

AP - 111

**ANNUAL GW
MONITORING REPORT
(21 of 29)**

2016

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-19

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 7:45:00 AM

Lab ID: 1611492-002

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Surr: 4-Bromofluorobenzene	84.4	0	70-130		%Rec	20	11/14/2016 1:46:53 PM	R38696
Surr: Dibromofluoromethane	109	0	70-130		%Rec	20	11/14/2016 1:46:53 PM	R38696
Surr: Toluene-d8	99.3	0	70-130		%Rec	20	11/14/2016 1:46:53 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-34

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 8:25:00 AM

Lab ID: 1611492-003

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE								
							Analyst: JME	
Diesel Range Organics (DRO)	ND	0.69	1.0		mg/L	1	11/14/2016 9:23:47 PM	28621
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/14/2016 9:23:47 PM	28621
Surr: DNOP	105	0	77.1-144		%Rec	1	11/14/2016 9:23:47 PM	28621
EPA METHOD 8015D: GASOLINE RANGE								
							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	11/11/2016 12:00:43 AM	G38599
Surr: BFB	87.6	0	66.4-120		%Rec	1	11/11/2016 12:00:43 AM	G38599
EPA METHOD 300.0: ANIONS								
							Analyst: MRA	
Fluoride	0.46	0.050	0.10		mg/L	1	11/14/2016 11:04:42 PM	R38701
Chloride	240	1.0	10		mg/L	20	11/14/2016 11:17:07 PM	R38701
Bromide	1.5	0.044	0.10		mg/L	1	11/14/2016 11:04:42 PM	R38701
Phosphorus, Orthophosphate (As P)	ND	0.076	0.50	H	mg/L	1	11/14/2016 11:04:42 PM	R38701
Sulfate	180	2.8	10		mg/L	20	11/14/2016 11:17:07 PM	R38701
Nitrate+Nitrite as N	8.3	0.46	1.0		mg/L	5	11/17/2016 1:07:56 AM	A38771
EPA METHOD 200.7: DISSOLVED METALS								
							Analyst: TES	
Barium	0.057	0.0013	0.0020		mg/L	1	12/5/2016 7:14:21 PM	A39164
Cadmium	ND	0.00075	0.0020		mg/L	1	12/5/2016 7:14:21 PM	A39164
Calcium	53	0.50	1.0		mg/L	1	12/6/2016 4:21:09 PM	A39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/5/2016 7:14:21 PM	A39164
Copper	ND	0.0040	0.0060		mg/L	1	12/5/2016 7:14:21 PM	A39164
Iron	ND	0.020	0.020		mg/L	1	12/5/2016 7:14:21 PM	A39164
Magnesium	13	0.50	1.0		mg/L	1	12/6/2016 4:21:09 PM	A39177
Manganese	0.00035	0.00032	0.0020	J	mg/L	1	12/5/2016 7:14:21 PM	A39164
Potassium	1.7	0.50	1.0		mg/L	1	12/6/2016 4:21:09 PM	A39177
Silver	ND	0.0028	0.0050		mg/L	1	12/5/2016 7:14:21 PM	A39164
Sodium	390	2.5	5.0		mg/L	5	12/6/2016 4:30:47 PM	A39177
Zinc	0.0031	0.0028	0.010	J	mg/L	1	12/5/2016 7:14:21 PM	A39164
EPA METHOD 200.7: TOTAL METALS								
							Analyst: TES	
Barium	0.085	0.00079	0.0020		mg/L	1	12/5/2016 8:50:08 PM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/5/2016 8:50:08 PM	28977
Chromium	ND	0.0027	0.0060		mg/L	1	12/5/2016 8:50:08 PM	28977
Copper	ND	0.0030	0.0060		mg/L	1	12/5/2016 8:50:08 PM	28977
Iron	0.66	0.020	0.020	*	mg/L	1	12/5/2016 8:50:08 PM	28977
Manganese	0.017	0.00027	0.0020		mg/L	1	12/5/2016 8:50:08 PM	28977
Silver	ND	0.0015	0.0050		mg/L	1	12/5/2016 8:50:08 PM	28977
Zinc	0.0074	0.0027	0.010	J	mg/L	1	12/5/2016 8:50:08 PM	28977
EPA 200.8: DISSOLVED METALS								
							Analyst: JLF	
Arsenic	0.0030	0.00069	0.0050	J	mg/L	5	11/28/2016 3:29:52 PM	B39007

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-34

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 8:25:00 AM

Lab ID: 1611492-003

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: JLF	
Lead	ND	0.00017	0.00050		mg/L	1	11/23/2016 5:01:46 PM	B38954
Selenium	0.0077	0.0042	0.020	J	mg/L	20	11/28/2016 3:32:56 PM	B39007
Uranium	0.036	0.00026	0.0025	*	mg/L	5	11/28/2016 3:29:52 PM	B39007
200.8 ICPMS METALS:TOTAL							Analyst: JLF	
Arsenic	0.0026	0.0011	0.0050	J	mg/L	5	12/7/2016 12:40:02 PM	28977
Lead	0.00087	0.000081	0.00050		mg/L	1	12/5/2016 2:04:11 PM	28977
Selenium	0.011	0.0037	0.020	J	mg/L	20	12/7/2016 1:00:38 PM	28977
Uranium	0.038	0.00087	0.0025	*	mg/L	5	12/7/2016 12:40:02 PM	28977
EPA METHOD 245.1: MERCURY							Analyst: DBD	
Mercury	0.00024	0.000053	0.00020		mg/L	1	11/23/2016 6:20:15 PM	28845
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Acenaphthene	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Acenaphthylene	ND	2.4	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Aniline	ND	2.4	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Anthracene	ND	2.5	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Azobenzene	ND	2.7	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Benz(a)anthracene	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Benzo(a)pyrene	ND	2.7	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Benzoic acid	8.3	2.6	20	J	µg/L	1	11/15/2016 2:20:12 PM	28584
Benzyl alcohol	ND	3.0	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Bis(2-ethylhexyl)phthalate	6.4	2.6	10	J	µg/L	1	11/15/2016 2:20:12 PM	28584
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Carbazole	ND	2.3	10		µg/L	1	11/15/2016 2:20:12 PM	28584
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
4-Chloroaniline	ND	2.7	10		µg/L	1	11/15/2016 2:20:12 PM	28584
2-Chloronaphthalene	ND	2.3	10		µg/L	1	11/15/2016 2:20:12 PM	28584
2-Chlorophenol	ND	2.2	10		µg/L	1	11/15/2016 2:20:12 PM	28584
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Chrysene	ND	2.8	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Di-n-octyl phthalate	6.7	2.0	10	J	µg/L	1	11/15/2016 2:20:12 PM	28584

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Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-34

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 8:25:00 AM

Lab ID: 1611492-003

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Dibenzofuran	ND	2.5	10		µg/L	1	11/15/2016 2:20:12 PM	28584
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	11/15/2016 2:20:12 PM	28584
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	11/15/2016 2:20:12 PM	28584
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	11/15/2016 2:20:12 PM	28584
3,3'-Dichlorobenzidine	ND	2.4	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Diethyl phthalate	ND	2.7	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Dimethyl phthalate	ND	2.4	10		µg/L	1	11/15/2016 2:20:12 PM	28584
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	11/15/2016 2:20:12 PM	28584
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	11/15/2016 2:20:12 PM	28584
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	11/15/2016 2:20:12 PM	28584
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	11/15/2016 2:20:12 PM	28584
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	11/15/2016 2:20:12 PM	28584
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Fluoranthene	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Fluorene	ND	2.7	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Hexachlorobenzene	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Hexachlorobutadiene	ND	2.2	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Hexachloroethane	ND	2.4	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Isophorone	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
1-Methylnaphthalene	ND	2.9	10		µg/L	1	11/15/2016 2:20:12 PM	28584
2-Methylnaphthalene	ND	2.9	10		µg/L	1	11/15/2016 2:20:12 PM	28584
2-Methylphenol	ND	2.5	10		µg/L	1	11/15/2016 2:20:12 PM	28584
3+4-Methylphenol	ND	2.3	10		µg/L	1	11/15/2016 2:20:12 PM	28584
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	11/15/2016 2:20:12 PM	28584
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	11/15/2016 2:20:12 PM	28584
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Naphthalene	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
2-Nitroaniline	ND	2.8	10		µg/L	1	11/15/2016 2:20:12 PM	28584
3-Nitroaniline	ND	2.9	10		µg/L	1	11/15/2016 2:20:12 PM	28584
4-Nitroaniline	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Nitrobenzene	ND	2.8	10		µg/L	1	11/15/2016 2:20:12 PM	28584
2-Nitrophenol	ND	2.4	10		µg/L	1	11/15/2016 2:20:12 PM	28584
4-Nitrophenol	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Pentachlorophenol	ND	2.3	20		µg/L	1	11/15/2016 2:20:12 PM	28584
Phenanthrene	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Phenol	ND	2.0	10		µg/L	1	11/15/2016 2:20:12 PM	28584

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	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 Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-34

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 8:25:00 AM

Lab ID: 1611492-003

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Pyrene	ND	3.1	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Pyridine	ND	2.2	10		µg/L	1	11/15/2016 2:20:12 PM	28584
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	11/15/2016 2:20:12 PM	28584
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	11/15/2016 2:20:12 PM	28584
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	11/15/2016 2:20:12 PM	28584
Surr: 2-Fluorophenol	18.4	0	15-98.1		%Rec	1	11/15/2016 2:20:12 PM	28584
Surr: Phenol-d5	15.7	0	15-80.7		%Rec	1	11/15/2016 2:20:12 PM	28584
Surr: 2,4,6-Tribromophenol	28.0	0	15-112		%Rec	1	11/15/2016 2:20:12 PM	28584
Surr: Nitrobenzene-d5	48.8	0	27.2-90.7		%Rec	1	11/15/2016 2:20:12 PM	28584
Surr: 2-Fluorobiphenyl	46.1	0	23.3-85.6		%Rec	1	11/15/2016 2:20:12 PM	28584
Surr: 4-Terphenyl-d14	22.9	0	27.6-107	S	%Rec	1	11/15/2016 2:20:12 PM	28584
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	0.14	0.096	1.0	J	µg/L	1	11/14/2016 2:15:58 PM	R38696
Toluene	ND	0.12	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Ethylbenzene	0.16	0.11	1.0	J	µg/L	1	11/14/2016 2:15:58 PM	R38696
Methyl tert-butyl ether (MTBE)	0.97	0.21	1.0	J	µg/L	1	11/14/2016 2:15:58 PM	R38696
1,2,4-Trimethylbenzene	0.23	0.11	1.0	J	µg/L	1	11/14/2016 2:15:58 PM	R38696
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Naphthalene	0.40	0.093	2.0	J	µg/L	1	11/14/2016 2:15:58 PM	R38696
1-Methylnaphthalene	0.51	0.20	4.0	J	µg/L	1	11/14/2016 2:15:58 PM	R38696
2-Methylnaphthalene	0.48	0.16	4.0	J	µg/L	1	11/14/2016 2:15:58 PM	R38696
Acetone	ND	4.9	10		µg/L	1	11/14/2016 2:15:58 PM	R38696
Bromobenzene	ND	0.098	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Bromoform	ND	0.10	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Bromomethane	ND	0.78	3.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
2-Butanone	ND	0.74	10		µg/L	1	11/14/2016 2:15:58 PM	R38696
Carbon disulfide	ND	0.60	10		µg/L	1	11/14/2016 2:15:58 PM	R38696
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Chloroethane	ND	0.19	2.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Chloroform	ND	0.089	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Chloromethane	ND	0.21	3.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
cis-1,2-DCE	0.26	0.12	1.0	J	µg/L	1	11/14/2016 2:15:58 PM	R38696
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696

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CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-34

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 8:25:00 AM

Lab ID: 1611492-003

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Dibromochloromethane	ND	0.087	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Dibromomethane	ND	0.12	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,4-Dichlorobenzene	0.40	0.14	1.0	J	µg/L	1	11/14/2016 2:15:58 PM	R38696
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,1-Dichloroethene	2.8	0.11	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
2-Hexanone	ND	0.84	10		µg/L	1	11/14/2016 2:15:58 PM	R38696
Isopropylbenzene	ND	0.10	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	11/14/2016 2:15:58 PM	R38696
Methylene Chloride	ND	0.19	3.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
n-Butylbenzene	ND	0.16	3.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
n-Propylbenzene	ND	0.13	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Styrene	ND	0.11	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Tetrachloroethene (PCE)	0.22	0.15	1.0	J	µg/L	1	11/14/2016 2:15:58 PM	R38696
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Trichloroethene (TCE)	4.8	0.18	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Vinyl chloride	ND	0.20	1.0		µg/L	1	11/14/2016 2:15:58 PM	R38696
Xylenes, Total	ND	0.37	1.5		µg/L	1	11/14/2016 2:15:58 PM	R38696
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	11/14/2016 2:15:58 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-34

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 8:25:00 AM

Lab ID: 1611492-003

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Surr: 4-Bromofluorobenzene	96.7	0	70-130		%Rec	1	11/14/2016 2:15:58 PM	R38696
Surr: Dibromofluoromethane	111	0	70-130		%Rec	1	11/14/2016 2:15:58 PM	R38696
Surr: Toluene-d8	99.1	0	70-130		%Rec	1	11/14/2016 2:15:58 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-18

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:10:00 AM

Lab ID: 1611492-004

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE								Analyst: JME
Diesel Range Organics (DRO)	1.7	0.69	1.0		mg/L	1	11/14/2016 9:50:44 PM	28621
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/14/2016 9:50:44 PM	28621
Surr: DNOP	101	0	77.1-144		%Rec	1	11/14/2016 9:50:44 PM	28621
EPA METHOD 8015D: GASOLINE RANGE								Analyst: NSB
Gasoline Range Organics (GRO)	0.60	0.025	0.050		mg/L	1	11/11/2016 12:25:02 AM	G38599
Surr: BFB	110	0	66.4-120		%Rec	1	11/11/2016 12:25:02 AM	G38599
EPA METHOD 300.0: ANIONS								Analyst: MRA
Fluoride	0.62	0.050	0.10		mg/L	1	11/14/2016 11:29:31 PM	R38701
Chloride	160	1.0	10		mg/L	20	11/14/2016 11:41:55 PM	R38701
Bromide	0.85	0.044	0.10		mg/L	1	11/14/2016 11:29:31 PM	R38701
Phosphorus, Orthophosphate (As P)	ND	0.076	0.50	H	mg/L	1	11/14/2016 11:29:31 PM	R38701
Sulfate	0.23	0.14	0.50	J	mg/L	1	11/14/2016 11:29:31 PM	R38701
Nitrate+Nitrite as N	ND	0.46	1.0		mg/L	5	11/17/2016 1:20:20 AM	A38771
EPA METHOD 200.7: DISSOLVED METALS								Analyst: MED
Barium	1.7	0.0066	0.010		mg/L	5	12/6/2016 4:34:33 PM	A39177
Cadmium	ND	0.00075	0.0020		mg/L	1	12/5/2016 7:16:18 PM	A39164
Calcium	79	0.50	1.0		mg/L	1	12/6/2016 4:32:42 PM	A39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/5/2016 7:16:18 PM	A39164
Copper	ND	0.0040	0.0060		mg/L	1	12/5/2016 7:16:18 PM	A39164
Iron	0.81	0.020	0.020	*	mg/L	1	12/5/2016 7:16:18 PM	A39164
Magnesium	21	0.50	1.0		mg/L	1	12/6/2016 4:32:42 PM	A39177
Manganese	1.9	0.0016	0.010	*	mg/L	5	12/6/2016 4:34:33 PM	A39177
Potassium	0.67	0.50	1.0	J	mg/L	1	12/6/2016 4:32:42 PM	A39177
Silver	ND	0.0028	0.0050		mg/L	1	12/5/2016 7:16:18 PM	A39164
Sodium	280	2.5	5.0		mg/L	5	12/6/2016 4:34:33 PM	A39177
Zinc	ND	0.0028	0.010		mg/L	1	12/5/2016 7:16:18 PM	A39164
EPA METHOD 200.7: TOTAL METALS								Analyst: TES
Barium	1.7	0.0040	0.010		mg/L	5	12/5/2016 8:55:41 PM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/5/2016 8:54:03 PM	28977
Chromium	ND	0.0027	0.0060		mg/L	1	12/5/2016 8:54:03 PM	28977
Copper	ND	0.0030	0.0060		mg/L	1	12/5/2016 8:54:03 PM	28977
Iron	2.2	0.10	0.10	*	mg/L	5	12/5/2016 8:55:41 PM	28977
Manganese	1.8	0.0014	0.010	*	mg/L	5	12/5/2016 8:55:41 PM	28977
Silver	ND	0.0015	0.0050		mg/L	1	12/5/2016 8:54:03 PM	28977
Zinc	ND	0.0027	0.010		mg/L	1	12/5/2016 8:54:03 PM	28977
EPA 200.8: DISSOLVED METALS								Analyst: JLF
Arsenic	0.0025	0.00014	0.0010		mg/L	1	11/23/2016 5:17:14 PM	B38954

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-18

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:10:00 AM

Lab ID: 1611492-004

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS								
							Analyst: JLF	
Lead	ND	0.00017	0.00050		mg/L	1	11/23/2016 5:17:14 PM	B38954
Selenium	0.0053	0.00021	0.0010		mg/L	1	11/23/2016 5:17:14 PM	B38954
Uranium	0.0010	0.000051	0.00050		mg/L	1	11/23/2016 5:17:14 PM	B38954
200.8 ICPMS METALS:TOTAL								
							Analyst: JLF	
Arsenic	0.0033	0.00021	0.0010		mg/L	1	12/5/2016 2:16:17 PM	28977
Lead	0.00041	0.000081	0.00050	J	mg/L	1	12/5/2016 2:16:17 PM	28977
Selenium	0.0059	0.0019	0.010	J	mg/L	10	12/7/2016 1:21:11 PM	28977
Uranium	0.0011	0.00017	0.00050		mg/L	1	12/5/2016 2:16:17 PM	28977
EPA METHOD 245.1: MERCURY								
							Analyst: DBD	
Mercury	ND	0.000053	0.00020		mg/L	1	11/23/2016 6:22:16 PM	28845
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: DAM	
Acenaphthene	5.6	2.6	10	J	µg/L	1	11/15/2016 2:48:05 PM	28584
Acenaphthylene	ND	2.4	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Aniline	ND	2.4	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Anthracene	ND	2.5	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Azobenzene	ND	2.7	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Benz(a)anthracene	ND	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Benzo(a)pyrene	ND	2.7	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Benzoic acid	ND	2.6	20		µg/L	1	11/15/2016 2:48:05 PM	28584
Benzyl alcohol	ND	3.0	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Bis(2-ethylhexyl)phthalate	6.5	2.6	10	J	µg/L	1	11/15/2016 2:48:05 PM	28584
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Butyl benzyl phthalate	2.6	2.5	10	J	µg/L	1	11/15/2016 2:48:05 PM	28584
Carbazole	ND	2.3	10		µg/L	1	11/15/2016 2:48:05 PM	28584
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
4-Chloroaniline	ND	2.7	10		µg/L	1	11/15/2016 2:48:05 PM	28584
2-Chloronaphthalene	ND	2.3	10		µg/L	1	11/15/2016 2:48:05 PM	28584
2-Chlorophenol	ND	2.2	10		µg/L	1	11/15/2016 2:48:05 PM	28584
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Chrysene	ND	2.8	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Di-n-octyl phthalate	6.9	2.0	10	J	µg/L	1	11/15/2016 2:48:05 PM	28584

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-18

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:10:00 AM

Lab ID: 1611492-004

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Dibenzofuran	ND	2.5	10		µg/L	1	11/15/2016 2:48:05 PM	28584
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	11/15/2016 2:48:05 PM	28584
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	11/15/2016 2:48:05 PM	28584
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	11/15/2016 2:48:05 PM	28584
3,3'-Dichlorobenzidine	ND	2.4	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Diethyl phthalate	ND	2.7	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Dimethyl phthalate	ND	2.4	10		µg/L	1	11/15/2016 2:48:05 PM	28584
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	11/15/2016 2:48:05 PM	28584
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	11/15/2016 2:48:05 PM	28584
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	11/15/2016 2:48:05 PM	28584
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	11/15/2016 2:48:05 PM	28584
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	11/15/2016 2:48:05 PM	28584
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Fluoranthene	ND	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Fluorene	7.1	2.7	10	J	µg/L	1	11/15/2016 2:48:05 PM	28584
Hexachlorobenzene	ND	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Hexachlorobutadiene	ND	2.2	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Hexachloroethane	ND	2.4	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Isophorone	ND	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
1-Methylnaphthalene	57	2.9	10		µg/L	1	11/15/2016 2:48:05 PM	28584
2-Methylnaphthalene	20	2.9	10		µg/L	1	11/15/2016 2:48:05 PM	28584
2-Methylphenol	ND	2.5	10		µg/L	1	11/15/2016 2:48:05 PM	28584
3+4-Methylphenol	ND	2.3	10		µg/L	1	11/15/2016 2:48:05 PM	28584
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	11/15/2016 2:48:05 PM	28584
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	11/15/2016 2:48:05 PM	28584
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Naphthalene	18	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
2-Nitroaniline	ND	2.8	10		µg/L	1	11/15/2016 2:48:05 PM	28584
3-Nitroaniline	ND	2.9	10		µg/L	1	11/15/2016 2:48:05 PM	28584
4-Nitroaniline	ND	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Nitrobenzene	ND	2.8	10		µg/L	1	11/15/2016 2:48:05 PM	28584
2-Nitrophenol	ND	2.4	10		µg/L	1	11/15/2016 2:48:05 PM	28584
4-Nitrophenol	ND	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Pentachlorophenol	ND	2.3	20		µg/L	1	11/15/2016 2:48:05 PM	28584
Phenanthrene	3.7	2.6	10	J	µg/L	1	11/15/2016 2:48:05 PM	28584
Phenol	ND	2.0	10		µg/L	1	11/15/2016 2:48:05 PM	28584

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-18

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:10:00 AM

Lab ID: 1611492-004

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Pyrene	ND	3.1	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Pyridine	ND	2.2	10		µg/L	1	11/15/2016 2:48:05 PM	28584
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	11/15/2016 2:48:05 PM	28584
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	11/15/2016 2:48:05 PM	28584
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	11/15/2016 2:48:05 PM	28584
Surr: 2-Fluorophenol	27.3	0	15-98.1		%Rec	1	11/15/2016 2:48:05 PM	28584
Surr: Phenol-d5	21.0	0	15-80.7		%Rec	1	11/15/2016 2:48:05 PM	28584
Surr: 2,4,6-Tribromophenol	45.0	0	15-112		%Rec	1	11/15/2016 2:48:05 PM	28584
Surr: Nitrobenzene-d5	69.7	0	27.2-90.7		%Rec	1	11/15/2016 2:48:05 PM	28584
Surr: 2-Fluorobiphenyl	54.1	0	23.3-85.6		%Rec	1	11/15/2016 2:48:05 PM	28584
Surr: 4-Terphenyl-d14	38.2	0	27.6-107		%Rec	1	11/15/2016 2:48:05 PM	28584
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	16	0.096	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Toluene	0.30	0.12	1.0	J	µg/L	1	11/14/2016 2:45:01 PM	R38696
Ethylbenzene	14	0.11	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Methyl tert-butyl ether (MTBE)	81	0.21	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,2,4-Trimethylbenzene	0.78	0.11	1.0	J	µg/L	1	11/14/2016 2:45:01 PM	R38696
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,2-Dichloroethane (EDC)	0.42	0.12	1.0	J	µg/L	1	11/14/2016 2:45:01 PM	R38696
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Naphthalene	27	0.093	2.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1-Methylnaphthalene	110	2.0	40		µg/L	10	11/15/2016 5:24:18 AM	R38696
2-Methylnaphthalene	34	0.16	4.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Acetone	5.5	4.9	10	J	µg/L	1	11/14/2016 2:45:01 PM	R38696
Bromobenzene	ND	0.098	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Bromoform	ND	0.10	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Bromomethane	ND	0.78	3.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
2-Butanone	ND	0.74	10		µg/L	1	11/14/2016 2:45:01 PM	R38696
Carbon disulfide	ND	0.60	10		µg/L	1	11/14/2016 2:45:01 PM	R38696
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Chloroethane	ND	0.19	2.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Chloroform	ND	0.089	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Chloromethane	ND	0.21	3.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
cis-1,2-DCE	2.9	0.12	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-18

