒ No ☐ Not Present ☐
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Client

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	_____	Date	_____
By Whom:	_____	Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	_____		
Client Instructions:	_____		

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Not Present			

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

[illegible]

Remarks:

Received by:

Retinquished by:

Received by: Muller Date 2/5/12 Time 1405

Received by: 

Relinquished by: 

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



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

December 20, 2012

Cheryl Johnson

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL: (505) 722-0231

FAX (505) 722-0210

RE: BZ Strip Soil Confirmation

OrderNo.: 1212159

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/3/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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".

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1212159

Date Reported: 12/20/2012

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** BZ Strip-Soil Confirmation**Project:** BZ Strip Soil Confirmation**Collection Date:** 11/30/2012 12:50:00 PM**Lab ID:** 1212159-001**Matrix:** SOIL**Received Date:** 12/3/2012 1:20:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: MMD
Diesel Range Organics (DRO)	830	200		mg/Kg	20	12/6/2012 11:40:03 AM
Surr: DNOP	0	72.4-120	S	%REC	20	12/6/2012 11:40:03 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/6/2012 1:48:10 PM
Surr: BFB	94.0	84-116		%REC	1	12/6/2012 1:48:10 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	12/6/2012 1:48:10 PM
Toluene	ND	0.048		mg/Kg	1	12/6/2012 1:48:10 PM
Ethylbenzene	ND	0.048		mg/Kg	1	12/6/2012 1:48:10 PM
Xylenes, Total	ND	0.095		mg/Kg	1	12/6/2012 1:48:10 PM
Surr: 4-Bromofluorobenzene	95.4	80-120		%REC	1	12/6/2012 1:48:10 PM
MERCURY, TCLP						Analyst: TMG
Mercury	ND	0.020		mg/L	1	12/13/2012 3:39:35 PM
EPA METHOD 6010B: TCLP METALS						Analyst: ELS
Arsenic	ND	5.0		mg/L	1	12/10/2012 10:19:34 AM
Barium	ND	100		mg/L	1	12/10/2012 10:19:34 AM
Cadmium	ND	1.0		mg/L	1	12/10/2012 10:19:34 AM
Chromium	ND	5.0		mg/L	1	12/10/2012 10:19:34 AM
Lead	ND	5.0		mg/L	1	12/10/2012 10:19:34 AM
Selenium	ND	1.0		mg/L	1	12/10/2012 10:19:34 AM
Silver	ND	5.0		mg/L	1	12/10/2012 10:19:34 AM
VOLATILES BY 8260B/1311						Analyst: RAA
Benzene	ND	0.50		mg/L	1	12/14/2012 5:48:57 AM
2-Butanone	ND	10		mg/L	1	12/14/2012 5:48:57 AM
Carbon Tetrachloride	ND	0.50		mg/L	1	12/14/2012 5:48:57 AM
Chlorobenzene	ND	100		mg/L	1	12/14/2012 5:48:57 AM
Chloroform	ND	6.0		mg/L	1	12/14/2012 5:48:57 AM
1,4-Dichlorobenzene	ND	7.5		mg/L	1	12/14/2012 5:48:57 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/L	1	12/14/2012 5:48:57 AM
1,1-Dichloroethene	ND	0.70		mg/L	1	12/14/2012 5:48:57 AM
Hexachlorobutadiene	ND	0.50		mg/L	1	12/14/2012 5:48:57 AM
Tetrachloroethene (PCE)	ND	0.70		mg/L	1	12/14/2012 5:48:57 AM
Trichloroethene (TCE)	ND	0.50		mg/L	1	12/14/2012 5:48:57 AM
Vinyl chloride	ND	0.20		mg/L	1	12/14/2012 5:48:57 AM
Surr: 1,2-Dichloroethane-d4	89.4	69.9-130		%REC	1	12/14/2012 5:48:57 AM
Surr: 4-Bromofluorobenzene	102	71.2-123		%REC	1	12/14/2012 5:48:57 AM
Surr: Dibromofluoromethane	85.9	73.9-134		%REC	1	12/14/2012 5:48:57 AM
Surr: Toluene-d8	96.0	81.9-122		%REC	1	12/14/2012 5:48:57 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

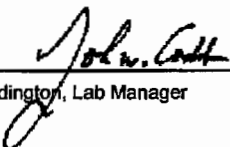
Batch #: 121206040
Project Name: 1212159

Analytical Results Report

Sample Number 121206040-001 **Sampling Date** 11/30/2012 **Date/Time Received** 12/6/2012 10:45 AM
Client Sample ID 1212159-001C / BZ STRIP-SOIL CONFIRMATION **Sampling Time** 12:50 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide (reactive)	0.378	mg/Kg	0.3	12/12/2012	CRW	SW846 CH7	
Ignitability	Negative			12/7/2012	JWC	EPA 1030	
pH	8.19	ph Units		12/7/2012	ETL	EPA 9045	
Reactive sulfide	75.3	mg/kg	27	12/13/2012	JTT	SW846 CH7	
%moisture	8.5	Percent		12/12/2012	CRW	%moisture	

Authorized Signature


John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

Monday, December 17, 2012

Page 1 of 1

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

Sample ID	MB-5122	SampType:	MBLK	TestCode:	EPA Method 8015B: Diesel Range Organics					
Client ID:	PBS	Batch ID:	5122	RunNo:	7319					
Prep Date:	12/5/2012	Analysis Date:	12/6/2012	SeqNo:	212356	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.8		10.00		98.0	72.4	120			

Sample ID	LCS-5122		SampType:	LCS		TestCode:	EPA Method 8015B: Diesel Range Organics				
Client ID:	LCSS		Batch ID:	5122		RunNo:	7319				
Prep Date:	12/5/2012		Analysis Date:	12/6/2012		SeqNo:	212357		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	47	10	50.00	0	94.2	47.4	122				
Surr: DNOP	4.2		5.000		84.5	72.4	120				

Sample ID	1212091-001AMS		SampType:	MS		TestCode:	EPA Method 8015B: Diesel Range Organics				
Client ID:	BatchQC		Batch ID:	5122		RunNo:	7319				
Prep Date:	12/5/2012		Analysis Date:	12/6/2012		SeqNo:	212656		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	790	10	51.98	567.8	424	12.6	148			S	
Surr: DNOP	6.1		5.198		117	72.4	120				

Sample ID	1212091-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015B: Diesel Range Organics				
Client ID:	BatchQC		Batch ID:	5122		RunNo:	7319				
Prep Date:	12/5/2012		Analysis Date:	12/6/2012		SeqNo:	212678		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	900	9.9	49.60	567.8	663	12.6	148	12.9	22.5	S	
Surr: DNOP	7.0		4.960		141	72.4	120	0	0	S	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

Sample ID	MB-5125		SampType:	MBLK		TestCode:	EPA Method 8015B: Gasoline Range				
Client ID:	PBS		Batch ID:	5125		RunNo:	7329				
Prep Date:	12/5/2012		Analysis Date:	12/6/2012		SeqNo:	213035		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	910		1000		90.7	84	116				

Sample ID	LCS-5125		SampType: LCS		TestCode: EPA Method 8015B: Gasoline Range					
Client ID:	LCSS		Batch ID: 5125		RunNo: 7329					
Prep Date:	12/5/2012		Analysis Date: 12/6/2012		SeqNo: 213036		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.2	74	117			
Surr: BFB	930		1000		92.5	84	116			

Sample ID	1212182-003AMS		SampType:	MS		TestCode:	EPA Method 8015B: Gasoline Range				
Client ID:	BatchQC		Batch ID:	5125		RunNo:	7329				
Prep Date:	12/5/2012		Analysis Date:	12/6/2012		SeqNo:	213071		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	21	4.8	24.08	0	88.5	70	130				
Surr: BFB	920		963.4		95.3	84	116				

Sample ID	1212182-003AMSD			SampType:	MSD		TestCode:	EPA Method 8015B: Gasoline Range			
Client ID:	BatchQC			Batch ID:	5125		RunNo:	7329			
Prep Date:	12/5/2012			Analysis Date:	12/6/2012		SeqNo:	213077		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	20	4.8	24.25	0	83.0	70	130	5.67	22.1		
Surr: BFB	890		969.9		91.4	84	116	0	0		

Sample ID	LCS-5125		SampType:	LCS		TestCode:	EPA Method 8015B: Gasoline Range				
Client ID:	LCSS		Batch ID:	5125		RunNo:	7362				
Prep Date:	12/5/2012		Analysis Date:	12/7/2012		SeqNo:	214058		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	22	5.0	25.00	0	86.7	74	117				
Surr: BFB	930		1000		92.7	84	116				

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

Sample ID	MB-5125		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 5125		RunNo: 7329					
Prep Date:	12/5/2012		Analysis Date: 12/6/2012		SeqNo: 213118		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		97.0	80	120			

Sample ID	LCS-5125		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 5125		RunNo: 7329					
Prep Date:	12/5/2012		Analysis Date: 12/6/2012		SeqNo: 213119		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.6	76.3	117			
Toluene	0.99	0.050	1.000	0	99.0	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	77	116			
Xylenes, Total	3.0	0.10	3.000	0	100	76.7	117			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID	1212159-001AMS		SampType:	MS		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	BZ Strip-Soil Confir		Batch ID:	5125		RunNo:	7329				
Prep Date:	12/5/2012		Analysis Date:	12/6/2012		SeqNo:	213123		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.0	0.049	0.9709	0	104	67.2	113				
Toluene	1.0	0.049	0.9709	0	105	62.1	116				
Ethylbenzene	1.0	0.049	0.9709	0.004829	107	67.9	127				
Xylenes, Total	3.1	0.097	2.913	0	107	60.6	134				
Surr: 4-Bromofluorobenzene	0.95		0.9709		97.6	80	120				

Sample ID	1212159-001AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles					
Client ID:	BZ Strip-Soil Confir		Batch ID: 5125		RunNo: 7329					
Prep Date:	12/5/2012		Analysis Date: 12/6/2012		SeqNo: 213124		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.048	0.9699	0	103	67.2	113	1.58	14.3	
Toluene	1.0	0.048	0.9699	0	105	62.1	116	0.511	15.9	
Ethylbenzene	1.0	0.048	0.9699	0.004829	106	67.9	127	0.756	14.4	
Xylenes, Total	3.1	0.097	2.910	0	106	60.6	134	0.915	12.6	
Surr: 4-Bromofluorobenzene	0.97		0.9699		99.6	80	120	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

Sample ID	mb-5145		SampType:	MBLK		TestCode:	Volatiles by 8260B/1311			
Client ID:	PBS		Batch ID:	5145		RunNo:	7501			
Prep Date:	12/6/2012		Analysis Date:	12/14/2012		SeqNo:	217709		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.50								
2-Butanone	ND	10								
Carbon Tetrachloride	ND	0.50								
Chlorobenzene	ND	100								
Chloroform	ND	6.0								
1,4-Dichlorobenzene	ND	7.5								
1,2-Dichloroethane (EDC)	ND	0.50								
1,1-Dichloroethene	ND	0.70								
Hexachlorobutadiene	ND	0.50								
Tetrachloroethene (PCE)	ND	0.70								
Trichloroethene (TCE)	ND	0.50								
Vinyl chloride	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.18		0.2000		89.9	69.9	130			
Surr: 4-Bromofluorobenzene	0.20		0.2000		100	71.2	123			
Surr: Dibromofluoromethane	0.17		0.2000		86.5	73.9	134			
Surr: Toluene-d8	0.20		0.2000		98.1	81.9	122			

Sample ID	lcs-5145		SampType:	LCS		TestCode:	Volatiles by 8260B/1311			
Client ID:	LCSS		Batch ID:	5145		RunNo:	7501			
Prep Date:	12/6/2012		Analysis Date:	12/14/2012		SeqNo:	217710		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.41	0.30	0.4000	0	102	51.1	171			
Chlorobenzene	0.41	0.30	0.4000	0	104	36.1	191			
1,1-Dichloroethene	0.43	0.30	0.4000	0	107	49.1	162			
Trichloroethene (TCE)	0.33	0.30	0.4000	0	83.0	41.2	166			
Surr: 1,2-Dichloroethane-d4	0.18		0.2000		90.9	69.9	130			
Surr: 4-Bromofluorobenzene	0.21		0.2000		104	71.2	123			
Surr: Dibromofluoromethane	0.17		0.2000		83.2	73.9	134			
Surr: Toluene-d8	0.19		0.2000		96.0	81.9	122			

Sample ID	1212159-001ams		SampType:	MS		TestCode:	Volatiles by 8260B/1311			
Client ID:	BZ Strip-Soil Confir		Batch ID:	5145		RunNo:	7501			
Prep Date:	12/6/2012		Analysis Date:	12/14/2012		SeqNo:	217713		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.40	0.30	0.4000	0	100	51.1	171			
Chlorobenzene	0.42	0.30	0.4000	0	105	36.1	191			
1,1-Dichloroethene	0.42	0.30	0.4000	0	106	49.1	162			
Trichloroethene (TCE)	0.34	0.30	0.4000	0	84.3	41.2	166			
Surr: 1,2-Dichloroethane-d4	0.18		0.2000		92.0	69.9	130			
Surr: 4-Bromofluorobenzene	0.20		0.2000		101	71.2	123			

Qualifiers:

Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
Value above quantitation range	H	Holding times for preparation or analysis exceeded
Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

Sample ID	1212159-001ams		SampType: MS		TestCode: Volatiles by 8260B/1311					
Client ID:	BZ Strip-Soil Confir		Batch ID: 5145		RunNo: 7501					
Prep Date:	12/6/2012		Analysis Date: 12/14/2012		SeqNo: 217713		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	0.18		0.2000		87.7	73.9	134			
Surr: Toluene-d8	0.19		0.2000		95.1	81.9	122			

Sample ID	1212159-001amsd	SampType:	MSD	TestCode: Volatiles by 8260B/1311						
Client ID:	BZ Strip-Soil Confir	Batch ID:	5145	RunNo: 7501						
Prep Date:	12/6/2012	Analysis Date:	12/14/2012	SeqNo: 217714		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.40	0.30	0.4000	0	99.3	51.1	171	1.04	0	
Chlorobenzene	0.43	0.30	0.4000	0	107	36.1	191	2.30	0	
1,1-Dichloroethene	0.40	0.30	0.4000	0	100	49.1	162	4.88	0	
Trichloroethene (TCE)	0.32	0.30	0.4000	0	80.7	41.2	166	4.33	0	
Surr: 1,2-Dichloroethane-d4	0.19		0.2000		92.8	69.9	130	0	0	
Surr: 4-Bromofluorobenzene	0.21		0.2000		103	71.2	123	0	0	
Surr: Dibromofluoromethane	0.17		0.2000		84.9	73.9	134	0	0	
Surr: Toluene-d8	0.20		0.2000		98.6	81.9	122	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

Sample ID	MB-5169	SampType:	MBLK	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	PBW	Batch ID:	5169	RunNo:	7401					
Prep Date:	12/9/2012	Analysis Date:	12/10/2012	SeqNo:	214402	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	ND	5.0								
Barium	ND	100								
Cadmium	ND	1.0								
Chromium	ND	5.0								
Lead	ND	5.0								
Selenium	ND	1.0								
Silver	ND	5.0								

Sample ID	LCS-5169	SampType:	LCS	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	LCSW	Batch ID:	5169	RunNo:	7401					
Prep Date:	12/9/2012	Analysis Date:	12/10/2012	SeqNo:	214404	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	ND	5.0	0.5000	0.02585	107	80	120			
Barium	ND	100	0.5000	0	100	80	120			
Cadmium	ND	1.0	0.5000	0	103	80	120			
Chromium	ND	5.0	0.5000	0	99.6	80	120			
Lead	ND	5.0	0.5000	0	99.0	80	120			
Selenium	ND	1.0	0.5000	0	101	80	120			
Silver	ND	5.0	0.1000	0.004430	102	80	120			

Sample ID	1212007-001AMS	SampType:	MS	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	BatchQC	Batch ID:	5169	RunNo:	7401					
Prep Date:	12/9/2012	Analysis Date:	12/10/2012	SeqNo:	214408	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	ND	5.0	0.5000	0	114	75	125			
Cadmium	ND	1.0	0.5000	0	103	75	125			
Chromium	ND	5.0	0.5000	0.005700	95.1	75	125			
Lead	ND	5.0	0.5000	0	92.2	75	125			
Selenium	ND	1.0	0.5000	0	84.2	75	125			
Silver	ND	5.0	0.1000	0	106	75	125			

Sample ID	1212007-001AMSD	SampType:	MSD	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	BatchQC	Batch ID:	5169	RunNo:	7401					
Prep Date:	12/9/2012	Analysis Date:	12/10/2012	SeqNo:	214409	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	ND	5.0	0.5000	0	112	75	125	0	20	
Cadmium	ND	1.0	0.5000	0	102	75	125	0	20	
Chromium	ND	5.0	0.5000	0.005700	93.0	75	125	0	20	
Lead	ND	5.0	0.5000	0	90.9	75	125	0	20	

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

Sample ID	1212007-001AMSD	SampType:	MSD	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	BatchQC	Batch ID:	5169	RunNo:	7401					
Prep Date:	12/9/2012	Analysis Date:	12/10/2012	SeqNo:	214409	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	1.0	0.5000	0	86.7	75	125	0	20	
Silver	ND	5.0	0.1000	0	105	75	125	0	20	

Sample ID	1212007-001AMS	SampType:	MS	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	BatchQC	Batch ID:	5169	RunNo:	7401					
Prep Date:	12/9/2012	Analysis Date:	12/10/2012	SeqNo:	214427	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	500	0.5000	1.240	94.3	75	125			

Sample ID	1212007-001AMSD	SampType:	MSD	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	BatchQC	Batch ID:	5169	RunNo:	7401					
Prep Date:	12/9/2012	Analysis Date:	12/10/2012	SeqNo:	214428	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	500	0.5000	1.240	93.3	75	125	0	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2 .

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87105
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup

Work Order Number: 1212159

Received by/date:

mg 12/03/12

Logged By:

Ashley Gallegos

12/3/2012 1:20:00 PM

Ag

Completed By:

Ashley Gallegos

12/4/2012 5:26:44 PM

Ag

Reviewed By:

[Signature] 12/10/12

Chain of Custody

1. Were seals intact?
2. Is Chain of Custody complete?
3. How was the sample delivered?

Yes ☒ No ☐ Not Present ☐

Yes ☒ No ☐ Not Present ☐

Client

Log In

4. Coolers are present? (see 19. for cooler specific information)

Yes ☒ No ☐ NA ☐

5. Was an attempt made to cool the samples?

Yes ☒ No ☐ NA ☐

6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C

Yes ☒ No ☐ NA ☐

7. Sample(s) in proper container(s)?

Yes ☒ No ☐

8. Sufficient sample volume for indicated test(s)?

Yes ☒ No ☐

9. Are samples (except VOA and ONG) properly preserved?

Yes ☒ No ☐

10. Was preservative added to bottles?

Yes ☐ No ☒ NA ☐

11. VOA vials have zero headspace?

Yes ☐ No ☐ No VOA Vials ☒

12. Were any sample containers received broken?

Yes ☐ No ☒

13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody)

Yes ☒ No ☐

of preserved
bottles checked
for pH:

14. Are matrices correctly identified on Chain of Custody?

Yes ☒ No ☐

(<2 or >12 unless noted)

15. Is it clear what analyses were requested?

Yes ☒ No ☐

Adjusted?

16. Were all holding times able to be met?
(if no, notify customer for authorization.)

Yes ☒ No ☐

Checked by:

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order?

Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via:

eMail

Phone

Fax

In Person

Regarding:

Client Instructions:

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.2	Good	Not Present			



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

December 26, 2012

Cheryl Johnson

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL: (505) 722-0231

FAX (505) 722-0210

RE: 4th QTR 2012 Groundwater Sampling

OrderNo.: 1211A34

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/29/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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", with a stylized flourish at the end.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1211A34

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-1

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/27/2012 7:25:00 AM

Lab ID: 1211A34-001

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: MMD
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/30/2012 10:31:03 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2012 10:31:03 AM
Surr: DNOP	119	79.5-166		%REC	1	11/30/2012 10:31:03 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/4/2012 12:03:54 AM
Surr: BFB	93.5	51.9-148		%REC	1	12/4/2012 12:03:54 AM
EPA METHOD 300.0: ANIONS						Analyst: JRR
Fluoride	ND	0.50		mg/L	5	11/29/2012 5:23:27 PM
Chloride	72	2.5		mg/L	5	11/29/2012 5:23:27 PM
Bromide	0.75	0.50		mg/L	5	11/29/2012 5:23:27 PM
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	11/29/2012 5:23:27 PM
Sulfate	180	2.5		mg/L	5	11/29/2012 5:23:27 PM
Nitrate+Nitrite as N	ND	1.0		mg/L	5	11/29/2012 5:48:16 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: ELS
Barium	0.033	0.010		mg/L	5	12/11/2012 8:53:04 PM
Cadmium	ND	0.010		mg/L	5	12/11/2012 8:53:04 PM
Calcium	ND	5.0		mg/L	5	12/11/2012 8:53:04 PM
Chromium	ND	0.030		mg/L	5	12/11/2012 8:53:04 PM
Copper	ND	0.030		mg/L	5	12/12/2012 5:26:59 PM
Iron	ND	0.10		mg/L	5	12/11/2012 8:53:04 PM
Lead	ND	0.025		mg/L	5	12/11/2012 8:53:04 PM
Magnesium	ND	5.0		mg/L	5	12/11/2012 8:53:04 PM
Manganese	ND	0.010		mg/L	5	12/11/2012 8:53:04 PM
Potassium	ND	5.0		mg/L	5	12/11/2012 8:53:04 PM
Silver	ND	0.025		mg/L	5	12/11/2012 8:53:04 PM
Sodium	280	5.0		mg/L	5	12/12/2012 5:26:59 PM
Zinc	ND	0.050		mg/L	5	12/11/2012 8:53:04 PM
EPA METHOD 200.7: TOTAL METALS						Analyst: JLF
Barium	0.035	0.0020		mg/L	1	12/10/2012 10:00:41 PM
Cadmium	ND	0.0020		mg/L	1	12/10/2012 10:00:41 PM
Chromium	ND	0.0060		mg/L	1	12/10/2012 10:00:41 PM
Copper	ND	0.0060		mg/L	1	12/11/2012 5:37:24 PM
Iron	0.18	0.020		mg/L	1	12/10/2012 10:00:41 PM
Lead	ND	0.0050		mg/L	1	12/10/2012 10:00:41 PM
Manganese	0.013	0.0020		mg/L	1	12/10/2012 10:00:41 PM
Silver	ND	0.0050		mg/L	1	12/10/2012 10:00:41 PM
Zinc	ND	0.010		mg/L	1	12/11/2012 5:37:24 PM
EPA 200.8: DISSOLVED METALS						Analyst: DBD
Arsenic	0.0012	0.0010		mg/L	1	12/3/2012 4:22:21 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211A34

Date Reported: 12/26/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-1

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/27/2012 7:25:00 AM

Lab ID: 1211A34-001

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA 200.8: DISSOLVED METALS						Analyst: DBD
Selenium	0.0040	0.0010		mg/L	1	12/3/2012 4:22:21 PM
Uranium	0.043	0.0050	*	mg/L	5	12/12/2012 3:11:23 PM
200.8 ICPMS METALS:TOTAL						Analyst: DBD
Arsenic	ND	0.0025		mg/L	2.5	12/10/2012 3:47:09 PM
Selenium	0.0026	0.0025		mg/L	2.5	12/10/2012 3:47:09 PM
Uranium	0.045	0.0025	*	mg/L	2.5	12/10/2012 3:47:09 PM
EPA METHOD 245.1: MERCURY						Analyst: TMG
Mercury	ND	0.00020		mg/L	1	12/3/2012 4:37:22 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Toluene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Ethylbenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Methyl tert-butyl ether (MTBE)	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,2,4-Trimethylbenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,3,5-Trimethylbenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,2-Dichloroethane (EDC)	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,2-Dibromoethane (EDB)	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Naphthalene	ND	2.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1-Methylnaphthalene	ND	4.0	PP	µg/L	1	12/1/2012 3:38:03 AM
2-Methylnaphthalene	ND	4.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Acetone	ND	10	PP	µg/L	1	12/1/2012 3:38:03 AM
Bromobenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Bromodichloromethane	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Bromoform	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Bromomethane	ND	3.0	PP	µg/L	1	12/1/2012 3:38:03 AM
2-Butanone	ND	10	PP	µg/L	1	12/1/2012 3:38:03 AM
Carbon disulfide	ND	10	PP	µg/L	1	12/1/2012 3:38:03 AM
Carbon Tetrachloride	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Chlorobenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Chloroethane	ND	2.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Chloroform	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Chloromethane	ND	3.0	PP	µg/L	1	12/1/2012 3:38:03 AM
2-Chlorotoluene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
4-Chlorotoluene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
cis-1,2-DCE	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
cis-1,3-Dichloropropene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,2-Dibromo-3-chloropropane	ND	2.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Dibromochloromethane	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Dibromomethane	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,2-Dichlorobenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1211A34

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-1

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/27/2012 7:25:00 AM

Lab ID: 1211A34-001

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,3-Dichlorobenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,4-Dichlorobenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Dichlorodifluoromethane	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,1-Dichloroethane	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,1-Dichloroethene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,2-Dichloropropane	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,3-Dichloropropane	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
2,2-Dichloropropane	ND	2.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,1-Dichloropropene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Hexachlorobutadiene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
2-Hexanone	ND	10	PP	µg/L	1	12/1/2012 3:38:03 AM
Isopropylbenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
4-Isopropyltoluene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
4-Methyl-2-pentanone	ND	10	PP	µg/L	1	12/1/2012 3:38:03 AM
Methylene Chloride	ND	3.0	PP	µg/L	1	12/1/2012 3:38:03 AM
n-Butylbenzene	ND	3.0	PP	µg/L	1	12/1/2012 3:38:03 AM
n-Propylbenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
sec-Butylbenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Styrene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
tert-Butylbenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,1,1,2-Tetrachloroethane	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,1,2,2-Tetrachloroethane	ND	2.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Tetrachloroethene (PCE)	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
trans-1,2-DCE	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
trans-1,3-Dichloropropene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,2,3-Trichlorobenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,2,4-Trichlorobenzene	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,1,1-Trichloroethane	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,1,2-Trichloroethane	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Trichloroethene (TCE)	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Trichlorofluoromethane	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
1,2,3-Trichloropropane	ND	2.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Vinyl chloride	ND	1.0	PP	µg/L	1	12/1/2012 3:38:03 AM
Xylenes, Total	ND	1.5	PP	µg/L	1	12/1/2012 3:38:03 AM
Surr: 1,2-Dichloroethane-d4	90.1	70-130	PP	%REC	1	12/1/2012 3:38:03 AM
Surr: 4-Bromofluorobenzene	88.3	70-130	PP	%REC	1	12/1/2012 3:38:03 AM
Surr: Dibromofluoromethane	87.8	70-130	PP	%REC	1	12/1/2012 3:38:03 AM
Surr: Toluene-d8	97.1	70-130	PP	%REC	1	12/1/2012 3:38:03 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1211A34

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-10

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/27/2012 9:12:00 AM

Lab ID: 1211A34-002

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: MMD
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/30/2012 10:52:53 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2012 10:52:53 AM
Surr: DNOP	118	79.5-166		%REC	1	11/30/2012 10:52:53 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	0.13	0.050	P	mg/L	1	12/4/2012 12:34:04 AM
Surr: BFB	100	51.9-148	P	%REC	1	12/4/2012 12:34:04 AM
EPA METHOD 300.0: ANIONS						Analyst: JRR
Fluoride	ND	0.50		mg/L	5	11/29/2012 7:02:43 PM
Chloride	2100	100		mg/L	200	12/1/2012 1:02:38 AM
Bromide	11	0.50		mg/L	5	11/29/2012 7:02:43 PM
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	11/29/2012 7:02:43 PM
Sulfate	240	2.5		mg/L	5	11/29/2012 7:02:43 PM
Nitrate+Nitrite as N	ND	4.0		mg/L	20	12/6/2012 10:01:59 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: ELS
Barium	0.11	0.010		mg/L	5	12/11/2012 9:00:31 PM
Cadmium	ND	0.010		mg/L	5	12/11/2012 9:00:31 PM
Calcium	310	5.0		mg/L	5	12/11/2012 9:00:31 PM
Chromium	ND	0.030		mg/L	5	12/11/2012 9:00:31 PM
Copper	ND	0.030		mg/L	5	12/11/2012 9:00:31 PM
Iron	ND	0.10		mg/L	5	12/11/2012 9:00:31 PM
Lead	ND	0.025	*	mg/L	5	12/11/2012 9:00:31 PM
Magnesium	54	5.0		mg/L	5	12/11/2012 9:00:31 PM
Manganese	0.13	0.010	*	mg/L	5	12/11/2012 9:00:31 PM
Potassium	ND	5.0		mg/L	5	12/11/2012 9:00:31 PM
Silver	ND	0.025		mg/L	5	12/11/2012 9:00:31 PM
Sodium	1200	20		mg/L	20	12/12/2012 5:30:41 PM
Zinc	ND	0.050		mg/L	5	12/11/2012 9:00:31 PM
EPA METHOD 200.7: TOTAL METALS						Analyst: JLF
Barium	0.11	0.0020		mg/L	1	12/10/2012 10:08:20 PM
Cadmium	ND	0.0020		mg/L	1	12/10/2012 10:08:20 PM
Chromium	ND	0.0060		mg/L	1	12/10/2012 10:08:20 PM
Copper	ND	0.0060		mg/L	1	12/11/2012 5:41:24 PM
Iron	ND	0.020		mg/L	1	12/10/2012 10:08:20 PM
Lead	ND	0.0050		mg/L	1	12/10/2012 10:08:20 PM
Manganese	0.13	0.0020	*	mg/L	1	12/10/2012 10:08:20 PM
Silver	ND	0.0050		mg/L	1	12/10/2012 10:08:20 PM
Zinc	ND	0.010		mg/L	1	12/11/2012 5:41:24 PM
EPA 200.8: DISSOLVED METALS						Analyst: DBD
Arsenic	0.0017	0.0010		mg/L	1	12/3/2012 4:26:17 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1211A34

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-10

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/27/2012 9:12:00 AM

Lab ID: 1211A34-002

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA 200.8: DISSOLVED METALS						Analyst: DBD
Selenium	0.015	0.0010		mg/L	1	12/3/2012 4:26:17 PM
Uranium	0.078	0.010	*	mg/L	10	12/20/2012 11:24:24 AM
200.8 ICPMS METALS:TOTAL						Analyst: DBD
Arsenic	ND	0.0025		mg/L	2.5	12/10/2012 3:49:02 PM
Selenium	0.013	0.0025		mg/L	2.5	12/10/2012 3:49:02 PM
Uranium	0.087	0.0025	*	mg/L	2.5	12/10/2012 3:49:02 PM
EPA METHOD 245.1: MERCURY						Analyst: TMG
Mercury	ND	0.00020		mg/L	1	12/3/2012 4:39:08 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Toluene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Ethylbenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Methyl tert-butyl ether (MTBE)	230	10		µg/L	10	12/3/2012 4:41:09 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,2-Dichloroethane (EDC)	1.1	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Naphthalene	ND	2.0		µg/L	1	12/1/2012 4:05:58 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2012 4:05:58 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2012 4:05:58 AM
Acetone	ND	10		µg/L	1	12/1/2012 4:05:58 AM
Bromobenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Bromodichloromethane	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Bromoform	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Bromomethane	ND	3.0		µg/L	1	12/1/2012 4:05:58 AM
2-Butanone	ND	10		µg/L	1	12/1/2012 4:05:58 AM
Carbon disulfide	ND	10		µg/L	1	12/1/2012 4:05:58 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Chlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Chloroethane	ND	2.0		µg/L	1	12/1/2012 4:05:58 AM
Chloroform	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Chloromethane	ND	3.0		µg/L	1	12/1/2012 4:05:58 AM
2-Chlorotoluene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
4-Chlorotoluene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
cis-1,2-DCE	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/1/2012 4:05:58 AM
Dibromochloromethane	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Dibromomethane	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211A34

Date Reported: 12/26/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-10

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/27/2012 9:12:00 AM

Lab ID: 1211A34-002

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,1-Dichloroethane	1.6	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,1-Dichloroethene	2.1	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	12/1/2012 4:05:58 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
2-Hexanone	ND	10		µg/L	1	12/1/2012 4:05:58 AM
Isopropylbenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	12/1/2012 4:05:58 AM
Methylene Chloride	ND	3.0		µg/L	1	12/1/2012 4:05:58 AM
n-Butylbenzene	ND	3.0		µg/L	1	12/1/2012 4:05:58 AM
n-Propylbenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
sec-Butylbenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Styrene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
tert-Butylbenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/1/2012 4:05:58 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
trans-1,2-DCE	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/1/2012 4:05:58 AM
Vinyl chloride	ND	1.0		µg/L	1	12/1/2012 4:05:58 AM
Xylenes, Total	ND	1.5		µg/L	1	12/1/2012 4:05:58 AM
Surr: 1,2-Dichloroethane-d4	91.0	70-130		%REC	1	12/1/2012 4:05:58 AM
Surr: 4-Bromofluorobenzene	90.6	70-130		%REC	1	12/1/2012 4:05:58 AM
Surr: Dibromofluoromethane	89.6	70-130		%REC	1	12/1/2012 4:05:58 AM
Surr: Toluene-d8	96.8	70-130		%REC	1	12/1/2012 4:05:58 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211A34

Date Reported: 12/26/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/27/2012 3:20:00 PM

Lab ID: 1211A34-003

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Toluene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Ethylbenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Naphthalene	ND	2.0		µg/L	1	12/1/2012 4:33:57 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2012 4:33:57 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2012 4:33:57 AM
Acetone	ND	10		µg/L	1	12/1/2012 4:33:57 AM
Bromobenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Bromodichloromethane	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Bromoform	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Bromomethane	ND	3.0		µg/L	1	12/1/2012 4:33:57 AM
2-Butanone	ND	10		µg/L	1	12/1/2012 4:33:57 AM
Carbon disulfide	ND	10		µg/L	1	12/1/2012 4:33:57 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Chlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Chloroethane	ND	2.0		µg/L	1	12/1/2012 4:33:57 AM
Chloroform	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Chloromethane	ND	3.0		µg/L	1	12/1/2012 4:33:57 AM
2-Chlorotoluene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
4-Chlorotoluene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
cis-1,2-DCE	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/1/2012 4:33:57 AM
Dibromochloromethane	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Dibromomethane	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	12/1/2012 4:33:57 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
2-Hexanone	ND	10		µg/L	1	12/1/2012 4:33:57 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1211A34

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/27/2012 3:20:00 PM

Lab ID: 1211A34-003

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	12/1/2012 4:33:57 AM
Methylene Chloride	ND	3.0		µg/L	1	12/1/2012 4:33:57 AM
n-Butylbenzene	ND	3.0		µg/L	1	12/1/2012 4:33:57 AM
n-Propylbenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
sec-Butylbenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Styrene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
tert-Butylbenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/1/2012 4:33:57 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
trans-1,2-DCE	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/1/2012 4:33:57 AM
Vinyl chloride	ND	1.0		µg/L	1	12/1/2012 4:33:57 AM
Xylenes, Total	ND	1.5		µg/L	1	12/1/2012 4:33:57 AM
Surr: 1,2-Dichloroethane-d4	88.0	70-130		%REC	1	12/1/2012 4:33:57 AM
Surr: 4-Bromofluorobenzene	91.0	70-130		%REC	1	12/1/2012 4:33:57 AM
Surr: Dibromofluoromethane	86.9	70-130		%REC	1	12/1/2012 4:33:57 AM
Surr: Toluene-d8	95.5	70-130		%REC	1	12/1/2012 4:33:57 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1212203-001CMS	SampType:	MS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215451	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.55	0.0060	0.5000	0.02380	105	70	130			

Sample ID	1212203-001CMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215452	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.54	0.0060	0.5000	0.02380	103	70	130	1.63	20	

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215488	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215489	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	103	85	115			
Cadmium	0.52	0.0020	0.5000	0	103	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Copper	0.51	0.0060	0.5000	0	103	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Lead	0.50	0.0050	0.5000	0	101	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Manganese	0.50	0.0020	0.5000	0	99.9	85	115			
Potassium	51	1.0	50.00	0	103	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R7435		RunNo: 7435					
Prep Date:			Analysis Date: 12/11/2012		SeqNo: 215489		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	104	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Sample ID	MB	SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	PBW	Batch ID:	R7459		RunNo:	7459				
Prep Date:		Analysis Date:	12/12/2012		SeqNo:	216090	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								
Sodium	ND	1.0								

Sample ID	LCS		SampType:	LCS		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	LCSW		Batch ID:	R7459		RunNo:	7459				
Prep Date:			Analysis Date:	12/12/2012		SeqNo:	216091		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Copper	0.48	0.0060	0.5000	0	96.0	85	115				
Sodium	49	1.0	50.00	0	97.2	85	115				

Sample ID	1211B17-001CMS			SampType:	MS		TestCode:	EPA Method 200.7: Dissolved Metals			
Client ID:	BatchQC			Batch ID:	R7459		RunNo:	7459			
Prep Date:				Analysis Date:	12/12/2012		SeqNo:	216131		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Copper	0.46	0.0060	0.5000	0	93.0	70	130				

Sample ID	1211B17-001CMSD			SampType:	MSD		TestCode:	EPA Method 200.7: Dissolved Metals			
Client ID:	BatchQC		Batch ID:	R7459		RunNo:	7459				
Prep Date:			Analysis Date:	12/12/2012		SeqNo:	216132		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Copper	0.46	0.0060	0.5000	0	91.0	70	130	2.11	20		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5060		SampType:	MBLK		TestCode:	EPA Method 200.7: Total Metals				
Client ID:	PBW		Batch ID:	5060		RunNo:	7330				
Prep Date:	12/3/2012		Analysis Date:	12/6/2012		SeqNo:	212657		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Barium	ND	0.0020									
Cadmium	ND	0.0020									
Chromium	ND	0.0060									
Copper	ND	0.0060									
Iron	ND	0.020									
Lead	ND	0.0050									
Manganese	ND	0.0020									
Silver	ND	0.0050									
Zinc	ND	0.010									

Sample ID	LCS-5060		SampType: LCS		TestCode: EPA Method 200.7: Total Metals					
Client ID:	LCSW		Batch ID: 5060		RunNo: 7330					
Prep Date:	12/3/2012		Analysis Date: 12/6/2012		SeqNo: 212658		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	101	85	115			
Cadmium	0.51	0.0020	0.5000	0	103	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Copper	0.50	0.0060	0.5000	0	99.2	85	115			
Iron	0.50	0.020	0.5000	0	100	85	115			
Lead	0.52	0.0050	0.5000	0	105	85	115			
Manganese	0.49	0.0020	0.5000	0	99.0	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A24-002EMS			SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals		
Client ID:	BatchQC		Batch ID:	R7276		RunNo:	7276			
Prep Date:			Analysis Date:	12/3/2012		SeqNo:	211011		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0.0006985	105	70	130			
Selenium	0.027	0.0010	0.02500	0	109	70	130			

Sample ID	1211A26-004EMS		SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals				
Client ID:	BatchQC		Batch ID:	R7276		RunNo:	7276				
Prep Date:			Analysis Date:	12/3/2012		SeqNo:	211020		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.032	0.0010	0.02500	0.004560	109	70	130				
Selenium	0.035	0.0010	0.02500	0.008707	106	70	130				

Sample ID	1211A87-002AMS		SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals				
Client ID:	BatchQC		Batch ID:	R7276		RunNo:	7276				
Prep Date:			Analysis Date:	12/3/2012		SeqNo:	211027		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.026	0.0010	0.02500	0.0002556	104	70	130				
Selenium	0.031	0.0010	0.02500	0.003913	110	70	130				

Sample ID	1211721-001EMS			SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals			
Client ID:	BatchQC		Batch ID:	R7276		RunNo:	7276				
Prep Date:			Analysis Date:	12/3/2012		SeqNo:	211044		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.028	0.0010	0.02500	0.0009008	107	70	130				
Selenium	0.027	0.0010	0.02500	0	109	70	130				

Sample ID	LCS	SampType: LCS			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID: R7276			RunNo: 7276					
Prep Date:		Analysis Date: 12/3/2012			SeqNo: 211059		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0	108	85	115			
Selenium	0.029	0.0010	0.02500	0	114	85	115			

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7276	RunNo:	7276					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	211060	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0	105	85	115			
Selenium	0.028	0.0010	0.02500	0	112	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7276	RunNo:	7276					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	211062	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7276	RunNo:	7276					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	211063	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	1211A87-002AMS	SampType:	MS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7464	RunNo:	7464					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216453	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.14	0.0050	0.1250	0.008373	105	70	130			

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7464	RunNo:	7464					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216494	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.025	0.0010	0.02500	.00001026	99.2	85	115			

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7464	RunNo:	7464					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216496	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.026	0.0010	0.02500	0	104	85	115			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7464	RunNo:	7464					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216498	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7464	RunNo:	7464					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216499	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0010								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7633	RunNo:	7633					
Prep Date:		Analysis Date:	12/20/2012	SeqNo:	221764	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.026	0.0010	0.02500	0	104	85	115			

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7633	RunNo:	7633					
Prep Date:		Analysis Date:	12/20/2012	SeqNo:	221765	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.026	0.0010	0.02500	0	104	85	115			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7633	RunNo:	7633					
Prep Date:		Analysis Date:	12/20/2012	SeqNo:	221766	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0010								

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7633	RunNo:	7633					
Prep Date:		Analysis Date:	12/20/2012	SeqNo:	221767	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0010								

Qualifiers:

Value exceeds Maximum Contaminant Level.
Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	LLLCS-5060		SampType:	LCSLL		TestCode:	200.8 ICPMS Metals:Total				
Client ID:	BatchQC		Batch ID:	5060		RunNo:	7315				
Prep Date:	12/3/2012		Analysis Date:	12/5/2012		SeqNo:	212142		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.055	0.0025	0.05000	0	110	85	115				
Selenium	0.057	0.0025	0.05000	0	113	85	115				

Sample ID	MB-5060		SampType:	MBLK		TestCode:	200.8 ICPMS Metals:Total				
Client ID:	PBW		Batch ID:	5060		RunNo:	7315				
Prep Date:	12/3/2012		Analysis Date:	12/5/2012		SeqNo:	212147		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	ND	0.0025									
Selenium	ND	0.0025									

Sample ID	LLLCS-5060		SampType:	LCSLL		TestCode:	200.8 ICPMS Metals:Total				
Client ID:	BatchQC		Batch ID:	5060		RunNo:	7405				
Prep Date:	12/3/2012		Analysis Date:	12/10/2012		SeqNo:	214533		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Uranium	0.052	0.0025	0.05000	0	105	85	115				

Sample ID	MB-5060		SampType:	MBLK		TestCode:	200.8 ICPMS Metals:Total				
Client ID:	PBW		Batch ID:	5060		RunNo:	7405				
Prep Date:	12/3/2012		Analysis Date:	12/10/2012		SeqNo:	214540		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Uranium	ND	0.0025									

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5067	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury					
Client ID:	PBW	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210569	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-5067	SampType:	LCS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	LCSW	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210570	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	80	120			

Sample ID	1211A26-001FMS	SampType:	MS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	BatchQC	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210597	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.0010	0.005000	0	108	75	125			

Sample ID	1211A26-001FMSD	SampType:	MSD	TestCode:	EPA Method 245.1: Mercury					
Client ID:	BatchQC	Batch ID:	5067	RunNo:	7264					
Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210598	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.0010	0.005000	0	108	75	125	0.311	20	

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R7206		RunNo: 7206							
Prep Date:	Analysis Date: 11/29/2012		SeqNo: 208928		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R7206		RunNo: 7206							
Prep Date:	Analysis Date: 11/29/2012		SeqNo: 208929		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.8	90	110			
Chloride	4.6	0.50	5.000	0	92.7	90	110			
Bromide	2.3	0.10	2.500	0	92.4	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.5	90	110			
Sulfate	9.2	0.50	10.00	0	91.8	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.9	90	110			

Sample ID 1211A42-001AMS	SampType: MS		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R7206		RunNo: 7206							
Prep Date:	Analysis Date: 11/29/2012		SeqNo: 208931		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.87	0.10	0.5000	0.3889	96.2	76.6	110			
Bromide	2.4	0.10	2.500	0.1781	88.8	83.3	107			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.4	74.5	115			
Nitrate+Nitrite as N	4.7	0.20	3.500	1.134	103	88.6	110			

Sample ID 1211A42-001AMSD	SampType: MSD		TestCode: EPA Method 300.0: Anions							
Client ID: BatchQC	Batch ID: R7206		RunNo: 7206							
Prep Date:	Analysis Date: 11/29/2012		SeqNo: 208932		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.88	0.10	0.5000	0.3889	98.6	76.6	110	1.37	20	
Bromide	2.4	0.10	2.500	0.1781	89.6	83.3	107	0.868	20	
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.7	74.5	115	1.35	20	
Nitrate+Nitrite as N	4.7	0.20	3.500	1.134	101	88.6	110	1.13	20	

Qualifiers:

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- P Sample pH greater than 2

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A38-003AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7206	RunNo:	7206					
Prep Date:		Analysis Date:	11/29/2012	SeqNo:	208935	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	106	76.6	110			
Bromide	3.0	0.10	2.500	0.4699	99.7	83.3	107			
Sulfate	29	0.50	10.00	18.74	103	84.6	122			

Sample ID	1211A38-003AMSD		SampType:	MSD		TestCode:	EPA Method 300.0: Anions				
Client ID:	BatchQC		Batch ID:	R7206		RunNo:	7206				
Prep Date:			Analysis Date:	11/29/2012		SeqNo:	208936		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Fluoride	0.52	0.10	0.5000	0	104	76.6	110	2.14	20		
Bromide	3.0	0.10	2.500	0.4699	101	83.3	107	1.36	20		
Sulfate	29	0.50	10.00	18.74	104	84.6	122	0.119	20		

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R7236	RunNo:	7236					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209905	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R7236	RunNo:	7236					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209906	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.6	90	110			

Sample ID	1211A44-001BMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7236	RunNo:	7236					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209908	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	11	0.50	5.000	5.774	104	87.8	111			

Sample ID	1211A44-001BMSD			SampType:	MSD		TestCode:	EPA Method 300.0: Anions			
Client ID:	BatchQC		Batch ID:	R7236		RunNo:	7236				
Prep Date:			Analysis Date:	11/30/2012		SeqNo:	209909		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	11	0.50	5.000	5.774	108	87.8	111	1.83	20		

Qualifiers:

~ Value exceeds Maximum Contaminant Level.
Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A36-001AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7236	RunNo:	7236					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209912	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	13	0.50	5.000	7.384	107	87.8	111			

Sample ID	1211A36-001AMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7236	RunNo:	7236					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209913	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	13	0.50	5.000	7.384	108	87.8	111	0.273	20	

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R7236	RunNo:	7236					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209965	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R7236	RunNo:	7236					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209966	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.2	90	110			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R7344	RunNo:	7344					
Prep Date:		Analysis Date:	12/6/2012	SeqNo:	213037	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R7344	RunNo:	7344					
Prep Date:		Analysis Date:	12/6/2012	SeqNo:	213038	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.3	90	110			

Sample ID	1212246-002AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7344	RunNo:	7344					
Prep Date:		Analysis Date:	12/6/2012	SeqNo:	213040	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.4	88.6	110			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1212246-002AMSD			SampType:	MSD		TestCode:	EPA Method 300.0: Anions			
Client ID:	BatchQC		Batch ID:	R7344		RunNo:	7344				
Prep Date:			Analysis Date:	12/6/2012		SeqNo:	213041		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.9	88.6	110	0.497	20		

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R7344	RunNo:	7344					
Prep Date:		Analysis Date:	12/7/2012	SeqNo:	213090	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R7344	RunNo:	7344					
Prep Date:		Analysis Date:	12/7/2012	SeqNo:	213091	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	100	90	110			

Sample ID	1212313-001AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7344	RunNo:	7344					
Date:		Analysis Date:	12/7/2012	SeqNo:	213096	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	8.4	0.20	3.500	4.777	104	88.6	110			