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:10:00 AM

Lab ID: 1611492-004

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Dibromochloromethane	ND	0.087	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Dibromomethane	ND	0.12	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,4-Dichlorobenzene	0.48	0.14	1.0	J	µg/L	1	11/14/2016 2:45:01 PM	R38696
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,1-Dichloroethene	0.60	0.11	1.0	J	µg/L	1	11/14/2016 2:45:01 PM	R38696
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
2-Hexanone	ND	0.84	10		µg/L	1	11/14/2016 2:45:01 PM	R38696
Isopropylbenzene	2.0	0.10	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
4-Isopropyltoluene	0.99	0.14	1.0	J	µg/L	1	11/14/2016 2:45:01 PM	R38696
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	11/14/2016 2:45:01 PM	R38696
Methylene Chloride	ND	0.19	3.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
n-Butylbenzene	1.3	0.16	3.0	J	µg/L	1	11/14/2016 2:45:01 PM	R38696
n-Propylbenzene	2.6	0.13	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
sec-Butylbenzene	1.5	0.12	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Styrene	ND	0.11	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
tert-Butylbenzene	0.32	0.12	1.0	J	µg/L	1	11/14/2016 2:45:01 PM	R38696
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Vinyl chloride	ND	0.20	1.0		µg/L	1	11/14/2016 2:45:01 PM	R38696
Xylenes, Total	0.76	0.37	1.5	J	µg/L	1	11/14/2016 2:45:01 PM	R38696
Surr: 1,2-Dichloroethane-d4	94.4	0	70-130		%Rec	1	11/14/2016 2:45:01 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-18

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:10:00 AM

Lab ID: 1611492-004

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Surr: 4-Bromofluorobenzene	93.2	0	70-130		%Rec	1	11/14/2016 2:45:01 PM	R38696
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	11/14/2016 2:45:01 PM	R38696
Surr: Toluene-d8	99.2	0	70-130		%Rec	1	11/14/2016 2:45:01 PM	R38696

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	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-36

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:45:00 AM

Lab ID: 1611492-005

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: JME								
1,2-Dibromoethane	ND	0.0033	0.010		µg/L	1	11/21/2016 1:03:19 PM	28775
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: JME								
Diesel Range Organics (DRO)	11	0.69	1.0		mg/L	1	11/14/2016 10:17:41 PM	28621
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/14/2016 10:17:41 PM	28621
Surr: DNOP	104	0	77.1-144		%Rec	1	11/14/2016 10:17:41 PM	28621
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	40	1.3	2.5		mg/L	50	11/11/2016 9:56:33 AM	B38637
Surr: BFB	96.1	0	66.4-120		%Rec	50	11/11/2016 9:56:33 AM	B38637
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	0.67	0.25	0.50		mg/L	5	11/14/2016 11:54:19 PM	R38701
Chloride	130	1.0	10		mg/L	20	11/15/2016 12:06:44 AM	R38701
Bromide	0.66	0.22	0.50		mg/L	5	11/14/2016 11:54:19 PM	R38701
Phosphorus, Orthophosphate (As P)	ND	0.38	2.5	H	mg/L	5	11/14/2016 11:54:19 PM	R38701
Sulfate	ND	0.71	2.5		mg/L	5	11/14/2016 11:54:19 PM	R38701
Nitrate+Nitrite as N	ND	0.46	1.0		mg/L	5	11/17/2016 1:32:45 AM	A38771
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: MED								
Barium	6.0	0.066	0.10	*	mg/L	50	12/6/2016 4:39:57 PM	A39177
Cadmium	ND	0.00075	0.0020		mg/L	1	12/5/2016 7:18:09 PM	A39164
Calcium	130	2.5	5.0		mg/L	5	12/6/2016 4:38:08 PM	A39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/5/2016 7:18:09 PM	A39164
Copper	ND	0.0040	0.0060		mg/L	1	12/5/2016 7:18:09 PM	A39164
Iron	13	1.0	1.0	*	mg/L	50	12/6/2016 4:39:57 PM	A39177
Magnesium	38	0.50	1.0		mg/L	1	12/6/2016 4:36:30 PM	A39177
Manganese	1.9	0.0016	0.010	*	mg/L	5	12/6/2016 4:38:08 PM	A39177
Potassium	1.0	0.50	1.0		mg/L	1	12/6/2016 4:36:30 PM	A39177
Silver	ND	0.0028	0.0050		mg/L	1	12/5/2016 7:18:09 PM	A39164
Sodium	210	2.5	5.0		mg/L	5	12/6/2016 4:38:08 PM	A39177
Zinc	0.0055	0.0028	0.010	J	mg/L	1	12/5/2016 7:18:09 PM	A39164
EPA METHOD 200.7: TOTAL METALS								
Analyst: MED								
Barium	6.6	0.0079	0.020	*	mg/L	10	12/6/2016 3:37:49 PM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/5/2016 8:57:39 PM	28977
Chromium	ND	0.0027	0.0060		mg/L	1	12/5/2016 8:57:39 PM	28977
Copper	0.0068	0.0030	0.0060		mg/L	1	12/5/2016 8:57:39 PM	28977
Iron	18	1.0	1.0	*	mg/L	50	12/6/2016 3:39:34 PM	28977
Manganese	1.9	0.0014	0.010	*	mg/L	5	12/5/2016 8:59:20 PM	28977
Silver	ND	0.0015	0.0050		mg/L	1	12/5/2016 8:57:39 PM	28977
Zinc	0.16	0.0027	0.010		mg/L	1	12/5/2016 8:57:39 PM	28977

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	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-36

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:45:00 AM

Lab ID: 1611492-005

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: JLF	
Arsenic	0.015	0.00014	0.0010	*	mg/L	1	11/23/2016 5:22:23 PM	B38954
Lead	0.0022	0.00017	0.00050		mg/L	1	11/23/2016 5:22:23 PM	B38954
Selenium	0.0042	0.00021	0.0010		mg/L	1	11/23/2016 5:22:23 PM	B38954
Uranium	0.00021	0.000051	0.00050	J	mg/L	1	11/23/2016 5:22:23 PM	B38954
200.8 ICPMS METALS:TOTAL							Analyst: JLF	
Arsenic	0.018	0.00021	0.0010	*	mg/L	1	12/5/2016 2:25:19 PM	28977
Lead	0.010	0.000081	0.00050		mg/L	1	12/5/2016 2:25:19 PM	28977
Selenium	0.0045	0.0019	0.010	J	mg/L	10	12/7/2016 1:26:19 PM	28977
Uranium	0.00085	0.00017	0.00050		mg/L	1	12/5/2016 2:25:19 PM	28977
EPA METHOD 245.1: MERCURY							Analyst: DBD	
Mercury	ND	0.000053	0.00020		mg/L	1	11/23/2016 6:24:18 PM	28845
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Acenaphthene	5.1	2.6	10	J	µg/L	1	11/15/2016 3:15:50 PM	28584
Acenaphthylene	ND	2.4	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Aniline	ND	2.4	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Anthracene	ND	2.5	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Azobenzene	ND	2.7	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Benz(a)anthracene	ND	2.6	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Benzo(a)pyrene	ND	2.7	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Benzoic acid	ND	2.6	20		µg/L	1	11/15/2016 3:15:50 PM	28584
Benzyl alcohol	ND	3.0	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Bis(2-ethylhexyl)phthalate	7.1	2.6	10	J	µg/L	1	11/15/2016 3:15:50 PM	28584
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Butyl benzyl phthalate	2.7	2.5	10	J	µg/L	1	11/15/2016 3:15:50 PM	28584
Carbazole	6.0	2.3	10	J	µg/L	1	11/15/2016 3:15:50 PM	28584
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	11/15/2016 3:15:50 PM	28584
4-Chloroaniline	ND	2.7	10		µg/L	1	11/15/2016 3:15:50 PM	28584
2-Chloronaphthalene	ND	2.3	10		µg/L	1	11/15/2016 3:15:50 PM	28584
2-Chlorophenol	ND	2.2	10		µg/L	1	11/15/2016 3:15:50 PM	28584
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Chrysene	ND	2.8	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	11/15/2016 3:15:50 PM	28584

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-36

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:45:00 AM

Lab ID: 1611492-005

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Di-n-octyl phthalate	8.0	2.0	10	J	µg/L	1	11/15/2016 3:15:50 PM	28584
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Dibenzofuran	ND	2.5	10		µg/L	1	11/15/2016 3:15:50 PM	28584
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	11/15/2016 3:15:50 PM	28584
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	11/15/2016 3:15:50 PM	28584
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	11/15/2016 3:15:50 PM	28584
3,3'-Dichlorobenzidine	ND	2.4	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Diethyl phthalate	ND	2.7	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Dimethyl phthalate	ND	2.4	10		µg/L	1	11/15/2016 3:15:50 PM	28584
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	11/15/2016 3:15:50 PM	28584
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	11/15/2016 3:15:50 PM	28584
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	11/15/2016 3:15:50 PM	28584
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	11/15/2016 3:15:50 PM	28584
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	11/15/2016 3:15:50 PM	28584
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Fluoranthene	ND	2.6	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Fluorene	8.0	2.7	10	J	µg/L	1	11/15/2016 3:15:50 PM	28584
Hexachlorobenzene	ND	2.6	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Hexachlorobutadiene	ND	2.2	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Hexachloroethane	ND	2.4	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Isophorone	ND	2.6	10		µg/L	1	11/15/2016 3:15:50 PM	28584
1-Methylnaphthalene	150	2.9	10		µg/L	1	11/15/2016 3:15:50 PM	28584
2-Methylnaphthalene	230	2.9	10		µg/L	1	11/15/2016 3:15:50 PM	28584
2-Methylphenol	ND	2.5	10		µg/L	1	11/15/2016 3:15:50 PM	28584
3+4-Methylphenol	ND	2.3	10		µg/L	1	11/15/2016 3:15:50 PM	28584
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	11/15/2016 3:15:50 PM	28584
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	11/15/2016 3:15:50 PM	28584
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Naphthalene	270	5.2	20		µg/L	2	11/16/2016 5:37:59 PM	28584
2-Nitroaniline	ND	2.8	10		µg/L	1	11/15/2016 3:15:50 PM	28584
3-Nitroaniline	ND	2.9	10		µg/L	1	11/15/2016 3:15:50 PM	28584
4-Nitroaniline	ND	2.6	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Nitrobenzene	ND	2.8	10		µg/L	1	11/15/2016 3:15:50 PM	28584
2-Nitrophenol	ND	2.4	10		µg/L	1	11/15/2016 3:15:50 PM	28584
4-Nitrophenol	ND	2.6	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Pentachlorophenol	ND	2.3	20		µg/L	1	11/15/2016 3:15:50 PM	28584
Phenanthrene	4.4	2.6	10	J	µg/L	1	11/15/2016 3:15:50 PM	28584

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-36

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:45:00 AM

Lab ID: 1611492-005

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Phenol	28	2.0	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Pyrene	ND	3.1	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Pyridine	ND	2.2	10		µg/L	1	11/15/2016 3:15:50 PM	28584
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	11/15/2016 3:15:50 PM	28584
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	11/15/2016 3:15:50 PM	28584
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	11/15/2016 3:15:50 PM	28584
Surr: 2-Fluorophenol	20.8	0	15-98.1		%Rec	1	11/15/2016 3:15:50 PM	28584
Surr: Phenol-d5	19.1	0	15-80.7		%Rec	1	11/15/2016 3:15:50 PM	28584
Surr: 2,4,6-Tribromophenol	41.2	0	15-112		%Rec	1	11/15/2016 3:15:50 PM	28584
Surr: Nitrobenzene-d5	52.8	0	27.2-90.7		%Rec	1	11/15/2016 3:15:50 PM	28584
Surr: 2-Fluorobiphenyl	46.9	0	23.3-85.6		%Rec	1	11/15/2016 3:15:50 PM	28584
Surr: 4-Terphenyl-d14	35.7	0	27.6-107		%Rec	1	11/15/2016 3:15:50 PM	28584
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	8400	9.6	100		µg/L	100	11/14/2016 3:14:11 PM	R38696
Toluene	21	1.2	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Ethylbenzene	1300	11	100		µg/L	100	11/14/2016 3:14:11 PM	R38696
Methyl tert-butyl ether (MTBE)	6000	21	100		µg/L	100	11/14/2016 3:14:11 PM	R38696
1,2,4-Trimethylbenzene	60	1.1	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,3,5-Trimethylbenzene	13	1.2	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,2-Dichloroethane (EDC)	ND	1.2	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,2-Dibromoethane (EDB)	ND	1.1	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Naphthalene	700	0.93	20		µg/L	10	11/14/2016 3:43:18 PM	R38696
1-Methylnaphthalene	400	2.0	40		µg/L	10	11/14/2016 3:43:18 PM	R38696
2-Methylnaphthalene	480	1.6	40		µg/L	10	11/14/2016 3:43:18 PM	R38696
Acetone	ND	49	100		µg/L	10	11/14/2016 3:43:18 PM	R38696
Bromobenzene	ND	0.98	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Bromodichloromethane	ND	1.4	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Bromoform	ND	1.0	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Bromomethane	ND	7.8	30		µg/L	10	11/14/2016 3:43:18 PM	R38696
2-Butanone	ND	7.4	100		µg/L	10	11/14/2016 3:43:18 PM	R38696
Carbon disulfide	ND	6.0	100		µg/L	10	11/14/2016 3:43:18 PM	R38696
Carbon Tetrachloride	ND	1.1	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Chlorobenzene	ND	1.1	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Chloroethane	ND	1.9	20		µg/L	10	11/14/2016 3:43:18 PM	R38696
Chloroform	ND	0.89	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Chloromethane	ND	2.1	30		µg/L	10	11/14/2016 3:43:18 PM	R38696
2-Chlorotoluene	ND	4.0	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
4-Chlorotoluene	ND	1.3	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
cis-1,2-DCE	ND	1.2	10		µg/L	10	11/14/2016 3:43:18 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-36

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:45:00 AM

Lab ID: 1611492-005

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
cis-1,3-Dichloropropene	ND	1.1	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,2-Dibromo-3-chloropropane	ND	2.3	20		µg/L	10	11/14/2016 3:43:18 PM	R38696
Dibromochloromethane	ND	0.87	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Dibromomethane	ND	1.2	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,2-Dichlorobenzene	ND	4.0	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,3-Dichlorobenzene	ND	1.4	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,4-Dichlorobenzene	ND	1.4	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Dichlorodifluoromethane	ND	3.6	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,1-Dichloroethane	ND	1.1	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,1-Dichloroethene	ND	1.1	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,2-Dichloropropane	ND	1.1	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,3-Dichloropropane	ND	1.6	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
2,2-Dichloropropane	ND	1.7	20		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,1-Dichloropropene	ND	1.3	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Hexachlorobutadiene	ND	2.0	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
2-Hexanone	ND	8.4	100		µg/L	10	11/14/2016 3:43:18 PM	R38696
Isopropylbenzene	28	1.0	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
4-Isopropyltoluene	ND	1.4	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
4-Methyl-2-pentanone	ND	4.3	100		µg/L	10	11/14/2016 3:43:18 PM	R38696
Methylene Chloride	ND	1.9	30		µg/L	10	11/14/2016 3:43:18 PM	R38696
n-Butylbenzene	8.0	1.6	30	J	µg/L	10	11/14/2016 3:43:18 PM	R38696
n-Propylbenzene	64	1.3	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
sec-Butylbenzene	5.8	1.2	10	J	µg/L	10	11/14/2016 3:43:18 PM	R38696
Styrene	ND	1.1	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
tert-Butylbenzene	ND	1.2	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,1,1,2-Tetrachloroethane	ND	1.1	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,1,2,2-Tetrachloroethane	ND	1.3	20		µg/L	10	11/14/2016 3:43:18 PM	R38696
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
trans-1,2-DCE	ND	4.0	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
trans-1,3-Dichloropropene	ND	1.0	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,2,3-Trichlorobenzene	ND	1.1	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,2,4-Trichlorobenzene	ND	1.3	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,1,1-Trichloroethane	ND	0.91	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,1,2-Trichloroethane	ND	1.3	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Trichloroethene (TCE)	ND	1.8	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Trichlorofluoromethane	ND	2.0	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
1,2,3-Trichloropropane	ND	2.0	20		µg/L	10	11/14/2016 3:43:18 PM	R38696
Vinyl chloride	ND	2.0	10		µg/L	10	11/14/2016 3:43:18 PM	R38696
Xylenes, Total	130	3.7	15		µg/L	10	11/14/2016 3:43:18 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MKTF-36

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 9:45:00 AM

Lab ID: 1611492-005

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Surr: 1,2-Dichloroethane-d4	89.7	0	70-130		%Rec	10	11/14/2016 3:43:18 PM	R38696
Surr: 4-Bromofluorobenzene	96.2	0	70-130		%Rec	10	11/14/2016 3:43:18 PM	R38696
Surr: Dibromofluoromethane	96.9	0	70-130		%Rec	10	11/14/2016 3:43:18 PM	R38696
Surr: Toluene-d8	100	0	70-130		%Rec	10	11/14/2016 3:43:18 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB110816

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 10:10:00 AM

Lab ID: 1611492-006

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: JME								
1,2-Dibromoethane	ND	0.0033	0.010		µg/L	1	11/21/2016 1:18:27 PM	28775
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: JME								
Diesel Range Organics (DRO)	ND	0.69	1.0		mg/L	1	11/14/2016 10:44:43 PM	28621
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/14/2016 10:44:43 PM	28621
Surr: DNOP	105	0	77.1-144		%Rec	1	11/14/2016 10:44:43 PM	28621
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	11/11/2016 1:13:48 AM	G38599
Surr: BFB	83.6	0	66.4-120		%Rec	1	11/11/2016 1:13:48 AM	G38599
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	ND	0.050	0.10		mg/L	1	11/15/2016 12:19:09 AM	R38701
Chloride	ND	0.051	0.50		mg/L	1	11/15/2016 12:19:09 AM	R38701
Bromide	ND	0.044	0.10		mg/L	1	11/15/2016 12:19:09 AM	R38701
Phosphorus, Orthophosphate (As P)	ND	0.076	0.50	H	mg/L	1	11/15/2016 12:19:09 AM	R38701
Sulfate	ND	0.14	0.50		mg/L	1	11/15/2016 12:19:09 AM	R38701
Nitrate+Nitrite as N	ND	0.46	1.0		mg/L	5	11/17/2016 1:45:10 AM	A38771
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: TES								
Barium	ND	0.0013	0.0020		mg/L	1	12/5/2016 7:19:52 PM	A39164
Cadmium	ND	0.00075	0.0020		mg/L	1	12/5/2016 7:19:52 PM	A39164
Calcium	ND	0.50	1.0		mg/L	1	12/6/2016 4:41:56 PM	A39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/5/2016 7:19:52 PM	A39164
Copper	ND	0.0040	0.0060		mg/L	1	12/5/2016 7:19:52 PM	A39164
Iron	ND	0.020	0.020		mg/L	1	12/5/2016 7:19:52 PM	A39164
Magnesium	ND	0.50	1.0		mg/L	1	12/6/2016 4:41:56 PM	A39177
Manganese	ND	0.00032	0.0020		mg/L	1	12/5/2016 7:19:52 PM	A39164
Potassium	ND	0.50	1.0		mg/L	1	12/6/2016 4:41:56 PM	A39177
Silver	ND	0.0028	0.0050		mg/L	1	12/5/2016 7:19:52 PM	A39164
Sodium	ND	0.50	1.0		mg/L	1	12/6/2016 4:41:56 PM	A39177
Zinc	ND	0.0028	0.010		mg/L	1	12/5/2016 7:19:52 PM	A39164
EPA METHOD 200.7: TOTAL METALS								
Analyst: TES								
Barium	ND	0.00079	0.0020		mg/L	1	12/5/2016 9:01:06 PM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/5/2016 9:01:06 PM	28977
Chromium	ND	0.0027	0.0060		mg/L	1	12/5/2016 9:01:06 PM	28977
Copper	0.0040	0.0030	0.0060	J	mg/L	1	12/5/2016 9:01:06 PM	28977
Iron	ND	0.020	0.020		mg/L	1	12/5/2016 9:01:06 PM	28977
Manganese	ND	0.00027	0.0020		mg/L	1	12/5/2016 9:01:06 PM	28977
Silver	ND	0.0015	0.0050		mg/L	1	12/5/2016 9:01:06 PM	28977
Zinc	ND	0.0027	0.010		mg/L	1	12/5/2016 9:01:06 PM	28977

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB110816

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 10:10:00 AM

Lab ID: 1611492-006

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS								Analyst: JLF
Arsenic	ND	0.00014	0.0010		mg/L	1	11/23/2016 5:27:31 PM	B38954
Lead	ND	0.00017	0.00050		mg/L	1	11/23/2016 5:27:31 PM	B38954
Selenium	ND	0.00021	0.0010		mg/L	1	11/23/2016 5:27:31 PM	B38954
Uranium	ND	0.000051	0.00050		mg/L	1	11/23/2016 5:27:31 PM	B38954
200.8 ICPMS METALS:TOTAL								Analyst: JLF
Arsenic	ND	0.00021	0.0010		mg/L	1	12/5/2016 2:28:20 PM	28977
Lead	ND	0.000081	0.00050		mg/L	1	12/5/2016 2:28:20 PM	28977
Selenium	ND	0.00019	0.0010		mg/L	1	12/5/2016 2:28:20 PM	28977
Uranium	ND	0.00017	0.00050		mg/L	1	12/5/2016 2:28:20 PM	28977
EPA METHOD 245.1: MERCURY								Analyst: DBD
Mercury	ND	0.000053	0.00020		mg/L	1	11/23/2016 6:30:31 PM	28845
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Acenaphthene	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Acenaphthylene	ND	2.4	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Aniline	ND	2.4	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Anthracene	ND	2.5	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Azobenzene	ND	2.7	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Benz(a)anthracene	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Benzo(a)pyrene	ND	2.7	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Benzoic acid	14	2.6	20	J	µg/L	1	11/15/2016 3:43:26 PM	28584
Benzyl alcohol	ND	3.0	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Bis(2-ethylhexyl)phthalate	6.7	2.6	10	J	µg/L	1	11/15/2016 3:43:26 PM	28584
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Butyl benzyl phthalate	2.6	2.5	10	J	µg/L	1	11/15/2016 3:43:26 PM	28584
Carbazole	ND	2.3	10		µg/L	1	11/15/2016 3:43:26 PM	28584
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
4-Chloroaniline	ND	2.7	10		µg/L	1	11/15/2016 3:43:26 PM	28584
2-Chloronaphthalene	ND	2.3	10		µg/L	1	11/15/2016 3:43:26 PM	28584
2-Chlorophenol	ND	2.2	10		µg/L	1	11/15/2016 3:43:26 PM	28584
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Chrysene	ND	2.8	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	11/15/2016 3:43:26 PM	28584

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB110816

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 10:10:00 AM

Lab ID: 1611492-006

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Di-n-octyl phthalate	7.5	2.0	10	J	µg/L	1	11/15/2016 3:43:26 PM	28584
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Dibenzofuran	ND	2.5	10		µg/L	1	11/15/2016 3:43:26 PM	28584
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	11/15/2016 3:43:26 PM	28584
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	11/15/2016 3:43:26 PM	28584
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	11/15/2016 3:43:26 PM	28584
3,3'-Dichlorobenzidine	ND	2.4	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Diethyl phthalate	ND	2.7	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Dimethyl phthalate	ND	2.4	10		µg/L	1	11/15/2016 3:43:26 PM	28584
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	11/15/2016 3:43:26 PM	28584
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	11/15/2016 3:43:26 PM	28584
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	11/15/2016 3:43:26 PM	28584
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	11/15/2016 3:43:26 PM	28584
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	11/15/2016 3:43:26 PM	28584
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Fluoranthene	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Fluorene	ND	2.7	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Hexachlorobenzene	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Hexachlorobutadiene	ND	2.2	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Hexachloroethane	ND	2.4	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Isophorone	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
1-Methylnaphthalene	ND	2.9	10		µg/L	1	11/15/2016 3:43:26 PM	28584
2-Methylnaphthalene	ND	2.9	10		µg/L	1	11/15/2016 3:43:26 PM	28584
2-Methylphenol	ND	2.5	10		µg/L	1	11/15/2016 3:43:26 PM	28584
3+4-Methylphenol	ND	2.3	10		µg/L	1	11/15/2016 3:43:26 PM	28584
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	11/15/2016 3:43:26 PM	28584
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	11/15/2016 3:43:26 PM	28584
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Naphthalene	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
2-Nitroaniline	ND	2.8	10		µg/L	1	11/15/2016 3:43:26 PM	28584
3-Nitroaniline	ND	2.9	10		µg/L	1	11/15/2016 3:43:26 PM	28584
4-Nitroaniline	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Nitrobenzene	ND	2.8	10		µg/L	1	11/15/2016 3:43:26 PM	28584
2-Nitrophenol	ND	2.4	10		µg/L	1	11/15/2016 3:43:26 PM	28584
4-Nitrophenol	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Pentachlorophenol	ND	2.3	20		µg/L	1	11/15/2016 3:43:26 PM	28584
Phenanthrene	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB110816