Sample ID	1212313-001AMSD		SampType:	MSD		TestCode:	EPA Method 300.0: Anions				
Client ID:	BatchQC		Batch ID:	R7344		RunNo:	7344				
Prep Date:			Analysis Date:	12/7/2012		SeqNo:	213097		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Nitrate+Nitrite as N	8.3	0.20	3.500	4.777	102	88.6	110	0.764	20		

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5037		SampType:	MBLK		TestCode:	EPA Method 8015B: Diesel Range				
Client ID:	PBW		Batch ID:	5037		RunNo:	7208				
Prep Date:	11/30/2012		Analysis Date:	11/30/2012		SeqNo:	208984		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	1.0									
Motor Oil Range Organics (MRO)	ND	5.0									
Surr: DNOP	1.2		1.000		115	79.5	166				

Sample ID	LCS-5037		SampType: LCS		TestCode: EPA Method 8015B: Diesel Range					
Client ID:	LCSW		Batch ID: 5037		RunNo: 7208					
Prep Date:	11/30/2012		Analysis Date: 11/30/2012		SeqNo: 208985		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.6	1.0	5.000	0	113	74	157			
Surr: DNOP	0.51		0.5000		102	79.5	166			

Sample ID	LCSD-5037		SampType:	LCSD		TestCode:	EPA Method 8015B: Diesel Range				
Client ID:	LCSS02		Batch ID:	5037		RunNo:	7208				
Prep Date:	11/30/2012		Analysis Date:	11/30/2012		SeqNo:	208986		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	74	157	0.957	23		
Surr: DNOP	0.50		0.5000		101	79.5	166	0	0		

Qualifiers:

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ND Not Detected at the Reporting Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210675	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		91.7	51.9	148			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSW	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210676	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.55	0.050	0.5000	0	111	75.9	119			
Surr: BFB	19		20.00		95.6	51.9	148			

Sample ID	1211A45-001AMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210678	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	6.5	0.50	5.000	1.052	108	63.5	131			
Surr: BFB	200		200.0		99.2	51.9	148			

Sample ID	1211A45-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210679	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	6.2	0.50	5.000	1.052	103	63.5	131	3.92	16.7	
Surr: BFB	200		200.0		101	51.9	148	0	0	

Qualifiers:

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Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ml-rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R7228			RunNo: 7228					
Prep Date:		Analysis Date: 11/30/2012			SeqNo: 209545		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID: 5ml-rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R7228	RunNo: 7228								
Prep Date:	Analysis Date: 11/30/2012	SeqNo: 209545	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.7	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.3	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.2	70	130			
Surr: Toluene-d8	9.7		10.00		97.3	70	130			

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R7228	RunNo: 7228								
Prep Date:	Analysis Date: 11/30/2012	SeqNo: 209553	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.1	70	130			
Toluene	20	1.0	20.00	0	99.0	80	120			
Chlorobenzene	19	1.0	20.00	0	97.1	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	97.9	73.7	122			
Trichloroethene (TCE)	17	1.0	20.00	0	82.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.4	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.8	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R7228		RunNo: 7228							
Prep Date:	Analysis Date: 11/30/2012		SeqNo: 209553		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	8.9		10.00		89.2	70	130			
Surr: Toluene-d8	9.6		10.00		95.5	70	130			

Sample ID 1211a24-001a ms	SampType: MS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R7228		RunNo: 7228							
Prep Date:	Analysis Date: 11/30/2012		SeqNo: 209606		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.5	66.8	128			
Toluene	19	1.0	20.00	0	96.8	70	130			
Chlorobenzene	19	1.0	20.00	0	95.3	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	82.8	70	130			
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.2	70	130			
Surr: 4-Bromofluorobenzene	8.9		10.00		89.5	70	130			
Surr: Dibromofluoromethane	8.8		10.00		88.4	70	130			
Surr: Toluene-d8	9.4		10.00		94.3	70	130			

Sample ID 1211a24-001a msd	SampType: MSD		TestCode: EPA Method 8260B: VOLATILES							
Client ID: BatchQC	Batch ID: R7228		RunNo: 7228							
Prep Date:	Analysis Date: 11/30/2012		SeqNo: 209607		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	92.2	66.8	128	5.53	16.7	
Toluene	18	1.0	20.00	0	92.1	70	130	4.93	18.7	
Chlorobenzene	18	1.0	20.00	0	90.6	70	130	5.11	19.5	
1,1-Dichloroethene	19	1.0	20.00	0	93.2	70	130	7.85	16.7	
Trichloroethene (TCE)	15	1.0	20.00	0	76.2	70	130	8.31	17.5	
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.3		10.00		93.0	70	130	0	0	
Surr: Dibromofluoromethane	9.1		10.00		90.7	70	130	0	0	
Surr: Toluene-d8	9.9		10.00		98.8	70	130	0	0	

Sample ID b3	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R7228		RunNo: 7228							
Prep Date:	Analysis Date: 11/30/2012		SeqNo: 209611		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID: b3	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R7228			RunNo: 7228						
Prep Date:	Analysis Date: 11/30/2012			SeqNo: 209611		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID b3	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R7228		RunNo: 7228							
Prep Date:	Analysis Date: 11/30/2012		SeqNo: 209611		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.9		10.00		88.8	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.7	70	130			
Surr: Dibromofluoromethane	8.7		10.00		87.3	70	130			
Surr: Toluene-d8	9.8		10.00		97.8	70	130			

Sample ID 100ng lcs2	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R7228		RunNo: 7228							
Prep Date:	Analysis Date: 11/30/2012		SeqNo: 209614		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.9	70	130			
Toluene	19	1.0	20.00	0	96.1	80	120			
Chlorobenzene	19	1.0	20.00	0	94.9	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	98.9	73.7	122			
Trichloroethene (TCE)	16	1.0	20.00	0	81.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		89.9	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		89.5	70	130			
Surr: Dibromofluoromethane	8.9		10.00		88.7	70	130			
Surr: Toluene-d8	9.3		10.00		93.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211a41-001a.ms	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	BatchQC	Batch ID:	R7228	RunNo:	7228					
Prep Date:		Analysis Date:	12/1/2012	SeqNo:	209651	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	66.8	128			
Toluene	20	1.0	20.00	0	97.9	70	130			
Chlorobenzene	19	1.0	20.00	0	96.9	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	103	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	86.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.4	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		89.6	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.1	70	130			
Surr: Toluene-d8	9.7		10.00		96.9	70	130			

Sample ID	1211a41-001a msd	SampType:	MSD	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	BatchQC	Batch ID:	R7228	RunNo:	7228					
Prep Date:		Analysis Date:	12/1/2012	SeqNo:	209652	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	66.8	128	0.638	16.7	
Toluene	19	1.0	20.00	0	95.2	70	130	2.84	18.7	
Chlorobenzene	19	1.0	20.00	0	94.0	70	130	3.07	19.5	
Chloroethene	20	1.0	20.00	0	98.2	70	130	4.95	16.7	
Trichloroethene (TCE)	16	1.0	20.00	0	82.1	70	130	4.81	17.5	
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.2		10.00		91.5	70	130	0	0	
Surr: Dibromofluoromethane	9.2		10.00		92.1	70	130	0	0	
Surr: Toluene-d8	9.5		10.00		94.7	70	130	0	0	

Sample ID	5ml-rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R7239			RunNo: 7239					
Prep Date:		Analysis Date: 12/3/2012			SeqNo: 210057		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.4	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.8	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.3	70	130			
Surr: Toluene-d8	9.6		10.00		95.7	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R7239	RunNo:	7239					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210059	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.4	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R7239	RunNo:	7239					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210059	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	9.5		10.00		95.0	70	130			
Surr: Dibromofluoromethane	9.2		10.00		91.7	70	130			
Surr: Toluene-d8	9.5		10.00		95.4	70	130			

Sample ID	b3	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R7239			RunNo: 7239					
Prep Date:		Analysis Date: 12/3/2012			SeqNo: 210275		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.5	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.2	70	130			
Surr: Dibromofluoromethane	8.9		10.00		88.5	70	130			
Surr: Toluene-d8	9.4		10.00		93.8	70	130			

Sample ID	100ng lcs2	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R7239	RunNo:	7239					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210277	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.2	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		90.8	70	130			
Surr: Dibromofluoromethane	9.1		10.00		91.2	70	130			
Surr: Toluene-d8	9.5		10.00		95.4	70	130			

Sample ID	1212023-001a ms	SampType:	MS	TestCode: EPA Method 8260B: VOLATILES						
Client ID:	BatchQC	Batch ID:	R7239	RunNo: 7239						
Prep Date:		Analysis Date:	12/4/2012	SeqNo: 210298		Units: %REC				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	230		200.0		116	70	130			
Surr: 4-Bromofluorobenzene	200		200.0		100	70	130			
Surr: Dibromofluoromethane	190		200.0		95.9	70	130			
Surr: Toluene-d8	190		200.0		93.7	70	130			

Sample ID	1212023-001a msd			SampType:	MSD		TestCode:	EPA Method 8260B: VOLATILES			
Client ID:	BatchQC		Batch ID:		R7239		RunNo:	7239			
Prep Date:			Analysis Date:		12/4/2012		SeqNo:	210306		Units:	%REC
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 1,2-Dichloroethane-d4	230		200.0		117	70	130	0	0		
Surr: 4-Bromofluorobenzene	210		200.0		105	70	130	0	0		

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A34

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1212023-001a msd	SampType:	MSD	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	BatchQC	Batch ID:	R7239	RunNo:	7239					
Prep Date:		Analysis Date:	12/4/2012	SeqNo:	210306	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	190		200.0		93.9	70	130	0	0	
Surr: Toluene-d8	180		200.0		91.2	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

WILLIAMSON-CUSTOMARY RECORD

Client: stern Refining

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)

Date Time Matrix Sample Request ID

11-23-12 0725 W OW-1

11-27-12 0912 W OW-10

11-27-12 1520 W FIELD BLANK

11-27-12 -- W TRIP BLANK

11-29-12 0735 W AS 11/29/12

Date: 11/29/12

Time: 0735

Date: 11/29/12

Time: 0735

Relinquished by:

Relinquished by:

Received by:

Received by:

Date Time

Date Time

☒ Standard ☐ Rush

Project Name 4th QTR 2012 Groundwater

Sampling

Project #: Quarterly Sampling

Project Manager:

Cheryl Johnson

Sampler: JB+cm

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

Container Type and #

Preservative Type

HEAL No.

4-PLASTIC 1-H2SO4 6-HCL 1-HNO3 6-HCL 1-NONE 2-HNO3 6-HCL 1-NONE

6-VOA 4-PLASTIC 6-VOA 3 VOA 3 VOA 3 VOA

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www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

WACC Metals (Total and Dissolved)

8015B (DRO/GRO)

Air Bubbles (Y or N)

Remarks:

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



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

December 26, 2012

Cheryl Johnson

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL: (505) 722-0231

FAX (505) 722-0210

RE: 4th QTR 2012 Groundwater Sampling

OrderNo.: 1211A45

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 11/29/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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".

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1211A45

Date Reported: 12/26/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: GWM-1

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 7:25:00 AM

Lab ID: 1211A45-001

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: MMD
Diesel Range Organics (DRO)	1.6	1.0		mg/L	1	11/30/2012 4:22:59 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2012 4:22:59 PM
Surr: DNOP	117	79.5-166		%REC	1	11/30/2012 4:22:59 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	1.1	0.50		mg/L	10	12/3/2012 7:01:13 PM
Surr: BFB	98.9	51.9-148		%REC	10	12/3/2012 7:01:13 PM
EPA METHOD 300.0: ANIONS						Analyst: JRR
Fluoride	3.2	0.50		mg/L	5	11/29/2012 8:04:45 PM
Chloride	1000	50		mg/L	100	12/1/2012 1:39:51 AM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/29/2012 8:04:45 PM
Bromide	7.2	0.50		mg/L	5	11/29/2012 8:04:45 PM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	11/29/2012 8:04:45 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/29/2012 8:04:45 PM
Sulfate	150	2.5		mg/L	5	11/29/2012 8:04:45 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: ELS
Barium	0.83	0.0020		mg/L	1	12/11/2012 9:04:18 PM
Cadmium	ND	0.0020		mg/L	1	12/11/2012 9:04:18 PM
Calcium	280	5.0		mg/L	5	12/11/2012 9:09:06 PM
Chromium	ND	0.0060		mg/L	1	12/11/2012 9:04:18 PM
Copper	ND	0.0060		mg/L	1	12/11/2012 9:04:18 PM
Iron	8.7	0.20	*	mg/L	10	12/12/2012 5:35:54 PM
Magnesium	71	1.0		mg/L	1	12/11/2012 9:04:18 PM
Manganese	2.9	0.010	*	mg/L	5	12/11/2012 9:09:06 PM
Potassium	2.6	1.0		mg/L	1	12/11/2012 9:04:18 PM
Silver	ND	0.0050		mg/L	1	12/11/2012 9:04:18 PM
Sodium	1000	20		mg/L	20	12/12/2012 5:39:41 PM
Zinc	0.11	0.010		mg/L	1	12/11/2012 9:04:18 PM
EPA METHOD 200.7: TOTAL METALS						Analyst: JLF
Barium	0.73	0.0020		mg/L	1	12/10/2012 10:16:11 PM
Cadmium	ND	0.0020		mg/L	1	12/10/2012 10:16:11 PM
Chromium	ND	0.0060		mg/L	1	12/10/2012 10:16:11 PM
Copper	0.021	0.0060		mg/L	1	12/11/2012 5:45:13 PM
Iron	10	0.40	*	mg/L	20	12/11/2012 5:52:13 PM
Lead	0.012	0.0050		mg/L	1	12/10/2012 10:16:11 PM
Manganese	2.7	0.010	*	mg/L	5	12/10/2012 10:19:30 PM
Silver	ND	0.0050		mg/L	1	12/10/2012 10:16:11 PM
Zinc	0.021	0.010		mg/L	1	12/11/2012 5:45:13 PM
EPA 200.8: DISSOLVED METALS						Analyst: DBD
Arsenic	0.084	0.0050	*	mg/L	5	12/11/2012 3:51:57 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1211A45

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: GWM-1

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 7:25:00 AM

Lab ID: 1211A45-001

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA 200.8: DISSOLVED METALS						Analyst: DBD
Lead	0.0037	0.0010		mg/L	1	12/11/2012 3:24:23 PM
Selenium	0.0055	0.0010		mg/L	1	12/3/2012 4:30:13 PM
Uranium	0.019	0.0010		mg/L	1	12/11/2012 3:24:23 PM
200.8 ICPMS METALS:TOTAL						Analyst: DBD
Arsenic	0.092	0.0025	*	mg/L	2.5	12/10/2012 3:50:54 PM
Selenium	0.0049	0.0025		mg/L	2.5	12/10/2012 3:50:54 PM
Uranium	0.016	0.0025		mg/L	2.5	12/10/2012 3:50:54 PM
EPA METHOD 245.1: MERCURY						Analyst: TMG
Mercury	ND	0.00020		mg/L	1	12/3/2012 4:56:50 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Toluene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Ethylbenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Methyl tert-butyl ether (MTBE)	52	10		µg/L	10	12/1/2012 8:16:45 AM
1,2,4-Trimethylbenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,3,5-Trimethylbenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Naphthalene	ND	20		µg/L	10	12/1/2012 8:16:45 AM
1-Methylnaphthalene	ND	40		µg/L	10	12/1/2012 8:16:45 AM
2-Methylnaphthalene	ND	40		µg/L	10	12/1/2012 8:16:45 AM
Acetone	ND	100		µg/L	10	12/1/2012 8:16:45 AM
Bromobenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Bromodichloromethane	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Bromoform	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Bromomethane	ND	30		µg/L	10	12/1/2012 8:16:45 AM
2-Butanone	ND	100		µg/L	10	12/1/2012 8:16:45 AM
Carbon disulfide	ND	100		µg/L	10	12/1/2012 8:16:45 AM
Carbon Tetrachloride	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Chlorobenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Chloroethane	ND	20		µg/L	10	12/1/2012 8:16:45 AM
Chloroform	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Chloromethane	ND	30		µg/L	10	12/1/2012 8:16:45 AM
2-Chlorotoluene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
4-Chlorotoluene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
cis-1,2-DCE	ND	10		µg/L	10	12/1/2012 8:16:45 AM
cis-1,3-Dichloropropene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	12/1/2012 8:16:45 AM
Dibromochloromethane	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Dibromomethane	ND	10		µg/L	10	12/1/2012 8:16:45 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211A45

Date Reported: 12/26/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: GWM-1

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 7:25:00 AM

Lab ID: 1211A45-001

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,2-Dichlorobenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,3-Dichlorobenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,4-Dichlorobenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Dichlorodifluoromethane	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,1-Dichloroethane	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,1-Dichloroethene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,2-Dichloropropane	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,3-Dichloropropane	ND	10		µg/L	10	12/1/2012 8:16:45 AM
2,2-Dichloropropane	ND	20		µg/L	10	12/1/2012 8:16:45 AM
1,1-Dichloropropene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Hexachlorobutadiene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
2-Hexanone	ND	100		µg/L	10	12/1/2012 8:16:45 AM
Isopropylbenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
4-Isopropyltoluene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
4-Methyl-2-pentanone	ND	100		µg/L	10	12/1/2012 8:16:45 AM
Methylene Chloride	ND	30		µg/L	10	12/1/2012 8:16:45 AM
n-Butylbenzene	ND	30		µg/L	10	12/1/2012 8:16:45 AM
n-Propylbenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
sec-Butylbenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Styrene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
tert-Butylbenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	12/1/2012 8:16:45 AM
Tetrachloroethene (PCE)	ND	10		µg/L	10	12/1/2012 8:16:45 AM
trans-1,2-DCE	ND	10		µg/L	10	12/1/2012 8:16:45 AM
trans-1,3-Dichloropropene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,2,3-Trichlorobenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,2,4-Trichlorobenzene	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,1,1-Trichloroethane	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,1,2-Trichloroethane	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Trichloroethene (TCE)	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Trichlorofluoromethane	ND	10		µg/L	10	12/1/2012 8:16:45 AM
1,2,3-Trichloropropane	ND	20		µg/L	10	12/1/2012 8:16:45 AM
Vinyl chloride	ND	10		µg/L	10	12/1/2012 8:16:45 AM
Xylenes, Total	ND	15		µg/L	10	12/1/2012 8:16:45 AM
Surr: 1,2-Dichloroethane-d4	91.0	70-130		%REC	10	12/1/2012 8:16:45 AM
Surr: 4-Bromofluorobenzene	86.2	70-130		%REC	10	12/1/2012 8:16:45 AM
Surr: Dibromofluoromethane	89.3	70-130		%REC	10	12/1/2012 8:16:45 AM
Surr: Toluene-d8	97.0	70-130		%REC	10	12/1/2012 8:16:45 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1211A45

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: GWM-2

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 7:23:00 AM

Lab ID: 1211A45-002

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: MMD
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/30/2012 4:54:29 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2012 4:54:29 PM
Surr: DNOP	113	79.5-166		%REC	1	11/30/2012 4:54:29 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/5/2012 4:19:33 PM
Surr: BFB	99.5	51.9-148		%REC	1	12/5/2012 4:19:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/5/2012 4:19:33 PM
Benzene	ND	1.0		µg/L	1	12/5/2012 4:19:33 PM
Toluene	ND	1.0		µg/L	1	12/5/2012 4:19:33 PM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2012 4:19:33 PM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2012 4:19:33 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/5/2012 4:19:33 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/5/2012 4:19:33 PM
Surr: 4-Bromofluorobenzene	91.3	69.7-152		%REC	1	12/5/2012 4:19:33 PM
EPA METHOD 300.0: ANIONS						Analyst: JRR
Fluoride	3.8	0.50		mg/L	5	11/29/2012 8:41:59 PM
Chloride	1000	50		mg/L	100	12/1/2012 2:04:39 AM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/29/2012 8:41:59 PM
Bromide	7.5	0.50		mg/L	5	11/29/2012 8:41:59 PM
Nitrogen, Nitrate (As N)	15	0.50	*	mg/L	5	11/29/2012 8:41:59 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/29/2012 8:41:59 PM
Sulfate	1500	25		mg/L	50	12/3/2012 11:40:56 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: ELS
Calcium	370	10		mg/L	10	12/11/2012 9:16:37 PM
Magnesium	81	1.0		mg/L	1	12/11/2012 9:12:45 PM
Potassium	2.9	1.0		mg/L	1	12/11/2012 9:12:45 PM
Sodium	1300	20		mg/L	20	12/12/2012 5:57:06 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211A45

Date Reported: 12/26/2012

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** GWM-3**Project:** 4th QTR 2012 Groundwater Sampling**Collection Date:** 11/28/2012 6:50:00 AM**Lab ID:** 1211A45-003**Matrix:** AQUEOUS**Received Date:** 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: MMD
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/30/2012 5:26:12 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2012 5:26:12 PM
Surr: DNOP	115	79.5-166		%REC	1	11/30/2012 5:26:12 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	0.088	0.050		mg/L	1	12/5/2012 4:49:54 PM
Surr: BFB	103	51.9-148		%REC	1	12/5/2012 4:49:54 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/5/2012 4:49:54 PM
Benzene	ND	1.0		µg/L	1	12/5/2012 4:49:54 PM
Toluene	ND	1.0		µg/L	1	12/5/2012 4:49:54 PM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2012 4:49:54 PM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2012 4:49:54 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/5/2012 4:49:54 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/5/2012 4:49:54 PM
Surr: 4-Bromofluorobenzene	93.5	69.7-152		%REC	1	12/5/2012 4:49:54 PM
EPA METHOD 300.0: ANIONS						Analyst: JRR
Fluoride	5.6	0.50	*	mg/L	5	11/29/2012 9:56:27 PM
Chloride	1200	50		mg/L	100	12/1/2012 2:29:30 AM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/29/2012 9:56:27 PM
Bromide	7.8	0.50		mg/L	5	11/29/2012 9:56:27 PM
Nitrogen, Nitrate (As N)	8.8	0.50		mg/L	5	11/29/2012 9:56:27 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/29/2012 9:56:27 PM
Sulfate	1500	25		mg/L	50	12/4/2012 12:18:10 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: ELS
Calcium	340	10		mg/L	10	12/11/2012 9:24:12 PM
Magnesium	70	1.0		mg/L	1	12/11/2012 9:20:22 PM
Potassium	4.3	1.0		mg/L	1	12/11/2012 9:20:22 PM
Sodium	1200	20		mg/L	20	12/12/2012 6:00:49 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1211A45

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 10:10:00 AM

Lab ID: 1211A45-004

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Toluene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Ethylbenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Naphthalene	ND	2.0		µg/L	1	12/1/2012 8:45:00 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2012 8:45:00 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2012 8:45:00 AM
Acetone	ND	10		µg/L	1	12/1/2012 8:45:00 AM
Bromobenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Bromodichloromethane	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Bromoform	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Bromomethane	ND	3.0		µg/L	1	12/1/2012 8:45:00 AM
2-Butanone	ND	10		µg/L	1	12/1/2012 8:45:00 AM
Carbon disulfide	ND	10		µg/L	1	12/1/2012 8:45:00 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Chlorobenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Chloroethane	ND	2.0		µg/L	1	12/1/2012 8:45:00 AM
Chloroform	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Chloromethane	ND	3.0		µg/L	1	12/1/2012 8:45:00 AM
2-Chlorotoluene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
4-Chlorotoluene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
cis-1,2-DCE	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/1/2012 8:45:00 AM
Dibromochloromethane	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Dibromomethane	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	12/1/2012 8:45:00 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
2-Hexanone	ND	10		µg/L	1	12/1/2012 8:45:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1211A45

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 10:10:00 AM

Lab ID: 1211A45-004

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	12/1/2012 8:45:00 AM
Methylene Chloride	ND	3.0		µg/L	1	12/1/2012 8:45:00 AM
n-Butylbenzene	ND	3.0		µg/L	1	12/1/2012 8:45:00 AM
n-Propylbenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
sec-Butylbenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Styrene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
tert-Butylbenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/1/2012 8:45:00 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
trans-1,2-DCE	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/1/2012 8:45:00 AM
Vinyl chloride	ND	1.0		µg/L	1	12/1/2012 8:45:00 AM
Xylenes, Total	ND	1.5		µg/L	1	12/1/2012 8:45:00 AM
Surr: 1,2-Dichloroethane-d4	90.9	70-130		%REC	1	12/1/2012 8:45:00 AM
Surr: 4-Bromofluorobenzene	89.7	70-130		%REC	1	12/1/2012 8:45:00 AM
Surr: Dibromofluoromethane	89.3	70-130		%REC	1	12/1/2012 8:45:00 AM
Surr: Toluene-d8	95.4	70-130		%REC	1	12/1/2012 8:45:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1212203-001CMS	SampType:	MS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215451	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.55	0.0060	0.5000	0.02380	105	70	130			

Sample ID	1212203-001CMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215452	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.54	0.0060	0.5000	0.02380	103	70	130	1.63	20	

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215488	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215489	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	103	85	115			
Cadmium	0.52	0.0020	0.5000	0	103	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Copper	0.51	0.0060	0.5000	0	103	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Manganese	0.50	0.0020	0.5000	0	99.9	85	115			
Potassium	51	1.0	50.00	0	103	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R7459		RunNo: 7459							
Prep Date:	Analysis Date: 12/12/2012		SeqNo: 216090		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Sodium	ND	1.0								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R7459		RunNo: 7459							
Prep Date:	Analysis Date: 12/12/2012		SeqNo: 216091		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.48	0.020	0.5000	0.008800	94.8	85	115			
Sodium	49	1.0	50.00	0	97.2	85	115			

Sample ID 1211B17-001CMS	SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: R7459		RunNo: 7459							
Prep Date:	Analysis Date: 12/12/2012		SeqNo: 216131		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.53	0.020	0.5000	0.05518	94.7	70	130			

Sample ID 1211B17-001CMSD	SampType: MSD		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: R7459		RunNo: 7459							
Prep Date:	Analysis Date: 12/12/2012		SeqNo: 216132		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.52	0.020	0.5000	0.05518	93.9	70	130	0.765	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5060	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	5060	RunNo:	7330					
Prep Date:	12/3/2012	Analysis Date:	12/6/2012	SeqNo:	212657	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LCS-5060	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	5060	RunNo:	7330					
Prep Date:	12/3/2012	Analysis Date:	12/6/2012	SeqNo:	212658	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	101	85	115			
Cadmium	0.51	0.0020	0.5000	0	103	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Copper	0.50	0.0060	0.5000	0	99.2	85	115			
Iron	0.50	0.020	0.5000	0	100	85	115			
Lead	0.52	0.0050	0.5000	0	105	85	115			
Manganese	0.49	0.0020	0.5000	0	99.0	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

Value exceeds Maximum Contaminant Level.
Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A24-002EMS			SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals			
Client ID:	BatchQC		Batch ID:	R7276		RunNo:	7276				
Prep Date:				Analysis Date:	12/3/2012		SeqNo:	211011		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Selenium	0.027	0.0010	0.02500	0	109	70	130				

Sample ID	1211A26-004EMS			SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals			
Client ID:	BatchQC			Batch ID:	R7276		RunNo:	7276			
Prep Date:				Analysis Date:	12/3/2012		SeqNo:	211020		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Selenium	0.035	0.0010	0.02500	0.008707	106	70	130				

Sample ID	1211A87-002AMS			SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals			
Client ID:	BatchQC			Batch ID:	R7276		RunNo:	7276			
Prep Date:				Analysis Date:	12/3/2012		SeqNo:	211027		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Selenium	0.031	0.0010	0.02500	0.003913	110	70	130				

Sample ID	1211721-001EMS	SampType:	MS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7276	RunNo:	7276					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	211044	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.027	0.0010	0.02500	0	109	70	130			

Sample ID	LCS	SampType: LCS			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID: R7276			RunNo: 7276					
Prep Date:		Analysis Date: 12/3/2012			SeqNo: 211059		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.029	0.0010	0.02500	0	114	85	115			

Sample ID	LCS	SampType: LCS			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID: R7276			RunNo: 7276					
Prep Date:		Analysis Date: 12/3/2012			SeqNo: 211060		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.028	0.0010	0.02500	0	112	85	115			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7276	RunNo:	7276					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	211062	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7276	RunNo:	7276					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	211063	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID	1211721-001EMS	SampType:	MS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7429	RunNo:	7429					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215243	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.031	0.0010	0.02500	0.0007278	120	70	130			

Sample ID	1211A24-002EMS	SampType:	MS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7429	RunNo:	7429					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215248	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.038	0.0010	0.02500	0.01124	109	70	130			

Sample ID	1211A87-020AMS	SampType:	MS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7429	RunNo:	7429					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215255	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.18	0.0050	0.1250	0.03769	115	70	130			

Sample ID	1211A87-020AMS	SampType:	MS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7429	RunNo:	7429					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215256	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.030	0.0010	0.02500	0.0005523	119	70	130			

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7429	RunNo:	7429					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215282	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.028	0.0010	0.02500	0	111	85	115			
Lead	0.026	0.0010	0.02500	0	104	85	115			
Uranium	0.027	0.0010	0.02500	.00001042	107	85	115			

Qualifiers:

- | | | |
|--|----|--|
| Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID LCS	SampType: LCS		TestCode: EPA 200.8: Dissolved Metals							
Client ID: LCSW	Batch ID: R7429		RunNo: 7429							
Prep Date:	Analysis Date: 12/11/2012		SeqNo: 215283		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0	110	85	115			
Lead	0.026	0.0010	0.02500	0	106	85	115			
Uranium	0.028	0.0010	0.02500	0	113	85	115			

Sample ID MB	SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals							
Client ID: PBW	Batch ID: R7429		RunNo: 7429							
Prep Date:	Analysis Date: 12/11/2012		SeqNo: 215284		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Uranium	ND	0.0010								

Sample ID MB	SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals							
Client ID: PBW	Batch ID: R7429		RunNo: 7429							
Prep Date:	Analysis Date: 12/11/2012		SeqNo: 215285		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Uranium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	LLLCS-5060	SampType:	LCSLL	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	BatchQC	Batch ID:	5060	RunNo:	7315					
Prep Date:	12/3/2012	Analysis Date:	12/5/2012	SeqNo:	212142	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.055	0.0025	0.05000	0	110	85	115			
Selenium	0.057	0.0025	0.05000	0	113	85	115			

Sample ID	MB-5060	SampType:	MBLK	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	PBW	Batch ID:	5060	RunNo:	7315					
Prep Date:	12/3/2012	Analysis Date:	12/5/2012	SeqNo:	212147	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0025								
Selenium	ND	0.0025								

Sample ID	LLLCS-5060	SampType:	LCSLL	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	BatchQC	Batch ID:	5060	RunNo:	7405					
Prep Date:	12/3/2012	Analysis Date:	12/10/2012	SeqNo:	214533	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.052	0.0025	0.05000	0	105	85	115			

Sample ID	MB-5060	SampType:	MBLK	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	PBW	Batch ID:	5060	RunNo:	7405					
Prep Date:	12/3/2012	Analysis Date:	12/10/2012	SeqNo:	214540	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0025								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5067	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury					
Client ID:	PBW	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210569	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-5067	SampType:	LCS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	LCSW	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210570	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	80	120			

Sample ID	1211A26-001FMS	SampType:	MS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	BatchQC	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210597	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.0010	0.005000	0	108	75	125			

Sample ID	1211A26-001FMSD	SampType:	MSD	TestCode:	EPA Method 245.1: Mercury					
Client ID:	BatchQC	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210598	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.0010	0.005000	0	108	75	125	0.311	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R7206	RunNo:	7206					
Prep Date:		Analysis Date:	11/29/2012	SeqNo:	208928	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R7206	RunNo:	7206					
Prep Date:		Analysis Date:	11/29/2012	SeqNo:	208929	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.8	90	110			
Nitrogen, Nitrite (As N)	0.91	0.10	1.000	0	91.3	90	110			
Bromide	2.3	0.10	2.500	0	92.4	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	96.4	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.5	90	110			
Sulfate	9.2	0.50	10.00	0	91.8	90	110			

Sample ID	1211A42-001AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7206	RunNo:	7206					
Prep Date:		Analysis Date:	11/29/2012	SeqNo:	208931	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.87	0.10	0.5000	0.3889	96.2	76.6	110			
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	98.6	72.5	111			
Bromide	2.4	0.10	2.500	0.1781	88.8	83.3	107			
Nitrogen, Nitrate (As N)	3.7	0.10	2.500	1.134	104	90.4	113			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.4	74.5	115			

Sample ID	1211A42-001AMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7206	RunNo:	7206					
Prep Date:		Analysis Date:	11/29/2012	SeqNo:	208932	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.88	0.10	0.5000	0.3889	98.6	76.6	110	1.37	20	
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	92.0	72.5	111	6.92	20	
Bromide	2.4	0.10	2.500	0.1781	89.6	83.3	107	0.868	20	
Nitrogen, Nitrate (As N)	3.8	0.10	2.500	1.134	105	90.4	113	0.346	20	
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.7	74.5	115	1.35	20	

Qualifiers:

- | | | | |
|---|--|----|--|
| V | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| Q | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A38-003AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7206	RunNo:	7206					
Prep Date:		Analysis Date:	11/29/2012	SeqNo:	208935	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	106	76.6	110			
Bromide	3.0	0.10	2.500	0.4699	99.7	83.3	107			
Sulfate	29	0.50	10.00	18.74	103	84.6	122			

Sample ID	1211A38-003AMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7206	RunNo:	7206					
Prep Date:		Analysis Date:	11/29/2012	SeqNo:	208936	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	76.6	110	2.14	20	
Bromide	3.0	0.10	2.500	0.4699	101	83.3	107	1.36	20	
Sulfate	29	0.50	10.00	18.74	104	84.6	122	0.119	20	

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R7236	RunNo:	7236					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209905	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R7236	RunNo:	7236					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209906	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.6	90	110			

Sample ID	1211A44-001BMS		SampType:	MS		TestCode:	EPA Method 300.0: Anions				
Client ID:	BatchQC		Batch ID:	R7236		RunNo:	7236				
Prep Date:			Analysis Date:	11/30/2012		SeqNo:	209908		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	11	0.50	5.000	5.774	104	87.8	111				

Sample ID	1211A44-001BMSD			SampType:	MSD		TestCode:	EPA Method 300.0: Anions			
Client ID:	BatchQC		Batch ID:		R7236		RunNo:	7236			
Prep Date:				Analysis Date:	11/30/2012		SeqNo:	209909		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	11	0.50	5.000	5.774	108	87.8	111	1.83	20		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A36-001AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7236	RunNo:	7236					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209912	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	13	0.50	5.000	7.384	107	87.8	111			

Sample ID	1211A36-001AMSD			SampType:	MSD		TestCode:	EPA Method 300.0: Anions			
Client ID:	BatchQC		Batch ID:		R7236		RunNo:	7236			
Prep Date:				Analysis Date:	11/30/2012		SeqNo:	209913		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	13	0.50	5.000	7.384	108	87.8	111	0.273	20		

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R7236	RunNo:	7236					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209965	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID	LCS		SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSW		Batch ID:	R7236		RunNo:	7236				
Prep Date:			Analysis Date:	11/30/2012		SeqNo:	209966		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	4.6	0.50	5.000	0	92.2	90	110				

Sample ID	MB	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBW	Batch ID:	R7262		RunNo:	7262				
Prep Date:		Analysis Date:	12/3/2012		SeqNo:	210492	Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R7262	RunNo:	7262					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210493	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.8	0.50	10.00	0	98.1	90	110			

Sample ID	1212021-001CMS			SampType:	MS		TestCode:	EPA Method 300.0: Anions			
Client ID:	BatchQC			Batch ID:	R7262		RunNo:	7262			
Prep Date:				Analysis Date:	12/3/2012		SeqNo:	210495		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Sulfate	100	2.5	50.00	48.07	104	84.6	122				

Qualifiers:

- | | | |
|--|----|--|
| Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1212021-001CMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	R7262	RunNo:	7262					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210496	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	99	2.5	50.00	48.07	102	84.6	122	1.28	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5037	SampType:	MBLK	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	PBW	Batch ID:	5037	RunNo:	7208					
Prep Date:	11/30/2012	Analysis Date:	11/30/2012	SeqNo:	208984	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		115	79.5	166			

Sample ID	LCS-5037	SampType:	LCS	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	LCSW	Batch ID:	5037	RunNo:	7208					
Prep Date:	11/30/2012	Analysis Date:	11/30/2012	SeqNo:	208985	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	5.6	1.0	5.000	0	113	74	157			
Surr: DNOP	0.51		0.5000		102	79.5	166			

Sample ID	LCSD-5037	SampType:	LCSD	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	LCSS02	Batch ID:	5037	RunNo:	7208					
Prep Date:	11/30/2012	Analysis Date:	11/30/2012	SeqNo:	208986	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	74	157	0.957	23	
Surr: DNOP	0.50		0.5000		101	79.5	166	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210675	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		91.7	51.9	148			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSW	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210676	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.55	0.050	0.5000	0	111	75.9	119			
Surr: BFB	19		20.00		95.6	51.9	148			

Sample ID	1211A45-001AMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	GWM-1	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210678	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	6.5	0.50	5.000	1.052	108	63.5	131			
Surr: BFB	200		200.0		99.2	51.9	148			

Sample ID	1211A45-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	GWM-1	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210679	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	6.2	0.50	5.000	1.052	103	63.5	131	3.92	16.7	
Surr: BFB	200		200.0		101	51.9	148	0	0	

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R7317	RunNo:	7317					
Prep Date:		Analysis Date:	12/5/2012	SeqNo:	212300	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		93.1	51.9	148			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSW	Batch ID:	R7317	RunNo:	7317					
Prep Date:		Analysis Date:	12/5/2012	SeqNo:	212301	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.55	0.050	0.5000	0	110	75.9	119			
Surr: BFB	19		20.00		96.9	51.9	148			

Qualifiers:

- | | |
|--|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A45-002AMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	GWM-2	Batch ID:	R7317	RunNo:	7317					
Prep Date:		Analysis Date:	12/5/2012	SeqNo:	212309	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.44	0.050	0.5000	0.03200	81.0	63.5	131			
Surr: BFB	19		20.00		97.0	51.9	148			

Sample ID	1211A45-002AMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	GWM-2	Batch ID:	R7317	RunNo:	7317					
Prep Date:		Analysis Date:	12/5/2012	SeqNo:	212310	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.44	0.050	0.5000	0.03200	81.6	63.5	131	0.684	16.7	
Surr: BFB	20		20.00		99.1	51.9	148	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBW	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210685	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	19		20.00		93.2	69.7	152			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSW	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210686	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	20		20.00		100	69.7	152			

Sample ID	1211A79-001AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BatchQC	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210688	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	100		100.0		103	69.7	152			

Sample ID	1211A79-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	BatchQC	Batch ID:	R7242	RunNo:	7242					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	210689	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	100		100.0		103	69.7	152	0	0	

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBW	Batch ID:	R7317	RunNo:	7317					
Prep Date:		Analysis Date:	12/5/2012	SeqNo:	212324	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5								
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Surr: 4-Bromofluorobenzene	19		20.00		95.5	69.7	152			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSW	Batch ID:	R7317	RunNo:	7317					
Prep Date:		Analysis Date:	12/5/2012	SeqNo:	212325	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- | | |
|--|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	100NG BTEX LCS		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	LCSW		Batch ID:	R7317		RunNo:	7317				
Prep Date:			Analysis Date:	12/5/2012		SeqNo:	212325		Units:	µg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Methyl tert-butyl ether (MTBE)	20	2.5	20.00	0	98.2	66.9	136				
Benzene	21	1.0	20.00	0	105	80	120				
Toluene	21	1.0	20.00	0	106	80	120				
Ethylbenzene	21	1.0	20.00	0	106	80	120				
Xylenes, Total	65	2.0	60.00	0	109	80	120				
1,2,4-Trimethylbenzene	21	1.0	20.00	0	107	74.3	117				
1,3,5-Trimethylbenzene	22	1.0	20.00	0	110	75.8	117				
Surr: 4-Bromofluorobenzene	21		20.00		103	69.7	152				

Sample ID	1211A45-003AMS			SampType:	MS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	GWM-3			Batch ID:	R7317		RunNo:	7317			
Prep Date:				Analysis Date:	12/5/2012		SeqNo:	212334		Units:	µg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Methyl tert-butyl ether (MTBE)	16	2.5	20.00	0.1820	81.1	45.1	137				
Benzene	21	1.0	20.00	0.6220	99.7	74.1	124				
Toluene	21	1.0	20.00	0.2380	103	75.2	124				
Ethylbenzene	21	1.0	20.00	0.1680	103	69	125				
Xylenes, Total	64	2.0	60.00	0	107	73.1	126				
1,2,4-Trimethylbenzene	20	1.0	20.00	0.9240	95.7	63.1	121				
1,3,5-Trimethylbenzene	21	1.0	20.00	0.1600	103	60	133				
Surr: 4-Bromofluorobenzene	20		20.00		101	69.7	152				

Sample ID	1211A45-003AMSD			SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	GWM-3			Batch ID:	R7317		RunNo:	7317			
Prep Date:				Analysis Date:	12/5/2012		SeqNo:	212335		Units:	µg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Methyl tert-butyl ether (MTBE)	16	2.5	20.00	0.1820	77.5	45.1	137	4.41	13.6		
Benzene	20	1.0	20.00	0.6220	96.4	74.1	124	3.26	11.2		
Toluene	20	1.0	20.00	0.2380	99.1	75.2	124	4.14	11.9		
Ethylbenzene	20	1.0	20.00	0.1680	101	69	125	1.94	13.5		
Xylenes, Total	63	2.0	60.00	0	104	73.1	126	2.39	13		
1,2,4-Trimethylbenzene	18	1.0	20.00	0.9240	87.8	63.1	121	8.23	14.7		
1,3,5-Trimethylbenzene	20	1.0	20.00	0.1600	99.4	60	133	3.74	14		
Surr: 4-Bromofluorobenzene	20		20.00		101	69.7	152	0	0		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ml-rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R7228			RunNo: 7228					
Prep Date:		Analysis Date: 11/30/2012			SeqNo: 209545		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ml-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R7228	RunNo:	7228					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209545	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.7	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.3	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.2	70	130			
Surr: Toluene-d8	9.7		10.00		97.3	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R7228	RunNo:	7228					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209553	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.1	70	130			
Toluene	20	1.0	20.00	0	99.0	80	120			
Chlorobenzene	19	1.0	20.00	0	97.1	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	97.9	73.7	122			
Trichloroethene (TCE)	17	1.0	20.00	0	82.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.4	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.8	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R7228	RunNo:	7228					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209553	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	8.9		10.00		89.2	70	130			
Surr: Toluene-d8	9.6		10.00		95.5	70	130			

Sample ID	1211a24-001a ms	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	BatchQC	Batch ID:	R7228	RunNo:	7228					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209606	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.5	66.8	128			
Toluene	19	1.0	20.00	0	96.8	70	130			
Chlorobenzene	19	1.0	20.00	0	95.3	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	82.8	70	130			
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.2	70	130			
Surr: 4-Bromofluorobenzene	8.9		10.00		89.5	70	130			
Surr: Dibromofluoromethane	8.8		10.00		88.4	70	130			
Surr: Toluene-d8	9.4		10.00		94.3	70	130			

Sample ID	1211a24-001a msd	SampType:	MSD	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	BatchQC	Batch ID:	R7228	RunNo:	7228					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209607	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	92.2	66.8	128	5.53	16.7	
Toluene	18	1.0	20.00	0	92.1	70	130	4.93	18.7	
Chlorobenzene	18	1.0	20.00	0	90.6	70	130	5.11	19.5	
1,1-Dichloroethene	19	1.0	20.00	0	93.2	70	130	7.85	16.7	
Trichloroethene (TCE)	15	1.0	20.00	0	76.2	70	130	8.31	17.5	
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.3		10.00		93.0	70	130	0	0	
Surr: Dibromofluoromethane	9.1		10.00		90.7	70	130	0	0	
Surr: Toluene-d8	9.9		10.00		98.8	70	130	0	0	

Sample ID	b3	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R7228	RunNo:	7228					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209611	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID b3	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R7228	RunNo: 7228								
Prep Date:	Analysis Date: 11/30/2012	SeqNo: 209611	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								

Qualifiers:

Value exceeds Maximum Contaminant Level.
Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	b3		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW		Batch ID: R7228		RunNo: 7228					
Prep Date:			Analysis Date: 11/30/2012		SeqNo: 209611		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Methylene Chloride
n-Butylbenzene
n-Propylbenzene
sec-Butylbenzene
Styrene
tert-Butylbenzene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethene (PCE)
trans-1,2-DCE
trans-1,3-Dichloropropene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene (TCE)
Trichlorofluoromethane
1,2,3-Trichloropropane
Vinyl chloride
Xylenes, Total
Surr: 1,2-Dichloroethane-d4
Surr: 4-Bromofluorobenzene
Surr: Dibromofluoromethane
Surr: Toluene-d8

ND 3.0
ND 3.0
ND 1.0
ND 1.0
ND 1.0
ND 1.0
ND 1.0
ND 2.0
ND 1.0
ND 1.0
ND 1.0
ND 1.0
ND 1.0
ND 1.0
ND 1.0
ND 1.0
ND 2.0
ND 1.0
ND 1.5
8.9 10.00 88.8 70 130
9.5 10.00 94.7 70 130
8.7 10.00 87.3 70 130
9.8 10.00 97.8 70 130

Sample ID	100ng lcs2			SampType:	LCS			TestCode:	EPA Method 8260B: VOLATILES			
Client ID:	LCSW			Batch ID:	R7228			RunNo:	7228			
Prep Date:				Analysis Date:	11/30/2012			SeqNo:	209614		Units:	µg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

Benzene
Toluene
Chlorobenzene
1,1-Dichloroethene
Trichloroethene (TCE)
Surr: 1,2-Dichloroethane-d4
Surr: 4-Bromofluorobenzene
Surr: Dibromofluoromethane
Surr: Toluene-d8

20 1.0 20.00 0 99.9 70 130
19 1.0 20.00 0 96.1 80 120
19 1.0 20.00 0 94.9 70 130
20 1.0 20.00 0 98.9 73.7 122
16 1.0 20.00 0 81.3 70 130
9.0 10.00 89.9 70 130
9.0 10.00 89.5 70 130
8.9 10.00 88.7 70 130
9.3 10.00 93.4 70 130

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A45

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211a41-001a ms	SampType:	MS	TestCode: EPA Method 8260B: VOLATILES						
Client ID:	BatchQC	Batch ID:	R7228	RunNo: 7228						
Prep Date:		Analysis Date:	12/1/2012	SeqNo: 209651		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	66.8	128			
Toluene	20	1.0	20.00	0	97.9	70	130			
Chlorobenzene	19	1.0	20.00	0	96.9	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	103	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	86.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.4	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		89.6	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.1	70	130			
Surr: Toluene-d8	9.7		10.00		96.9	70	130			

Sample ID	1211a41-001a msd			SampType:	MSD		TestCode:	EPA Method 8260B: VOLATILES			
Client ID:	BatchQC		Batch ID:		R7228		RunNo:	7228			
Prep Date:				Analysis Date:	12/1/2012		SeqNo:	209652		Units:	µg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	20	1.0	20.00	0	101	66.8	128	0.638	16.7		
Toluene	19	1.0	20.00	0	95.2	70	130	2.84	18.7		
Chlorobenzene	19	1.0	20.00	0	94.0	70	130	3.07	19.5		
1,1-Dichloroethene	20	1.0	20.00	0	98.2	70	130	4.95	16.7		
Trichloroethene (TCE)	16	1.0	20.00	0	82.1	70	130	4.81	17.5		
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.8	70	130	0	0		
Surr: 4-Bromofluorobenzene	9.2		10.00		91.5	70	130	0	0		
Surr: Dibromofluoromethane	9.2		10.00		92.1	70	130	0	0		
Surr: Toluene-d8	9.5		10.00		94.7	70	130	0	0		

Qualifiers:

- | | | |
|--|----|--|
| Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| Sample pH greater than 2 | R | RPD outside accepted recovery limits |

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1211A45

Received by/date: AT 11/29/12

Logged By: Anne Thorne 11/29/2012 7:35:00 AM

Completed By: Anne Thorne 11/29/2012

Reviewed By: [Signature] 11/29/12

Chain of Custody

1. Were seals intact? Yes ☒ No ☐ Not Present ☐
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Client

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☒
10. Was preservative added to bottles? Yes ☒ No ☒ NA ☐
11. VOA vials have zero headspace? -001E-ADDED 1mL HNO_3 FOR ACCEPTABLE PH- [Signature] 11/29/12 (SEE ADDITIONAL REMARKS)
Yes ☒ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? -001A-ONE VOA RECEIVED BROKEN [Signature] 11/29/12
Yes ☒ No ☒
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)
Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 5
Adjusted? YES
Checked by: [Signature]

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	Date:
By Whom:	Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	
Client Instructions:	

18. Additional remarks:

-002D - FILTERED AND PRESERVED (0.4mL HNO_3) IN LAB - POURED FROM 002C (10F2) } PER ANNE
-003D - FILTERED AND PRESERVED (0.4mL HNO_3) IN LAB - POURED FROM 003C (10F2)

19. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			[Signature] 11/29/12



www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

[illegible]

samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. It is the responsibility of the client to advise as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

December 26, 2012

Cheryl Johnson

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL: (505) 722-0231

FAX (505) 722-0210

RE: 4th QTR 2012 Groundwater Sampling

OrderNo.: 1211B17

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 11/29/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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".