Project: 2016 4th Qtr (MKTf)

Collection Date: 11/8/2016 10:10:00 AM

Lab ID: 1611492-006

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Phenol	ND	2.0	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Pyrene	ND	3.1	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Pyridine	ND	2.2	10		µg/L	1	11/15/2016 3:43:26 PM	28584
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	11/15/2016 3:43:26 PM	28584
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	11/15/2016 3:43:26 PM	28584
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	11/15/2016 3:43:26 PM	28584
Surr: 2-Fluorophenol	34.9	0	15-98.1		%Rec	1	11/15/2016 3:43:26 PM	28584
Surr: Phenol-d5	29.2	0	15-80.7		%Rec	1	11/15/2016 3:43:26 PM	28584
Surr: 2,4,6-Tribromophenol	46.0	0	15-112		%Rec	1	11/15/2016 3:43:26 PM	28584
Surr: Nitrobenzene-d5	77.7	0	27.2-90.7		%Rec	1	11/15/2016 3:43:26 PM	28584
Surr: 2-Fluorobiphenyl	69.0	0	23.3-85.6		%Rec	1	11/15/2016 3:43:26 PM	28584
Surr: 4-Terphenyl-d14	75.4	0	27.6-107		%Rec	1	11/15/2016 3:43:26 PM	28584
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	1.0	0.096	1.0	J	µg/L	1	11/14/2016 4:12:46 PM	R38696
Toluene	0.17	0.12	1.0	J	µg/L	1	11/14/2016 4:12:46 PM	R38696
Ethylbenzene	0.41	0.11	1.0	J	µg/L	1	11/14/2016 4:12:46 PM	R38696
Methyl tert-butyl ether (MTBE)	ND	0.21	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,2,4-Trimethylbenzene	0.13	0.11	1.0	J	µg/L	1	11/14/2016 4:12:46 PM	R38696
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Naphthalene	0.77	0.093	2.0	J	µg/L	1	11/14/2016 4:12:46 PM	R38696
1-Methylnaphthalene	1.7	0.20	4.0	J	µg/L	1	11/14/2016 4:12:46 PM	R38696
2-Methylnaphthalene	1.2	0.16	4.0	J	µg/L	1	11/14/2016 4:12:46 PM	R38696
Acetone	7.3	4.9	10	J	µg/L	1	11/14/2016 4:12:46 PM	R38696
Bromobenzene	ND	0.098	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Bromoform	ND	0.10	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Bromomethane	ND	0.78	3.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
2-Butanone	ND	0.74	10		µg/L	1	11/14/2016 4:12:46 PM	R38696
Carbon disulfide	ND	0.60	10		µg/L	1	11/14/2016 4:12:46 PM	R38696
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Chloroethane	ND	0.19	2.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Chloroform	ND	0.089	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Chloromethane	ND	0.21	3.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB110816

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 10:10:00 AM

Lab ID: 1611492-006

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Dibromochloromethane	ND	0.087	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Dibromomethane	ND	0.12	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
2-Hexanone	ND	0.84	10		µg/L	1	11/14/2016 4:12:46 PM	R38696
Isopropylbenzene	ND	0.10	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	11/14/2016 4:12:46 PM	R38696
Methylene Chloride	ND	0.19	3.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
n-Butylbenzene	ND	0.16	3.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
n-Propylbenzene	ND	0.13	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Styrene	ND	0.11	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Vinyl chloride	ND	0.20	1.0		µg/L	1	11/14/2016 4:12:46 PM	R38696
Xylenes, Total	ND	0.37	1.5		µg/L	1	11/14/2016 4:12:46 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB110816

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016 10:10:00 AM

Lab ID: 1611492-006

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	11/14/2016 4:12:46 PM	R38696
Surr: 4-Bromofluorobenzene	90.3	0	70-130		%Rec	1	11/14/2016 4:12:46 PM	R38696
Surr: Dibromofluoromethane	111	0	70-130		%Rec	1	11/14/2016 4:12:46 PM	R38696
Surr: Toluene-d8	99.0	0	70-130		%Rec	1	11/14/2016 4:12:46 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: DUP06

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016

Lab ID: 1611492-007

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE								Analyst: JME
Diesel Range Organics (DRO)	ND	0.69	1.0		mg/L	1	11/14/2016 11:11:24 PM	28621
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/14/2016 11:11:24 PM	28621
Surr: DNOP	108	0	77.1-144		%Rec	1	11/14/2016 11:11:24 PM	28621
EPA METHOD 8015D: GASOLINE RANGE								Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	11/11/2016 1:38:10 AM	G38599
Surr: BFB	88.9	0	66.4-120		%Rec	1	11/11/2016 1:38:10 AM	G38599
EPA METHOD 300.0: ANIONS								Analyst: MRA
Fluoride	0.45	0.050	0.10		mg/L	1	11/15/2016 1:08:48 AM	R38701
Chloride	240	1.0	10		mg/L	20	11/15/2016 1:21:12 AM	R38701
Bromide	1.4	0.044	0.10		mg/L	1	11/15/2016 1:08:48 AM	R38701
Phosphorus, Orthophosphate (As P)	ND	0.076	0.50	H	mg/L	1	11/15/2016 1:08:48 AM	R38701
Sulfate	210	2.8	10		mg/L	20	11/15/2016 1:21:12 AM	R38701
Nitrate+Nitrite as N	9.1	0.46	1.0		mg/L	5	11/17/2016 1:57:34 AM	A38771
EPA METHOD 200.7: DISSOLVED METALS								Analyst: TES
Barium	0.057	0.0013	0.0020		mg/L	1	12/5/2016 7:21:52 PM	A39164
Cadmium	ND	0.00075	0.0020		mg/L	1	12/5/2016 7:21:52 PM	A39164
Calcium	54	0.50	1.0		mg/L	1	12/6/2016 4:43:54 PM	A39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/5/2016 7:21:52 PM	A39164
Copper	ND	0.0040	0.0060		mg/L	1	12/5/2016 7:21:52 PM	A39164
Iron	ND	0.020	0.020		mg/L	1	12/5/2016 7:21:52 PM	A39164
Magnesium	13	0.50	1.0		mg/L	1	12/6/2016 4:43:54 PM	A39177
Manganese	0.00033	0.00032	0.0020	J	mg/L	1	12/5/2016 7:21:52 PM	A39164
Potassium	1.6	0.50	1.0		mg/L	1	12/6/2016 4:43:54 PM	A39177
Silver	ND	0.0028	0.0050		mg/L	1	12/5/2016 7:21:52 PM	A39164
Sodium	390	2.5	5.0		mg/L	5	12/6/2016 4:45:48 PM	A39177
Zinc	0.0034	0.0028	0.010	J	mg/L	1	12/5/2016 7:21:52 PM	A39164
EPA METHOD 200.7: TOTAL METALS								Analyst: MED
Barium	0.075	0.00079	0.0020		mg/L	1	12/6/2016 3:41:34 PM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/6/2016 3:41:34 PM	28977
Chromium	ND	0.0027	0.0060		mg/L	1	12/6/2016 3:41:34 PM	28977
Copper	ND	0.0030	0.0060		mg/L	1	12/6/2016 3:41:34 PM	28977
Iron	0.40	0.020	0.020	*	mg/L	1	12/6/2016 3:41:34 PM	28977
Manganese	0.014	0.00027	0.0020		mg/L	1	12/6/2016 3:41:34 PM	28977
Silver	ND	0.0015	0.0050		mg/L	1	12/6/2016 3:41:34 PM	28977
Zinc	0.0068	0.0027	0.010	J	mg/L	1	12/6/2016 3:41:34 PM	28977
EPA 200.8: DISSOLVED METALS								Analyst: JLF
Arsenic	0.0030	0.00069	0.0050	J	mg/L	5	11/28/2016 3:35:59 PM	B39007

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: DUP06

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016

Lab ID: 1611492-007

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS								Analyst: JLF
Lead	ND	0.00017	0.00050		mg/L	1	11/23/2016 5:32:39 PM	B38954
Selenium	0.0085	0.0011	0.0050		mg/L	5	11/28/2016 3:35:59 PM	B39007
Uranium	0.036	0.00026	0.0025	*	mg/L	5	11/28/2016 3:35:59 PM	B39007
200.8 ICPMS METALS:TOTAL								Analyst: JLF
Arsenic	0.0028	0.0011	0.0050	J	mg/L	5	12/7/2016 1:31:28 PM	28977
Lead	0.00058	0.000081	0.00050		mg/L	1	12/5/2016 2:31:20 PM	28977
Selenium	0.0093	0.0037	0.020	J	mg/L	20	12/7/2016 1:36:36 PM	28977
Uranium	0.039	0.00087	0.0025	*	mg/L	5	12/7/2016 1:31:28 PM	28977
EPA METHOD 245.1: MERCURY								Analyst: DBD
Mercury	0.00033	0.000053	0.00020		mg/L	1	11/23/2016 6:32:33 PM	28845
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Acenaphthene	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Acenaphthylene	ND	2.4	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Aniline	ND	2.4	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Anthracene	ND	2.5	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Azobenzene	ND	2.7	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Benz(a)anthracene	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Benzo(a)pyrene	ND	2.7	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Benzoic acid	22	2.6	20		µg/L	1	11/15/2016 4:11:11 PM	28584
Benzyl alcohol	ND	3.0	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Bis(2-ethylhexyl)phthalate	6.4	2.6	10	J	µg/L	1	11/15/2016 4:11:11 PM	28584
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Carbazole	ND	2.3	10		µg/L	1	11/15/2016 4:11:11 PM	28584
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
4-Chloroaniline	ND	2.7	10		µg/L	1	11/15/2016 4:11:11 PM	28584
2-Chloronaphthalene	ND	2.3	10		µg/L	1	11/15/2016 4:11:11 PM	28584
2-Chlorophenol	ND	2.2	10		µg/L	1	11/15/2016 4:11:11 PM	28584
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Chrysene	ND	2.8	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Di-n-octyl phthalate	6.8	2.0	10	J	µg/L	1	11/15/2016 4:11:11 PM	28584

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	D	Sample Diluted Due to Matrix	E	Value above quantitation range
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	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: DUP06

Project: 2016 4th Qtr (MKTf)

Collection Date: 11/8/2016

Lab ID: 1611492-007

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Dibenzofuran	ND	2.5	10		µg/L	1	11/15/2016 4:11:11 PM	28584
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	11/15/2016 4:11:11 PM	28584
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	11/15/2016 4:11:11 PM	28584
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	11/15/2016 4:11:11 PM	28584
3,3'-Dichlorobenzidine	ND	2.4	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Diethyl phthalate	ND	2.7	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Dimethyl phthalate	ND	2.4	10		µg/L	1	11/15/2016 4:11:11 PM	28584
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	11/15/2016 4:11:11 PM	28584
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	11/15/2016 4:11:11 PM	28584
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	11/15/2016 4:11:11 PM	28584
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	11/15/2016 4:11:11 PM	28584
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	11/15/2016 4:11:11 PM	28584
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Fluoranthene	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Fluorene	ND	2.7	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Hexachlorobenzene	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Hexachlorobutadiene	ND	2.2	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Hexachloroethane	ND	2.4	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Isophorone	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
1-Methylnaphthalene	ND	2.9	10		µg/L	1	11/15/2016 4:11:11 PM	28584
2-Methylnaphthalene	ND	2.9	10		µg/L	1	11/15/2016 4:11:11 PM	28584
2-Methylphenol	ND	2.5	10		µg/L	1	11/15/2016 4:11:11 PM	28584
3+4-Methylphenol	ND	2.3	10		µg/L	1	11/15/2016 4:11:11 PM	28584
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	11/15/2016 4:11:11 PM	28584
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	11/15/2016 4:11:11 PM	28584
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Naphthalene	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
2-Nitroaniline	ND	2.8	10		µg/L	1	11/15/2016 4:11:11 PM	28584
3-Nitroaniline	ND	2.9	10		µg/L	1	11/15/2016 4:11:11 PM	28584
4-Nitroaniline	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Nitrobenzene	ND	2.8	10		µg/L	1	11/15/2016 4:11:11 PM	28584
2-Nitrophenol	ND	2.4	10		µg/L	1	11/15/2016 4:11:11 PM	28584
4-Nitrophenol	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Pentachlorophenol	ND	2.3	20		µg/L	1	11/15/2016 4:11:11 PM	28584
Phenanthrene	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Phenol	ND	2.0	10		µg/L	1	11/15/2016 4:11:11 PM	28584

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: DUP06

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016

Lab ID: 1611492-007

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Pyrene	ND	3.1	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Pyridine	ND	2.2	10		µg/L	1	11/15/2016 4:11:11 PM	28584
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	11/15/2016 4:11:11 PM	28584
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	11/15/2016 4:11:11 PM	28584
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	11/15/2016 4:11:11 PM	28584
Surr: 2-Fluorophenol	37.9	0	15-98.1		%Rec	1	11/15/2016 4:11:11 PM	28584
Surr: Phenol-d5	31.1	0	15-80.7		%Rec	1	11/15/2016 4:11:11 PM	28584
Surr: 2,4,6-Tribromophenol	83.2	0	15-112		%Rec	1	11/15/2016 4:11:11 PM	28584
Surr: Nitrobenzene-d5	70.2	0	27.2-90.7		%Rec	1	11/15/2016 4:11:11 PM	28584
Surr: 2-Fluorobiphenyl	68.5	0	23.3-85.6		%Rec	1	11/15/2016 4:11:11 PM	28584
Surr: 4-Terphenyl-d14	68.3	0	27.6-107		%Rec	1	11/15/2016 4:11:11 PM	28584
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	0.34	0.096	1.0	J	µg/L	1	11/14/2016 4:42:14 PM	R38696
Toluene	ND	0.12	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Ethylbenzene	0.17	0.11	1.0	J	µg/L	1	11/14/2016 4:42:14 PM	R38696
Methyl tert-butyl ether (MTBE)	0.85	0.21	1.0	J	µg/L	1	11/14/2016 4:42:14 PM	R38696
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Naphthalene	ND	0.093	2.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Acetone	ND	4.9	10		µg/L	1	11/14/2016 4:42:14 PM	R38696
Bromobenzene	ND	0.098	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Bromoform	ND	0.10	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Bromomethane	ND	0.78	3.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
2-Butanone	ND	0.74	10		µg/L	1	11/14/2016 4:42:14 PM	R38696
Carbon disulfide	ND	0.60	10		µg/L	1	11/14/2016 4:42:14 PM	R38696
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Chloroethane	ND	0.19	2.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Chloroform	ND	0.089	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Chloromethane	ND	0.21	3.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
cis-1,2-DCE	0.29	0.12	1.0	J	µg/L	1	11/14/2016 4:42:14 PM	R38696
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: DUP06

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016

Lab ID: 1611492-007

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Dibromochloromethane	ND	0.087	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Dibromomethane	ND	0.12	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,1-Dichloroethene	2.7	0.11	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
2-Hexanone	ND	0.84	10		µg/L	1	11/14/2016 4:42:14 PM	R38696
Isopropylbenzene	ND	0.10	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	11/14/2016 4:42:14 PM	R38696
Methylene Chloride	ND	0.19	3.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
n-Butylbenzene	ND	0.16	3.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
n-Propylbenzene	ND	0.13	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Styrene	ND	0.11	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Tetrachloroethene (PCE)	0.25	0.15	1.0	J	µg/L	1	11/14/2016 4:42:14 PM	R38696
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Trichloroethene (TCE)	4.9	0.18	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Vinyl chloride	ND	0.20	1.0		µg/L	1	11/14/2016 4:42:14 PM	R38696
Xylenes, Total	ND	0.37	1.5		µg/L	1	11/14/2016 4:42:14 PM	R38696
Surr: 1,2-Dichloroethane-d4	97.6	0	70-130		%Rec	1	11/14/2016 4:42:14 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: DUP06

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/8/2016

Lab ID: 1611492-007

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Surr: 4-Bromofluorobenzene	94.9	0	70-130		%Rec	1	11/14/2016 4:42:14 PM	R38696
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	11/14/2016 4:42:14 PM	R38696
Surr: Toluene-d8	94.8	0	70-130		%Rec	1	11/14/2016 4:42:14 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-58

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/7/2016 2:50:00 PM

Lab ID: 1611492-008

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE					Analyst: JME			
Diesel Range Organics (DRO)	4.8	0.69	1.0		mg/L	1	11/14/2016 11:38:08 PM	28621
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/14/2016 11:38:08 PM	28621
Surr: DNOP	108	0	77.1-144		%Rec	1	11/14/2016 11:38:08 PM	28621
EPA METHOD 8015D: GASOLINE RANGE					Analyst: NSB			
Gasoline Range Organics (GRO)	120	13	25		mg/L	500	11/11/2016 11:10:06 AM	B38637
Surr: BFB	90.1	0	66.4-120		%Rec	500	11/11/2016 11:10:06 AM	B38637
EPA METHOD 200.7: DISSOLVED METALS					Analyst: MED			
Barium	4.0	0.013	0.020	*	mg/L	10	12/6/2016 4:55:23 PM	A39177
Cadmium	ND	0.00075	0.0020		mg/L	1	12/5/2016 7:29:34 PM	A39164
Calcium	130	5.0	10		mg/L	10	12/6/2016 4:55:23 PM	A39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/5/2016 7:29:34 PM	A39164
Copper	ND	0.0040	0.0060		mg/L	1	12/5/2016 7:29:34 PM	A39164
Iron	7.9	0.20	0.20	*	mg/L	10	12/6/2016 4:55:23 PM	A39177
Magnesium	38	0.50	1.0		mg/L	1	12/6/2016 4:47:48 PM	A39177
Manganese	2.2	0.0032	0.020	*	mg/L	10	12/6/2016 4:55:23 PM	A39177
Potassium	0.60	0.50	1.0	J	mg/L	1	12/6/2016 4:47:48 PM	A39177
Silver	ND	0.0028	0.0050		mg/L	1	12/5/2016 7:29:34 PM	A39164
Sodium	270	5.0	10		mg/L	10	12/6/2016 4:55:23 PM	A39177
Zinc	ND	0.0028	0.010		mg/L	1	12/5/2016 7:29:34 PM	A39164
EPA METHOD 200.7: TOTAL METALS					Analyst: MED			
Barium	4.8	0.0079	0.020	*	mg/L	10	12/6/2016 3:45:09 PM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/6/2016 3:43:27 PM	28977
Chromium	0.0044	0.0027	0.0060	J	mg/L	1	12/6/2016 3:43:27 PM	28977
Copper	ND	0.0030	0.0060		mg/L	1	12/6/2016 3:43:27 PM	28977
Iron	15	1.0	1.0	*	mg/L	50	12/6/2016 3:46:58 PM	28977
Manganese	3.0	0.0027	0.020	*	mg/L	10	12/6/2016 3:45:09 PM	28977
Silver	ND	0.0015	0.0050		mg/L	1	12/6/2016 3:43:27 PM	28977
Zinc	0.017	0.0027	0.010		mg/L	1	12/6/2016 3:43:27 PM	28977
EPA 200.8: DISSOLVED METALS					Analyst: JLF			
Arsenic	0.0056	0.0028	0.020	J	mg/L	20	11/28/2016 3:42:05 PM	B39007
Lead	0.00019	0.00017	0.00050	J	mg/L	1	11/23/2016 5:37:47 PM	B38954
Selenium	0.011	0.0042	0.020	J	mg/L	20	11/28/2016 3:42:05 PM	B39007
Uranium	0.00065	0.000051	0.00050		mg/L	1	11/23/2016 5:37:47 PM	B38954
200.8 ICPMS METALS:TOTAL					Analyst: JLF			
Arsenic	0.0060	0.0011	0.0050		mg/L	5	12/7/2016 1:41:44 PM	28977
Lead	0.012	0.00041	0.0025		mg/L	5	12/7/2016 1:41:44 PM	28977
Selenium	0.012	0.0037	0.020	J	mg/L	20	12/7/2016 1:57:14 PM	28977

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-58

Project: 2016 4th Qtr (MKTF)

Collection Date: 11/7/2016 2:50:00 PM

Lab ID: 1611492-008

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: JLF	
Uranium	0.0012	0.00087	0.0025	J	mg/L	5	12/7/2016 1:41:44 PM	28977
EPA METHOD 245.1: MERCURY							Analyst: DBD	
Mercury	ND	0.000053	0.00020		mg/L	1	11/23/2016 6:34:37 PM	28845
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	34000	96	1000		µg/L	1000	11/16/2016 11:34:01 AM	R38763
Toluene	1100	2.4	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Ethylbenzene	1300	2.2	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Methyl tert-butyl ether (MTBE)	2700	4.2	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,2,4-Trimethylbenzene	210	2.2	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,3,5-Trimethylbenzene	71	2.3	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,2-Dichloroethane (EDC)	ND	2.3	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,2-Dibromoethane (EDB)	ND	2.2	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Naphthalene	190	1.9	40		µg/L	20	11/15/2016 3:26:02 PM	W38715
1-Methylnaphthalene	77	4.1	80	J	µg/L	20	11/15/2016 3:26:02 PM	W38715
2-Methylnaphthalene	61	3.2	80	J	µg/L	20	11/15/2016 3:26:02 PM	W38715
Acetone	ND	98	200		µg/L	20	11/15/2016 3:26:02 PM	W38715
Bromobenzene	ND	2.0	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Bromodichloromethane	ND	2.8	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Bromoform	ND	2.0	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Bromomethane	ND	16	60		µg/L	20	11/15/2016 3:26:02 PM	W38715
2-Butanone	ND	15	200		µg/L	20	11/15/2016 3:26:02 PM	W38715
Carbon disulfide	ND	12	200		µg/L	20	11/15/2016 3:26:02 PM	W38715
Carbon Tetrachloride	ND	2.2	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Chlorobenzene	ND	2.3	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Chloroethane	ND	3.8	40		µg/L	20	11/15/2016 3:26:02 PM	W38715
Chloroform	ND	1.8	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Chloromethane	ND	4.3	60		µg/L	20	11/15/2016 3:26:02 PM	W38715
2-Chlorotoluene	ND	8.0	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
4-Chlorotoluene	ND	2.6	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
cis-1,2-DCE	ND	2.5	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
cis-1,3-Dichloropropene	ND	2.1	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,2-Dibromo-3-chloropropane	ND	4.7	40		µg/L	20	11/15/2016 3:26:02 PM	W38715
Dibromochloromethane	ND	1.7	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Dibromomethane	ND	2.4	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,2-Dichlorobenzene	ND	8.0	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,3-Dichlorobenzene	ND	2.9	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,4-Dichlorobenzene	ND	2.9	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Dichlorodifluoromethane	ND	7.1	20		µg/L	20	11/15/2016 3:26:02 PM	W38715

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-58

Project: 2016 4th Qtr (MKTf)

Collection Date: 11/7/2016 2:50:00 PM

Lab ID: 1611492-008

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
1,1-Dichloroethane	ND	2.2	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,1-Dichloroethene	ND	2.1	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,2-Dichloropropane	ND	2.2	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,3-Dichloropropane	ND	3.1	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
2,2-Dichloropropane	ND	3.3	40		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,1-Dichloropropene	ND	2.7	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Hexachlorobutadiene	ND	4.0	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
2-Hexanone	ND	17	200		µg/L	20	11/15/2016 3:26:02 PM	W38715
Isopropylbenzene	43	2.1	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
4-Isopropyltoluene	7.5	2.8	20	J	µg/L	20	11/15/2016 3:26:02 PM	W38715
4-Methyl-2-pentanone	ND	8.6	200		µg/L	20	11/15/2016 3:26:02 PM	W38715
Methylene Chloride	ND	3.7	60		µg/L	20	11/15/2016 3:26:02 PM	W38715
n-Butylbenzene	14	3.2	60	J	µg/L	20	11/15/2016 3:26:02 PM	W38715
n-Propylbenzene	110	2.6	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
sec-Butylbenzene	12	2.5	20	J	µg/L	20	11/15/2016 3:26:02 PM	W38715
Styrene	ND	2.2	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
tert-Butylbenzene	ND	2.3	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,1,1,2-Tetrachloroethane	ND	2.2	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,1,2,2-Tetrachloroethane	ND	2.6	40		µg/L	20	11/15/2016 3:26:02 PM	W38715
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
trans-1,2-DCE	ND	8.0	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
trans-1,3-Dichloropropene	ND	2.1	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,2,3-Trichlorobenzene	ND	2.3	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,2,4-Trichlorobenzene	ND	2.7	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,1,1-Trichloroethane	ND	1.8	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,1,2-Trichloroethane	ND	2.5	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Trichloroethene (TCE)	ND	3.5	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Trichlorofluoromethane	ND	4.1	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
1,2,3-Trichloropropane	ND	4.0	40		µg/L	20	11/15/2016 3:26:02 PM	W38715
Vinyl chloride	ND	3.9	20		µg/L	20	11/15/2016 3:26:02 PM	W38715
Xylenes, Total	1200	7.3	30		µg/L	20	11/15/2016 3:26:02 PM	W38715
Surr: 1,2-Dichloroethane-d4	90.0	0	70-130		%Rec	20	11/15/2016 3:26:02 PM	W38715
Surr: 4-Bromofluorobenzene	90.4	0	70-130		%Rec	20	11/15/2016 3:26:02 PM	W38715
Surr: Dibromofluoromethane	96.7	0	70-130		%Rec	20	11/15/2016 3:26:02 PM	W38715
Surr: Toluene-d8	100	0	70-130		%Rec	20	11/15/2016 3:26:02 PM	W38715

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: 2016 4th Qtr (MKTF)

Collection Date:

Lab ID: 1611492-009

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	11/11/2016 11:59:03 AM	B38637
Surr: BFB	92.9	0	66.4-120		%Rec	1	11/11/2016 11:59:03 AM	B38637
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	0.13	0.096	1.0	J	µg/L	1	11/14/2016 12:48:54 PM	R38696
Toluene	ND	0.12	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Ethylbenzene	0.16	0.11	1.0	J	µg/L	1	11/14/2016 12:48:54 PM	R38696
Methyl tert-butyl ether (MTBE)	ND	0.21	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Naphthalene	ND	0.093	2.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Acetone	5.1	4.9	10	J	µg/L	1	11/14/2016 12:48:54 PM	R38696
Bromobenzene	ND	0.098	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Bromoform	ND	0.10	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Bromomethane	ND	0.78	3.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
2-Butanone	ND	0.74	10		µg/L	1	11/14/2016 12:48:54 PM	R38696
Carbon disulfide	ND	0.60	10		µg/L	1	11/14/2016 12:48:54 PM	R38696
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Chloroethane	ND	0.19	2.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Chloroform	0.13	0.089	1.0	J	µg/L	1	11/14/2016 12:48:54 PM	R38696
Chloromethane	ND	0.21	3.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Dibromochloromethane	ND	0.087	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Dibromomethane	ND	0.12	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611492

Date Reported: 12/22/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: 2016 4th Qtr (MKTF)

Collection Date:

Lab ID: 1611492-009

Matrix: AQUEOUS

Received Date: 11/8/2016 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
2-Hexanone	ND	0.84	10		µg/L	1	11/14/2016 12:48:54 PM	R38696
Isopropylbenzene	ND	0.10	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	11/14/2016 12:48:54 PM	R38696
Methylene Chloride	ND	0.19	3.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
n-Butylbenzene	ND	0.16	3.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
n-Propylbenzene	ND	0.13	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Styrene	ND	0.11	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Vinyl chloride	ND	0.20	1.0		µg/L	1	11/14/2016 12:48:54 PM	R38696
Xylenes, Total	ND	0.37	1.5		µg/L	1	11/14/2016 12:48:54 PM	R38696
Surr: 1,2-Dichloroethane-d4	98.1	0	70-130		%Rec	1	11/14/2016 12:48:54 PM	R38696
Surr: 4-Bromofluorobenzene	92.6	0	70-130		%Rec	1	11/14/2016 12:48:54 PM	R38696
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	11/14/2016 12:48:54 PM	R38696
Surr: Toluene-d8	98.5	0	70-130		%Rec	1	11/14/2016 12:48:54 PM	R38696

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	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 Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	MB-A	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: A39111			RunNo: 39111					
Prep Date:		Analysis Date: 12/2/2016			SeqNo: 1224109		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								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: A39111		RunNo: 39111					
Prep Date:			Analysis Date: 12/2/2016		SeqNo: 1224110		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	96.1	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.5	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.48	0.0060	0.5000	0	95.9	85	115			
Copper	0.48	0.0060	0.5000	0	96.2	85	115			
Iron	0.48	0.020	0.5000	0	96.1	85	115			
Magnesium	51	1.0	50.00	0	103	85	115			
Manganese	0.47	0.0020	0.5000	0	94.7	85	115			
Silver	0.097	0.0050	0.1000	0	97.1	85	115			
Zinc	0.47	0.010	0.5000	0	94.9	85	115			

Sample ID	LLLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A39111		RunNo: 39111					
Prep Date:			Analysis Date: 12/2/2016		SeqNo: 1224111		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0016	0.0020	0.002000	0	82.0	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	98.0	50	150			J
Calcium	0.56	1.0	0.5000	0	111	50	150			J
Chromium	0.0063	0.0060	0.006000	0	105	50	150			
Copper	0.0067	0.0060	0.006000	0	111	50	150			
Iron	0.020	0.020	0.02000	0	99.3	50	150			J
Magnesium	0.55	1.0	0.5000	0	111	50	150			J
Manganese	0.0021	0.0020	0.002000	0	104	50	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	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 Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID LLLCS-A	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: A39111		RunNo: 39111							
Prep Date:	Analysis Date: 12/2/2016		SeqNo: 1224111		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0048	0.0050	0.005000	0	96.2	50	150			J
Zinc	0.0058	0.010	0.005000	0	115	50	150			J

Sample ID 1611492-001FMS	SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: MKTF-17	Batch ID: A39111		RunNo: 39111							
Prep Date:	Analysis Date: 12/2/2016		SeqNo: 1224124		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.98	0.0020	0.5000	0.5229	91.2	70	130			
Cadmium	0.48	0.0020	0.5000	0	95.9	70	130			
Chromium	0.47	0.0060	0.5000	0	94.1	70	130			
Copper	0.50	0.0060	0.5000	0	99.0	70	130			
Iron	0.68	0.020	0.5000	0.2146	92.5	70	130			
Magnesium	71	1.0	50.00	21.25	99.6	70	130			
Silver	0.089	0.0050	0.1000	0	89.4	70	130			
Zinc	0.47	0.010	0.5000	0	93.0	70	130			

Sample ID 1611492-001FMSD	SampType: MSD		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: MKTF-17	Batch ID: A39111		RunNo: 39111							
Prep Date:	Analysis Date: 12/2/2016		SeqNo: 1224125		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.97	0.0020	0.5000	0.5229	90.3	70	130	0.460	20	
Cadmium	0.48	0.0020	0.5000	0	96.0	70	130	0.169	20	
Chromium	0.47	0.0060	0.5000	0	93.7	70	130	0.345	20	
Copper	0.49	0.0060	0.5000	0	98.6	70	130	0.492	20	
Iron	0.69	0.020	0.5000	0.2146	95.0	70	130	1.84	20	
Magnesium	71	1.0	50.00	21.25	100	70	130	0.528	20	
Silver	0.088	0.0050	0.1000	0	88.1	70	130	1.49	20	
Zinc	0.46	0.010	0.5000	0	92.8	70	130	0.282	20	

Sample ID 1611492-001FMS	SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: MKTF-17	Batch ID: A39111		RunNo: 39111							
Prep Date:	Analysis Date: 12/2/2016		SeqNo: 1224127		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	350	5.0	250.0	104.3	97.6	70	130			
Manganese	4.9	0.010	2.500	2.735	85.9	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | 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 Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTf)

Sample ID	1611492-001FMSD		SampType: MSD		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	MKTF-17		Batch ID: A39111		RunNo: 39111					
Prep Date:			Analysis Date: 12/2/2016		SeqNo: 1224128		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	350	5.0	250.0	104.3	97.8	70	130	0.152	20	
Manganese	4.9	0.010	2.500	2.735	85.7	70	130	0.116	20	

Sample ID	MB-A	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: A39164			RunNo: 39164					
Prep Date:		Analysis Date: 12/5/2016			SeqNo: 1225227		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								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LLLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A39164		RunNo: 39164					
Prep Date:			Analysis Date: 12/5/2016		SeqNo: 1225228		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0025	0.0020	0.002000	0	125	50	150			
Cadmium	0.0025	0.0020	0.002000	0	124	50	150			
Chromium	0.0065	0.0060	0.006000	0	108	50	150			
Copper	0.0073	0.0060	0.006000	0	122	50	150			
Iron	0.024	0.020	0.02000	0	118	50	150			
Manganese	0.0022	0.0020	0.002000	0	110	50	150			
Silver	0.0053	0.0050	0.005000	0	105	50	150			
Zinc	0.0064	0.010	0.005000	0	127	50	150			J

Sample ID	LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: A39164		RunNo: 39164					
Prep Date:			Analysis Date: 12/5/2016		SeqNo: 1225229		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	97.9	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.2	85	115			
Chromium	0.48	0.0060	0.5000	0	96.9	85	115			
Copper	0.49	0.0060	0.5000	0	98.5	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | 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 Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTf)

Sample ID LCS-A	SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW	Batch ID: A39164			RunNo: 39164						
Prep Date:	Analysis Date: 12/5/2016			SeqNo: 1225229		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.49	0.020	0.5000	0	97.6	85	115			
Manganese	0.48	0.0020	0.5000	0	95.9	85	115			
Silver	0.098	0.0050	0.1000	0	97.6	85	115			
Zinc	0.48	0.010	0.5000	0	96.9	85	115			

Sample ID MB-A	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW	Batch ID: A39177			RunNo: 39177						
Prep Date:	Analysis Date: 12/6/2016			SeqNo: 1225881		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID LCS-A	SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW	Batch ID: A39177			RunNo: 39177						
Prep Date:	Analysis Date: 12/6/2016			SeqNo: 1225882		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	99.1	85	115			
Calcium	51	1.0	50.00	0	103	85	115			
Iron	0.49	0.020	0.5000	0	97.4	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Manganese	0.49	0.0020	0.5000	0	97.2	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Sodium	51	1.0	50.00	0	102	85	115			

Sample ID LLCS-A	SampType: LCSLL			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC	Batch ID: A39177			RunNo: 39177						
Prep Date:	Analysis Date: 12/6/2016			SeqNo: 1225883		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	106	50	150			
Calcium	0.54	1.0	0.5000	0	108	50	150			J
Iron	0.022	0.020	0.02000	0	109	50	150			
Magnesium	0.55	1.0	0.5000	0	110	50	150			J

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	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 Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTf)

Sample ID	LLLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A39177		RunNo: 39177					
Prep Date:			Analysis Date: 12/6/2016		SeqNo: 1225883		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0021	0.0020	0.002000	0	106	50	150			
Potassium	0.58	1.0	0.5000	0	116	50	150			J
Sodium	0.57	1.0	0.5000	0	114	50	150			J

Sample ID	1611492-001FMS		SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	MKTf-17		Batch ID: A39177		RunNo: 39177					
Prep Date:			Analysis Date: 12/6/2016		SeqNo: 1226086		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	52	1.0	50.00	0.8473	103	70	130			

Sample ID	1611492-001FMSD			SampType:	MSD		TestCode:	EPA Method 200.7: Dissolved Metals			
Client ID:	MKTf-17			Batch ID:	A39177		RunNo:	39177			
Prep Date:				Analysis Date:	12/6/2016		SeqNo:	1226087		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Potassium	52	1.0	50.00	0.8473	102	70	130	0.190	20		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTf)

Sample ID	MB-28977		SampType:	MBLK		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	PBW		Batch ID:	28977		RunNo:	39164			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1225287	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								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LL LCS-28977		SampType:	LCSLL		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	BatchQC		Batch ID:	28977		RunNo:	39164			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1225288	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0023	0.0020	0.002000	0	116	50	150			
Cadmium	0.0024	0.0020	0.002000	0	122	50	150			
Chromium	0.0055	0.0060	0.006000	0	91.5	50	150			J
Copper	0.0087	0.0060	0.006000	0	146	50	150			
Iron	0.023	0.020	0.02000	0	114	50	150			
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Silver	0.0050	0.0050	0.005000	0	99.8	50	150			J
Zinc	0.0052	0.010	0.005000	0	104	50	150			J

Sample ID	LCS-28977		SampType:	LCS		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	LCSW		Batch ID:	28977		RunNo:	39164			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1225292	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0	94.4	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.8	85	115			
Chromium	0.47	0.0060	0.5000	0	93.7	85	115			
Copper	0.50	0.0060	0.5000	0	99.6	85	115			
Iron	0.47	0.020	0.5000	0	94.2	85	115			
Manganese	0.46	0.0020	0.5000	0	92.8	85	115			
Silver	0.099	0.0050	0.1000	0	99.4	85	115			
Zinc	0.46	0.010	0.5000	0	91.2	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	1611492-001GMS		SampType:	MS		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	MKTF-17		Batch ID:	28977		RunNo:	39164			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1225294		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.48	0.0020	0.5000	0	96.8	70	130			
Chromium	0.47	0.0060	0.5000	0	94.2	70	130			
Copper	0.52	0.0060	0.5000	0	104	70	130			
Silver	0.079	0.0050	0.1000	0	78.8	70	130			
Zinc	0.45	0.010	0.5000	0.006800	88.8	70	130			

Sample ID	1611492-001GMSD		SampType:	MSD		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	MKTF-17		Batch ID:	28977		RunNo:	39164			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1225295		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.49	0.0020	0.5000	0	97.4	70	130	0.637	20	
Chromium	0.47	0.0060	0.5000	0	94.5	70	130	0.280	20	
Copper	0.52	0.0060	0.5000	0	105	70	130	0.329	20	
Silver	0.072	0.0050	0.1000	0	71.6	70	130	9.47	20	
Zinc	0.45	0.010	0.5000	0.006800	89.2	70	130	0.542	20	

Sample ID	1611492-001GMS		SampType:	MS		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	MKTF-17		Batch ID:	28977		RunNo:	39164			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1225297		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	1.1	0.010	0.5000	0.6022	103	70	130			
Manganese	3.3	0.010	0.5000	2.787	104	70	130			

Sample ID	1611492-001GMSD		SampType:	MSD		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	MKTF-17		Batch ID:	28977		RunNo:	39164			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1225298		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	1.1	0.010	0.5000	0.6022	93.7	70	130	4.34	20	
Manganese	3.2	0.010	0.5000	2.787	83.1	70	130	3.25	20	

Sample ID	1611492-002GMS		SampType:	MS		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	MKTF-19		Batch ID:	28977		RunNo:	39164			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1225300		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.46	0.0020	0.5000	0	92.0	70	130			
Chromium	0.44	0.0060	0.5000	0.008810	87.2	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | 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 Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	1611492-002GMS		SampType: MS		TestCode: EPA Method 200.7: Total Metals					
Client ID:	MKTF-19		Batch ID: 28977		RunNo: 39164					
Prep Date:	12/2/2016		Analysis Date: 12/5/2016		SeqNo: 1225300		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.51	0.0060	0.5000	0.01529	98.1	70	130			
Zinc	0.49	0.010	0.5000	0.07039	83.2	70	130			

Sample ID	1611492-002GMSD		SampType: MSD		TestCode: EPA Method 200.7: Total Metals					
Client ID:	MKTF-19		Batch ID: 28977		RunNo: 39164					
Prep Date:	12/2/2016		Analysis Date: 12/5/2016		SeqNo: 1225301		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.47	0.0020	0.5000	0	93.6	70	130	1.74	20	
Chromium	0.45	0.0060	0.5000	0.008810	89.0	70	130	2.09	20	
Copper	0.51	0.0060	0.5000	0.01529	99.8	70	130	1.68	20	
Zinc	0.50	0.010	0.5000	0.07039	85.2	70	130	2.05	20	

Sample ID	1611492-002GMS		SampType: MS		TestCode: EPA Method 200.7: Total Metals					
Client ID:	MKTF-19		Batch ID: 28977		RunNo: 39164					
Prep Date:	12/2/2016		Analysis Date: 12/5/2016		SeqNo: 1225306		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	2.6	0.010	0.5000	2.162	90.3	70	130			
Manganese	3.0	0.010	0.5000	2.608	84.3	70	130			

Sample ID	1611492-002GMSD		SampType: MSD		TestCode: EPA Method 200.7: Total Metals					
Client ID:	MKTF-19		Batch ID: 28977		RunNo: 39164					
Prep Date:	12/2/2016		Analysis Date: 12/5/2016		SeqNo: 1225307		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	2.7	0.010	0.5000	2.162	102	70	130	2.25	20	
Manganese	3.1	0.010	0.5000	2.608	97.0	70	130	2.08	20	

Sample ID	1611492-002GMS			SampType:	MS		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	MKTF-19			Batch ID:	28977		RunNo:	39177			
Prep Date:	12/2/2016			Analysis Date:	12/6/2016		SeqNo:	1226061		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Silver	0.012	0.0050	0.1000	0	12.0	70	130			S	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | 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 Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	1611492-002GMSD			SampType:	MSD		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	MKTF-19			Batch ID:	28977		RunNo:	39177			
Prep Date:	12/2/2016			Analysis Date:	12/6/2016		SeqNo:	1226062		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Silver	0.012	0.0050	0.1000	0	12.2	70	130	1.32	20	S	

Sample ID	1611492-001GMS		SampType: MS		TestCode: EPA Method 200.7: Total Metals					
Client ID:	MKTF-17		Batch ID: 28977		RunNo: 39457					
Prep Date:	12/2/2016		Analysis Date: 12/16/2016		SeqNo: 1235846		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	3.2	0.10	0.5000	1.926	247	70	130			S

Sample ID	1611492-001GMSD			SampType:	MSD		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	MKTF-17			Batch ID:	28977		RunNo:	39457			
Prep Date:	12/2/2016			Analysis Date:	12/16/2016		SeqNo:	1235847		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Iron	3.1	0.10	0.5000	1.926	228	70	130	3.07	20	S	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTf)

Sample ID LCS	SampType: LCS			TestCode: EPA 200.8: Dissolved Metals						
Client ID: LCSW	Batch ID: B38954			RunNo: 38954						
Prep Date:	Analysis Date: 11/23/2016			SeqNo: 1218542		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	97.4	85	115			
Lead	0.013	0.00050	0.01250	0	102	85	115			
Selenium	0.025	0.0010	0.02500	0	99.5	85	115			
Uranium	0.012	0.00050	0.01250	0	98.8	85	115			

Sample ID LLCS	SampType: LCSLL			TestCode: EPA 200.8: Dissolved Metals						
Client ID: BatchQC	Batch ID: B38954			RunNo: 38954						
Prep Date:	Analysis Date: 11/23/2016			SeqNo: 1218543		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00092	0.0010	0.001000	0	91.5	50	150			J
Lead	0.00051	0.00050	0.0005000	0	102	50	150			
Selenium	0.00092	0.0010	0.001000	0	92.3	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	97.7	50	150			J

Sample ID MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals						
Client ID: PBW	Batch ID: B38954			RunNo: 38954						
Prep Date:	Analysis Date: 11/23/2016			SeqNo: 1218544		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID LCS	SampType: LCS			TestCode: EPA 200.8: Dissolved Metals						
Client ID: LCSW	Batch ID: B39007			RunNo: 39007						
Prep Date:	Analysis Date: 11/28/2016			SeqNo: 1220003		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	99.4	85	115			
Selenium	0.026	0.0010	0.02500	0	104	85	115			
Uranium	0.012	0.00050	0.01250	0	96.6	85	115			

Sample ID LLCS	SampType: LCSLL			TestCode: EPA 200.8: Dissolved Metals						
Client ID: BatchQC	Batch ID: B39007			RunNo: 39007						
Prep Date:	Analysis Date: 11/28/2016			SeqNo: 1220007		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00097	0.0010	0.001000	0	97.5	50	150			J

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | 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 Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTf)

Sample ID	LLLCS	SampType:	LCSLL	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	BatchQC	Batch ID:	B39007	RunNo:	39007					
Prep Date:		Analysis Date:	11/28/2016	SeqNo:	1220007	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.0010	0.0010	0.001000	0	104	50	150			
Uranium	0.00049	0.00050	0.0005000	0	98.6	50	150			J

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	B39007	RunNo:	39007					
Prep Date:		Analysis Date:	11/28/2016	SeqNo:	1220008	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								
Uranium	ND	0.00050								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTf)

Sample ID	1611492-003GMSLL				SampType:	MSLL		TestCode:	200.8 ICPMS Metals:Total		
Client ID:	MKTf-34				Batch ID:	28977		RunNo:	39143		
Prep Date:	12/2/2016				Analysis Date:	12/5/2016		SeqNo:	1224656	Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	0.015	0.00050	0.01250	0.0008682	111	70	130				

Sample ID	MB-28977				SampType:	MBLK		TestCode:	200.8 ICPMS Metals:Total		
Client ID:	PBW				Batch ID:	28977		RunNo:	39143		
Prep Date:	12/2/2016				Analysis Date:	12/5/2016		SeqNo:	1224657	Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	ND	0.0010									
Lead	ND	0.00050									
Selenium	ND	0.0010									
Uranium	ND	0.00050									

Sample ID	MSLCS-28977				SampType:	LCS		TestCode:	200.8 ICPMS Metals:Total		
Client ID:	LCSW				Batch ID:	28977		RunNo:	39143		
Prep Date:	12/2/2016				Analysis Date:	12/5/2016		SeqNo:	1224659	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	98.5	85	115				
Lead	0.012	0.00050	0.01250	0	98.2	85	115				
Selenium	0.024	0.0010	0.02500	0	97.2	85	115				
Uranium	0.012	0.00050	0.01250	0	97.5	85	115				

Sample ID	MSLLCS-28977				SampType:	LCSLL		TestCode:	200.8 ICPMS Metals:Total		
Client ID:	BatchQC				Batch ID:	28977		RunNo:	39143		
Prep Date:	12/2/2016				Analysis Date:	12/5/2016		SeqNo:	1224661	Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.00099	0.0010	0.001000	0	98.8	50	150			J	
Lead	0.00049	0.00050	0.0005000	0	97.2	50	150			J	
Selenium	0.00092	0.0010	0.001000	0	92.0	50	150			J	
Uranium	0.00049	0.00050	0.0005000	0	97.2	50	150			J	

Sample ID	1611492-004GMSDL				SampType:	MSDLL		TestCode:	200.8 ICPMS Metals:Total		
Client ID:	MKTf-18				Batch ID:	28977		RunNo:	39143		
Prep Date:	12/2/2016				Analysis Date:	12/5/2016		SeqNo:	1225624	Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.029	0.0010	0.02500	0.003264	102	70	130	1.30	20		
Lead	0.014	0.00050	0.01250	0.0004068	110	70	130	0.596	20		
Uranium	0.016	0.00050	0.01250	0.001106	121	70	130	0.103	20		

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | 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 Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	1611492-004GMSLL			SampType:	MSLL			TestCode:	200.8 ICPMS Metals:Total		
Client ID:	MKTF-18			Batch ID:	28977			RunNo:	39143		
Prep Date:	12/2/2016			Analysis Date:	12/5/2016			SeqNo:	1225625		
								Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.028	0.0010	0.02500	0.003264	100	70	130				
Lead	0.014	0.00050	0.01250	0.0004068	109	70	130				
Uranium	0.016	0.00050	0.01250	0.001106	121	70	130				

Sample ID	1611492-003GMSLL			SampType:	MSLL			TestCode:	200.8 ICPMS Metals:Total		
Client ID:	MKTF-34			Batch ID:	28977			RunNo:	39218		
Prep Date:	12/2/2016			Analysis Date:	12/7/2016			SeqNo:	1227105		
								Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.030	0.0050	0.02500	0.002649	111	70	130				
Uranium	0.052	0.0025	0.01250	0.03795	113	70	130				

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	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 Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	MB-28845		SampType: MBLK		TestCode: EPA Method 245.1: Mercury					
Client ID:	PBW		Batch ID: 28845		RunNo: 38959					
Prep Date:	11/23/2016		Analysis Date: 11/23/2016		SeqNo: 1218431		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-28845			SampType:	LCS		TestCode:	EPA Method 245.1: Mercury			
Client ID:	LCSW			Batch ID:	28845		RunNo:	38959			
Prep Date:	11/23/2016			Analysis Date:	11/23/2016		SeqNo:	1218432		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	101	80	120				

Sample ID	1611492-001GMS			SampType:	MS		TestCode:	EPA Method 245.1: Mercury			
Client ID:	MKTF-17			Batch ID:	28845		RunNo:	38959			
Prep Date:	11/23/2016			Analysis Date:	11/23/2016		SeqNo:	1218447		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0050	0.0010	0.005000	0	101	75	125				