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1211B17

Date Reported: 12/26/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: East LDU

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 11:05:00 AM

Lab ID: 1211B17-001

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	19	1.0		mg/L	1	12/3/2012 6:29:53 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/3/2012 6:29:53 PM
Surr: DNOP	113	79.5-166		%REC	1	12/3/2012 6:29:53 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	27	5.0		mg/L	100	12/6/2012 3:53:40 PM
Surr: BFB	99.7	51.9-148		%REC	100	12/6/2012 3:53:40 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	12/6/2012 3:53:40 PM
Benzene	1100	100		µg/L	100	12/6/2012 3:53:40 PM
Toluene	890	100		µg/L	100	12/6/2012 3:53:40 PM
Ethylbenzene	510	100		µg/L	100	12/6/2012 3:53:40 PM
Xylenes, Total	6700	200		µg/L	100	12/6/2012 3:53:40 PM
Surr: 4-Bromofluorobenzene	102	69.7-152		%REC	100	12/6/2012 3:53:40 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: JLF
Barium	0.51	0.0020		mg/L	1	12/12/2012 6:04:32 PM
Cadmium	ND	0.0020		mg/L	1	12/12/2012 6:04:32 PM
Chromium	0.69	0.030	*	mg/L	5	12/12/2012 6:16:51 PM
Copper	ND	0.0060		mg/L	1	12/12/2012 6:04:32 PM
Iron	0.055	0.020		mg/L	1	12/12/2012 6:04:32 PM
Lead	ND	0.0050		mg/L	1	12/12/2012 6:04:32 PM
Manganese	1.0	0.010	*	mg/L	5	12/12/2012 6:16:51 PM
Silver	ND	0.0050		mg/L	1	12/14/2012 3:18:55 PM
Zinc	0.025	0.010		mg/L	1	12/12/2012 6:04:32 PM
EPA METHOD 200.7: TOTAL METALS						Analyst: JLF
Barium	0.53	0.0020		mg/L	1	12/7/2012 12:59:58 PM
Cadmium	ND	0.0020		mg/L	1	12/7/2012 12:59:58 PM
Chromium	0.71	0.0060	*	mg/L	1	12/7/2012 12:59:58 PM
Copper	ND	0.0060		mg/L	1	12/7/2012 12:59:58 PM
Iron	0.23	0.020		mg/L	1	12/7/2012 12:59:58 PM
Lead	ND	0.0050		mg/L	1	12/7/2012 12:59:58 PM
Manganese	1.1	0.010	*	mg/L	5	12/7/2012 1:03:52 PM
Silver	ND	0.0050		mg/L	1	12/7/2012 12:59:58 PM
Zinc	ND	0.010		mg/L	1	12/7/2012 12:59:58 PM
EPA 200.8: DISSOLVED METALS						Analyst: DBD
Arsenic	0.010	0.0050	*	mg/L	5	12/3/2012 4:34:09 PM
Selenium	0.015	0.0050		mg/L	5	12/3/2012 4:34:09 PM
Uranium	ND	0.020		mg/L	20	12/17/2012 4:59:30 PM
200.8 ICPMS METALS:TOTAL						Analyst: DBD
Arsenic	0.0095	0.0025		mg/L	2.5	12/10/2012 4:11:30 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1211B17

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: East LDU

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 11:05:00 AM

Lab ID: 1211B17-001

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
200.8 ICPMS METALS:TOTAL						Analyst: DBD
Selenium	0.0036	0.0025		mg/L	2.5	12/10/2012 4:11:30 PM
Uranium	ND	0.0025		mg/L	2.5	12/10/2012 4:11:30 PM
EPA METHOD 245.1: MERCURY						Analyst: TMG
Mercury	ND	0.00020		mg/L	1	12/3/2012 4:42:41 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211B17

Date Reported: 12/26/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Weste LDU

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 11:15:00 AM

Lab ID: 1211B17-002

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	5.7	1.0		mg/L	1	12/3/2012 7:01:28 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/3/2012 7:01:28 PM
Surr: DNOP	112	79.5-166		%REC	1	12/3/2012 7:01:28 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	25	5.0		mg/L	100	12/6/2012 4:23:58 PM
Surr: BFB	99.9	51.9-148		%REC	100	12/6/2012 4:23:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	12/6/2012 4:23:58 PM
Benzene	2000	100		µg/L	100	12/6/2012 4:23:58 PM
Toluene	1900	100		µg/L	100	12/6/2012 4:23:58 PM
Ethylbenzene	570	100		µg/L	100	12/6/2012 4:23:58 PM
Xylenes, Total	5100	200		µg/L	100	12/6/2012 4:23:58 PM
Surr: 4-Bromofluorobenzene	102	69.7-152		%REC	100	12/6/2012 4:23:58 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: JLF
Barium	0.16	0.0020		mg/L	1	12/12/2012 6:28:16 PM
Cadmium	ND	0.0020		mg/L	1	12/12/2012 6:28:16 PM
Chromium	0.071	0.0060		mg/L	1	12/12/2012 6:28:16 PM
Copper	ND	0.0060		mg/L	1	12/12/2012 6:28:16 PM
Iron	0.38	0.020	*	mg/L	1	12/12/2012 6:28:16 PM
Lead	ND	0.0050		mg/L	1	12/14/2012 3:31:39 PM
Manganese	0.55	0.0020	*	mg/L	1	12/12/2012 6:28:16 PM
Silver	ND	0.0050		mg/L	1	12/14/2012 3:31:39 PM
Zinc	0.040	0.010		mg/L	1	12/12/2012 6:28:16 PM
EPA METHOD 200.7: TOTAL METALS						Analyst: JLF
Barium	0.17	0.0020		mg/L	1	12/7/2012 1:07:44 PM
Cadmium	ND	0.0020		mg/L	1	12/7/2012 1:07:44 PM
Chromium	0.079	0.0060		mg/L	1	12/7/2012 1:07:44 PM
Copper	ND	0.0060		mg/L	1	12/7/2012 1:07:44 PM
Iron	0.72	0.020	*	mg/L	1	12/7/2012 1:07:44 PM
Lead	ND	0.0050		mg/L	1	12/7/2012 1:07:44 PM
Manganese	0.57	0.0020	*	mg/L	1	12/7/2012 1:07:44 PM
Silver	ND	0.0050		mg/L	1	12/7/2012 1:07:44 PM
Zinc	0.016	0.010		mg/L	1	12/7/2012 1:07:44 PM
EPA 200.8: DISSOLVED METALS						Analyst: DBD
Arsenic	ND	0.0050		mg/L	5	12/3/2012 4:38:05 PM
Selenium	0.013	0.0050		mg/L	5	12/3/2012 4:38:05 PM
Uranium	ND	0.050		mg/L	50	12/20/2012 11:26:16 AM
200.8 ICPMS METALS:TOTAL						Analyst: DBD
Arsenic	0.0031	0.0025		mg/L	2.5	12/10/2012 4:13:22 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1211B17

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Weste LDU

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 11:15:00 AM

Lab ID: 1211B17-002

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
200.8 ICPMS METALS:TOTAL						Analyst: DBD
Selenium	ND	0.0025		mg/L	2.5	12/10/2012 4:13:22 PM
Uranium	ND	0.0025		mg/L	2.5	12/10/2012 4:13:22 PM
EPA METHOD 245.1: MERCURY						Analyst: TMG
Mercury	ND	0.00020		mg/L	1	12/3/2012 4:44:30 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211B17

Date Reported: 12/26/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Oil Sump LDU

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 10:47:00 AM

Lab ID: 1211B17-003

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	13	1.0		mg/L	1	12/3/2012 7:33:11 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/3/2012 7:33:11 PM
Surr: DNOP	112	79.5-166		%REC	1	12/3/2012 7:33:11 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	37	10		mg/L	200	12/6/2012 4:54:13 PM
Surr: BFB	99.5	51.9-148		%REC	200	12/6/2012 4:54:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	500		µg/L	200	12/6/2012 4:54:13 PM
Benzene	2700	200		µg/L	200	12/6/2012 4:54:13 PM
Toluene	6600	200		µg/L	200	12/6/2012 4:54:13 PM
Ethylbenzene	570	200		µg/L	200	12/6/2012 4:54:13 PM
Xylenes, Total	5400	400		µg/L	200	12/6/2012 4:54:13 PM
Surr: 4-Bromofluorobenzene	101	69.7-152		%REC	200	12/6/2012 4:54:13 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: JLF
Barium	0.32	0.0020		mg/L	1	12/12/2012 6:48:37 PM
Cadmium	ND	0.0020		mg/L	1	12/12/2012 6:48:37 PM
Chromium	0.080	0.0060		mg/L	1	12/12/2012 6:48:37 PM
Copper	ND	0.0060		mg/L	1	12/12/2012 6:48:37 PM
Iron	0.37	0.020	*	mg/L	1	12/12/2012 6:48:37 PM
Lead	ND	0.0050		mg/L	1	12/14/2012 3:35:38 PM
Manganese	1.1	0.010	*	mg/L	5	12/12/2012 6:52:39 PM
Silver	ND	0.0050		mg/L	1	12/14/2012 3:35:38 PM
Zinc	0.060	0.010		mg/L	1	12/12/2012 6:48:37 PM
EPA METHOD 200.7: TOTAL METALS						Analyst: JLF
Barium	0.34	0.0020		mg/L	1	12/7/2012 1:17:17 PM
Cadmium	ND	0.0020		mg/L	1	12/7/2012 1:17:17 PM
Chromium	0.085	0.0060		mg/L	1	12/7/2012 1:17:17 PM
Copper	ND	0.0060		mg/L	1	12/7/2012 1:17:17 PM
Iron	0.80	0.020	*	mg/L	1	12/7/2012 1:17:17 PM
Lead	ND	0.0050		mg/L	1	12/7/2012 1:17:17 PM
Manganese	1.1	0.010	*	mg/L	5	12/7/2012 1:32:25 PM
Silver	ND	0.0050		mg/L	1	12/7/2012 1:17:17 PM
Zinc	0.041	0.010		mg/L	1	12/7/2012 1:17:17 PM
EPA 200.8: DISSOLVED METALS						Analyst: DBD
Arsenic	0.014	0.0050	*	mg/L	5	12/3/2012 4:49:54 PM
Selenium	0.013	0.0050		mg/L	5	12/3/2012 4:49:54 PM
Uranium	ND	0.020		mg/L	20	12/17/2012 5:03:14 PM
200.8 ICPMS METALS:TOTAL						Analyst: DBD
Arsenic	0.011	0.0025	*	mg/L	2.5	12/11/2012 10:30:31 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1211B17

Date Reported: 12/26/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Oil Sump LDU

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 10:47:00 AM

Lab ID: 1211B17-003

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
200.8 ICPMS METALS:TOTAL						Analyst: DBD
Selenium	0.0046	0.0025		mg/L	2.5	12/11/2012 10:30:31 AM
Uranium	ND	0.0025		mg/L	2.5	12/11/2012 10:30:31 AM
EPA METHOD 245.1: MERCURY						Analyst: TMG
Mercury	ND	0.00020		mg/L	1	12/3/2012 4:46:17 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211B17

Date Reported: 12/26/2012

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** Field Blank**Project:** 4th QTR 2012 Groundwater Sampling**Collection Date:** 11/28/2012 10:10:00 AM**Lab ID:** 1211B17-004**Matrix:** AQUEOUS**Received Date:** 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/6/2012 5:54:33 PM
Surr: BFB	95.9	51.9-148		%REC	1	12/6/2012 5:54:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/6/2012 5:54:33 PM
Benzene	ND	1.0		µg/L	1	12/6/2012 5:54:33 PM
Toluene	ND	1.0		µg/L	1	12/6/2012 5:54:33 PM
Ethylbenzene	ND	1.0		µg/L	1	12/6/2012 5:54:33 PM
Xylenes, Total	ND	2.0		µg/L	1	12/6/2012 5:54:33 PM
Surr: 4-Bromofluorobenzene	95.7	69.7-152		%REC	1	12/6/2012 5:54:33 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211B17

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7459	RunNo:	7459					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216090	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Manganese	ND	0.0020								
Zinc	ND	0.010								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7459	RunNo:	7459					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216091	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.3	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.5	85	115			
Chromium	0.49	0.0060	0.5000	0	97.4	85	115			
Copper	0.48	0.0060	0.5000	0	96.0	85	115			
Iron	0.48	0.020	0.5000	0.008800	94.8	85	115			
Lead	0.49	0.0050	0.5000	0	97.2	85	115			
Manganese	0.47	0.0020	0.5000	0	94.5	85	115			
Zinc	0.48	0.010	0.5000	0	95.9	85	115			

Sample ID	1211B17-001CMS	SampType:	MS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	East LDU	Batch ID:	R7459	RunNo:	7459					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216131	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.97	0.0020	0.5000	0.5122	92.3	70	130			
Cadmium	0.47	0.0020	0.5000	0	95.0	70	130			
Copper	0.46	0.0060	0.5000	0	93.0	70	130			
Iron	0.53	0.020	0.5000	0.05518	94.7	70	130			
Lead	0.43	0.0050	0.5000	0	85.9	70	130			
Zinc	0.48	0.010	0.5000	0.02500	90.1	70	130			

Sample ID	1211B17-001CMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	East LDU	Batch ID:	R7459	RunNo:	7459					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216132	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.97	0.0020	0.5000	0.5122	91.6	70	130	0.361	20	
Cadmium	0.47	0.0020	0.5000	0	94.0	70	130	1.04	20	

Qualifiers:

- | | | |
|--|----|--|
| Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211B17

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211B17-001CMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	East LDU	Batch ID:	R7459	RunNo:	7459					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216132	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.46	0.0060	0.5000	0	91.0	70	130	2.11	20	
Iron	0.52	0.020	0.5000	0.05518	93.9	70	130	0.765	20	
Lead	0.42	0.0050	0.5000	0	85.0	70	130	1.12	20	
Zinc	0.46	0.010	0.5000	0.02500	87.9	70	130	2.37	20	

Sample ID	1211B17-001CMS	SampType:	MS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	East LDU	Batch ID:	R7459	RunNo:	7459					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216134	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	3.1	0.030	2.500	0.6944	96.4	70	130			
Manganese	3.4	0.010	2.500	1.030	93.6	70	130			

Sample ID	1211B17-001CMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	East LDU	Batch ID:	R7459	RunNo:	7459					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216135	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	3.1	0.030	2.500	0.6944	96.5	70	130	0.121	20	
Manganese	3.4	0.010	2.500	1.030	94.0	70	130	0.301	20	

Sample ID	1211B17-001CMS	SampType:	MS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	East LDU	Batch ID:	R7506	RunNo:	7506					
Prep Date:		Analysis Date:	12/14/2012	SeqNo:	217908	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.054	0.0050	0.1000	0	54.1	70	130			S

Sample ID	1211B17-001CMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	East LDU	Batch ID:	R7506	RunNo:	7506					
Prep Date:		Analysis Date:	12/14/2012	SeqNo:	217909	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.058	0.0050	0.1000	0	58.1	70	130	7.08	20	S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211B17

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5083	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	5083	RunNo:	7365					
Prep Date:	12/4/2012	Analysis Date:	12/7/2012	SeqNo:	213593	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LCS-5083	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	5083	RunNo:	7365					
Prep Date:	12/4/2012	Analysis Date:	12/7/2012	SeqNo:	213594	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.3	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.1	85	115			
Chromium	0.48	0.0060	0.5000	0.001110	96.0	85	115			
Copper	0.48	0.0060	0.5000	0	95.5	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Lead	0.49	0.0050	0.5000	0	97.5	85	115			
Manganese	0.47	0.0020	0.5000	0	93.9	85	115			
Silver	0.11	0.0050	0.1000	0.001200	107	85	115			
Zinc	0.48	0.010	0.5000	0	96.8	85	115			

Qualifiers:

- | | | | |
|---|--|----|--|
| V | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| Q | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211B17

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A24-002EMS			SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals			
Client ID:	BatchQC			Batch ID:	R7276		RunNo:	7276			
Prep Date:				Analysis Date:	12/3/2012		SeqNo:	211011		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.027	0.0010	0.02500	0.0006985	105	70	130				
Selenium	0.027	0.0010	0.02500	0	109	70	130				

Sample ID	1211A26-004EMS			SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals			
Client ID:	BatchQC			Batch ID:	R7276		RunNo:	7276			
Prep Date:				Analysis Date:	12/3/2012		SeqNo:	211020		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.032	0.0010	0.02500	0.004560	109	70	130				
Selenium	0.035	0.0010	0.02500	0.008707	106	70	130				

Sample ID	1211A87-002AMS		SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals				
Client ID:	BatchQC		Batch ID:	R7276		RunNo:	7276				
Prep Date:			Analysis Date:	12/3/2012		SeqNo:	211027		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.026	0.0010	0.02500	0.0002556	104	70	130				
Selenium	0.031	0.0010	0.02500	0.003913	110	70	130				

Sample ID	1211721-001EMS			SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals			
Client ID:	BatchQC			Batch ID:	R7276		RunNo:	7276			
Prep Date:				Analysis Date:	12/3/2012		SeqNo:	211044		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.028	0.0010	0.02500	0.0009008	107	70	130				
Selenium	0.027	0.0010	0.02500	0	109	70	130				

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R7276		RunNo: 7276					
Prep Date:			Analysis Date: 12/3/2012		SeqNo: 211059		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0	108	85	115			
Selenium	0.029	0.0010	0.02500	0	114	85	115			

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R7276		RunNo: 7276					
Prep Date:			Analysis Date: 12/3/2012		SeqNo: 211060		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0	105	85	115			
Selenium	0.028	0.0010	0.02500	0	112	85	115			

Qualifiers:

- | | |
|--|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211B17

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7276	RunNo:	7276					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	211062	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7276	RunNo:	7276					
Prep Date:		Analysis Date:	12/3/2012	SeqNo:	211063	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	1212092-004AMS		SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals				
Client ID:	BatchQC		Batch ID:	R7543		RunNo:	7543				
Prep Date:			Analysis Date:	12/17/2012		SeqNo:	218864		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Uranium	0.028	0.0010	0.02500	0.001620	106	70	130				

Sample ID	LCS	SampType: LCS			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID: R7543			RunNo: 7543					
Prep Date:		Analysis Date: 12/17/2012			SeqNo: 218897		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.026	0.0010	0.02500	0	103	85	115			

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7543	RunNo:	7543					
Prep Date:		Analysis Date:	12/17/2012	SeqNo:	218898	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.026	0.0010	0.02500	0	104	85	115			

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7543	RunNo:	7543					
Prep Date:		Analysis Date:	12/17/2012	SeqNo:	218899	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.026	0.0010	0.02500	0	102	85	115			

Qualifiers:

Value exceeds Maximum Contaminant Level.
Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211B17

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7543	RunNo:	7543					
Prep Date:		Analysis Date:	12/17/2012	SeqNo:	218900	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0010								

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7543	RunNo:	7543					
Prep Date:		Analysis Date:	12/17/2012	SeqNo:	218901	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0010								

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7543	RunNo:	7543					
Prep Date:		Analysis Date:	12/17/2012	SeqNo:	218902	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0010								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7633	RunNo:	7633					
Prep Date:		Analysis Date:	12/20/2012	SeqNo:	221764	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.026	0.0010	0.02500	0	104	85	115			

Sample ID	LCS	SampType:	LCS	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7633	RunNo:	7633					
Prep Date:		Analysis Date:	12/20/2012	SeqNo:	221765	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.026	0.0010	0.02500	0	104	85	115			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7633	RunNo:	7633					
Prep Date:		Analysis Date:	12/20/2012	SeqNo:	221766	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0010								

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7633	RunNo:	7633					
Prep Date:		Analysis Date:	12/20/2012	SeqNo:	221767	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211B17

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	LLLCS-5083	SampType:	LCSLL	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	BatchQC	Batch ID:	5083	RunNo:	7315					
Prep Date:	12/4/2012	Analysis Date:	12/5/2012	SeqNo:	212143	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.054	0.0025	0.05000	0	108	85	115			
Selenium	0.056	0.0025	0.05000	0	113	85	115			

Sample ID	MB-5083	SampType:	MBLK	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	PBW	Batch ID:	5083	RunNo:	7315					
Prep Date:	12/4/2012	Analysis Date:	12/5/2012	SeqNo:	212148	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0025								
Selenium	ND	0.0025								

Sample ID	LLLCS-5083	SampType:	LCSLL	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	BatchQC	Batch ID:	5083	RunNo:	7405					
Prep Date:	12/4/2012	Analysis Date:	12/10/2012	SeqNo:	214534	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.052	0.0025	0.05000	0	104	85	115			

Sample ID	MB-5083	SampType:	MBLK	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	PBW	Batch ID:	5083	RunNo:	7405					
Prep Date:	12/4/2012	Analysis Date:	12/10/2012	SeqNo:	214541	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0025								

Qualifiers:

Value exceeds Maximum Contaminant Level.
Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211B17

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5067	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury					
Client ID:	PBW	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210569	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-5067	SampType:	LCS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	LCSW	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210570	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	80	120			

Sample ID	1211A26-001FMS	SampType:	MS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	BatchQC	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210597	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.0010	0.005000	0	108	75	125			

Sample ID	1211A26-001FMSD	SampType:	MSD	TestCode:	EPA Method 245.1: Mercury					
Client ID:	BatchQC	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210598	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.0010	0.005000	0	108	75	125	0.311	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211B17

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	LCS-5075		SampType: LCS		TestCode: EPA Method 8015B: Diesel Range					
Client ID:	LCSW		Batch ID: 5075		RunNo: 7240					
Prep Date:	12/3/2012		Analysis Date: 12/3/2012		SeqNo: 210202		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.4	1.0	5.000	0	88.5	74	157			
Surr: DNOP	0.47		0.5000		94.0	79.5	166			

Sample ID	MB-5075		SampType:	MBLK		TestCode:	EPA Method 8015B: Diesel Range				
Client ID:	PBW		Batch ID:	5075		RunNo:	7240				
Prep Date:	12/3/2012		Analysis Date:	12/3/2012		SeqNo:	210370		Units:		mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	1.0									
Motor Oil Range Organics (MRO)	ND	5.0									
Surr: DNOP	1.0		1.000		103	79.5	166				

Sample ID	LCSD-5075		SampType:	LCSD		TestCode:	EPA Method 8015B: Diesel Range				
Client ID:	LCSS02		Batch ID:	5075		RunNo:	7240				
Prep Date:	12/3/2012		Analysis Date:	12/3/2012		SeqNo:	210371		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	4.2	1.0	5.000	0	83.9	74	157	5.34	23		
Surr: DNOP	0.48		0.5000		95.0	79.5	166	0	0		

Qualifiers:

Value exceeds Maximum Contaminant Level.
Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211B17

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R7345	RunNo:	7345					
Prep Date:		Analysis Date:	12/6/2012	SeqNo:	213132	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		95.7	51.9	148			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSW	Batch ID:	R7345	RunNo:	7345					
Prep Date:		Analysis Date:	12/6/2012	SeqNo:	213133	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.42	0.050	0.5000	0	83.8	75.9	119			
Surr: BFB	20		20.00		98.8	51.9	148			