Sample ID	1611492-001GMSD			SampType:	MSD		TestCode:	EPA Method 245.1: Mercury			
Client ID:	MKTF-17			Batch ID:	28845		RunNo:	38959			
Prep Date:	11/23/2016		Analysis Date:	11/23/2016		SeqNo:	1218448		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0050	0.0010	0.005000	0	99.8	75	125	1.18	20		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID MB	SampType: mblk			TestCode: EPA Method 300.0: Anions						
Client ID: PBW	Batch ID: R38701			RunNo: 38701						
Prep Date:	Analysis Date: 11/14/2016			SeqNo: 1208773		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								

Sample ID LCS	SampType: lcs			TestCode: EPA Method 300.0: Anions						
Client ID: LCSW	Batch ID: R38701			RunNo: 38701						
Prep Date:	Analysis Date: 11/14/2016			SeqNo: 1208774		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	90	110			
Chloride	4.8	0.50	5.000	0	95.9	90	110			
Bromide	2.5	0.10	2.500	0	98.6	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.5	90	110			
Sulfate	9.9	0.50	10.00	0	99.1	90	110			

Sample ID MB	SampType: mblk			TestCode: EPA Method 300.0: Anions						
Client ID: PBW	Batch ID: A38771			RunNo: 38771						
Prep Date:	Analysis Date: 11/16/2016			SeqNo: 1211379		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: A38771			RunNo: 38771						
Prep Date:	Analysis Date: 11/16/2016			SeqNo: 1211380		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	95.5	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	MB-28775	SampType:	MBLK	TestCode:	EPA Method 8011/504.1: EDB					
Client ID:	PBW	Batch ID:	28775	RunNo:	38889					
Prep Date:	11/21/2016	Analysis Date:	11/21/2016	SeqNo:	1215711	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	LCS-28775	SampType:	LCS	TestCode:	EPA Method 8011/504.1: EDB					
Client ID:	LCSW	Batch ID:	28775	RunNo:	38889					
Prep Date:	11/21/2016	Analysis Date:	11/21/2016	SeqNo:	1215713	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	105	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	MB-28621		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range			
Client ID:	PBW		Batch ID:	28621		RunNo:	38670			
Prep Date:	11/11/2016		Analysis Date:	11/14/2016		SeqNo:	1208052	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		100	77.1	144			

Sample ID	LCS-28621		SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range			
Client ID:	LCSW		Batch ID:	28621		RunNo:	38670			
Prep Date:	11/11/2016		Analysis Date:	11/14/2016		SeqNo:	1208053	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.5	1.0	5.000	0	90.6	63.2	155			
Surr: DNOP	0.51		0.5000		101	77.1	144			

Sample ID	1611492-001CMS		SampType:	MS		TestCode:	EPA Method 8015M/D: Diesel Range			
Client ID:	MKTF-17		Batch ID:	28621		RunNo:	38686			
Prep Date:	11/11/2016		Analysis Date:	11/14/2016		SeqNo:	1208297	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	7.4	1.0	5.000	1.262	123	79.6	148			
Surr: DNOP	0.53		0.5000		106	77.1	144			

Sample ID	1611492-001CMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range			
Client ID:	MKTF-17		Batch ID:	28621		RunNo:	38686			
Prep Date:	11/11/2016		Analysis Date:	11/14/2016		SeqNo:	1208298	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	7.0	1.0	5.000	1.262	115	79.6	148	5.46	20	
Surr: DNOP	0.50		0.5000		101	77.1	144	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTf)

Sample ID RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: G38599		RunNo: 38599							
Prep Date:	Analysis Date: 11/10/2016		SeqNo: 1206149		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		89.5	66.4	120			

Sample ID 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: G38599		RunNo: 38599							
Prep Date:	Analysis Date: 11/10/2016		SeqNo: 1206150		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.46	0.050	0.5000	0	92.4	80	120			
Surr: BFB	19		20.00		94.8	66.4	120			

Sample ID RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: B38637		RunNo: 38637							
Prep Date:	Analysis Date: 11/11/2016		SeqNo: 1207583		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		90.7	66.4	120			

Sample ID 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: B38637		RunNo: 38637							
Prep Date:	Analysis Date: 11/11/2016		SeqNo: 1207584		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	91.0	80	120			
Surr: BFB	18		20.00		91.2	66.4	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	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 Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R38696			RunNo: 38696					
Prep Date:	Analysis Date: 11/14/2016			SeqNo: 1208466		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	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Chlorobenzene	19	1.0	20.00	0	92.9	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	112	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	94.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.5	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.2	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R38696			RunNo: 38696					
Prep Date:		Analysis Date: 11/14/2016			SeqNo: 1208472		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	0.14	1.0								J
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								

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R38696			RunNo: 38696					
Prep Date:		Analysis Date: 11/14/2016			SeqNo: 1208472	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	0.49	1.0								J
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								
Methylene Chloride	ND	3.0								
n-Butylbenzene	0.30	3.0								J
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	0.23	1.0								J
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
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R38696	RunNo:	38696					
Prep Date:		Analysis Date:	11/14/2016	SeqNo:	1208472	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	9.7		10.00		96.9	70	130			
Surr: 4-Bromofluorobenzene	8.7		10.00		86.9	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.6		10.00		95.7	70	130			

Sample ID	1611492-001ams	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	MKTF-17	Batch ID:	R38696	RunNo:	38696					
Prep Date:		Analysis Date:	11/14/2016	SeqNo:	1208508	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	860	5.0	100.0	729.3	126	70	130			E
Toluene	100	5.0	100.0	1.903	102	70	130			
Chlorobenzene	98	5.0	100.0	0	97.6	70	130			
1,1-Dichloroethene	99	5.0	100.0	0	99.0	70	130			
Trichloroethene (TCE)	86	5.0	100.0	0	86.2	70	130			
Surr: 1,2-Dichloroethane-d4	47		50.00		94.2	70	130			
Surr: 4-Bromofluorobenzene	50		50.00		100	70	130			
Surr: Dibromofluoromethane	45		50.00		90.5	70	130			
Surr: Toluene-d8	51		50.00		103	70	130			

Sample ID	1611492-001amsd	SampType:	MSD	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	MKTF-17	Batch ID:	R38696	RunNo:	38696					
Prep Date:		Analysis Date:	11/14/2016	SeqNo:	1208510	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	840	5.0	100.0	729.3	110	70	130	1.93	20	E
Toluene	100	5.0	100.0	1.903	99.2	70	130	3.00	20	
Chlorobenzene	95	5.0	100.0	0	95.4	70	130	2.25	20	
1,1-Dichloroethene	97	5.0	100.0	0	96.6	70	130	2.44	20	
Trichloroethene (TCE)	83	5.0	100.0	0	83.4	70	130	3.35	20	
Surr: 1,2-Dichloroethane-d4	47		50.00		94.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	48		50.00		96.7	70	130	0	0	
Surr: Dibromofluoromethane	45		50.00		89.4	70	130	0	0	
Surr: Toluene-d8	53		50.00		106	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTf)

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: W38715			RunNo: 38715					
Prep Date:	Analysis Date: 11/15/2016			SeqNo: 1209294		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Toluene	20	1.0	20.00	0	102	70	130			
Chlorobenzene	18	1.0	20.00	0	92.2	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	107	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	92.6	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.3	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.6		10.00		96.4	70	130			

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: W38715			RunNo: 38715					
Prep Date:		Analysis Date: 11/15/2016			SeqNo: 1209295		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: W38715			RunNo: 38715					
Prep Date:		Analysis Date: 11/15/2016			SeqNo: 1209295	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
Methylene Chloride	ND	3.0								
n-Butylbenzene	0.30	3.0								J
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								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTf)

Sample ID rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: W38715			RunNo: 38715						
Prep Date:	Analysis Date: 11/15/2016			SeqNo: 1209295		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.5	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.7		10.00		96.8	70	130			

Sample ID 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R38763			RunNo: 38763						
Prep Date:	Analysis Date: 11/16/2016			SeqNo: 1211136		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.9	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.3	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	10		10.00		99.7	70	130			

Sample ID rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R38763			RunNo: 38763						
Prep Date:	Analysis Date: 11/16/2016			SeqNo: 1211137		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.1	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.0	70	130			
Surr: Dibromofluoromethane	11		10.00		110	70	130			
Surr: Toluene-d8	9.9		10.00		99.2	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	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 Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	1611492-001dms		SampType: MS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	MKTF-17		Batch ID: 28584		RunNo: 38737					
Prep Date:	11/11/2016		Analysis Date: 11/15/2016		SeqNo: 1210289		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	57	10	100.0	0	56.7	27.6	123			
4-Chloro-3-methylphenol	64	10	200.0	0	32.2	29.3	126			
2-Chlorophenol	66	10	200.0	0	32.8	15	133			
1,4-Dichlorobenzene	41	10	100.0	0	41.3	17.6	127			
2,4-Dinitrotoluene	59	10	100.0	0	59.1	38.9	98.5			
N-Nitrosodi-n-propylamine	62	10	100.0	0	62.0	25.9	131			
4-Nitrophenol	43	10	200.0	0	21.4	15	102			
Pentachlorophenol	69	20	200.0	0	34.3	15	120			
Phenol	36	10	200.0	3.460	16.0	15	100			
Pyrene	46	10	100.0	0	45.8	22.8	126			
1,2,4-Trichlorobenzene	47	10	100.0	0	47.3	15	143			
Surr: 2-Fluorophenol	43		200.0		21.4	15	98.1			
Surr: Phenol-d5	32		200.0		16.2	15	80.7			
Surr: 2,4,6-Tribromophenol	73		200.0		36.7	15	112			
Surr: Nitrobenzene-d5	58		100.0		57.9	27.2	90.7			
Surr: 2-Fluorobiphenyl	49		100.0		48.6	23.3	85.6			
Surr: 4-Terphenyl-d14	28		100.0		28.0	27.6	107			

Sample ID	1611492-001dmsd		SampType: MSD		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	MKTF-17		Batch ID: 28584		RunNo: 38737					
Prep Date:	11/11/2016		Analysis Date: 11/15/2016		SeqNo: 1210290		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	10	100.0	0	69.6	27.6	123	20.5	31.3	
4-Chloro-3-methylphenol	80	10	200.0	0	40.1	29.3	126	22.0	29	
2-Chlorophenol	75	10	200.0	0	37.4	15	133	13.0	28.4	
1,4-Dichlorobenzene	45	10	100.0	0	45.4	17.6	127	9.36	28.2	
2,4-Dinitrotoluene	73	10	100.0	0	72.8	38.9	98.5	20.8	22.9	
N-Nitrosodi-n-propylamine	69	10	100.0	0	69.2	25.9	131	11.0	28.8	
4-Nitrophenol	53	10	200.0	0	26.4	15	102	20.8	41.5	
Pentachlorophenol	91	20	200.0	0	45.5	15	120	28.0	45.1	
Phenol	43	10	200.0	3.460	19.9	15	100	19.6	33.9	
Pyrene	67	10	100.0	0	67.1	22.8	126	37.6	33.6	R
1,2,4-Trichlorobenzene	57	10	100.0	0	56.5	15	143	17.8	28.2	
Surr: 2-Fluorophenol	48		200.0		24.1	15	98.1	0	0	
Surr: Phenol-d5	38		200.0		19.1	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	99		200.0		49.7	15	112	0	0	
Surr: Nitrobenzene-d5	67		100.0		66.9	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	62		100.0		62.4	23.3	85.6	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTf)

Sample ID	1611492-001dmsd		SampType: MSD		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	MKTF-17		Batch ID: 28584		RunNo: 38737					
Prep Date:	11/11/2016		Analysis Date: 11/15/2016		SeqNo: 1210290		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	49		100.0		48.8	27.6	107	0	0	

Sample ID	Ics-28584		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSW		Batch ID: 28584		RunNo: 38737					
Prep Date:	11/10/2016		Analysis Date: 11/15/2016		SeqNo: 1210297		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	76	10	100.0	0	75.5	42.9	100			
4-Chloro-3-methylphenol	170	10	200.0	0	86.0	36.2	110			
2-Chlorophenol	140	10	200.0	0	71.8	33.4	97.8			
1,4-Dichlorobenzene	61	10	100.0	0	60.9	32.8	79.3			
2,4-Dinitrotoluene	71	10	100.0	0	70.8	34.9	107			
N-Nitrosodi-n-propylamine	74	10	100.0	0	73.5	30.7	111			
4-Nitrophenol	120	10	200.0	0	61.3	15	91.9			
Pentachlorophenol	130	20	200.0	0	64.8	33.3	93.5			
Phenol	120	10	200.0	0	60.2	20.9	86.4			
Pyrene	66	10	100.0	0	66.1	45.6	111			
1,2,4-Trichlorobenzene	73	10	100.0	0	72.8	38.7	88.2			
Surr: 2-Fluorophenol	130		200.0		66.1	15	98.1			
Surr: Phenol-d5	130		200.0		63.4	15	80.7			
Surr: 2,4,6-Tribromophenol	160		200.0		79.1	15	112			
Surr: Nitrobenzene-d5	72		100.0		71.9	27.2	90.7			
Surr: 2-Fluorobiphenyl	72		100.0		72.2	23.3	85.6			
Surr: 4-Terphenyl-d14	67		100.0		67.3	27.6	107			

Sample ID	mb-28584		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBW		Batch ID: 28584		RunNo: 38737					
Prep Date:	11/10/2016		Analysis Date: 11/15/2016		SeqNo: 1210298		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								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	mb-28584		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBW		Batch ID: 28584		RunNo: 38737					
Prep Date:	11/10/2016		Analysis Date: 11/15/2016		SeqNo: 1210298		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzoic acid	11	20								J
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	7.1	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	2.7	10								J
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	7.6	10								J
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								
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								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611492

22-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (MKTF)

Sample ID	mb-28584		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBW		Batch ID: 28584		RunNo: 38737					
Prep Date:	11/10/2016		Analysis Date: 11/15/2016		SeqNo: 1210298		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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-Fluorophenol	79		200.0		39.5	15	98.1			
Surr: Phenol-d5	61		200.0		30.4	15	80.7			
Surr: 2,4,6-Tribromophenol	110		200.0		56.8	15	112			
Surr: Nitrobenzene-d5	55		100.0		54.7	27.2	90.7			
Surr: 2-Fluorobiphenyl	45		100.0		45.2	23.3	85.6			
Surr: 4-Terphenyl-d14	52		100.0		51.9	27.6	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
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: 1611492

RcptNo: 1

Received by/date:	<u>A 11/8/16</u>		
Logged By:	Anne Thorne	11/8/2016 3:55:00 PM	<u>Anne Thorne</u>
Completed By:	Anne Thorne	11/9/2016	<u>Anne Thorne</u>
Reviewed By:	<u>aj</u>	<u>11/10/16</u>	

Chain of Custody

- | | | | |
|--|---|-----------------------------|---|
| 1. Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☒ |
| 2. Is Chain of Custody complete? | Yes ☒ | No ☐ | Not Present ☐ |
| 3. How was the sample delivered? | <u>Client</u> | | |

Log In

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

of preserved bottles checked for pH: 23
(2 or >12 unless noted)
Adjusted? No
Checked by: fk / fc

Special Handling (if applicable)

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

Person Notified:	<u></u>	Date:	<u></u>
By Whom:	<u></u>	Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	<u></u>		
Client Instructions:	<u></u>		

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
3	1.0	Good	Yes			

Chain-of-Custody Record

Client: **WESTERN REFINING SW, INC.**

Location: **HALLUP REFINERY**

Shipping Address: **92 GIANT CROSSING RD**

City: **GALLUP NM 87301**

Phone #: **505-722-0231**

Fax #: **CHERYL JOHNSON @**

Website: **WNR.COM**

VOC Package: ☒ Level 4 (Full Validation)

Standard: ☒ NELAP ☐ Other

Accreditation: ☐ NELAP ☐ Other

EDD (Type): **EXCEL**

Date: **1/6/07**

Time: **0710**

Matrix: **WATER**

Sample Request ID: **MKTF-17**

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: **2016 4TH QTR (MKTF)**

Project #: **2016 4TH QTR (MKTF)**

Project Manager: **CHERYL JOHNSON**

Sampler: **TRACY PAYNE**

On Ice: ☒ Yes ☐ No

Sample Temperature: **10**

Container Type and #: **40 mL VOA-5**

Preservative Type: **HCL**

HEAL No.: **1611492**

Received by: **Susan Payne**

Date: **1/8/16**

Time: **1400**

Relinquished by: **Susan Payne**

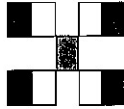
Date: **1/8/16**

Time: **1555**

Relinquished by: **Susan Payne**

Date: **1/8/16**

Time: **1555**



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS / ANIONS	WQC METALS	(TOTAL & DISSOLVED)	Air Bubbles (Y or N)
☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

Remarks:

Chain-of-Custody Record

ent: ESTERN REFINING SW, INC.

gallup refinery

gilling Address: 92 GIANT CROSSING RD

GALLUP, NM 87301

Phone #: 505-722-0231

mail or Fax#: CHERYL JOHNSON @

WNR.COM

QC Package:

Standard ☒ Level 4 (Full Validation)

creditation

NELAP ☐ Other

EDD (Type) EXCEL

Time Matrix Sample Request ID

16 1010 WATER FB110816

16 1010 WATER FB110816

16 1010 WATER FB110816

16 1010 WATER FB110816

16 1010 WATER FB110816

16 1010 WATER FB110816

16 1010 WATER FB110816

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16 1010 WATER FB110816

16 1010 WATER FB110816

16 1010 WATER FB110816

16 1010 WATER FB110816

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

2016 4TH QTR (MKTF)

Project #:

Project Manager:

CHERYL JOHNSON

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: 0

Container Type and #

Preservative Type

HEAL No.

11611492

40 ML

VOA-5

HCL

006

40 ML

VOA-3

HCL

006

1 L

AMBER-1

NEAT

006

250 ML

AMBER-1

NEAT

006

500 ML

PLASTIC-1

HNO3

006

125 ML

PLASTIC-1

HNO3

006

125 ML

PLASTIC-1

H2SO4

006

500 ML

PLASTIC-1

NEAT

006

40 ML

VOA-5

HCL

007

1 L

AMBER

NEAT

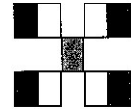
007

250 ML

AMBER

NEAT

007



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS / ANIONS	WQCC METALS	(TOTAL & DISSOLVED)	8011 (1,2-DIBROMOMETHANE)	Air Bubbles (Y or N)
☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

Remarks:

Received by:	Date	Time
<u>[Signature]</u>	<u>11/16/16</u>	<u>1400</u>
Received by:	Date	Time
<u>[Signature]</u>	<u>11/16/16</u>	<u>1555</u>

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

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

Black	White	Black
Black	Gray	White
Black	White	Black

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

[illegible]

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



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

December 16, 2016

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2016 4th Qtr (OW)

OrderNo.: 1611528

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 7 sample(s) on 11/9/2016 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. In order to properly interpret your results it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. 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.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

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 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB110916

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 9:55:00 AM

Lab ID: 1611528-001

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: JME	
Diesel Range Organics (DRO)	ND	0.69	1.0		mg/L	1	11/14/2016 4:52:51 PM	28621
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/14/2016 4:52:51 PM	28621
Surr: DNOP	106	0	77.1-144		%Rec	1	11/14/2016 4:52:51 PM	28621
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	11/14/2016 12:47:47 PM	G38685
Surr: BFB	90.8	0	66.4-120		%Rec	1	11/14/2016 12:47:47 PM	G38685
EPA METHOD 200.7: DISSOLVED METALS							Analyst: MED	
Barium	ND	0.0013	0.0020		mg/L	1	12/6/2016 5:32:14 PM	B39177
Cadmium	ND	0.00075	0.0020		mg/L	1	12/6/2016 5:32:14 PM	B39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2016 5:32:14 PM	B39177
Copper	ND	0.0040	0.0060		mg/L	1	12/6/2016 5:32:14 PM	B39177
Iron	ND	0.020	0.020		mg/L	1	12/6/2016 5:32:14 PM	B39177
Manganese	ND	0.00032	0.0020		mg/L	1	12/6/2016 5:32:14 PM	B39177
Silver	ND	0.0028	0.0050		mg/L	1	12/6/2016 5:32:14 PM	B39177
Zinc	ND	0.0028	0.010		mg/L	1	12/8/2016 1:02:57 PM	A39247
EPA METHOD 200.7: TOTAL METALS							Analyst: MED	
Barium	ND	0.00079	0.0020		mg/L	1	12/8/2016 2:30:58 PM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/8/2016 2:30:58 PM	28977
Chromium	ND	0.0027	0.0060		mg/L	1	12/8/2016 2:30:58 PM	28977
Copper	ND	0.0030	0.0060		mg/L	1	12/8/2016 2:30:58 PM	28977
Iron	ND	0.020	0.020		mg/L	1	12/8/2016 2:30:58 PM	28977
Manganese	ND	0.00027	0.0020		mg/L	1	12/8/2016 2:30:58 PM	28977
Silver	ND	0.0015	0.0050		mg/L	1	12/8/2016 2:30:58 PM	28977
Zinc	ND	0.0027	0.010		mg/L	1	12/8/2016 2:30:58 PM	28977
EPA 200.8: DISSOLVED METALS							Analyst: JLF	
Arsenic	ND	0.00014	0.0010		mg/L	1	11/28/2016 3:45:09 PM	B39007
Lead	ND	0.00017	0.00050		mg/L	1	11/28/2016 3:45:09 PM	B39007
Selenium	ND	0.00021	0.0010		mg/L	1	11/28/2016 3:45:09 PM	B39007
Uranium	ND	0.000051	0.00050		mg/L	1	11/28/2016 3:45:09 PM	B39007
200.8 ICPMS METALS:TOTAL							Analyst: JLF	
Arsenic	ND	0.00021	0.0010		mg/L	1	12/5/2016 2:37:21 PM	28977
Lead	ND	0.000081	0.00050		mg/L	1	12/5/2016 2:37:21 PM	28977
Selenium	ND	0.00019	0.0010		mg/L	1	12/5/2016 2:37:21 PM	28977
Uranium	ND	0.00017	0.00050		mg/L	1	12/5/2016 2:37:21 PM	28977
EPA METHOD 245.1: MERCURY							Analyst: JLF	
Mercury	0.000068	0.000053	0.00020	J	mg/L	1	11/29/2016 3:08:18 PM	28890

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB110916

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 9:55:00 AM

Lab ID: 1611528-001

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
Benzene	ND	0.096	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Toluene	0.17	0.12	1.0	J	µg/L	1	11/14/2016 11:04:00 AM	R38681
Ethylbenzene	0.12	0.11	1.0	J	µg/L	1	11/14/2016 11:04:00 AM	R38681
Methyl tert-butyl ether (MTBE)	ND	0.21	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Naphthalene	0.10	0.093	2.0	J	µg/L	1	11/14/2016 11:04:00 AM	R38681
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
2-Methylnaphthalene	0.18	0.16	4.0	J	µg/L	1	11/14/2016 11:04:00 AM	R38681
Acetone	ND	4.9	10		µg/L	1	11/14/2016 11:04:00 AM	R38681
Bromobenzene	ND	0.098	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Bromoform	ND	0.10	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Bromomethane	ND	0.78	3.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
2-Butanone	ND	0.74	10		µg/L	1	11/14/2016 11:04:00 AM	R38681
Carbon disulfide	ND	0.60	10		µg/L	1	11/14/2016 11:04:00 AM	R38681
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Chloroethane	ND	0.19	2.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Chloroform	ND	0.089	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Chloromethane	ND	0.21	3.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Dibromochloromethane	ND	0.087	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Dibromomethane	ND	0.12	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	11/14/2016 11:04:00 AM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	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 Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB110916

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 9:55:00 AM

Lab ID: 1611528-001

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
2-Hexanone	ND	0.84	10		µg/L	1	11/14/2016 11:04:00 AM	R38681
Isopropylbenzene	ND	0.10	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	11/14/2016 11:04:00 AM	R38681
Methylene Chloride	ND	0.19	3.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
n-Butylbenzene	ND	0.16	3.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
n-Propylbenzene	ND	0.13	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Styrene	ND	0.11	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Vinyl chloride	ND	0.20	1.0		µg/L	1	11/14/2016 11:04:00 AM	R38681
Xylenes, Total	0.58	0.37	1.5	J	µg/L	1	11/14/2016 11:04:00 AM	R38681
Surr: 1,2-Dichloroethane-d4	95.9	0	70-130		%Rec	1	11/14/2016 11:04:00 AM	R38681
Surr: 4-Bromofluorobenzene	99.7	0	70-130		%Rec	1	11/14/2016 11:04:00 AM	R38681
Surr: Dibromofluoromethane	98.1	0	70-130		%Rec	1	11/14/2016 11:04:00 AM	R38681
Surr: Toluene-d8	102	0	70-130		%Rec	1	11/14/2016 11:04:00 AM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-55