Sample ID	1211B17-001AMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	East LDU	Batch ID:	R7345	RunNo:	7345					
Prep Date:		Analysis Date:	12/6/2012	SeqNo:	213138	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	85	5.0	50.00	27.10	116	63.5	131			
Surr: BFB	2000		2000		101	51.9	148			

Sample ID	1211B17-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	East LDU	Batch ID:	R7345	RunNo:	7345					
Prep Date:		Analysis Date:	12/6/2012	SeqNo:	213139	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	82	5.0	50.00	27.10	109	63.5	131	4.15	16.7	
Surr: BFB	2000		2000		102	51.9	148	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211B17

26-Dec-12

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID 5ML RB	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBW	Batch ID: R7345		RunNo: 7345							
Prep Date:	Analysis Date: 12/6/2012		SeqNo: 213146		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5								
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		98.4	69.7	152			

Sample ID 100NG BTEX LCS	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSW	Batch ID: R7345		RunNo: 7345							
Prep Date:	Analysis Date: 12/6/2012		SeqNo: 213147		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	19	2.5	20.00	0	93.3	66.9	136			
Benzene	21	1.0	20.00	0	103	80	120			
Toluene	20	1.0	20.00	0	102	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Xylenes, Total	63	2.0	60.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		102	69.7	152			

Sample ID 1211B17-002AMS	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: Weste LDU	Batch ID: R7345		RunNo: 7345							
Prep Date:	Analysis Date: 12/6/2012		SeqNo: 213152		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1900	250	2000	0	96.1	45.1	137			
Benzene	4100	100	2000	1969	109	74.1	124			
Toluene	4100	100	2000	1904	108	75.2	124			
Ethylbenzene	2700	100	2000	565.6	106	69	125			
Xylenes, Total	11000	200	6000	5109	106	73.1	126			
Surr: 4-Bromofluorobenzene	2100		2000		105	69.7	152			

Sample ID 1211B17-002AMSD	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: Weste LDU	Batch ID: R7345		RunNo: 7345							
Prep Date:	Analysis Date: 12/6/2012		SeqNo: 213153		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1800	250	2000	0	90.3	45.1	137	6.31	13.6	
Benzene	3800	100	2000	1969	89.5	74.1	124	9.78	11.2	
Toluene	3700	100	2000	1904	88.9	75.2	124	9.65	11.9	
Ethylbenzene	2400	100	2000	565.6	93.5	69	125	9.86	13.5	
Xylenes, Total	10000	200	6000	5109	89.8	73.1	126	8.80	13	
Surr: 4-Bromofluorobenzene	2100		2000		104	69.7	152	0	0	

Qualifiers:

- | | | |
|--|----|--|
| Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R | RPD outside accepted recovery limits |

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1211B17

Received by/date: *AT 11/29/12*

Logged By: Anne Thorne 11/29/2012 7:35:00 AM

Completed By: Anne Thorne 11/30/2012

Reviewed By: *[Signature]* 12/03/12

Chain of Custody

1. Were seals intact? Yes ☒ No ☐ Not Present ☐
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Client

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☒ NA ☐
Added 1mL HNO₃ to -001D, 2mL to -003D and 0.4mL to -003C for acceptable pH.
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 6
(<2 or >12 unless noted)
Adjusted? yes
Checked by: mg

Special Handling (if applicable)

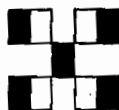
17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Client: stem Refining		☒ Standard ☐ Rush				
Mailing Address: Rt 3 Box 7		Project Name: 4th QTR 2012 Groundwater Sampling				
Phone #: 505-722-3833		Project #: Quarterly Sampling				
email or Fax#: 505-722-0210		Project Manager: Cheryl Johnson				
QA/QC Package: ☐ Standard ☐ Level 4 (Full Validation)		Sampler: JB ~CM				
Accreditation: ☐ NELAP ☐ Other		On Ice: ☒ Yes ☐ No				
☐ EDD (Type)		Sample Temperature: 1.0				
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
11/29/12	1105	W	East LDU	PLASTIC-2 VDA-4	2-HNO3 3-HCL 1-MON	1211317
11/29/12	1115	W	West LDU	PLASTIC-2 VDA-4	2-HNO3 3-HCL 1-MON	001
11/29/12	1047	W	Oil Sump LDU	PLASTIC-2 VDA-4	2-HNO3 3-HCL 1-MON	002
11/29/12	1010	W	FIELD BLANK	VDA-3	3-HCL	003
11/29/12		W	FIELD BLANK	VDA-3	3-HCL	004
			As-11/29/12			11/29/12
Remarks:						
Date:	Time:	Relinquished by:	Received by:	Date:	Time:	
11/29/12	0735			11/29/12	0735	
Date:	Time:	Relinquished by:	Received by:	Date:	Time:	

8015B (DRO/GRO)

WACC Metals (Total and Dissolved)

Air Bubbles (Y or N)



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

January 02, 2013

Cheryl Johnson

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL: (505) 722-0231

FAX (505) 722-0210

RE: 4th QTR 2012 Groundwater Sampling

OrderNo.: 1211A29

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/29/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1211A29

Date Reported: 1/2/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: AL-2 to EP-1

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 2:00:00 PM

Lab ID: 1211A29-001

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: MMD
Diesel Range Organics (DRO)	7.8	1.0		mg/L	1	11/30/2012 10:09:19 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2012 10:09:19 AM
Surr: DNOP	123	79.5-166		%REC	1	11/30/2012 10:09:19 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.25		mg/L	5	11/30/2012 12:57:12 AM
Surr: BFB	107	51.9-148		%REC	5	11/30/2012 12:57:12 AM
EPA METHOD 300.0: ANIONS						Analyst: JRR
Fluoride	4.5	0.50	*	mg/L	5	11/30/2012 12:57:46 AM
Chloride	380	10		mg/L	20	11/30/2012 1:10:10 AM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/30/2012 12:57:46 AM
Bromide	ND	0.50		mg/L	5	11/30/2012 12:57:46 AM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	11/30/2012 12:57:46 AM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/30/2012 12:57:46 AM
Sulfate	740	10		mg/L	20	11/30/2012 1:10:10 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: ELS
Barium	0.025	0.0020		mg/L	1	12/11/2012 8:28:27 PM
Cadmium	ND	0.0020		mg/L	1	12/11/2012 8:28:27 PM
Calcium	220	5.0		mg/L	5	12/11/2012 8:32:14 PM
Chromium	ND	0.0060		mg/L	1	12/11/2012 8:28:27 PM
Copper	ND	0.0060		mg/L	1	12/11/2012 8:28:27 PM
Iron	0.32	0.020	*	mg/L	1	12/11/2012 8:28:27 PM
Lead	ND	0.0050		mg/L	1	12/21/2012 1:35:17 PM
Magnesium	62	1.0		mg/L	1	12/11/2012 8:28:27 PM
Manganese	0.071	0.0020	*	mg/L	1	12/11/2012 8:28:27 PM
Potassium	21	1.0		mg/L	1	12/11/2012 8:28:27 PM
Silver	ND	0.0050		mg/L	1	12/11/2012 8:28:27 PM
Sodium	280	5.0		mg/L	5	12/12/2012 5:23:16 PM
Zinc	0.024	0.010		mg/L	1	12/11/2012 8:28:27 PM
EPA METHOD 200.7: TOTAL METALS						Analyst: JLF
Barium	0.024	0.0020		mg/L	1	12/10/2012 9:39:26 PM
Cadmium	ND	0.0020		mg/L	1	12/10/2012 9:39:26 PM
Chromium	ND	0.0060		mg/L	1	12/10/2012 9:39:26 PM
Copper	ND	0.0060		mg/L	1	12/11/2012 5:33:33 PM
Iron	0.37	0.020	*	mg/L	1	12/10/2012 9:39:26 PM
Lead	ND	0.0050		mg/L	1	12/10/2012 9:39:26 PM
Manganese	0.068	0.0020	*	mg/L	1	12/10/2012 9:39:26 PM
Silver	ND	0.0050		mg/L	1	12/10/2012 9:39:26 PM
Zinc	0.023	0.010		mg/L	1	12/11/2012 5:33:33 PM
EPA 200.8: DISSOLVED METALS						Analyst: DBD

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211A29

Date Reported: 1/2/2013

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** AL-2 to EP-1**Project:** 4th QTR 2012 Groundwater Sampling**Collection Date:** 11/28/2012 2:00:00 PM**Lab ID:** 1211A29-001**Matrix:** AQUEOUS**Received Date:** 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA 200.8: DISSOLVED METALS						Analyst: DBD
Arsenic	0.0044	0.0010		mg/L	1	12/3/2012 4:18:25 PM
Selenium	0.0020	0.0010		mg/L	1	12/3/2012 4:18:25 PM
Uranium	ND	0.0050		mg/L	5	12/12/2012 3:07:27 PM
200.8 ICPMS METALS:TOTAL						Analyst: DBD
Arsenic	0.0045	0.0025		mg/L	2.5	12/10/2012 3:45:17 PM
Selenium	ND	0.0025		mg/L	2.5	12/10/2012 3:45:17 PM
Uranium	ND	0.0025		mg/L	2.5	12/10/2012 3:45:17 PM
EPA METHOD 245.1: MERCURY						Analyst: TMG
Mercury	ND	0.00020		mg/L	1	12/3/2012 4:35:35 PM
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Toluene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Ethylbenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,2,4-Trimethylbenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,3,5-Trimethylbenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Naphthalene	ND	10		µg/L	5	12/1/2012 2:41:52 AM
1-Methylnaphthalene	ND	20		µg/L	5	12/1/2012 2:41:52 AM
2-Methylnaphthalene	ND	20		µg/L	5	12/1/2012 2:41:52 AM
Acetone	75	50		µg/L	5	12/1/2012 2:41:52 AM
Bromobenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Bromodichloromethane	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Bromoform	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Bromomethane	ND	15		µg/L	5	12/1/2012 2:41:52 AM
2-Butanone	ND	50		µg/L	5	12/1/2012 2:41:52 AM
Carbon disulfide	ND	50		µg/L	5	12/1/2012 2:41:52 AM
Carbon Tetrachloride	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Chlorobenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Chloroethane	ND	10		µg/L	5	12/1/2012 2:41:52 AM
Chloroform	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Chloromethane	ND	15		µg/L	5	12/1/2012 2:41:52 AM
2-Chlorotoluene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
4-Chlorotoluene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
cis-1,2-DCE	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
cis-1,3-Dichloropropene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,2-Dibromo-3-chloropropane	ND	10		µg/L	5	12/1/2012 2:41:52 AM
Dibromochloromethane	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Dibromomethane	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211A29

Date Reported: 1/2/2013

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** AL-2 to EP-1**Project:** 4th QTR 2012 Groundwater Sampling**Collection Date:** 11/28/2012 2:00:00 PM**Lab ID:** 1211A29-001**Matrix:** AQUEOUS**Received Date:** 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
1,2-Dichlorobenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,3-Dichlorobenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,4-Dichlorobenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Dichlorodifluoromethane	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,1-Dichloroethane	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,1-Dichloroethene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,2-Dichloropropane	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,3-Dichloropropane	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
2,2-Dichloropropane	ND	10		µg/L	5	12/1/2012 2:41:52 AM
1,1-Dichloropropene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Hexachlorobutadiene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
2-Hexanone	ND	50		µg/L	5	12/1/2012 2:41:52 AM
Isopropylbenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
4-Isopropyltoluene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
4-Methyl-2-pentanone	ND	50		µg/L	5	12/1/2012 2:41:52 AM
Methylene Chloride	ND	15		µg/L	5	12/1/2012 2:41:52 AM
n-Butylbenzene	ND	15		µg/L	5	12/1/2012 2:41:52 AM
n-Propylbenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
sec-Butylbenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Styrene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
tert-Butylbenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,1,2,2-Tetrachloroethane	ND	10		µg/L	5	12/1/2012 2:41:52 AM
Tetrachloroethene (PCE)	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
trans-1,2-DCE	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
trans-1,3-Dichloropropene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,2,3-Trichlorobenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,2,4-Trichlorobenzene	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,1,1-Trichloroethane	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,1,2-Trichloroethane	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Trichloroethene (TCE)	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Trichlorofluoromethane	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
1,2,3-Trichloropropane	ND	10		µg/L	5	12/1/2012 2:41:52 AM
Vinyl chloride	ND	5.0		µg/L	5	12/1/2012 2:41:52 AM
Xylenes, Total	ND	7.5		µg/L	5	12/1/2012 2:41:52 AM
Surr: 1,2-Dichloroethane-d4	91.8	70-130		%REC	5	12/1/2012 2:41:52 AM
Surr: 4-Bromofluorobenzene	89.3	70-130		%REC	5	12/1/2012 2:41:52 AM
Surr: Dibromofluoromethane	90.8	70-130		%REC	5	12/1/2012 2:41:52 AM
Surr: Toluene-d8	94.7	70-130		%REC	5	12/1/2012 2:41:52 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211A29

Date Reported: 1/2/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 11/28/2012 10:10:00 AM

Lab ID: 1211A29-002

Matrix: AQUEOUS

Received Date: 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Benzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Toluene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Ethylbenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Naphthalene	ND	2.0		µg/L	1	12/1/2012 3:10:02 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2012 3:10:02 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/1/2012 3:10:02 AM
Acetone	ND	10		µg/L	1	12/1/2012 3:10:02 AM
Bromobenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Bromodichloromethane	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Bromoform	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Bromomethane	ND	3.0		µg/L	1	12/1/2012 3:10:02 AM
2-Butanone	ND	10		µg/L	1	12/1/2012 3:10:02 AM
Carbon disulfide	ND	10		µg/L	1	12/1/2012 3:10:02 AM
Carbon Tetrachloride	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Chlorobenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Chloroethane	ND	2.0		µg/L	1	12/1/2012 3:10:02 AM
Chloroform	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Chloromethane	ND	3.0		µg/L	1	12/1/2012 3:10:02 AM
2-Chlorotoluene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
4-Chlorotoluene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
cis-1,2-DCE	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/1/2012 3:10:02 AM
Dibromochloromethane	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Dibromomethane	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,1-Dichloroethane	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,1-Dichloroethene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,2-Dichloropropane	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,3-Dichloropropane	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
2,2-Dichloropropane	ND	2.0		µg/L	1	12/1/2012 3:10:02 AM
1,1-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Hexachlorobutadiene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
2-Hexanone	ND	10		µg/L	1	12/1/2012 3:10:02 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1211A29

Date Reported: 1/2/2013

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** Field Blank**Project:** 4th QTR 2012 Groundwater Sampling**Collection Date:** 11/28/2012 10:10:00 AM**Lab ID:** 1211A29-002**Matrix:** AQUEOUS**Received Date:** 11/29/2012 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: RAA
Isopropylbenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
4-Isopropyltoluene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	12/1/2012 3:10:02 AM
Methylene Chloride	ND	3.0		µg/L	1	12/1/2012 3:10:02 AM
n-Butylbenzene	ND	3.0		µg/L	1	12/1/2012 3:10:02 AM
n-Propylbenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
sec-Butylbenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Styrene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
tert-Butylbenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/1/2012 3:10:02 AM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
trans-1,2-DCE	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Trichlorofluoromethane	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/1/2012 3:10:02 AM
Vinyl chloride	ND	1.0		µg/L	1	12/1/2012 3:10:02 AM
Xylenes, Total	ND	1.5		µg/L	1	12/1/2012 3:10:02 AM
Surr: 1,2-Dichloroethane-d4	91.5	70-130		%REC	1	12/1/2012 3:10:02 AM
Surr: 4-Bromofluorobenzene	89.1	70-130		%REC	1	12/1/2012 3:10:02 AM
Surr: Dibromofluoromethane	88.3	70-130		%REC	1	12/1/2012 3:10:02 AM
Surr: Toluene-d8	94.5	70-130		%REC	1	12/1/2012 3:10:02 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

WO#: 1211A29

Ill Environmental Analysis Laboratory, Inc.

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1212203-001CMS	SampType:	MS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215451	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.55	0.0060	0.5000	0.02380	105	70	130			

Sample ID	1212203-001CMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215452	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.54	0.0060	0.5000	0.02380	103	70	130	1.63	20	

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215488	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7435	RunNo:	7435					
Prep Date:		Analysis Date:	12/11/2012	SeqNo:	215489	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	103	85	115			
Cadmium	0.52	0.0020	0.5000	0	103	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Copper	0.51	0.0060	0.5000	0	103	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Manganese	0.50	0.0020	0.5000	0	99.9	85	115			
Potassium	51	1.0	50.00	0	103	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Legend:

- | | | | |
|---|--|----|--|
| V | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID MB	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: R7459	RunNo: 7459								
Prep Date:	Analysis Date: 12/12/2012	SeqNo: 216090 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID LCS	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: R7459	RunNo: 7459								
Prep Date:	Analysis Date: 12/12/2012	SeqNo: 216091 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	49	1.0	50.00	0	97.2	85	115			

Sample ID MB	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: R7695	RunNo: 7695								
Prep Date:	Analysis Date: 12/21/2012	SeqNo: 223513 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								

Sample ID LCS	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: R7695	RunNo: 7695								
Prep Date:	Analysis Date: 12/21/2012	SeqNo: 223514 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.51	0.0050	0.5000	0	102	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

all Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5060	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	5060	RunNo:	7330					
Prep Date:	12/3/2012	Analysis Date:	12/6/2012	SeqNo:	212657	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LCS-5060	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	5060	RunNo:	7330					
Prep Date:	12/3/2012	Analysis Date:	12/6/2012	SeqNo:	212658	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	101	85	115			
Cadmium	0.51	0.0020	0.5000	0	103	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Copper	0.50	0.0060	0.5000	0	99.2	85	115			
Iron	0.50	0.020	0.5000	0	100	85	115			
Lead	0.52	0.0050	0.5000	0	105	85	115			
Manganese	0.49	0.0020	0.5000	0	99.0	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Comments:

C Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A24-002EMS		SampType: MS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	BatchQC		Batch ID: R7276		RunNo: 7276					
Prep Date:			Analysis Date: 12/3/2012		SeqNo: 211011		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0.0006985	105	70	130			
Selenium	0.027	0.0010	0.02500	0	109	70	130			

Sample ID	1211A26-004EMS		SampType:	MS		TestCode:	EPA 200.8: Dissolved Metals				
Client ID:	BatchQC		Batch ID:	R7276		RunNo:	7276				
Prep Date:			Analysis Date:	12/3/2012		SeqNo:	211020		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.032	0.0010	0.02500	0.004560	109	70	130				
Selenium	0.035	0.0010	0.02500	0.008707	106	70	130				

Sample ID	1211A87-002AMS		SampType: MS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	BatchQC		Batch ID: R7276		RunNo: 7276					
Prep Date:			Analysis Date: 12/3/2012		SeqNo: 211027		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0.0002556	104	70	130			
Selenium	0.031	0.0010	0.02500	0.003913	110	70	130			

Sample ID	1211721-001EMS		SampType: MS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	BatchQC		Batch ID: R7276		RunNo: 7276					
Prep Date:			Analysis Date: 12/3/2012		SeqNo: 211044		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.028	0.0010	0.02500	0.0009008	107	70	130			
Selenium	0.027	0.0010	0.02500	0	109	70	130			

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R7276		RunNo: 7276					
Prep Date:			Analysis Date: 12/3/2012		SeqNo: 211059		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0	108	85	115			
Selenium	0.029	0.0010	0.02500	0	114	85	115			

Sample ID	LCS		SampType:	LCS		TestCode:	EPA 200.8: Dissolved Metals				
Client ID:	LCSW		Batch ID:	R7276		RunNo:	7276				
Prep Date:			Analysis Date:	12/3/2012		SeqNo:	211060		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.026	0.0010	0.02500	0	105	85	115				
Selenium	0.028	0.0010	0.02500	0	112	85	115				

Qualifiers:

- | | |
|--|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R RPD outside accepted recovery limits |

QC SUMMARY REPORT

WO#: 1211A29

Ill Environmental Analysis Laboratory, Inc.

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID MB	SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals							
Client ID: PBW	Batch ID: R7276		RunNo: 7276							
Prep Date:	Analysis Date: 12/3/2012		SeqNo: 211062		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID MB	SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals							
Client ID: PBW	Batch ID: R7276		RunNo: 7276							
Prep Date:	Analysis Date: 12/3/2012		SeqNo: 211063		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID 1211A87-002AMS	SampType: MS		TestCode: EPA 200.8: Dissolved Metals							
Client ID: BatchQC	Batch ID: R7464		RunNo: 7464							
Prep Date:	Analysis Date: 12/12/2012		SeqNo: 216453		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.14	0.0050	0.1250	0.008373	105	70	130			

Sample ID LCS	SampType: LCS		TestCode: EPA 200.8: Dissolved Metals							
Client ID: LCSW	Batch ID: R7464		RunNo: 7464							
Prep Date:	Analysis Date: 12/12/2012		SeqNo: 216494		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.025	0.0010	0.02500	.00001026	99.2	85	115			

Sample ID LCS	SampType: LCS		TestCode: EPA 200.8: Dissolved Metals							
Client ID: LCSW	Batch ID: R7464		RunNo: 7464							
Prep Date:	Analysis Date: 12/12/2012		SeqNo: 216496		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.026	0.0010	0.02500	0	104	85	115			

Sample ID MB	SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals							
Client ID: PBW	Batch ID: R7464		RunNo: 7464							
Prep Date:	Analysis Date: 12/12/2012		SeqNo: 216498		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0010								

Legend:

- | | | |
|--|----|--|
| Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7464	RunNo:	7464					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216499	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

WO#: 1211A29

Ill Environmental Analysis Laboratory, Inc.

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	LLLCS-5060	SampType:	LCSLL	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	BatchQC	Batch ID:	5060	RunNo:	7315					
Prep Date:	12/3/2012	Analysis Date:	12/5/2012	SeqNo:	212142	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.055	0.0025	0.05000	0	110	85	115			
Selenium	0.057	0.0025	0.05000	0	113	85	115			

Sample ID	MB-5060	SampType:	MBLK	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	PBW	Batch ID:	5060	RunNo:	7315					
Prep Date:	12/3/2012	Analysis Date:	12/5/2012	SeqNo:	212147	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0025								
Selenium	ND	0.0025								

Sample ID	LLLCS-5060	SampType:	LCSLL	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	BatchQC	Batch ID:	5060	RunNo:	7405					
Prep Date:	12/3/2012	Analysis Date:	12/10/2012	SeqNo:	214533	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.052	0.0025	0.05000	0	105	85	115			

Sample ID	MB-5060	SampType:	MBLK	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	PBW	Batch ID:	5060	RunNo:	7405					
Prep Date:	12/3/2012	Analysis Date:	12/10/2012	SeqNo:	214540	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.0025								

Legend:

- | | | | |
|---|--|----|--|
| V | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5067	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury					
Client ID:	PBW	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210569	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-5067		SampType:	LCS		TestCode:	EPA Method 245.1: Mercury				
Client ID:	LCSW		Batch ID:	5067		RunNo:	7264				
Prep Date:	12/3/2012		Analysis Date:	12/3/2012		SeqNo:	210570		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0051	0.00020	0.005000	0	102	80	120				

Sample ID	1211A26-001FMS	SampType:	MS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	BatchQC	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210597	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.0010	0.005000	0	108	75	125			

Sample ID	1211A26-001FMSD	SampType:	MSD	TestCode:	EPA Method 245.1: Mercury					
Client ID:	BatchQC	Batch ID:	5067	RunNo:	7264					
Prep Date:	12/3/2012	Analysis Date:	12/3/2012	SeqNo:	210598	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.0010	0.005000	0	108	75	125	0.311	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

WO#: 1211A29

II Environmental Analysis Laboratory, Inc.