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 10:40:00 AM

Lab ID: 1611528-002

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: JME	
Diesel Range Organics (DRO)	3.4	0.69	1.0		mg/L	1	11/14/2016 5:20:04 PM	28621
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/14/2016 5:20:04 PM	28621
Surr: DNOP	109	0	77.1-144		%Rec	1	11/14/2016 5:20:04 PM	28621
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	51	2.5	5.0		mg/L	100	11/14/2016 1:12:28 PM	G38685
Surr: BFB	89.3	0	66.4-120		%Rec	100	11/14/2016 1:12:28 PM	G38685
EPA METHOD 200.7: DISSOLVED METALS							Analyst: MED	
Barium	0.62	0.0013	0.0020		mg/L	1	12/6/2016 5:34:28 PM	B39177
Cadmium	ND	0.00075	0.0020		mg/L	1	12/6/2016 5:34:28 PM	B39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2016 5:34:28 PM	B39177
Copper	ND	0.0040	0.0060		mg/L	1	12/6/2016 5:34:28 PM	B39177
Iron	3.8	0.20	0.20	*	mg/L	10	12/8/2016 1:12:54 PM	A39247
Manganese	4.4	0.0032	0.020	*	mg/L	10	12/8/2016 1:12:54 PM	A39247
Silver	ND	0.0028	0.0050		mg/L	1	12/6/2016 5:34:28 PM	B39177
Zinc	0.0094	0.0028	0.010	J	mg/L	1	12/8/2016 1:11:14 PM	A39247
EPA METHOD 200.7: TOTAL METALS							Analyst: MED	
Barium	0.85	0.00079	0.0020		mg/L	1	12/8/2016 2:33:10 PM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/8/2016 2:33:10 PM	28977
Chromium	0.0057	0.0027	0.0060	J	mg/L	1	12/8/2016 2:33:10 PM	28977
Copper	0.0032	0.0030	0.0060	J	mg/L	1	12/8/2016 2:33:10 PM	28977
Iron	8.7	0.20	0.20	*	mg/L	10	12/9/2016 11:02:34 AM	28977
Manganese	4.5	0.0027	0.020	*	mg/L	10	12/9/2016 11:02:34 AM	28977
Silver	0.0062	0.0015	0.0050		mg/L	1	12/8/2016 2:33:10 PM	28977
Zinc	0.018	0.0027	0.010		mg/L	1	12/8/2016 2:33:10 PM	28977
EPA 200.8: DISSOLVED METALS							Analyst: JLF	
Arsenic	0.0075	0.00014	0.0010		mg/L	1	11/28/2016 3:48:12 PM	B39007
Lead	0.00021	0.00017	0.00050	J	mg/L	1	11/28/2016 3:48:12 PM	B39007
Selenium	0.0081	0.00021	0.0010		mg/L	1	11/28/2016 3:48:12 PM	B39007
Uranium	0.0074	0.000051	0.00050		mg/L	1	11/28/2016 3:48:12 PM	B39007
200.8 ICPMS METALS:TOTAL							Analyst: JLF	
Arsenic	0.0077	0.00021	0.0010		mg/L	1	12/5/2016 2:40:22 PM	28977
Lead	0.012	0.00041	0.0025		mg/L	5	12/7/2016 2:07:29 PM	28977
Selenium	0.0076	0.0037	0.020	J	mg/L	20	12/7/2016 2:12:38 PM	28977
Uranium	0.0070	0.00087	0.0025		mg/L	5	12/7/2016 2:07:29 PM	28977
EPA METHOD 245.1: MERCURY							Analyst: JLF	
Mercury	ND	0.000053	0.00020		mg/L	1	11/29/2016 3:10:07 PM	28890

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-55

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 10:40:00 AM

Lab ID: 1611528-002

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
Benzene	11000	48	500		µg/L	500	11/14/2016 11:27:00 AM	R38681
Toluene	3200	5.9	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Ethylbenzene	680	5.6	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Methyl tert-butyl ether (MTBE)	1800	11	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,2,4-Trimethylbenzene	550	5.5	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,3,5-Trimethylbenzene	170	5.8	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,2-Dichloroethane (EDC)	ND	5.8	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,2-Dibromoethane (EDB)	ND	5.6	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Naphthalene	74	4.6	100	J	µg/L	50	11/14/2016 11:50:00 AM	R38681
1-Methylnaphthalene	29	10	200	J	µg/L	50	11/14/2016 11:50:00 AM	R38681
2-Methylnaphthalene	32	7.9	200	J	µg/L	50	11/14/2016 11:50:00 AM	R38681
Acetone	ND	250	500		µg/L	50	11/14/2016 11:50:00 AM	R38681
Bromobenzene	ND	4.9	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Bromodichloromethane	ND	7.0	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Bromoform	ND	5.1	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Bromomethane	ND	39	150		µg/L	50	11/14/2016 11:50:00 AM	R38681
2-Butanone	ND	37	500		µg/L	50	11/14/2016 11:50:00 AM	R38681
Carbon disulfide	ND	30	500		µg/L	50	11/14/2016 11:50:00 AM	R38681
Carbon Tetrachloride	ND	5.4	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Chlorobenzene	ND	5.7	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Chloroethane	ND	9.6	100		µg/L	50	11/14/2016 11:50:00 AM	R38681
Chloroform	7.7	4.4	50	J	µg/L	50	11/14/2016 11:50:00 AM	R38681
Chloromethane	ND	11	150		µg/L	50	11/14/2016 11:50:00 AM	R38681
2-Chlorotoluene	ND	20	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
4-Chlorotoluene	ND	6.4	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
cis-1,2-DCE	ND	6.2	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
cis-1,3-Dichloropropene	ND	5.3	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,2-Dibromo-3-chloropropane	ND	12	100		µg/L	50	11/14/2016 11:50:00 AM	R38681
Dibromochloromethane	ND	4.3	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Dibromomethane	ND	6.0	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,2-Dichlorobenzene	ND	20	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,3-Dichlorobenzene	ND	7.2	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,4-Dichlorobenzene	ND	7.1	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Dichlorodifluoromethane	ND	18	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,1-Dichloroethane	ND	5.4	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,1-Dichloroethene	ND	5.4	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,2-Dichloropropane	ND	5.5	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,3-Dichloropropane	ND	7.8	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
2,2-Dichloropropane	ND	8.3	100		µg/L	50	11/14/2016 11:50:00 AM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-55

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 10:40:00 AM

Lab ID: 1611528-002

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
1,1-Dichloropropene	ND	6.7	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Hexachlorobutadiene	ND	9.9	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
2-Hexanone	ND	42	500		µg/L	50	11/14/2016 11:50:00 AM	R38681
Isopropylbenzene	28	5.2	50	J	µg/L	50	11/14/2016 11:50:00 AM	R38681
4-Isopropyltoluene	7.7	7.0	50	J	µg/L	50	11/14/2016 11:50:00 AM	R38681
4-Methyl-2-pentanone	ND	21	500		µg/L	50	11/14/2016 11:50:00 AM	R38681
Methylene Chloride	ND	9.4	150		µg/L	50	11/14/2016 11:50:00 AM	R38681
n-Butylbenzene	20	8.0	150	J	µg/L	50	11/14/2016 11:50:00 AM	R38681
n-Propylbenzene	88	6.6	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
sec-Butylbenzene	11	6.2	50	J	µg/L	50	11/14/2016 11:50:00 AM	R38681
Styrene	ND	5.5	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
tert-Butylbenzene	ND	5.8	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,1,1,2-Tetrachloroethane	ND	5.6	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,1,2,2-Tetrachloroethane	ND	6.4	100		µg/L	50	11/14/2016 11:50:00 AM	R38681
Tetrachloroethene (PCE)	ND	7.6	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
trans-1,2-DCE	ND	20	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
trans-1,3-Dichloropropene	ND	5.2	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,2,3-Trichlorobenzene	ND	5.6	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,2,4-Trichlorobenzene	ND	6.6	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,1,1-Trichloroethane	ND	4.6	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,1,2-Trichloroethane	ND	6.4	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Trichloroethene (TCE)	ND	8.8	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Trichlorofluoromethane	ND	10	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
1,2,3-Trichloropropane	ND	10	100		µg/L	50	11/14/2016 11:50:00 AM	R38681
Vinyl chloride	ND	9.8	50		µg/L	50	11/14/2016 11:50:00 AM	R38681
Xylenes, Total	2400	18	75		µg/L	50	11/14/2016 11:50:00 AM	R38681
Surr: 1,2-Dichloroethane-d4	98.7	0	70-130		%Rec	50	11/14/2016 11:50:00 AM	R38681
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	50	11/14/2016 11:50:00 AM	R38681
Surr: Dibromofluoromethane	99.3	0	70-130		%Rec	50	11/14/2016 11:50:00 AM	R38681
Surr: Toluene-d8	102	0	70-130		%Rec	50	11/14/2016 11:50:00 AM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-57

Project: 2016 4th Qtr (OW)

Collection Date: 11/8/2016 12:45:00 PM

Lab ID: 1611528-003

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: JME	
Diesel Range Organics (DRO)	7.8	0.69	1.0		mg/L	1	11/14/2016 5:47:22 PM	28621
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/14/2016 5:47:22 PM	28621
Surr: DNOP	108	0	77.1-144		%Rec	1	11/14/2016 5:47:22 PM	28621
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	39	5.1	10		mg/L	200	11/14/2016 2:26:41 PM	G38685
Surr: BFB	90.3	0	66.4-120		%Rec	200	11/14/2016 2:26:41 PM	G38685
EPA METHOD 200.7: DISSOLVED METALS							Analyst: MED	
Barium	2.4	0.0066	0.010	*	mg/L	5	12/8/2016 1:16:38 PM	A39247
Cadmium	ND	0.00075	0.0020		mg/L	1	12/6/2016 5:36:11 PM	B39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2016 5:36:11 PM	B39177
Copper	ND	0.0040	0.0060		mg/L	1	12/6/2016 5:36:11 PM	B39177
Iron	1.6	0.10	0.10	*	mg/L	5	12/8/2016 1:16:38 PM	A39247
Manganese	2.3	0.0016	0.010	*	mg/L	5	12/8/2016 1:16:38 PM	A39247
Silver	ND	0.0028	0.0050		mg/L	1	12/6/2016 5:36:11 PM	B39177
Zinc	0.0037	0.0028	0.010	J	mg/L	1	12/8/2016 1:14:48 PM	A39247
EPA METHOD 200.7: TOTAL METALS							Analyst: MED	
Barium	2.4	0.0040	0.010	*	mg/L	5	12/9/2016 11:04:32 AM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/8/2016 2:34:53 PM	28977
Chromium	ND	0.0027	0.0060		mg/L	1	12/8/2016 2:34:53 PM	28977
Copper	ND	0.0030	0.0060		mg/L	1	12/8/2016 2:34:53 PM	28977
Iron	4.6	0.10	0.10	*	mg/L	5	12/9/2016 11:04:32 AM	28977
Manganese	2.5	0.0014	0.010	*	mg/L	5	12/9/2016 11:04:32 AM	28977
Silver	0.0040	0.0015	0.0050	J	mg/L	1	12/8/2016 2:34:53 PM	28977
Zinc	0.0089	0.0027	0.010	J	mg/L	1	12/8/2016 2:34:53 PM	28977
EPA 200.8: DISSOLVED METALS							Analyst: JLF	
Arsenic	0.0051	0.0028	0.020	J	mg/L	20	11/30/2016 3:05:27 PM	R39071
Lead	ND	0.00017	0.00050		mg/L	1	11/28/2016 3:57:26 PM	B39007
Selenium	0.012	0.0042	0.020	J	mg/L	20	11/30/2016 3:05:27 PM	R39071
Uranium	0.0047	0.000051	0.00050		mg/L	1	11/28/2016 3:57:26 PM	B39007
200.8 ICPMS METALS:TOTAL							Analyst: JLF	
Arsenic	0.0046	0.0042	0.020	J	mg/L	20	12/7/2016 2:22:54 PM	28977
Lead	0.0028	0.000081	0.00050		mg/L	1	12/5/2016 2:49:28 PM	28977
Selenium	0.012	0.0037	0.020	J	mg/L	20	12/7/2016 2:22:54 PM	28977
Uranium	0.0053	0.00017	0.00050		mg/L	1	12/5/2016 2:49:28 PM	28977
EPA METHOD 245.1: MERCURY							Analyst: JLF	
Mercury	0.000057	0.000053	0.00020	J	mg/L	1	11/29/2016 4:02:29 PM	28890

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-57

Project: 2016 4th Qtr (OW)

Collection Date: 11/8/2016 12:45:00 PM

Lab ID: 1611528-003

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
Benzene	10000	48	500		µg/L	500	11/14/2016 9:27:00 PM	R38681
Toluene	35	0.59	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Ethylbenzene	580	5.6	50		µg/L	50	11/14/2016 1:24:00 PM	R38681
Methyl tert-butyl ether (MTBE)	160	1.1	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,2,4-Trimethylbenzene	0.96	0.55	5.0	J	µg/L	5	11/14/2016 1:47:00 PM	R38681
1,3,5-Trimethylbenzene	1.6	0.58	5.0	J	µg/L	5	11/14/2016 1:47:00 PM	R38681
1,2-Dichloroethane (EDC)	ND	0.58	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,2-Dibromoethane (EDB)	ND	0.56	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Naphthalene	210	0.46	10		µg/L	5	11/14/2016 1:47:00 PM	R38681
1-Methylnaphthalene	170	1.0	20		µg/L	5	11/14/2016 1:47:00 PM	R38681
2-Methylnaphthalene	130	0.79	20		µg/L	5	11/14/2016 1:47:00 PM	R38681
Acetone	54	25	50		µg/L	5	11/14/2016 1:47:00 PM	R38681
Bromobenzene	ND	0.49	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Bromodichloromethane	ND	0.70	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Bromoform	ND	0.51	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Bromomethane	ND	3.9	15		µg/L	5	11/14/2016 1:47:00 PM	R38681
2-Butanone	17	3.7	50	J	µg/L	5	11/14/2016 1:47:00 PM	R38681
Carbon disulfide	ND	3.0	50		µg/L	5	11/14/2016 1:47:00 PM	R38681
Carbon Tetrachloride	ND	0.54	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Chlorobenzene	ND	0.57	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Chloroethane	ND	0.96	10		µg/L	5	11/14/2016 1:47:00 PM	R38681
Chloroform	ND	0.44	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Chloromethane	ND	1.1	15		µg/L	5	11/14/2016 1:47:00 PM	R38681
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
4-Chlorotoluene	ND	0.64	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
cis-1,2-DCE	ND	0.62	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
cis-1,3-Dichloropropene	ND	0.53	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,2-Dibromo-3-chloropropane	ND	1.2	10		µg/L	5	11/14/2016 1:47:00 PM	R38681
Dibromochloromethane	ND	0.43	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Dibromomethane	ND	0.60	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,2-Dichlorobenzene	ND	2.0	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,3-Dichlorobenzene	ND	0.72	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,4-Dichlorobenzene	ND	0.71	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Dichlorodifluoromethane	ND	1.8	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,1-Dichloroethane	ND	0.54	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,1-Dichloroethene	ND	0.54	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,2-Dichloropropane	ND	0.55	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,3-Dichloropropane	ND	0.78	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
2,2-Dichloropropane	ND	0.83	10		µg/L	5	11/14/2016 1:47:00 PM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-57

Project: 2016 4th Qtr (OW)

Collection Date: 11/8/2016 12:45:00 PM

Lab ID: 1611528-003

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
1,1-Dichloropropene	ND	0.67	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Hexachlorobutadiene	ND	0.99	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
2-Hexanone	ND	4.2	50		µg/L	5	11/14/2016 1:47:00 PM	R38681
Isopropylbenzene	15	0.52	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
4-Isopropyltoluene	1.8	0.70	5.0	J	µg/L	5	11/14/2016 1:47:00 PM	R38681
4-Methyl-2-pentanone	ND	2.1	50		µg/L	5	11/14/2016 1:47:00 PM	R38681
Methylene Chloride	ND	0.94	15		µg/L	5	11/14/2016 1:47:00 PM	R38681
n-Butylbenzene	3.3	0.80	15	J	µg/L	5	11/14/2016 1:47:00 PM	R38681
n-Propylbenzene	39	0.66	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
sec-Butylbenzene	1.9	0.62	5.0	J	µg/L	5	11/14/2016 1:47:00 PM	R38681
Styrene	ND	0.55	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
tert-Butylbenzene	ND	0.58	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,1,1,2-Tetrachloroethane	ND	0.56	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,1,2,2-Tetrachloroethane	ND	0.64	10		µg/L	5	11/14/2016 1:47:00 PM	R38681
Tetrachloroethene (PCE)	ND	0.76	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
trans-1,2-DCE	ND	2.0	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
trans-1,3-Dichloropropene	ND	0.52	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,2,3-Trichlorobenzene	ND	0.56	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,2,4-Trichlorobenzene	ND	0.66	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,1,1-Trichloroethane	ND	0.46	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,1,2-Trichloroethane	ND	0.64	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Trichloroethene (TCE)	ND	0.88	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Trichlorofluoromethane	ND	1.0	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
1,2,3-Trichloropropane	ND	1.0	10		µg/L	5	11/14/2016 1:47:00 PM	R38681
Vinyl chloride	ND	0.98	5.0		µg/L	5	11/14/2016 1:47:00 PM	R38681
Xylenes, Total	110	1.8	7.5		µg/L	5	11/14/2016 1:47:00 PM	R38681
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	5	11/14/2016 1:47:00 PM	R38681
Surr: 4-Bromofluorobenzene	99.9	0	70-130		%Rec	5	11/14/2016 1:47:00 PM	R38681
Surr: Dibromofluoromethane	101	0	70-130		%Rec	5	11/14/2016 1:47:00 PM	R38681
Surr: Toluene-d8	101	0	70-130		%Rec	5	11/14/2016 1:47:00 PM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-54

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 9:35:00 AM

Lab ID: 1611528-004

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: JME	
Diesel Range Organics (DRO)	1.8	0.69	1.0		mg/L	1	11/14/2016 6:14:42 PM	28621
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/14/2016 6:14:42 PM	28621
Surr: DNOP	110	0	77.1-144		%Rec	1	11/14/2016 6:14:42 PM	28621
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	4.5	0.13	0.25		mg/L	5	11/14/2016 2:51:32 PM	G38685
Surr: BFB	94.6	0	66.4-120		%Rec	5	11/14/2016 2:51:32 PM	G38685
EPA METHOD 200.7: DISSOLVED METALS							Analyst: MED	
Barium	0.15	0.0013	0.0020		mg/L	1	12/6/2016 5:37:52 PM	B39177
Cadmium	ND	0.00075	0.0020		mg/L	1	12/6/2016 5:37:52 PM	B39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2016 5:37:52 PM	B39177
Copper	0.0067	0.0040	0.0060		mg/L	1	12/6/2016 5:37:52 PM	B39177
Iron	0.24	0.020	0.020		mg/L	1	12/6/2016 5:37:52 PM	B39177
Manganese	1.4	0.0016	0.010	*	mg/L	5	12/8/2016 1:20:32 PM	A39247
Silver	ND	0.0028	0.0050		mg/L	1	12/6/2016 5:37:52 PM	B39177
Zinc	0.011	0.0028	0.010		mg/L	1	12/8/2016 1:18:36 PM	A39247
EPA METHOD 200.7: TOTAL METALS							Analyst: MED	
Barium	0.46	0.00079	0.0020		mg/L	1	12/8/2016 2:36:31 PM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/8/2016 2:36:31 PM	28977
Chromium	0.0061	0.0027	0.0060		mg/L	1	12/8/2016 2:36:31 PM	28977
Copper	0.024	0.0030	0.0060		mg/L	1	12/8/2016 2:36:31 PM	28977
Iron	4.4	0.10	0.10	*	mg/L	5	12/9/2016 11:06:31 AM	28977
Manganese	1.7	0.0014	0.010	*	mg/L	5	12/9/2016 11:06:31 AM	28977
Silver	0.0044	0.0015	0.0050	J	mg/L	1	12/8/2016 2:36:31 PM	28977
Zinc	0.018	0.0027	0.010		mg/L	1	12/8/2016 2:36:31 PM	28977
EPA 200.8: DISSOLVED METALS							Analyst: JLF	
Arsenic	0.0060	0.0028	0.020	J	mg/L	20	11/30/2016 3:15:44 PM	R39071
Lead	0.0064	0.00017	0.00050		mg/L	1	11/28/2016 4:00:29 PM	B39007
Selenium	0.013	0.0042	0.020	J	mg/L	20	11/30/2016 3:15:44 PM	R39071
Uranium	0.057	0.00026	0.0025	*	mg/L	5	11/30/2016 3:10:35 PM	R39071
200.8 ICPMS METALS:TOTAL							Analyst: JLF	
Arsenic	0.0061	0.0042	0.020	J	mg/L	20	12/7/2016 2:33:11 PM	28977
Lead	0.019	0.00041	0.0025	*	mg/L	5	12/7/2016 2:28:03 PM	28977
Selenium	0.015	0.0037	0.020	J	mg/L	20	12/7/2016 2:33:11 PM	28977
Uranium	0.062	0.00087	0.0025	*	mg/L	5	12/7/2016 2:28:03 PM	28977
EPA METHOD 245.1: MERCURY							Analyst: JLF	
Mercury	0.000057	0.000053	0.00020	J	mg/L	1	11/29/2016 3:13:49 PM	28890

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-54

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 9:35:00 AM

Lab ID: 1611528-004

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
Benzene	94	0.48	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Toluene	6.5	0.59	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Ethylbenzene	25	0.56	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Methyl tert-butyl ether (MTBE)	2100	11	50		µg/L	50	11/14/2016 2:35:00 PM	R38681
1,2,4-Trimethylbenzene	16	0.55	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,3,5-Trimethylbenzene	4.8	0.58	5.0	J	µg/L	5	11/14/2016 2:59:00 PM	R38681
1,2-Dichloroethane (EDC)	ND	0.58	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,2-Dibromoethane (EDB)	ND	0.56	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Naphthalene	3.7	0.46	10	J	µg/L	5	11/14/2016 2:59:00 PM	R38681
1-Methylnaphthalene	1.9	1.0	20	J	µg/L	5	11/14/2016 2:59:00 PM	R38681
2-Methylnaphthalene	2.1	0.79	20	J	µg/L	5	11/14/2016 2:59:00 PM	R38681
Acetone	ND	25	50		µg/L	5	11/14/2016 2:59:00 PM	R38681
Bromobenzene	ND	0.49	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Bromodichloromethane	ND	0.70	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Bromoform	ND	0.51	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Bromomethane	ND	3.9	15		µg/L	5	11/14/2016 2:59:00 PM	R38681
2-Butanone	ND	3.7	50		µg/L	5	11/14/2016 2:59:00 PM	R38681
Carbon disulfide	ND	3.0	50		µg/L	5	11/14/2016 2:59:00 PM	R38681
Carbon Tetrachloride	ND	0.54	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Chlorobenzene	ND	0.57	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Chloroethane	ND	0.96	10		µg/L	5	11/14/2016 2:59:00 PM	R38681
Chloroform	ND	0.44	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Chloromethane	ND	1.1	15		µg/L	5	11/14/2016 2:59:00 PM	R38681
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
4-Chlorotoluene	ND	0.64	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
cis-1,2-DCE	ND	0.62	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
cis-1,3-Dichloropropene	ND	0.53	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,2-Dibromo-3-chloropropane	ND	1.2	10		µg/L	5	11/14/2016 2:59:00 PM	R38681
Dibromochloromethane	ND	0.43	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Dibromomethane	ND	0.60	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,2-Dichlorobenzene	ND	2.0	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,3-Dichlorobenzene	ND	0.72	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,4-Dichlorobenzene	ND	0.71	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Dichlorodifluoromethane	ND	1.8	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,1-Dichloroethane	ND	0.54	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,1-Dichloroethene	ND	0.54	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,2-Dichloropropane	ND	0.55	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,3-Dichloropropane	ND	0.78	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
2,2-Dichloropropane	ND	0.83	10		µg/L	5	11/14/2016 2:59:00 PM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	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 Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-54

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 9:35:00 AM

Lab ID: 1611528-004

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
1,1-Dichloropropene	ND	0.67	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Hexachlorobutadiene	ND	0.99	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
2-Hexanone	ND	4.2	50		µg/L	5	11/14/2016 2:59:00 PM	R38681
Isopropylbenzene	1.2	0.52	5.0	J	µg/L	5	11/14/2016 2:59:00 PM	R38681
4-Isopropyltoluene	ND	0.70	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
4-Methyl-2-pentanone	ND	2.1	50		µg/L	5	11/14/2016 2:59:00 PM	R38681
Methylene Chloride	ND	0.94	15		µg/L	5	11/14/2016 2:59:00 PM	R38681
n-Butylbenzene	1.0	0.80	15	J	µg/L	5	11/14/2016 2:59:00 PM	R38681
n-Propylbenzene	3.1	0.66	5.0	J	µg/L	5	11/14/2016 2:59:00 PM	R38681
sec-Butylbenzene	1.1	0.62	5.0	J	µg/L	5	11/14/2016 2:59:00 PM	R38681
Styrene	ND	0.55	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
tert-Butylbenzene	ND	0.58	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,1,1,2-Tetrachloroethane	ND	0.56	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,1,2,2-Tetrachloroethane	ND	0.64	10		µg/L	5	11/14/2016 2:59:00 PM	R38681
Tetrachloroethene (PCE)	ND	0.76	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
trans-1,2-DCE	ND	2.0	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
trans-1,3-Dichloropropene	ND	0.52	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,2,3-Trichlorobenzene	ND	0.56	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,2,4-Trichlorobenzene	ND	0.66	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,1,1-Trichloroethane	ND	0.46	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,1,2-Trichloroethane	ND	0.64	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Trichloroethene (TCE)	ND	0.88	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Trichlorofluoromethane	ND	1.0	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
1,2,3-Trichloropropane	ND	1.0	10		µg/L	5	11/14/2016 2:59:00 PM	R38681
Vinyl chloride	ND	0.98	5.0		µg/L	5	11/14/2016 2:59:00 PM	R38681
Xylenes, Total	20	1.8	7.5		µg/L	5	11/14/2016 2:59:00 PM	R38681
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	5	11/14/2016 2:59:00 PM	R38681
Surr: 4-Bromofluorobenzene	99.5	0	70-130		%Rec	5	11/14/2016 2:59:00 PM	R38681
Surr: Dibromofluoromethane	102	0	70-130		%Rec	5	11/14/2016 2:59:00 PM	R38681
Surr: Toluene-d8	101	0	70-130		%Rec	5	11/14/2016 2:59:00 PM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-56

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 11:20:00 AM

Lab ID: 1611528-005

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: JME	
Diesel Range Organics (DRO)	ND	0.69	1.0		mg/L	1	11/17/2016 6:57:29 PM	28698
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/17/2016 6:57:29 PM	28698
Surr: DNOP	101	0	77.1-144		%Rec	1	11/17/2016 6:57:29 PM	28698
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	0.61	0.051	0.10		mg/L	2	11/15/2016 10:07:39 AM	G38714
Surr: BFB	245	0	66.4-120	S	%Rec	2	11/15/2016 10:07:39 AM	G38714
EPA METHOD 200.7: DISSOLVED METALS							Analyst: MED	
Barium	0.36	0.0013	0.0020		mg/L	1	12/6/2016 5:39:47 PM	B39177
Cadmium	ND	0.00075	0.0020		mg/L	1	12/6/2016 5:39:47 PM	B39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2016 5:39:47 PM	B39177
Copper	0.0058	0.0040	0.0060	J	mg/L	1	12/6/2016 5:39:47 PM	B39177
Iron	0.045	0.020	0.020		mg/L	1	12/6/2016 5:39:47 PM	B39177
Manganese	0.26	0.00032	0.0020	*	mg/L	1	12/6/2016 5:39:47 PM	B39177
Silver	ND	0.0028	0.0050		mg/L	1	12/6/2016 5:39:47 PM	B39177
Zinc	0.0077	0.0028	0.010	J	mg/L	1	12/8/2016 1:22:29 PM	A39247
EPA METHOD 200.7: TOTAL METALS							Analyst: MED	
Barium	0.38	0.00079	0.0020		mg/L	1	12/8/2016 2:38:14 PM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/8/2016 2:38:14 PM	28977
Chromium	ND	0.0027	0.0060		mg/L	1	12/8/2016 2:38:14 PM	28977
Copper	0.0089	0.0030	0.0060		mg/L	1	12/8/2016 2:38:14 PM	28977
Iron	1.1	0.10	0.10	*	mg/L	5	12/9/2016 11:08:29 AM	28977
Manganese	0.28	0.00027	0.0020	*	mg/L	1	12/8/2016 2:38:14 PM	28977
Silver	0.0044	0.0015	0.0050	J	mg/L	1	12/8/2016 2:38:14 PM	28977
Zinc	0.015	0.0027	0.010		mg/L	1	12/8/2016 2:38:14 PM	28977
EPA 200.8: DISSOLVED METALS							Analyst: JLF	
Arsenic	0.0045	0.0028	0.020	J	mg/L	20	11/30/2016 3:26:00 PM	R39071
Lead	0.00051	0.00017	0.00050		mg/L	1	11/28/2016 4:03:32 PM	B39007
Selenium	0.011	0.0011	0.0050		mg/L	5	11/30/2016 3:20:52 PM	R39071
Uranium	0.021	0.000051	0.00050		mg/L	1	11/28/2016 4:03:32 PM	B39007
200.8 ICPMS METALS:TOTAL							Analyst: JLF	
Arsenic	0.0097	0.0042	0.020	J	mg/L	20	12/7/2016 2:53:51 PM	28977
Lead	0.0020	0.00041	0.0025	J	mg/L	5	12/7/2016 2:38:19 PM	28977
Selenium	0.011	0.0037	0.020	J	mg/L	20	12/7/2016 2:53:51 PM	28977
Uranium	0.022	0.00087	0.0025		mg/L	5	12/7/2016 2:38:19 PM	28977
EPA METHOD 245.1: MERCURY							Analyst: JLF	
Mercury	0.000066	0.000053	0.00020	J	mg/L	1	11/29/2016 4:04:22 PM	28890

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-56

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 11:20:00 AM

Lab ID: 1611528-005

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
Benzene	1.0	0.096	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Toluene	ND	0.12	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Ethylbenzene	ND	0.11	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Methyl tert-butyl ether (MTBE)	160	0.21	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,2,4-Trimethylbenzene	0.18	0.11	1.0	J	µg/L	1	11/14/2016 3:46:00 PM	R38681
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,2-Dichloroethane (EDC)	17	0.12	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Naphthalene	0.12	0.093	2.0	J	µg/L	1	11/14/2016 3:46:00 PM	R38681
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
2-Methylnaphthalene	0.19	0.16	4.0	J	µg/L	1	11/14/2016 3:46:00 PM	R38681
Acetone	10	4.9	10		µg/L	1	11/14/2016 3:46:00 PM	R38681
Bromobenzene	ND	0.098	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Bromoform	ND	0.10	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Bromomethane	ND	0.78	3.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
2-Butanone	0.79	0.74	10	J	µg/L	1	11/14/2016 3:46:00 PM	R38681
Carbon disulfide	ND	0.60	10		µg/L	1	11/14/2016 3:46:00 PM	R38681
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Chloroethane	ND	0.19	2.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Chloroform	ND	0.089	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Chloromethane	ND	0.21	3.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Dibromochloromethane	ND	0.087	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Dibromomethane	ND	0.12	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,1-Dichloroethane	0.95	0.11	1.0	J	µg/L	1	11/14/2016 3:46:00 PM	R38681
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	11/14/2016 3:46:00 PM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-56

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016 11:20:00 AM

Lab ID: 1611528-005

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
2-Hexanone	ND	0.84	10		µg/L	1	11/14/2016 3:46:00 PM	R38681
Isopropylbenzene	0.67	0.10	1.0	J	µg/L	1	11/14/2016 3:46:00 PM	R38681
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	11/14/2016 3:46:00 PM	R38681
Methylene Chloride	ND	0.19	3.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
n-Butylbenzene	0.21	0.16	3.0	J	µg/L	1	11/14/2016 3:46:00 PM	R38681
n-Propylbenzene	ND	0.13	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
sec-Butylbenzene	0.19	0.12	1.0	J	µg/L	1	11/14/2016 3:46:00 PM	R38681
Styrene	ND	0.11	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Vinyl chloride	ND	0.20	1.0		µg/L	1	11/14/2016 3:46:00 PM	R38681
Xylenes, Total	ND	0.37	1.5		µg/L	1	11/14/2016 3:46:00 PM	R38681
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	11/14/2016 3:46:00 PM	R38681
Surr: 4-Bromofluorobenzene	99.7	0	70-130		%Rec	1	11/14/2016 3:46:00 PM	R38681
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	11/14/2016 3:46:00 PM	R38681
Surr: Toluene-d8	102	0	70-130		%Rec	1	11/14/2016 3:46:00 PM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: DUP 01

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016

Lab ID: 1611528-006

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: JME	
Diesel Range Organics (DRO)	1.7	0.69	1.0		mg/L	1	11/14/2016 6:41:33 PM	28621
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/14/2016 6:41:33 PM	28621
Surr: DNOP	113	0	77.1-144		%Rec	1	11/14/2016 6:41:33 PM	28621
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	4.5	0.13	0.25		mg/L	5	11/14/2016 3:41:25 PM	G38685
Surr: BFB	91.4	0	66.4-120		%Rec	5	11/14/2016 3:41:25 PM	G38685
EPA METHOD 200.7: DISSOLVED METALS							Analyst: MED	
Barium	0.15	0.0013	0.0020		mg/L	1	12/6/2016 5:49:59 PM	B39177
Cadmium	ND	0.00075	0.0020		mg/L	1	12/6/2016 5:49:59 PM	B39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2016 5:49:59 PM	B39177
Copper	0.0062	0.0040	0.0060		mg/L	1	12/6/2016 5:49:59 PM	B39177
Iron	0.24	0.020	0.020		mg/L	1	12/6/2016 5:49:59 PM	B39177
Manganese	1.4	0.0016	0.010	*	mg/L	5	12/8/2016 1:26:21 PM	A39247
Silver	ND	0.0028	0.0050		mg/L	1	12/6/2016 5:49:59 PM	B39177
Zinc	0.0079	0.0028	0.010	J	mg/L	1	12/8/2016 1:24:22 PM	A39247
EPA METHOD 200.7: TOTAL METALS							Analyst: MED	
Barium	0.47	0.00079	0.0020		mg/L	1	12/8/2016 2:40:18 PM	28977
Cadmium	ND	0.0015	0.0020		mg/L	1	12/8/2016 2:40:18 PM	28977
Chromium	0.0066	0.0027	0.0060		mg/L	1	12/8/2016 2:40:18 PM	28977
Copper	0.024	0.0030	0.0060		mg/L	1	12/8/2016 2:40:18 PM	28977
Iron	5.3	0.20	0.20	*	mg/L	10	12/9/2016 11:14:22 AM	28977
Manganese	1.7	0.0014	0.010	*	mg/L	5	12/9/2016 11:10:24 AM	28977
Silver	0.0040	0.0015	0.0050	J	mg/L	1	12/8/2016 2:40:18 PM	28977
Zinc	0.017	0.0027	0.010		mg/L	1	12/8/2016 2:40:18 PM	28977
EPA 200.8: DISSOLVED METALS							Analyst: JLF	
Arsenic	0.0056	0.0028	0.020	J	mg/L	20	11/30/2016 3:36:17 PM	R39071
Lead	0.0064	0.00017	0.00050		mg/L	1	11/28/2016 4:06:35 PM	B39007
Selenium	0.012	0.0042	0.020	J	mg/L	20	11/30/2016 3:36:17 PM	R39071
Uranium	0.059	0.00026	0.0025	*	mg/L	5	11/30/2016 3:31:08 PM	R39071
200.8 ICPMS METALS:TOTAL							Analyst: JLF	
Arsenic	0.0058	0.0042	0.020	J	mg/L	20	12/7/2016 3:04:08 PM	28977
Lead	0.018	0.00041	0.0025	*	mg/L	5	12/7/2016 2:59:00 PM	28977
Selenium	0.014	0.0037	0.020	J	mg/L	20	12/7/2016 3:04:08 PM	28977
Uranium	0.061	0.00087	0.0025	*	mg/L	5	12/7/2016 2:59:00 PM	28977
EPA METHOD 245.1: MERCURY							Analyst: JLF	
Mercury	0.000056	0.000053	0.00020	J	mg/L	1	11/29/2016 3:17:17 PM	28890

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: DUP 01

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016

Lab ID: 1611528-006

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
Benzene	93	0.096	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Toluene	5.9	0.12	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Ethylbenzene	24	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Methyl tert-butyl ether (MTBE)	1800	11	50		µg/L	50	11/15/2016 10:45:00 AM	R38707
1,2,4-Trimethylbenzene	15	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,3,5-Trimethylbenzene	4.5	0.12	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Naphthalene	3.3	0.093	2.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1-Methylnaphthalene	1.4	0.20	4.0	J	µg/L	1	11/14/2016 4:11:00 PM	R38681
2-Methylnaphthalene	1.5	0.16	4.0	J	µg/L	1	11/14/2016 4:11:00 PM	R38681
Acetone	14	4.9	10		µg/L	1	11/14/2016 4:11:00 PM	R38681
Bromobenzene	ND	0.098	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Bromoform	ND	0.10	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Bromomethane	ND	0.78	3.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
2-Butanone	ND	0.74	10		µg/L	1	11/14/2016 4:11:00 PM	R38681
Carbon disulfide	ND	0.60	10		µg/L	1	11/14/2016 4:11:00 PM	R38681
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Chloroethane	ND	0.19	2.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Chloroform	ND	0.089	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Chloromethane	ND	0.21	3.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Dibromochloromethane	ND	0.087	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Dibromomethane	ND	0.12	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	11/14/2016 4:11:00 PM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: DUP 01

Project: 2016 4th Qtr (OW)

Collection Date: 11/9/2016

Lab ID: 1611528-006

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
2-Hexanone	ND	0.84	10		µg/L	1	11/14/2016 4:11:00 PM	R38681
Isopropylbenzene	0.87	0.10	1.0	J	µg/L	1	11/14/2016 4:11:00 PM	R38681
4-Isopropyltoluene	0.19	0.14	1.0	J	µg/L	1	11/14/2016 4:11:00 PM	R38681
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	11/14/2016 4:11:00 PM	R38681
Methylene Chloride	ND	0.19	3.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
n-Butylbenzene	0.47	0.16	3.0	J	µg/L	1	11/14/2016 4:11:00 PM	R38681
n-Propylbenzene	2.8	0.13	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
sec-Butylbenzene	0.81	0.12	1.0	J	µg/L	1	11/14/2016 4:11:00 PM	R38681
Styrene	ND	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Vinyl chloride	ND	0.20	1.0		µg/L	1	11/14/2016 4:11:00 PM	R38681
Xylenes, Total	18	0.37	1.5		µg/L	1	11/14/2016 4:11:00 PM	R38681
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	11/14/2016 4:11:00 PM	R38681
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	11/14/2016 4:11:00 PM	R38681
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	11/14/2016 4:11:00 PM	R38681
Surr: Toluene-d8	99.6	0	70-130		%Rec	1	11/14/2016 4:11:00 PM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: 2016 4th Qtr (OW)

Collection Date:

Lab ID: 1611528-007

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	11/14/2016 4:06:25 PM	G38685
Surr: BFB	94.9	0	66.4-120		%Rec	1	11/14/2016 4:06:25 PM	G38685
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
Benzene	0.15	0.096	1.0	J	µg/L	1	11/14/2016 4:35:00 PM	R38681
Toluene	ND	0.12	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Ethylbenzene	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Methyl tert-butyl ether (MTBE)	0.40	0.21	1.0	J	µg/L	1	11/14/2016 4:35:00 PM	R38681
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Naphthalene	0.14	0.093	2.0	J	µg/L	1	11/14/2016 4:35:00 PM	R38681
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
2-Methylnaphthalene	0.20	0.16	4.0	J	µg/L	1	11/14/2016 4:35:00 PM	R38681
Acetone	ND	4.9	10		µg/L	1	11/14/2016 4:35:00 PM	R38681
Bromobenzene	ND	0.098	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Bromoform	ND	0.10	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Bromomethane	ND	0.78	3.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
2-Butanone	ND	0.74	10		µg/L	1	11/14/2016 4:35:00 PM	R38681
Carbon disulfide	ND	0.60	10		µg/L	1	11/14/2016 4:35:00 PM	R38681
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Chloroethane	ND	0.19	2.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Chloroform	ND	0.089	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Chloromethane	ND	0.21	3.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Dibromochloromethane	ND	0.087	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Dibromomethane	ND	0.12	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611528

Date Reported: 12/16/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: 2016 4th Qtr (OW)

Collection Date:

Lab ID: 1611528-007

Matrix: AQUEOUS

Received Date: 11/9/2016 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: BCN	
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
2-Hexanone	ND	0.84	10		µg/L	1	11/14/2016 4:35:00 PM	R38681
Isopropylbenzene	ND	0.10	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	11/14/2016 4:35:00 PM	R38681
Methylene Chloride	ND	0.19	3.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
n-Butylbenzene	ND	0.16	3.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
n-Propylbenzene	ND	0.13	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Styrene	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Vinyl chloride	ND	0.20	1.0		µg/L	1	11/14/2016 4:35:00 PM	R38681
Xylenes, Total	ND	0.37	1.5		µg/L	1	11/14/2016 4:35:00 PM	R38681
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	11/14/2016 4:35:00 PM	R38681
Surr: 4-Bromofluorobenzene	97.9	0	70-130		%Rec	1	11/14/2016 4:35:00 PM	R38681
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	11/14/2016 4:35:00 PM	R38681
Surr: Toluene-d8	101	0	70-130		%Rec	1	11/14/2016 4:35:00 PM	R38681

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	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 Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID MB-B	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: B39177		RunNo: 39177							
Prep Date:	Analysis Date: 12/6/2016		SeqNo: 1226115		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								
Manganese	ND	0.0020								
Silver	ND	0.0050								

Sample ID LCS-B	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: B39177		RunNo: 39177							
Prep Date:	Analysis Date: 12/6/2016		SeqNo: 1226116		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	96.8	85	115			
Cadmium	0.49	0.0020	0.5000	0	99.0	85	115			
Chromium	0.47	0.0060	0.5000	0	94.7	85	115			
Copper	0.47	0.0060	0.5000	0	94.3	85	115			
Iron	0.48	0.020	0.5000	0	96.7	85	115			
Manganese	0.47	0.0020	0.5000	0	94.6	85	115			
Silver	0.099	0.0050	0.1000	0	98.8	85	115			

Sample ID LLCS-B	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: B39177		RunNo: 39177							
Prep Date:	Analysis Date: 12/6/2016		SeqNo: 1226383		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	91.5	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	106	50	150			
Chromium	0.0056	0.0060	0.006000	0	93.0	50	150			J
Copper	0.0040	0.0060	0.006000	0	67.0	50	150			J
Iron	0.022	0.020	0.02000	0	109	50	150			
Manganese	0.0022	0.0020	0.002000	0	108	50	150			
Silver	0.0050	0.0050	0.005000	0	101	50	150			

Sample ID MB-A	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: A39247		RunNo: 39247							
Prep Date:	Analysis Date: 12/8/2016		SeqNo: 1228271		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	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 Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID	MB-A	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID:	PBW	Batch ID: A39247		RunNo: 39247						
Prep Date:		Analysis Date: 12/8/2016		SeqNo: 1228271		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Manganese	ND	0.0020								
Zinc	ND	0.010								

Sample ID	LCS-A	SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID: A39247			RunNo: 39247					
Prep Date:		Analysis Date: 12/8/2016			SeqNo: 1228272		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	99.4	85	115			
Iron	0.49	0.020	0.5000	0	97.9	85	115			
Manganese	0.49	0.0020	0.5000	0	97.6	85	115			
Zinc	0.49	0.010	0.5000	0	99.0	85	115			

Sample ID	LLLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	BatchQC		Batch ID: A39247		RunNo: 39247					
Prep Date:			Analysis Date: 12/8/2016		SeqNo: 1228273		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	97.5	50	150			J
Iron	0.024	0.020	0.02000	0	122	50	150			
Manganese	0.0024	0.0020	0.002000	0	123	50	150			
Zinc	0.0067	0.010	0.005000	0	134	50	150			J

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID	MB-28977		SampType:	MBLK		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	PBW		Batch ID:	28977		RunNo:	39164			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1225287	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								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LL LCS-28977		SampType:	LCSLL		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	BatchQC		Batch ID:	28977		RunNo:	39164			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1225288	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0023	0.0020	0.002000	0	116	50	150			
Cadmium	0.0024	0.0020	0.002000	0	122	50	150			
Chromium	0.0055	0.0060	0.006000	0	91.5	50	150			J
Copper	0.0087	0.0060	0.006000	0	146	50	150			
Iron	0.023	0.020	0.02000	0	114	50	150			
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Silver	0.0050	0.0050	0.005000	0	99.8	50	150			J
Zinc	0.0052	0.010	0.005000	0	104	50	150			J

Sample ID	LCS-28977		SampType:	LCS		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	LCSW		Batch ID:	28977		RunNo:	39164			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1225292	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0	94.4	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.8	85	115			
Chromium	0.47	0.0060	0.5000	0	93.7	85	115			
Copper	0.50	0.0060	0.5000	0	99.6	85	115			
Iron	0.47	0.020	0.5000	0	94.2	85	115			
Manganese	0.46	0.0020	0.5000	0	92.8	85	115			
Silver	0.099	0.0050	0.1000	0	99.4	85	115			
Zinc	0.46	0.010	0.5000	0	91.2	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	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 Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID LCS	SampType: LCS			TestCode: EPA 200.8: Dissolved Metals						
Client ID: LCSW	Batch ID: B39007			RunNo: 39007						
Prep Date:	Analysis Date: 11/28/2016			SeqNo: 1220003		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	99.4	85	115			
Lead	0.012	0.00050	0.01250	0	98.0	85	115			
Selenium	0.026	0.0010	0.02500	0	104	85	115			
Uranium	0.012	0.00050	0.01250	0	96.6	85	115			

Sample ID LLCS	SampType: LCSLL			TestCode: EPA 200.8: Dissolved Metals						
Client ID: BatchQC	Batch ID: B39007			RunNo: 39007						
Prep Date:	Analysis Date: 11/28/2016			SeqNo: 1220007		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00097	0.0010	0.001000	0	97.5	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.4	50	150			J
Selenium	0.0010	0.0010	0.001000	0	104	50	150			
Uranium	0.00049	0.00050	0.0005000	0	98.6	50	150			J

Sample ID MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals						
Client ID: PBW	Batch ID: B39007			RunNo: 39007						
Prep Date:	Analysis Date: 11/28/2016			SeqNo: 1220008		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID LCS	SampType: LCS			TestCode: EPA 200.8: Dissolved Metals						
Client ID: LCSW	Batch ID: R39071			RunNo: 39071						
Prep Date:	Analysis Date: 11/30/2016			SeqNo: 1222065		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	102	85	115			
Selenium	0.027	0.0010	0.02500	0	107	85	115			
Uranium	0.013	0.00050	0.01250	0	101	85	115			

Sample ID LCS	SampType: LCS			TestCode: EPA 200.8: Dissolved Metals						
Client ID: LCSW	Batch ID: R39071			RunNo: 39071						
Prep Date:	Analysis Date: 11/30/2016			SeqNo: 1222066		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	101	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | 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 Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R39071		RunNo: 39071					
Prep Date:			Analysis Date: 11/30/2016		SeqNo: 1222066		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	108	85	115			
Uranium	0.013	0.00050	0.01250	0	101	85	115			

Sample ID	LLLCS			SampType:	LCSLL			TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	BatchQC			Batch ID:	R39071			RunNo:	39071					
Prep Date:				Analysis Date:	11/30/2016			SeqNo:	1222067			Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Arsenic	0.00099	0.0010	0.001000	0	98.5	50	150			J				
Selenium	0.00097	0.0010	0.001000	0	97.3	50	150			J				
Uranium	0.00049	0.00050	0.0005000	0	98.4	50	150			J				

Sample ID	LLLCS			SampType:	LCSLL			TestCode:	EPA 200.8: Dissolved Metals			
Client ID:	BatchQC			Batch ID:	R39071			RunNo:	39071			
Prep Date:				Analysis Date:	11/30/2016			SeqNo:	1222068		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Arsenic	0.0010	0.0010	0.001000	0	101	50	150					
Selenium	0.0011	0.0010	0.001000	0	105	50	150					
Uranium	0.00048	0.00050	0.0005000	0	96.9	50	150			J		