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB		SampType: MBLK		TestCode: EPA Method 300.0: Anions					
Client ID:	PBW		Batch ID: R7205		RunNo: 7205					
Prep Date:			Analysis Date: 11/29/2012		SeqNo: 208819		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R7205		RunNo: 7205					
Prep Date:			Analysis Date: 11/29/2012		SeqNo: 208820		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Fluoride	0.51	0.10	0.5000	0	102	90	110			
Chloride	4.7	0.50	5.000	0	94.9	90	110			
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	93.2	90	110			
Bromide	2.4	0.10	2.500	0	96.6	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.8	90	110			
Phosphorus, Orthophosphate (As P)	5.0	0.50	5.000	0	99.3	90	110			
Sulfate	9.4	0.50	10.00	0	94.3	90	110			

Sample ID	1211A26-001DMS		SampType:	MS		TestCode:	EPA Method 300.0: Anions				
Client ID:	BatchQC		Batch ID:	R7205		RunNo:	7205				
Prep Date:			Analysis Date:	11/29/2012		SeqNo:	208822		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Fluoride	3.4	0.50	2.500	1.098	91.6	76.6	110			
Nitrogen, Nitrite (As N)	4.5	0.50	5.000	0	89.5	72.5	111			
Bromide	14	0.50	12.50	1.958	92.5	83.3	107			
Nitrogen, Nitrate (As N)	14	0.50	12.50	1.444	96.7	90.4	113			
Phosphorus, Orthophosphate (As P)	24	2.5	25.00	0	95.8	74.5	115			
Sulfate	120	2.5	50.00	69.93	97.5	84.6	122			

Sample ID	1211A26-001DMSD		SampType:	MSD		TestCode:	EPA Method 300.0: Anions				
Client ID:	BatchQC		Batch ID:	R7205		RunNo:	7205				
Prep Date:			Analysis Date:	11/29/2012		SeqNo:	208823		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Fluoride	3.4	0.50	2.500	1.098	93.7	76.6	110	1.48	20	
Nitrogen, Nitrite (As N)	4.4	0.50	5.000	0	88.8	72.5	111	0.774	20	
Bromide	13	0.50	12.50	1.958	92.1	83.3	107	0.319	20	
Nitrogen, Nitrate (As N)	13	0.50	12.50	1.444	96.4	90.4	113	0.237	20	

Legend:

Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A26-001DMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions						
Client ID:	BatchQC	Batch ID:	R7205	RunNo:	7205						
Prep Date:		Analysis Date:	11/29/2012	SeqNo:	208823	Units:	mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Phosphorus, Orthophosphate (As P	24	2.5	25.00	0	95.9	74.5	115	0.152	20		
Sulfate	120	2.5	50.00	69.93	99.0	84.6	122	0.610	20		

Qualifiers:

- | | |
|--|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R RPD outside accepted recovery limits |

QC SUMMARY REPORT

WO#: 1211A29

H Environmental Analysis Laboratory, Inc.

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5037	SampType:	MBLK	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	PBW	Batch ID:	5037	RunNo:	7208					
Prep Date:	11/30/2012	Analysis Date:	11/30/2012	SeqNo:	208984	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		115	79.5	166			

Sample ID	LCS-5037	SampType:	LCS	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	LCSW	Batch ID:	5037	RunNo:	7208					
Prep Date:	11/30/2012	Analysis Date:	11/30/2012	SeqNo:	208985	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.6	1.0	5.000	0	113	74	157			
Surr: DNOP	0.51		0.5000		102	79.5	166			

Sample ID	LCSD-5037	SampType:	LCSD	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	LCSS02	Batch ID:	5037	RunNo:	7208					
Prep Date:	11/30/2012	Analysis Date:	11/30/2012	SeqNo:	208986	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	74	157	0.957	23	
Surr: DNOP	0.50		0.5000		101	79.5	166	0	0	

Comments:

C Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ML RB-II	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R7201	RunNo:	7201					
Prep Date:		Analysis Date:	11/29/2012	SeqNo:	208706	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		101	51.9	148			

Sample ID	2.5UG GRO LCS-II	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSW	Batch ID:	R7201	RunNo:	7201					
Prep Date:		Analysis Date:	11/29/2012	SeqNo:	208707	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	93.4	75.9	119			
Surr: BFB	22		20.00		108	51.9	148			

Sample ID	1211A27-001AMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R7201	RunNo:	7201					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	208711	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	2.5	0.25	2.500	0	98.8	63.5	131			
Surr: BFB	110		100.0		108	51.9	148			

Sample ID	1211A27-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R7201	RunNo:	7201					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	208712	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	2.3	0.25	2.500	0	92.4	63.5	131	6.78	16.7	
Surr: BFB	110		100.0		105	51.9	148	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

WO#: 1211A29

Environmental Analysis Laboratory, Inc.

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ml-rb		SampType:	MBLK		TestCode:	EPA Method 8260B: VOLATILES				
Client ID:	PBW		Batch ID:	R7228		RunNo:	7228				
Prep Date:			Analysis Date:	11/30/2012		SeqNo:	209545		Units:	µg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
Methyl tert-butyl ether (MTBE)	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0
1,2-Dichloroethane (EDC)	ND	1.0
1,2-Dibromoethane (EDB)	ND	1.0
Naphthalene	ND	2.0
1-Methylnaphthalene	ND	4.0
2-Methylnaphthalene	ND	4.0
Acetone	ND	10
Bromobenzene	ND	1.0
Bromodichloromethane	ND	1.0
Bromoform	ND	1.0
Bromomethane	ND	3.0
Carbon disulfide	ND	10
Carbon Tetrachloride	ND	1.0
Chlorobenzene	ND	1.0
Chloroethane	ND	2.0
Chloroform	ND	1.0
Chloromethane	ND	3.0
2-Chlorotoluene	ND	1.0
4-Chlorotoluene	ND	1.0
cis-1,2-DCE	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
1,2-Dibromo-3-chloropropane	ND	2.0
Dibromochloromethane	ND	1.0
Dibromomethane	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
Dichlorodifluoromethane	ND	1.0
1,1-Dichloroethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
1,3-Dichloropropane	ND	1.0
2,2-Dichloropropane	ND	2.0
1,1-Dichloropropene	ND	1.0
Hexachlorobutadiene	ND	1.0

Comments:

C Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID 5ml-rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R7228		RunNo: 7228							
Prep Date:	Analysis Date: 11/30/2012		SeqNo: 209545		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.7	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.3	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.2	70	130			
Surr: Toluene-d8	9.7		10.00		97.3	70	130			

Sample ID 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R7228		RunNo: 7228							
Prep Date:	Analysis Date: 11/30/2012		SeqNo: 209553		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.1	70	130			
Toluene	20	1.0	20.00	0	99.0	80	120			
Chlorobenzene	19	1.0	20.00	0	97.1	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	97.9	73.7	122			
Trichloroethene (TCE)	17	1.0	20.00	0	82.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.4	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R7228	RunNo:	7228					
Prep Date:		Analysis Date:	11/30/2012	SeqNo:	209553	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	8.9		10.00		89.2	70	130			
Surr: Toluene-d8	9.6		10.00		95.5	70	130			

Sample ID	1211a24-001a ms			SampType:	MS		TestCode:	EPA Method 8260B: VOLATILES			
Client ID:	BatchQC		Batch ID:		R7228		RunNo:	7228			
Prep Date:			Analysis Date:		11/30/2012		SeqNo:	209606		Units:	µg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	19	1.0	20.00	0	97.5	66.8	128				
Toluene	19	1.0	20.00	0	96.8	70	130				
Chlorobenzene	19	1.0	20.00	0	95.3	70	130				
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130				
Trichloroethene (TCE)	17	1.0	20.00	0	82.8	70	130				
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.2	70	130				
Surr: 4-Bromofluorobenzene	8.9		10.00		89.5	70	130				
Surr: Dibromofluoromethane	8.8		10.00		88.4	70	130				
Surr: Toluene-d8	9.4		10.00		94.3	70	130				

Sample ID	1211a24-001a msd			SampType:	MSD		TestCode:	EPA Method 8260B: VOLATILES			
Client ID:	BatchQC		Batch ID:		R7228		RunNo:	7228			
Prep Date:			Analysis Date:		11/30/2012		SeqNo:	209607		Units:	µg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	18	1.0	20.00	0	92.2	66.8	128	5.53	16.7		
Toluene	18	1.0	20.00	0	92.1	70	130	4.93	18.7		
Chlorobenzene	18	1.0	20.00	0	90.6	70	130	5.11	19.5		
1,1-Dichloroethene	19	1.0	20.00	0	93.2	70	130	7.85	16.7		
Trichloroethene (TCE)	15	1.0	20.00	0	76.2	70	130	8.31	17.5		
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.8	70	130	0	0		
Surr: 4-Bromofluorobenzene	9.3		10.00		93.0	70	130	0	0		
Surr: Dibromofluoromethane	9.1		10.00		90.7	70	130	0	0		
Surr: Toluene-d8	9.9		10.00		98.8	70	130	0	0		

Sample ID	b3	SampType:	MBLK		TestCode:	EPA Method 8260B: VOLATILES				
Client ID:	PBW	Batch ID:	R7228		RunNo:	7228				
Prep Date:		Analysis Date:	11/30/2012		SeqNo:	209611	Units:	µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								

Legend:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID b3	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R7228		RunNo: 7228							
Prep Date:	Analysis Date: 11/30/2012		SeqNo: 209611		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Ill Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID b3	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R7228	RunNo: 7228								
Prep Date:	Analysis Date: 11/30/2012	SeqNo: 209611	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
ofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.9		10.00		88.8	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.7	70	130			
Surr: Dibromofluoromethane	8.7		10.00		87.3	70	130			
Surr: Toluene-d8	9.8		10.00		97.8	70	130			

Sample ID 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R7228	RunNo: 7228								
Prep Date:	Analysis Date: 11/30/2012	SeqNo: 209614	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.9	70	130			
Toluene	19	1.0	20.00	0	96.1	80	120			
Chlorobenzene	19	1.0	20.00	0	94.9	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	98.9	73.7	122			
Trichloroethene (TCE)	16	1.0	20.00	0	81.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		89.9	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		89.5	70	130			
Surr: Dibromofluoromethane	8.9		10.00		88.7	70	130			
Surr: Toluene-d8	9.3		10.00		93.4	70	130			

Q: rs:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A29

02-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211a41-001a ms	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	BatchQC	Batch ID:	R7228	RunNo:	7228					
Prep Date:		Analysis Date:	12/1/2012	SeqNo:	209651	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	66.8	128			
Toluene	20	1.0	20.00	0	97.9	70	130			
Chlorobenzene	19	1.0	20.00	0	96.9	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	103	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	86.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.4	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		89.6	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.1	70	130			
Surr: Toluene-d8	9.7		10.00		96.9	70	130			

Sample ID	1211a41-001a msd			SampType:	MSD		TestCode:	EPA Method 8260B: VOLATILES			
Client ID:	BatchQC		Batch ID:		R7228		RunNo:	7228			
Prep Date:			Analysis Date:		12/1/2012		SeqNo:	209652		Units:	µg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	20	1.0	20.00	0	101	66.8	128	0.638	16.7		
Toluene	19	1.0	20.00	0	95.2	70	130	2.84	18.7		
Chlorobenzene	19	1.0	20.00	0	94.0	70	130	3.07	19.5		
1,1-Dichloroethene	20	1.0	20.00	0	98.2	70	130	4.95	16.7		
Trichloroethene (TCE)	16	1.0	20.00	0	82.1	70	130	4.81	17.5		
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.8	70	130	0	0		
Surr: 4-Bromofluorobenzene	9.2		10.00		91.5	70	130	0	0		
Surr: Dibromofluoromethane	9.2		10.00		92.1	70	130	0	0		
Surr: Toluene-d8	9.5		10.00		94.7	70	130	0	0		

Qualifiers:

- | | |
|--|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R RPD outside accepted recovery limits |



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87105
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup

Work Order Number: 1211A29

Received by/date:

AT 11/29/12

Logged By: Anne Thorne

11/29/2012 7:35:00 AM

Anne Thorne

Completed By: Anne Thorne

11/29/2012

Anne Thorne

Reviewed By:

IO

11/29/2012

Chain of Custody

1. Were seals intact?

Yes ☒

No ☐

Not Present ☐

2. Is Chain of Custody complete?

Yes ☒

No ☐

Not Present ☐

3. How was the sample delivered?

Client

Log In

4. Coolers are present? (see 19. for cooler specific information)

Yes ☒

No ☐

NA ☐

5. Was an attempt made to cool the samples?

Yes ☒

No ☐

NA ☐

6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C

Yes ☒

No ☐

NA ☐

7. Sample(s) in proper container(s)?

Yes ☒

No ☐

8. Sufficient sample volume for indicated test(s)?

Yes ☒

No ☐

9. Are samples (except VOA and ONG) properly preserved?

Yes ☒

No ☐

10. Was preservative added to bottles?

Yes ☐

No ☒

NA ☐

11. VOA vials have zero headspace?

Yes ☒

No ☐

No VOA Vials ☐

12. Were any sample containers received broken?

Yes ☐

No ☒

13. Does paperwork match bottle labels?

Yes ☒

No ☐

(Note discrepancies on chain of custody)

14. Are matrices correctly identified on Chain of Custody?

Yes ☒

No ☐

15. Is it clear what analyses were requested?

Yes ☒

No ☐

16. Were all holding times able to be met?

Yes ☒

No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order?

Yes ☐

No ☐

NA ☒

Person Notified:

Date

By Whom:

Via:

☐

eMail

☐

Phone

☐

Fax

☐

In Person

Regarding:

Client Instructions:

18. Additional remarks:

19. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

January 11, 2013

Cheryl Johnson

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL: (505) 722-0231

FAX: (505) 722-0210

RE: 4th QTR 2012 Groundwater Sampling

OrderNo.: 1212231

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/5/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1212231

Date Reported: 1/11/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: AL-2 to EP-1

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 10:11:00 AM

Lab ID: 1212231-001

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Acenaphthylene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Aniline	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Anthracene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Azobenzene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Benz(a)anthracene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Benzo(a)pyrene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Benzo(b)fluoranthene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Benzo(g,h,i)perylene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Benzo(k)fluoranthene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Benzoic acid	ND	100		µg/L	1	12/7/2012 5:44:31 PM
Benzyl alcohol	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Bis(2-chloroethoxy)methane	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Bis(2-chloroethyl)ether	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Bis(2-chloroisopropyl)ether	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Bis(2-ethylhexyl)phthalate	ND	50		µg/L	1	12/7/2012 5:44:31 PM
4-Bromophenyl phenyl ether	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Butyl benzyl phthalate	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Carbazole	ND	50		µg/L	1	12/7/2012 5:44:31 PM
4-Chloro-3-methylphenol	ND	50		µg/L	1	12/7/2012 5:44:31 PM
4-Chloroaniline	ND	50		µg/L	1	12/7/2012 5:44:31 PM
2-Chloronaphthalene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
2-Chlorophenol	ND	50		µg/L	1	12/7/2012 5:44:31 PM
4-Chlorophenyl phenyl ether	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Chrysene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Di-n-butyl phthalate	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Di-n-octyl phthalate	ND	100		µg/L	1	12/7/2012 5:44:31 PM
Dibenz(a,h)anthracene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Dibenzofuran	ND	50		µg/L	1	12/7/2012 5:44:31 PM
1,2-Dichlorobenzene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
1,3-Dichlorobenzene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
1,4-Dichlorobenzene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
3,3'-Dichlorobenzidine	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Diethyl phthalate	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Dimethyl phthalate	ND	50		µg/L	1	12/7/2012 5:44:31 PM
2,4-Dichlorophenol	ND	100		µg/L	1	12/7/2012 5:44:31 PM
2,4-Dimethylphenol	ND	50		µg/L	1	12/7/2012 5:44:31 PM
4,6-Dinitro-2-methylphenol	ND	100		µg/L	1	12/7/2012 5:44:31 PM
2,4-Dinitrophenol	ND	100		µg/L	1	12/7/2012 5:44:31 PM
2,4-Dinitrotoluene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
2,6-Dinitrotoluene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Fluoranthene	ND	50		µg/L	1	12/7/2012 5:44:31 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1212231

Date Reported: 1/11/2013

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: AL-2 to EP-1

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 10:11:00 AM

Lab ID: 1212231-001

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Fluorene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Hexachlorobenzene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Hexachlorobutadiene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Hexachlorocyclopentadiene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Hexachloroethane	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Indeno(1,2,3-cd)pyrene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Isophorone	ND	50		µg/L	1	12/7/2012 5:44:31 PM
1-Methylnaphthalene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
2-Methylnaphthalene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
2-Methylphenol	ND	50		µg/L	1	12/7/2012 5:44:31 PM
3+4-Methylphenol	ND	50		µg/L	1	12/7/2012 5:44:31 PM
N-Nitrosodi-n-propylamine	ND	50		µg/L	1	12/7/2012 5:44:31 PM
N-Nitrosodimethylamine	ND	50		µg/L	1	12/7/2012 5:44:31 PM
N-Nitrosodiphenylamine	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Naphthalene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
2-Nitroaniline	ND	50		µg/L	1	12/7/2012 5:44:31 PM
3-Nitroaniline	ND	50		µg/L	1	12/7/2012 5:44:31 PM
4-Nitroaniline	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Nitrobenzene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
2-Nitrophenol	ND	50		µg/L	1	12/7/2012 5:44:31 PM
4-Nitrophenol	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Pentachlorophenol	ND	100		µg/L	1	12/7/2012 5:44:31 PM
Phenanthrene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Phenol	74	50		µg/L	1	12/7/2012 5:44:31 PM
Pyrene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Pyridine	ND	50		µg/L	1	12/7/2012 5:44:31 PM
1,2,4-Trichlorobenzene	ND	50		µg/L	1	12/7/2012 5:44:31 PM
2,4,5-Trichlorophenol	ND	50		µg/L	1	12/7/2012 5:44:31 PM
2,4,6-Trichlorophenol	ND	50		µg/L	1	12/7/2012 5:44:31 PM
Surr: 2,4,6-Tribromophenol	84.3	42.9-124		%REC	1	12/7/2012 5:44:31 PM
Surr: 2-Fluorobiphenyl	69.8	40-108		%REC	1	12/7/2012 5:44:31 PM
Surr: 2-Fluorophenol	51.1	23.6-94.8		%REC	1	12/7/2012 5:44:31 PM
Surr: 4-Terphenyl-d14	66.3	41.9-103		%REC	1	12/7/2012 5:44:31 PM
Surr: Nitrobenzene-d5	64.3	42.6-114		%REC	1	12/7/2012 5:44:31 PM
Surr: Phenol-d5	34.3	20.3-74.7		%REC	1	12/7/2012 5:44:31 PM

Qualifiers: * Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

RL Reporting Detection Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1212231

Date Reported: 1/11/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Pilot EFF

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 11:41:00 AM

Lab ID: 1212231-002

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						
						Analyst: MMD
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	12/7/2012 5:24:33 PM
Surr: DNOP	99.7	79.5-166		%REC	1	12/7/2012 5:24:33 PM
EPA METHOD 8015B: GASOLINE RANGE						
						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/12/2012 3:35:01 PM
Surr: BFB	90.0	51.9-148		%REC	1	12/12/2012 3:35:01 PM
EPA METHOD 200.7: DISSOLVED METALS						
						Analyst: JLF
Barium	0.018	0.0020		mg/L	1	12/18/2012 7:37:20 PM
Cadmium	ND	0.0020		mg/L	1	12/18/2012 7:37:20 PM
Chromium	ND	0.0060		mg/L	1	12/18/2012 7:37:20 PM
Copper	0.014	0.0060		mg/L	1	12/18/2012 7:37:20 PM
Iron	0.18	0.020		mg/L	1	12/18/2012 7:37:20 PM
Lead	ND	0.0050		mg/L	1	12/18/2012 7:37:20 PM
Manganese	0.030	0.0020		mg/L	1	12/18/2012 7:37:20 PM
Silver	ND	0.0050		mg/L	1	12/18/2012 7:37:20 PM
Zinc	0.058	0.010		mg/L	1	12/18/2012 7:37:20 PM
EPA METHOD 200.7: TOTAL METALS						
						Analyst: JLF
Barium	0.018	0.0020		mg/L	1	12/17/2012 4:47:45 PM
Cadmium	ND	0.0020		mg/L	1	12/17/2012 4:47:45 PM
Chromium	ND	0.0060		mg/L	1	12/17/2012 4:47:45 PM
Copper	0.031	0.0060		mg/L	1	12/17/2012 4:47:45 PM
Iron	0.23	0.020		mg/L	1	12/17/2012 4:47:45 PM
Lead	ND	0.0050		mg/L	1	12/17/2012 4:47:45 PM
Manganese	0.031	0.0020		mg/L	1	12/17/2012 4:47:45 PM
Silver	ND	0.0050		mg/L	1	12/17/2012 4:47:45 PM
Zinc	0.071	0.010		mg/L	1	12/17/2012 4:47:45 PM
EPA 200.8: DISSOLVED METALS						
						Analyst: DBD
Arsenic	0.0011	0.0010		mg/L	1	12/20/2012 11:30:01 AM
Selenium	0.0019	0.0010		mg/L	1	12/20/2012 11:30:01 AM
Uranium	0.0014	0.0010		mg/L	1	12/20/2012 11:30:01 AM
200.8 ICPMS METALS:TOTAL						
						Analyst: DBD
Arsenic	0.0027	0.0025		mg/L	2.5	12/20/2012 2:58:06 PM
Selenium	ND	0.0025		mg/L	2.5	12/18/2012 4:26:07 PM
Uranium	ND	0.0025		mg/L	2.5	12/20/2012 2:58:06 PM
EPA METHOD 245.1: MERCURY						
						Analyst: TMG
Mercury	ND	0.00020		mg/L	1	12/11/2012 2:38:13 PM
SM5210B: BOD						
						Analyst: JAL
Biochemical Oxygen Demand	180	2.0		mg/L	1	12/11/2012 4:39:00 AM
EPA METHOD 8260B: VOLATILES						
						Analyst: JMP

Qualifiers: * Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
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.

Analytical Report

Lab Order 1212231

Date Reported: 1/11/2013

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Pilot EFF

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 11:41:00 AM

Lab ID: 1212231-002

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JMP
Benzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Toluene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Naphthalene	ND	2.0		µg/L	1	12/13/2012 8:25:53 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/13/2012 8:25:53 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/13/2012 8:25:53 PM
Acetone	25	10		µg/L	1	12/13/2012 8:25:53 PM
Bromobenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Bromodichloromethane	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Bromoform	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Bromomethane	ND	3.0		µg/L	1	12/13/2012 8:25:53 PM
2-Butanone	ND	10		µg/L	1	12/13/2012 8:25:53 PM
Carbon disulfide	ND	10		µg/L	1	12/13/2012 8:25:53 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Chlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Chloroethane	ND	2.0		µg/L	1	12/13/2012 8:25:53 PM
Chloroform	1.1	1.0		µg/L	1	12/13/2012 8:25:53 PM
Chloromethane	ND	3.0		µg/L	1	12/13/2012 8:25:53 PM
2-Chlorotoluene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
4-Chlorotoluene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
cis-1,2-DCE	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/13/2012 8:25:53 PM
Dibromochloromethane	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Dibromomethane	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	12/13/2012 8:25:53 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
2-Hexanone	ND	10		µg/L	1	12/13/2012 8:25:53 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1212231

Date Reported: 1/11/2013

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** Pilot EFF**Project:** 4th QTR 2012 Groundwater Sampling**Collection Date:** 12/5/2012 11:41:00 AM**Lab ID:** 1212231-002**Matrix:** AQUEOUS**Received Date:** 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JMP
Isopropylbenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
4-Isopropyltoluene	8.0	1.0		µg/L	1	12/13/2012 8:25:53 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	12/13/2012 8:25:53 PM
Methylene Chloride	ND	3.0		µg/L	1	12/13/2012 8:25:53 PM
n-Butylbenzene	ND	3.0		µg/L	1	12/13/2012 8:25:53 PM
n-Propylbenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
sec-Butylbenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Styrene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
tert-Butylbenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/13/2012 8:25:53 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
trans-1,2-DCE	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/13/2012 8:25:53 PM
Vinyl chloride	ND	1.0		µg/L	1	12/13/2012 8:25:53 PM
Xylenes, Total	ND	1.5		µg/L	1	12/13/2012 8:25:53 PM
Surr: 1,2-Dichloroethane-d4	87.2	70-130		%REC	1	12/13/2012 8:25:53 PM
Surr: 4-Bromofluorobenzene	89.7	70-130		%REC	1	12/13/2012 8:25:53 PM
Surr: Dibromofluoromethane	98.5	70-130		%REC	1	12/13/2012 8:25:53 PM
Surr: Toluene-d8	89.2	70-130		%REC	1	12/13/2012 8:25:53 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1212231

Date Reported: 1/11/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 4th QTR 2012 Groundwater Sampling

Collection Date: 12/5/2012 11:45:00 AM

Lab ID: 1212231-003

Matrix: AQUEOUS

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JMP
Benzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Toluene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Naphthalene	ND	2.0		µg/L	1	12/13/2012 8:55:51 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/13/2012 8:55:51 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/13/2012 8:55:51 PM
Acetone	ND	10		µg/L	1	12/13/2012 8:55:51 PM
Bromobenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Bromodichloromethane	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Bromoform	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Bromomethane	ND	3.0		µg/L	1	12/13/2012 8:55:51 PM
2-Butanone	ND	10		µg/L	1	12/13/2012 8:55:51 PM
Carbon disulfide	ND	10		µg/L	1	12/13/2012 8:55:51 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Chlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Chloroethane	ND	2.0		µg/L	1	12/13/2012 8:55:51 PM
Chloroform	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Chloromethane	ND	3.0		µg/L	1	12/13/2012 8:55:51 PM
2-Chlorotoluene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
4-Chlorotoluene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
cis-1,2-DCE	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/13/2012 8:55:51 PM
Dibromochloromethane	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Dibromomethane	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	12/13/2012 8:55:51 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
2-Hexanone	ND	10		µg/L	1	12/13/2012 8:55:51 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1212231

Date Reported: 1/11/2013

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** Field Blank**Project:** 4th QTR 2012 Groundwater Sampling**Collection Date:** 12/5/2012 11:45:00 AM**Lab ID:** 1212231-003**Matrix:** AQUEOUS**Received Date:** 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JMP
Isopropylbenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	12/13/2012 8:55:51 PM
Methylene Chloride	ND	3.0		µg/L	1	12/13/2012 8:55:51 PM
n-Butylbenzene	ND	3.0		µg/L	1	12/13/2012 8:55:51 PM
n-Propylbenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
sec-Butylbenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Styrene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
tert-Butylbenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/13/2012 8:55:51 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
trans-1,2-DCE	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/13/2012 8:55:51 PM
Vinyl chloride	ND	1.0		µg/L	1	12/13/2012 8:55:51 PM
Xylenes, Total	ND	1.5		µg/L	1	12/13/2012 8:55:51 PM
Surr: 1,2-Dichloroethane-d4	87.2	70-130		%REC	1	12/13/2012 8:55:51 PM
Surr: 4-Bromofluorobenzene	103	70-130		%REC	1	12/13/2012 8:55:51 PM
Surr: Dibromofluoromethane	95.4	70-130		%REC	1	12/13/2012 8:55:51 PM
Surr: Toluene-d8	90.4	70-130		%REC	1	12/13/2012 8:55:51 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- 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.

Analytical Report

Lab Order 1212231

Date Reported: 1/11/2013

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: 4th QTR 2012 Groundwater Sampling

Collection Date:

Lab ID: 1212231-004

Matrix: TRIP BLANK

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JMP
Benzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Toluene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Naphthalene	ND	2.0		µg/L	1	12/13/2012 9:25:47 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	12/13/2012 9:25:47 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	12/13/2012 9:25:47 PM
Acetone	ND	10		µg/L	1	12/13/2012 9:25:47 PM
Bromobenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Bromodichloromethane	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Bromoform	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Bromomethane	ND	3.0		µg/L	1	12/13/2012 9:25:47 PM
2-Butanone	ND	10		µg/L	1	12/13/2012 9:25:47 PM
Carbon disulfide	ND	10		µg/L	1	12/13/2012 9:25:47 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Chlorobenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Chloroethane	ND	2.0		µg/L	1	12/13/2012 9:25:47 PM
Chloroform	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Chloromethane	ND	3.0		µg/L	1	12/13/2012 9:25:47 PM
2-Chlorotoluene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
4-Chlorotoluene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
cis-1,2-DCE	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/13/2012 9:25:47 PM
Dibromochloromethane	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Dibromomethane	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	12/13/2012 9:25:47 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
2-Hexanone	ND	10		µg/L	1	12/13/2012 9:25:47 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

Analytical Report

Lab Order 1212231

Date Reported: 1/11/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: 4th QTR 2012 Groundwater Sampling

Collection Date:

Lab ID: 1212231-004

Matrix: TRIP BLANK

Received Date: 12/5/2012 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: JMP
Isopropylbenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	12/13/2012 9:25:47 PM
Methylene Chloride	ND	3.0		µg/L	1	12/13/2012 9:25:47 PM
n-Butylbenzene	ND	3.0		µg/L	1	12/13/2012 9:25:47 PM
n-Propylbenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
sec-Butylbenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Styrene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
tert-Butylbenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/13/2012 9:25:47 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
trans-1,2-DCE	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/13/2012 9:25:47 PM
Vinyl chloride	ND	1.0		µg/L	1	12/13/2012 9:25:47 PM
Xylenes, Total	ND	1.5		µg/L	1	12/13/2012 9:25:47 PM
Surr: 1,2-Dichloroethane-d4	93.8	70-130		%REC	1	12/13/2012 9:25:47 PM
Surr: 4-Bromofluorobenzene	99.3	70-130		%REC	1	12/13/2012 9:25:47 PM
Surr: Dibromofluoromethane	94.4	70-130		%REC	1	12/13/2012 9:25:47 PM
Surr: Toluene-d8	97.1	70-130		%REC	1	12/13/2012 9:25:47 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits



12065 Lebanon Rd.
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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

December 13, 2012

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

Date Received : December 07, 2012
Description :
Sample ID : 1212231-002G PILOT EFF
Collected By :
Collection Date : 12/05/12 11:41

ESC Sample # : L609825-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
COD	340	10.	mg/l	410.4	12/12/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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

Reported: 12/13/12 08:10 Printed: 12/13/12 08:10



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Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
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Tax I.D. 62-0814289

Est. 1970

YOUR LAB OF CHOICE

Hall Environmental Analysis Laboratory
Anne Thorne
4901 Hawkins NE

Quality Assurance Report
Level II

Albuquerque, NM 87109

L609825

December 13, 2012

Analyte	Result	Laboratory Blank Units % Rec	Limit	Batch	Date Analyzed
COD	< 10	mg/l		WG627628	12/12/12 14:04

Analyte	Units	Result	Duplicate Duplicate	RPD	Limit	Ref Samp	Batch
COD	mg/l	140.	140.	0	5	L609820-02	WG627628
COD	mg/l	89.0	76.0	15.8*	5	L609494-01	WG627628

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
COD	mg/l	230	231.	100.	90-110	WG627628

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
COD	mg/l	236.	231.	103.	90-110	2.14	5	WG627628

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
COD	mg/l	584.	180.	400	101.	90-110	L609709-01	WG627628

Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
COD	mg/l	584.	584.	101.	90-110	0	5	L609709-01	WG627628

Batch number /Run number / Sample number cross reference

WG627628: R2475458: L609825-01

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

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

QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R7569	RunNo:	7569					
Prep Date:		Analysis Date:	12/18/2012	SeqNo:	219677	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R7569	RunNo:	7569					
Prep Date:		Analysis Date:	12/18/2012	SeqNo:	219678	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.3	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.6	85	115			
Chromium	0.48	0.0060	0.5000	0	96.9	85	115			
Copper	0.49	0.0060	0.5000	0	97.8	85	115			
Iron	0.48	0.020	0.5000	0.002200	96.5	85	115			
Lead	0.49	0.0050	0.5000	0	97.9	85	115			
Manganese	0.48	0.0020	0.5000	0	95.8	85	115			
Silver	0.10	0.0050	0.1000	0	99.7	85	115			
Zinc	0.49	0.010	0.5000	0	97.9	85	115			

Sample ID	1211A87-022AMS	SampType:	MS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7569	RunNo:	7569					
Prep Date:		Analysis Date:	12/18/2012	SeqNo:	219918	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0.01005	98.8	70	130			
Cadmium	0.51	0.0020	0.5000	0	103	70	130			
Chromium	0.48	0.0060	0.5000	0	96.7	70	130			
Copper	0.52	0.0060	0.5000	0	105	70	130			
Iron	0.74	0.020	0.5000	0.2567	96.8	70	130			
Manganese	0.98	0.0020	0.5000	0.5121	94.1	70	130			
Silver	0.094	0.0050	0.1000	0	93.6	70	130			
Zinc	0.47	0.010	0.5000	0.001350	93.1	70	130			

Modifiers:

- | | | | |
|---|--|----|--|
| V | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P | Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A87-022AMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	R7569	RunNo:	7569					
Prep Date:		Analysis Date:	12/18/2012	SeqNo:	219919	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0.01005	97.4	70	130	1.42	20	
Cadmium	0.51	0.0020	0.5000	0	101	70	130	1.76	20	
Chromium	0.48	0.0060	0.5000	0	95.0	70	130	1.74	20	
Copper	0.52	0.0060	0.5000	0	104	70	130	1.06	20	
Iron	0.74	0.020	0.5000	0.2567	95.9	70	130	0.607	20	
Manganese	0.98	0.0020	0.5000	0.5121	93.3	70	130	0.417	20	
Silver	0.090	0.0050	0.1000	0	90.3	70	130	3.63	20	
Zinc	0.46	0.010	0.5000	0.001350	92.0	70	130	1.16	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5180		SampType:	MBLK		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	PBW		Batch ID:	5180		RunNo:	7435			
Prep Date:	12/10/2012		Analysis Date:	12/11/2012		SeqNo:	215494		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LCS-5180		SampType:	LCS		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	LCSW		Batch ID:	5180		RunNo:	7435			
Prep Date:	12/10/2012		Analysis Date:	12/11/2012		SeqNo:	215495		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	102	85	115			
Cadmium	0.52	0.0020	0.5000	0	104	85	115			
Chromium	0.51	0.0060	0.5000	0	102	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.50	0.020	0.5000	0	99.6	85	115			
Lead	0.51	0.0050	0.5000	0	102	85	115			
Manganese	0.50	0.0020	0.5000	0	99.4	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Zinc	0.50	0.010	0.5000	0	101	85	115			

Sample ID	1211A90-015DMS		SampType:	MS		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	BatchQC		Batch ID:	5180		RunNo:	7544			
Prep Date:	12/10/2012		Analysis Date:	12/17/2012		SeqNo:	218971		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.78	0.0020	0.5000	0.3290	90.0	70	130			

Sample ID	1211A90-015DMSD		SampType:	MSD		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	BatchQC		Batch ID:	5180		RunNo:	7544			
Prep Date:	12/10/2012		Analysis Date:	12/17/2012		SeqNo:	218972		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.79	0.0020	0.5000	0.3290	93.0	70	130	1.88	20	

Qualifiers:

- | | | |
|--|----|--|
| Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1211A90-015DMS	SampType:	MS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	BatchQC	Batch ID:	5180	RunNo:	7544					
Prep Date:	12/10/2012	Analysis Date:	12/17/2012	SeqNo:	218974	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	1.5	0.10	0.5000	1.057	97.3	70	130			

Sample ID	1211A90-015DMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	BatchQC	Batch ID:	5180	RunNo:	7544					
Prep Date:	12/10/2012	Analysis Date:	12/17/2012	SeqNo:	218975	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	1.6	0.10	0.5000	1.057	104	70	130	2.02	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R7633		RunNo: 7633					
Prep Date:			Analysis Date: 12/20/2012		SeqNo: 221764		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	99.8	85	115			
Selenium	0.025	0.0010	0.02500	0	98.9	85	115			
Uranium	0.026	0.0010	0.02500	0	104	85	115			

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R7633		RunNo: 7633					
Prep Date:			Analysis Date: 12/20/2012		SeqNo: 221765		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.8	85	115			
Selenium	0.024	0.0010	0.02500	0	96.9	85	115			
Uranium	0.026	0.0010	0.02500	0	104	85	115			

Qualifiers:

- | | | |
|--|----|--|
| Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID	LLLCS-5180	SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total						
Client ID:	BatchQC	Batch ID: 5180		RunNo: 7580						
Prep Date:	12/10/2012	Analysis Date: 12/18/2012		SeqNo: 220017		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.053	0.0025	0.05000	0	106	85	115			
Selenium	0.056	0.0025	0.05000	0	111	85	115			
Uranium	0.052	0.0025	0.05000	0	103	85	115			

Sample ID	MB-5180	SampType:	MBLK	TestCode:	200.8 ICPMS Metals:Total					
Client ID:	PBW	Batch ID:	5180	RunNo:	7580					
Prep Date:	12/10/2012	Analysis Date:	12/18/2012	SeqNo:	220022	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0025								
Selenium	ND	0.0025								
Uranium	ND	0.0025								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5199	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury					
Client ID:	PBW	Batch ID:	5199	RunNo:	7426					
Prep Date:	12/10/2012	Analysis Date:	12/11/2012	SeqNo:	215141	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-5199	SampType:	LCS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	LCSW	Batch ID:	5199	RunNo:	7426					
Prep Date:	12/10/2012	Analysis Date:	12/11/2012	SeqNo:	215142	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	100	80	120			

Sample ID	1212327-001EMS	SampType:	MS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	BatchQC	Batch ID:	5199	RunNo:	7426					
Prep Date:	12/10/2012	Analysis Date:	12/11/2012	SeqNo:	215144	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0060	0.00020	0.005000	0	120	75	125			

Sample ID	1212327-001EMSD	SampType:	MSD	TestCode:	EPA Method 245.1: Mercury					
nt ID:	BatchQC	Batch ID:	5199	RunNo:	7426					
Prep Date:	12/10/2012	Analysis Date:	12/11/2012	SeqNo:	215145	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0058	0.00020	0.005000	0	116	75	125	3.48	20	

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5160	SampType:	MBLK	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	PBW	Batch ID:	5160	RunNo:	7361					
Prep Date:	12/7/2012	Analysis Date:	12/7/2012	SeqNo:	213899	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Surr: DNOP	1.0		1.000		103	79.5	166			

Sample ID	LCS-5160	SampType:	LCS	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	LCSW	Batch ID:	5160	RunNo:	7361					
Prep Date:	12/7/2012	Analysis Date:	12/7/2012	SeqNo:	213900	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.6	1.0	5.000	0	112	64.4	132			
Surr: DNOP	0.48		0.5000		96.6	79.5	166			

Sample ID	LCSD-5160	SampType:	LCSD	TestCode:	EPA Method 8015B: Diesel Range					
Client ID:	LCSS02	Batch ID:	5160	RunNo:	7361					
Prep Date:	12/7/2012	Analysis Date:	12/7/2012	SeqNo:	213901	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.5	1.0	5.000	0	109	64.4	132	2.75	20	
Surr: DNOP	0.49		0.5000		97.9	79.5	166	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R7391	RunNo:	7391					
Prep Date:		Analysis Date:	12/7/2012	SeqNo:	214089	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	19		20.00		95.6	51.9	148			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSW	Batch ID:	R7391	RunNo:	7391					
Prep Date:		Analysis Date:	12/7/2012	SeqNo:	214090	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	20		20.00		98.9	51.9	148			

Sample ID	1212334-002AMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R7391	RunNo:	7391					
Prep Date:		Analysis Date:	12/7/2012	SeqNo:	214102	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	20		20.00		101	51.9	148			

Sample ID	1212334-002AMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R7391	RunNo:	7391					
Prep Date:		Analysis Date:	12/7/2012	SeqNo:	214103	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	20		20.00		98.0	51.9	148	0	0	

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBW	Batch ID:	R7465	RunNo:	7465					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216511	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		92.3	51.9	148			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSW	Batch ID:	R7465	RunNo:	7465					
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216512	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.54	0.050	0.5000	0	108	75.9	119			
Surr: BFB	20		20.00		97.6	51.9	148			

Qualifiers:

- | | | |
|--|----|--|
| Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID	1212358-001AMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range						
Client ID:	BatchQC	Batch ID:	R7465	RunNo:	7465						
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216515	Units:	mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0	99.6	63.5	131				
Surr: BFB	20		20.00		98.5	51.9	148				

Sample ID	1212358-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range						
Client ID:	BatchQC	Batch ID:	R7465	RunNo:	7465						
Prep Date:		Analysis Date:	12/12/2012	SeqNo:	216516	Units:	mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	101	63.5	131	1.67	16.7		
Surr: BFB	19		20.00		96.9	51.9	148	0	0		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID: 5mL rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R7498	RunNo: 7498								
Prep Date:	Analysis Date: 12/13/2012	SeqNo: 217407	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
Carbon monoxide	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								

Qualifiers:

V Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH greater than 2

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	5mL rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R7498	RunNo:	7498					
Prep Date:		Analysis Date:	12/13/2012	SeqNo:	217407	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.0	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.5	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.4	70	130			
Surr: Toluene-d8	8.8		10.00		88.4	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R7498	RunNo:	7498					
Prep Date:		Analysis Date:	12/13/2012	SeqNo:	217408	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.7	70	130			
Toluene	18	1.0	20.00	0	88.6	80	120			
Chlorobenzene	19	1.0	20.00	0	95.4	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	73.7	122			
Trichloroethene (TCE)	17	1.0	20.00	0	87.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.1	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.4	70	130			

Qualifiers:

- | | |
|--|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R RPD outside accepted recovery limits |

QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R7498	RunNo: 7498								
Prep Date:	Analysis Date: 12/13/2012	SeqNo: 217408	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	9.3		10.00		93.3	70	130			
Surr: Toluene-d8	9.4		10.00		94.3	70	130			

Qualifiers:

- | | | |
|--|----|--|
| Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| E Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| P Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2012 Groundwater Sampling

Sample ID	mb-5155	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	5155	RunNo:	7389					
Prep Date:	12/7/2012	Analysis Date:	12/7/2012	SeqNo:	214031	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	20								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	mb-5155	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	5155	RunNo:	7389					
Prep Date:	12/7/2012	Analysis Date:	12/7/2012	SeqNo:	214031	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
o-aniline	ND	10								
4-nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2,4,6-Tribromophenol	180		200.0		90.4	42.9	124			
Surr: 2-Fluorobiphenyl	86		100.0		86.3	40	108			
Surr: 2-Fluorophenol	150		200.0		76.6	23.6	94.8			
Surr: 4-Terphenyl-d14	76		100.0		76.2	41.9	103			
Surr: Nitrobenzene-d5	92		100.0		92.3	42.6	114			
Surr: Phenol-d5	100		200.0		50.8	20.3	74.7			

Qualifiers:

- | | | |
|--|----|--|
| Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit |
| Sample pH greater than 2 | R | RPD outside accepted recovery limits |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	Ics-5155		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSW		Batch ID: 5155		RunNo: 7389					
Prep Date:	12/7/2012		Analysis Date: 12/7/2012		SeqNo: 214038		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	80	10	100.0	0	79.8	43.3	92			
4-Chloro-3-methylphenol	150	10	200.0	0	77.0	46.3	108			
2-Chlorophenol	140	10	200.0	0	70.0	38	99.3			
1,4-Dichlorobenzene	71	10	100.0	0	70.8	30.8	80.6			
2,4-Dinitrotoluene	82	10	100.0	0	82.4	46.1	117			
N-Nitrosodi-n-propylamine	75	10	100.0	0	74.7	39.3	110			
4-Nitrophenol	74	10	200.0	0	36.9	29.8	67			
Pentachlorophenol	110	20	200.0	0	55.6	32.2	95.7			
Phenol	83	10	200.0	0	41.4	27	64.8			
Pyrene	73	10	100.0	0	72.7	44.7	97.3			
1,2,4-Trichlorobenzene	72	10	100.0	0	71.6	36.6	86.7			
Surr: 2,4,6-Tribromophenol	170		200.0		86.8	42.9	124			
Surr: 2-Fluorobiphenyl	90		100.0		90.2	40	108			
Surr: 2-Fluorophenol	130		200.0		65.5	23.6	94.8			
Surr: 4-Terphenyl-d14	76		100.0		75.8	41.9	103			
Surr: Nitrobenzene-d5	87		100.0		86.7	42.6	114			
Surr: Phenol-d5	98		200.0		49.0	20.3	74.7			

Sample ID	Icsd-5155		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02		Batch ID: 5155		RunNo: 7389					
Prep Date:	12/7/2012		Analysis Date: 12/7/2012		SeqNo: 214043		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	76	10	100.0	0	75.9	43.3	92	5.11	25	
4-Chloro-3-methylphenol	150	10	200.0	0	75.7	46.3	108	1.61	32.7	
2-Chlorophenol	150	10	200.0	0	76.2	38	99.3	8.54	20	
1,4-Dichlorobenzene	73	10	100.0	0	72.8	30.8	80.6	2.76	20	
2,4-Dinitrotoluene	80	10	100.0	0	80.3	46.1	117	2.56	29.9	
N-Nitrosodi-n-propylamine	78	10	100.0	0	77.7	39.3	110	3.88	23.1	
4-Nitrophenol	72	10	200.0	0	36.0	29.8	67	2.30	40.5	
Pentachlorophenol	110	20	200.0	0	54.6	32.2	95.7	1.80	37.3	
Phenol	88	10	200.0	0	43.9	27	64.8	5.79	20	
Pyrene	69	10	100.0	0	69.4	44.7	97.3	4.67	26.5	
1,2,4-Trichlorobenzene	71	10	100.0	0	71.2	36.6	86.7	0.588	27.2	
Surr: 2,4,6-Tribromophenol	190		200.0		93.4	42.9	124	0	0	
Surr: 2-Fluorobiphenyl	83		100.0		82.9	40	108	0	0	
Surr: 2-Fluorophenol	140		200.0		71.3	23.6	94.8	0	0	
Surr: 4-Terphenyl-d14	75		100.0		74.5	41.9	103	0	0	
Surr: Nitrobenzene-d5	88		100.0		88.0	42.6	114	0	0	
Surr: Phenol-d5	100		200.0		51.8	20.3	74.7	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212231

11-Jan-13

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2012 Groundwater Sampling

Sample ID	MB-5128	SampType:	MBLK	TestCode:	SM5210B: BOD					
Client ID:	PBW	Batch ID:	5128	RunNo:	7409					
Prep Date:	12/6/2012	Analysis Date:	12/11/2012	SeqNo:	214647	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID	MB-5128	SampType:	MBLK	TestCode:	SM5210B: BOD					
Client ID:	PBW	Batch ID:	5128	RunNo:	7409					
Prep Date:	12/6/2012	Analysis Date:	12/11/2012	SeqNo:	214648	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID	LCS-5128	SampType:	LCS	TestCode:	SM5210B: BOD					
Client ID:	LCSW	Batch ID:	5128	RunNo:	7409					
Prep Date:	12/6/2012	Analysis Date:	12/11/2012	SeqNo:	214649	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	170	2.0	198.0	0	83.4	80.3	103			

Sample ID	LCSD-5128	SampType:	LCSD	TestCode:	SM5210B: BOD					
Client ID:	LCSS02	Batch ID:	5128	RunNo:	7409					
Prep Date:	12/6/2012	Analysis Date:	12/11/2012	SeqNo:	214650	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	170	2.0	198.0	0	83.9	80.3	103	0.603	20	

Sample ID	1212180-001CDUP	SampType:	DUP	TestCode:	SM5210B: BOD					
Client ID:	BatchQC	Batch ID:	5128	RunNo:	7409					
Prep Date:	12/6/2012	Analysis Date:	12/11/2012	SeqNo:	214652	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	6.5	2.0						0.309	20	

Qualifiers:

Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
Value above quantitation range	H	Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P Sample pH greater than 2	R	RPD outside accepted recovery limits



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87105
TEL: 505-345-3975 FAX: 505-345-4101
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name:	Western Refining Gallup	Work Order Number:	1212231
Received by/date:	<u>MG</u> <u>12/05/12</u>		
Logged By:	Lindsay Mangin	12/5/2012 2:05:00 PM	<u>[Signature]</u>
Completed By:	Lindsay Mangin	12/5/2012 2:30:54 PM	<u>[Signature]</u>
Reviewed By:	<u>IO</u> <u>12/05/2012</u>		

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Client

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 3
(<2 or >12 unless noted)
Adjusted? _____
Checked by: mg

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	_____		
Client Instructions:	_____		

18. Additional remarks:

19. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Not Present			