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID: R39071			RunNo: 39071					
Prep Date:		Analysis Date: 11/30/2016			SeqNo: 1222069		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								
Uranium	ND	0.00050								

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID: R39071			RunNo: 39071					
Prep Date:		Analysis Date: 11/30/2016			SeqNo: 1222070		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								
Uranium	ND	0.00050								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID	MB-28977		SampType:	MBLK		TestCode:	200.8 ICPMS Metals:Total			
Client ID:	PBW		Batch ID:	28977		RunNo:	39143			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1224657	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	MSLCS-28977		SampType:	LCS		TestCode:	200.8 ICPMS Metals:Total			
Client ID:	LCSW		Batch ID:	28977		RunNo:	39143			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1224659	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	98.5	85	115			
Lead	0.012	0.00050	0.01250	0	98.2	85	115			
Selenium	0.024	0.0010	0.02500	0	97.2	85	115			
Uranium	0.012	0.00050	0.01250	0	97.5	85	115			

Sample ID	MSLLLCS-28977		SampType:	LCSLL		TestCode:	200.8 ICPMS Metals:Total			
Client ID:	BatchQC		Batch ID:	28977		RunNo:	39143			
Prep Date:	12/2/2016		Analysis Date:	12/5/2016		SeqNo:	1224661	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00099	0.0010	0.001000	0	98.8	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.2	50	150			J
Selenium	0.00092	0.0010	0.001000	0	92.0	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	97.2	50	150			J

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID	MB-28890		SampType: MBLK		TestCode: EPA Method 245.1: Mercury					
Client ID:	PBW		Batch ID: 28890		RunNo: 39024					
Prep Date:	11/29/2016		Analysis Date: 11/29/2016		SeqNo: 1220570		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	0.000067	0.00020								J

Sample ID	LCS-28890		SampType: LCS		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 28890		RunNo: 39024					
Prep Date:	11/29/2016		Analysis Date: 11/29/2016		SeqNo: 1220571		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.5	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID MB-28621	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range							
Client ID: PBW	Batch ID: 28621		RunNo: 38670							
Prep Date: 11/11/2016	Analysis Date: 11/14/2016		SeqNo: 1208052		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		100	77.1	144			

Sample ID LCS-28621	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range							
Client ID: LCSW	Batch ID: 28621		RunNo: 38670							
Prep Date: 11/11/2016	Analysis Date: 11/14/2016		SeqNo: 1208053		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.5	1.0	5.000	0	90.6	63.2	155			
Surr: DNOP	0.51		0.5000		101	77.1	144			

Sample ID MB-28698	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range							
Client ID: PBW	Batch ID: 28698		RunNo: 38769							
Prep Date: 11/16/2016	Analysis Date: 11/17/2016		SeqNo: 1212026		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		104	77.1	144			

Sample ID LCS-28698	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range							
Client ID: LCSW	Batch ID: 28698		RunNo: 38769							
Prep Date: 11/16/2016	Analysis Date: 11/17/2016		SeqNo: 1212027		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.8	1.0	5.000	0	115	63.2	155			
Surr: DNOP	0.52		0.5000		104	77.1	144			

Sample ID 1611528-005CMS	SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range							
Client ID: OW-56	Batch ID: 28698		RunNo: 38769							
Prep Date: 11/16/2016	Analysis Date: 11/17/2016		SeqNo: 1212049		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.3	1.0	5.000	0	126	79.6	148			
Surr: DNOP	0.51		0.5000		102	77.1	144			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | 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 Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID	1611528-005CMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range					
Client ID:	OW-56	Batch ID:	28698	RunNo:	38769					
Prep Date:	11/16/2016	Analysis Date:	11/17/2016	SeqNo:	1212050	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.4	1.0	5.000	0	128	79.6	148	1.15	20	
Surr: DNOP	0.52		0.5000		104	77.1	144	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: G38685		RunNo: 38685							
Prep Date:	Analysis Date: 11/14/2016		SeqNo: 1208308		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		94.1	66.4	120			

Sample ID 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: G38685		RunNo: 38685							
Prep Date:	Analysis Date: 11/14/2016		SeqNo: 1208309		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0	96.4	80	120			
Surr: BFB	21		20.00		103	66.4	120			

Sample ID 1611528-002BMS	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: OW-55	Batch ID: G38685		RunNo: 38685							
Prep Date:	Analysis Date: 11/14/2016		SeqNo: 1208312		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	95	5.0	50.00	50.78	87.6	64.8	129			
Surr: BFB	2000		2000		99.9	66.4	120			

Sample ID 1611528-002BMSD	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: OW-55	Batch ID: G38685		RunNo: 38685							
Prep Date:	Analysis Date: 11/14/2016		SeqNo: 1208313		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	96	5.0	50.00	50.78	91.0	64.8	129	1.76	20	
Surr: BFB	2000		2000		101	66.4	120	0	0	

Sample ID RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: G38714		RunNo: 38714							
Prep Date:	Analysis Date: 11/15/2016		SeqNo: 1209444		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		94.0	66.4	120			

Sample ID 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: G38714		RunNo: 38714							
Prep Date:	Analysis Date: 11/15/2016		SeqNo: 1209445		Units: mg/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 |
| D Sample Diluted Due to Matrix | 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 Not In Range |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	G38714	RunNo:	38714					
Prep Date:		Analysis Date:	11/15/2016	SeqNo:	1209445	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	91.0	80	120			
Surr: BFB	19		20.00		96.1	66.4	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	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 Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID	100ng lcs			SampType: LCS	TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW			Batch ID: R38681	RunNo: 38681					
Prep Date:	Analysis Date: 11/14/2016			SeqNo: 1208069			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.5	70	130			
Toluene	19	1.0	20.00	0	97.4	70	130			
Chlorobenzene	20	1.0	20.00	0	97.7	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	93.4	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	87.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.7	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R38681			RunNo: 38681					
Prep Date:		Analysis Date: 11/14/2016			SeqNo: 1208070		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.10	1.0								J
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	0.12	2.0								J
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.22	4.0								J
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	0.14	1.0								J
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	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 Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R38681			RunNo: 38681					
Prep Date:		Analysis Date: 11/14/2016			SeqNo: 1208070	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	1.1	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	0.13	1.0								J
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	0.19	1.0								J
1,2,3-Trichlorobenzene	0.19	1.0								J
1,2,4-Trichlorobenzene	0.24	1.0								J
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.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R38681		RunNo: 38681							
Prep Date:	Analysis Date: 11/14/2016		SeqNo: 1208070		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	9.6		10.00		96.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID 1611528-002ams	SampType: MS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: OW-55	Batch ID: R38681		RunNo: 38681							
Prep Date:	Analysis Date: 11/14/2016		SeqNo: 1208074		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	12000	50	1000	10700	97.4	70	130			E
Toluene	4200	50	1000	3194	98.2	70	130			
Chlorobenzene	970	50	1000	0	96.8	70	130			
1,1-Dichloroethene	950	50	1000	0	94.6	70	130			
Trichloroethene (TCE)	890	50	1000	0	88.6	70	130			
Surr: 1,2-Dichloroethane-d4	500		500.0		99.1	70	130			
Surr: 4-Bromofluorobenzene	500		500.0		101	70	130			
Surr: Dibromofluoromethane	500		500.0		99.7	70	130			
Surr: Toluene-d8	510		500.0		103	70	130			

Sample ID 1611528-002amsd	SampType: MSD		TestCode: EPA Method 8260B: VOLATILES							
Client ID: OW-55	Batch ID: R38681		RunNo: 38681							
Prep Date:	Analysis Date: 11/14/2016		SeqNo: 1208075		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	11000	50	1000	10700	63.6	70	130	2.94	20	ES
Toluene	4000	50	1000	3194	76.1	70	130	5.44	20	
Chlorobenzene	920	50	1000	0	92.3	70	130	4.82	20	
1,1-Dichloroethene	900	50	1000	0	89.7	70	130	5.35	20	
Trichloroethene (TCE)	860	50	1000	0	86.1	70	130	2.87	20	
Surr: 1,2-Dichloroethane-d4	500		500.0		100	70	130	0	0	
Surr: 4-Bromofluorobenzene	500		500.0		100	70	130	0	0	
Surr: Dibromofluoromethane	500		500.0		101	70	130	0	0	
Surr: Toluene-d8	510		500.0		101	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	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 Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611528

16-Dec-16

Client: Western Refining Southwest, Gallup

Project: 2016 4th Qtr (OW)

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R38707			RunNo: 38707					
Prep Date:		Analysis Date: 11/15/2016			SeqNo: 1209105		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	9.2		10.00		91.6	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R38707			RunNo: 38707					
Prep Date:		Analysis Date: 11/15/2016			SeqNo: 1209106		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		92.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.5	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: Western Refining Gallup

Work Order Number: 1611528

RcptNo: 1

Received by/date:

LC 11/09/16

Logged By: Anne Thorne

11/9/2016 4:45:00 PM

Anne Thorne

Completed By: Anne Thorne

11/11/2016

Anne Thorne

Reviewed By:

AT

11/11/16

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH: 12
(<2 or >12 unless noted)
Adjusted? NO
Checked by: *JC*

Special Handling (if applicable)

16. 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:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			

Chain-of-Custody Record

Client: **WESTERN REFINING SW, INC.**

Address: **24111P REFINERY**

City/State: **92 GIANT CROSSING RD**

County: **GALLUP, NM 87301**

Phone #: **505-722-0231**

Fax #: **CHERYL JOHNSON@WNR.COM**

VOC Package: **Level 4 (Full Validation)**

Standard: **EXCEL**

Other: ☐

EDD (Type): **EXCEL**

Date: **9/14/20**

Time: **120**

Matrix: **WATER**

Sample Request ID: **OW-56**

Container Type and #: **40 ML VOA-5**

Preservative Type: **HCL**

HEAL No: **1611528**

On Ice: ☒ Yes ☐ No

Sample Temperature: **7**

Sampler: **TRACY PAYNE**

Project Manager: **CHERYL JOHNSON**

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: **2016 4TH QTR (OW)**

Project #: **505-345-3975**

Analysis Request: **Analysis Request**

BTX + MTBE + TMB's (8021)

BTX + MTBE + TPH (Gas only)

TPH 8015B (GRO / DRO / MRO)

TPH (Method 418.1)

EDB (Method 504.1)

PAH's (8310 or 8270 SIMS)

RCRA 8 Metals

Anions (F, Cl, NO₃, NO₂, PO₄, SO₄)

8081 Pesticides / 8082 PCB's

8260B (VOA)

8270 (Semi-VOA)

WQAC METALS

(TOTAL & DISSOLVED)

Air Bubbles (Y or N)

Remarks:

Received by: **Eugene Vigil**

Date: **11/09/16**

Time: **19:50**

Received by: **Lineberry Corneha**

Date: **11/9/16**

Time: **1645**

Received by: **Lineberry Corneha**

Date: **11/9/16**

Time: **1645**

Received by: **Lineberry Corneha**

Date: **11/9/16**

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Date: **11/9/16**

Time: **1645**



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

December 19, 2016

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2016 4th Quarter OW Wells

OrderNo.: 1611785

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 8 sample(s) on 11/15/2016 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. In order to properly interpret your results it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. 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.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

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 1611785

Date Reported: 12/19/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 7:00:00 AM

Lab ID: 1611785-001

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	ND	0.096	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Toluene	ND	0.12	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Ethylbenzene	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Methyl tert-butyl ether (MTBE)	ND	0.21	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Naphthalene	ND	0.093	2.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Acetone	ND	4.9	10		µg/L	1	11/16/2016 4:50:39 PM	R38763
Bromobenzene	ND	0.098	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Bromoform	ND	0.10	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Bromomethane	ND	0.78	3.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
2-Butanone	ND	0.74	10		µg/L	1	11/16/2016 4:50:39 PM	R38763
Carbon disulfide	ND	0.60	10		µg/L	1	11/16/2016 4:50:39 PM	R38763
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Chloroethane	ND	0.19	2.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Chloroform	ND	0.089	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Chloromethane	ND	0.21	3.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Dibromochloromethane	ND	0.087	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Dibromomethane	ND	0.12	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	11/16/2016 4:50:39 PM	R38763

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611785

Date Reported: 12/19/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 7:00:00 AM

Lab ID: 1611785-001

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
2-Hexanone	ND	0.84	10		µg/L	1	11/16/2016 4:50:39 PM	R38763
Isopropylbenzene	ND	0.10	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	11/16/2016 4:50:39 PM	R38763
Methylene Chloride	ND	0.19	3.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
n-Butylbenzene	ND	0.16	3.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
n-Propylbenzene	ND	0.13	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Styrene	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Vinyl chloride	ND	0.20	1.0		µg/L	1	11/16/2016 4:50:39 PM	R38763
Xylenes, Total	ND	0.37	1.5		µg/L	1	11/16/2016 4:50:39 PM	R38763
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	11/16/2016 4:50:39 PM	R38763
Surr: 4-Bromofluorobenzene	98.7	0	70-130		%Rec	1	11/16/2016 4:50:39 PM	R38763
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	11/16/2016 4:50:39 PM	R38763
Surr: Toluene-d8	101	0	70-130		%Rec	1	11/16/2016 4:50:39 PM	R38763

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	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 Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611785

Date Reported: 12/19/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-14

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 9:20:00 AM

Lab ID: 1611785-002

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
							Analyst: JME	
1,2-Dibromoethane	ND	0.0033	0.010		µg/L	1	11/21/2016 5:37:15 PM	28775
EPA METHOD 8015M/D: DIESEL RANGE								
							Analyst: JME	
Diesel Range Organics (DRO)	3.4	0.69	1.0		mg/L	1	11/17/2016 8:52:14 PM	28698
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/17/2016 8:52:14 PM	28698
Surr: DNOP	100	0	77.1-144		%Rec	1	11/17/2016 8:52:14 PM	28698
EPA METHOD 8015D: GASOLINE RANGE								
							Analyst: NSB	
Gasoline Range Organics (GRO)	29	1.3	2.5		mg/L	50	11/16/2016 12:53:23 PM	G38747
Surr: BFB	93.0	0	66.4-120		%Rec	50	11/16/2016 12:53:23 PM	G38747
EPA METHOD 200.7: DISSOLVED METALS								
							Analyst: MED	
Barium	2.2	0.013	0.020	*	mg/L	10	12/8/2016 1:37:46 PM	A39247
Cadmium	ND	0.00075	0.0020		mg/L	1	12/6/2016 6:16:14 PM	B39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2016 6:16:14 PM	B39177
Copper	ND	0.0040	0.0060		mg/L	1	12/6/2016 6:16:14 PM	B39177
Iron	4.7	0.20	0.20	*	mg/L	10	12/8/2016 1:37:46 PM	A39247
Manganese	2.1	0.0032	0.020	*	mg/L	10	12/8/2016 1:37:46 PM	A39247
Silver	ND	0.0028	0.0050		mg/L	1	12/6/2016 6:16:14 PM	B39177
Zinc	ND	0.0028	0.010		mg/L	1	12/8/2016 1:28:16 PM	A39247
EPA METHOD 200.7: TOTAL METALS								
							Analyst: MED	
Barium	2.3	0.0079	0.020	*	mg/L	10	12/8/2016 2:20:49 PM	28978
Cadmium	ND	0.0015	0.0020		mg/L	1	12/6/2016 2:44:06 PM	28978
Chromium	ND	0.0027	0.0060		mg/L	1	12/6/2016 2:44:06 PM	28978
Copper	ND	0.0030	0.0060		mg/L	1	12/6/2016 2:44:06 PM	28978
Iron	5.1	0.20	0.20	*	mg/L	10	12/8/2016 2:20:49 PM	28978
Manganese	2.3	0.0027	0.020	*	mg/L	10	12/8/2016 2:20:49 PM	28978
Silver	ND	0.0015	0.0050		mg/L	1	12/6/2016 2:44:06 PM	28978
Zinc	ND	0.0027	0.010		mg/L	1	12/8/2016 2:15:46 PM	28978
EPA 200.8: DISSOLVED METALS								
							Analyst: JLF	
Arsenic	0.0099	0.00069	0.0050		mg/L	5	11/30/2016 3:41:25 PM	R39071
Lead	ND	0.00017	0.00050		mg/L	1	11/28/2016 4:52:32 PM	C39007
Selenium	0.015	0.0042	0.020	J	mg/L	20	11/30/2016 4:15:52 PM	R39071
Uranium	0.0048	0.000051	0.00050		mg/L	1	11/28/2016 4:52:32 PM	C39007
200.8 ICPMS METALS:TOTAL								
							Analyst: JLF	
Arsenic	0.011	0.0011	0.0050	*	mg/L	5	12/7/2016 3:09:16 PM	28978
Lead	ND	0.00041	0.0025		mg/L	5	12/7/2016 3:09:16 PM	28978
Selenium	0.018	0.0094	0.050	J	mg/L	50	12/7/2016 3:14:24 PM	28978
Uranium	0.0041	0.00087	0.0025		mg/L	5	12/7/2016 3:09:16 PM	28978

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-14

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 9:20:00 AM

Lab ID: 1611785-002

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: JLF	
Mercury	ND	0.000053	0.00020		mg/L	1	11/29/2016 3:42:42 PM	28890
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	8700	9.6	100		µg/L	100	11/16/2016 7:14:35 PM	R38763
Toluene	5.7	1.2	10	J	µg/L	10	11/16/2016 7:43:30 PM	R38763
Ethylbenzene	300	1.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Methyl tert-butyl ether (MTBE)	500	2.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,2,4-Trimethylbenzene	8.4	1.1	10	J	µg/L	10	11/16/2016 7:43:30 PM	R38763
1,3,5-Trimethylbenzene	1.5	1.2	10	J	µg/L	10	11/16/2016 7:43:30 PM	R38763
1,2-Dichloroethane (EDC)	3.4	1.2	10	J	µg/L	10	11/16/2016 7:43:30 PM	R38763
1,2-Dibromoethane (EDB)	ND	1.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Naphthalene	20	0.93	20	J	µg/L	10	11/16/2016 7:43:30 PM	R38763
1-Methylnaphthalene	30	2.0	40	J	µg/L	10	11/16/2016 7:43:30 PM	R38763
2-Methylnaphthalene	ND	1.6	40		µg/L	10	11/16/2016 7:43:30 PM	R38763
Acetone	ND	49	100		µg/L	10	11/16/2016 7:43:30 PM	R38763
Bromobenzene	ND	0.98	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Bromodichloromethane	ND	1.4	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Bromoform	ND	1.0	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Bromomethane	ND	7.8	30		µg/L	10	11/16/2016 7:43:30 PM	R38763
2-Butanone	ND	7.4	100		µg/L	10	11/16/2016 7:43:30 PM	R38763
Carbon disulfide	ND	6.0	100		µg/L	10	11/16/2016 7:43:30 PM	R38763
Carbon Tetrachloride	ND	1.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Chlorobenzene	ND	1.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Chloroethane	ND	1.9	20		µg/L	10	11/16/2016 7:43:30 PM	R38763
Chloroform	ND	0.89	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Chloromethane	ND	2.1	30		µg/L	10	11/16/2016 7:43:30 PM	R38763
2-Chlorotoluene	ND	4.0	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
4-Chlorotoluene	ND	1.3	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
cis-1,2-DCE	ND	1.2	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
cis-1,3-Dichloropropene	ND	1.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,2-Dibromo-3-chloropropane	ND	2.3	20		µg/L	10	11/16/2016 7:43:30 PM	R38763
Dibromochloromethane	ND	0.87	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Dibromomethane	ND	1.2	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,2-Dichlorobenzene	ND	4.0	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,3-Dichlorobenzene	ND	1.4	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,4-Dichlorobenzene	ND	1.4	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Dichlorodifluoromethane	ND	3.6	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,1-Dichloroethane	ND	1.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,1-Dichloroethene	ND	1.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,2-Dichloropropane	ND	1.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611785

Date Reported: 12/19/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-14

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 9:20:00 AM

Lab ID: 1611785-002

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
1,3-Dichloropropane	ND	1.6	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
2,2-Dichloropropane	ND	1.7	20		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,1-Dichloropropene	ND	1.3	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Hexachlorobutadiene	ND	2.0	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
2-Hexanone	ND	8.4	100		µg/L	10	11/16/2016 7:43:30 PM	R38763
Isopropylbenzene	10	1.0	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
4-Isopropyltoluene	ND	1.4	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
4-Methyl-2-pentanone	ND	4.3	100		µg/L	10	11/16/2016 7:43:30 PM	R38763
Methylene Chloride	ND	1.9	30		µg/L	10	11/16/2016 7:43:30 PM	R38763
n-Butylbenzene	3.4	1.6	30	J	µg/L	10	11/16/2016 7:43:30 PM	R38763
n-Propylbenzene	13	1.3	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
sec-Butylbenzene	4.1	1.2	10	J	µg/L	10	11/16/2016 7:43:30 PM	R38763
Styrene	ND	1.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
tert-Butylbenzene	ND	1.2	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,1,1,2-Tetrachloroethane	ND	1.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,1,2,2-Tetrachloroethane	ND	1.3	20		µg/L	10	11/16/2016 7:43:30 PM	R38763
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
trans-1,2-DCE	ND	4.0	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
trans-1,3-Dichloropropene	ND	1.0	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,2,3-Trichlorobenzene	ND	1.1	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,2,4-Trichlorobenzene	ND	1.3	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,1,1-Trichloroethane	ND	0.91	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,1,2-Trichloroethane	ND	1.3	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Trichloroethene (TCE)	ND	1.8	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Trichlorofluoromethane	ND	2.0	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
1,2,3-Trichloropropane	ND	2.0	20		µg/L	10	11/16/2016 7:43:30 PM	R38763
Vinyl chloride	ND	2.0	10		µg/L	10	11/16/2016 7:43:30 PM	R38763
Xylenes, Total	13	3.7	15	J	µg/L	10	11/16/2016 7:43:30 PM	R38763
Surr: 1,2-Dichloroethane-d4	84.8	0	70-130		%Rec	10	11/16/2016 7:43:30 PM	R38763
Surr: 4-Bromofluorobenzene	91.0	0	70-130		%Rec	10	11/16/2016 7:43:30 PM	R38763
Surr: Dibromofluoromethane	86.2	0	70-130		%Rec	10	11/16/2016 7:43:30 PM	R38763
Surr: Toluene-d8	101	0	70-130		%Rec	10	11/16/2016 7:43:30 PM	R38763

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	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 Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611785

Date Reported: 12/19/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-13

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 10:35:00 AM

Lab ID: 1611785-003

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
							Analyst: JME	
1,2-Dibromoethane	ND	0.0033	0.010		µg/L	1	11/21/2016 5:52:28 PM	28775
EPA METHOD 8015M/D: DIESEL RANGE								
							Analyst: JME	
Diesel Range Organics (DRO)	ND	0.69	1.0		mg/L	1	11/17/2016 9:14:15 PM	28698
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/17/2016 9:14:15 PM	28698
Surr: DNOP	100	0	77.1-144		%Rec	1	11/17/2016 9:14:15 PM	28698
EPA METHOD 8015D: GASOLINE RANGE								
							Analyst: NSB	
Gasoline Range Organics (GRO)	0.068	0.025	0.050		mg/L	1	11/16/2016 2:06:57 PM	G38747
Surr: BFB	91.9	0	66.4-120		%Rec	1	11/16/2016 2:06:57 PM	G38747
EPA METHOD 200.7: DISSOLVED METALS								
							Analyst: MED	
Barium	0.020	0.0013	0.0020		mg/L	1	12/6/2016 6:17:59 PM	B39177
Cadmium	ND	0.00075	0.0020		mg/L	1	12/6/2016 6:17:59 PM	B39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2016 6:17:59 PM	B39177
Copper	ND	0.0040	0.0060		mg/L	1	12/6/2016 6:17:59 PM	B39177
Iron	ND	0.020	0.020		mg/L	1	12/6/2016 6:17:59 PM	B39177
Manganese	0.021	0.00032	0.0020		mg/L	1	12/6/2016 6:17:59 PM	B39177
Silver	ND	0.0028	0.0050		mg/L	1	12/6/2016 6:17:59 PM	B39177
Zinc	ND	0.0028	0.010		mg/L	1	12/8/2016 1:39:41 PM	A39247
EPA METHOD 200.7: TOTAL METALS								
							Analyst: MED	
Barium	0.020	0.00079	0.0020		mg/L	1	12/8/2016 2:44:12 PM	28978
Cadmium	ND	0.0015	0.0020		mg/L	1	12/8/2016 2:44:12 PM	28978
Chromium	ND	0.0027	0.0060		mg/L	1	12/8/2016 2:44:12 PM	28978
Copper	ND	0.0030	0.0060		mg/L	1	12/8/2016 2:44:12 PM	28978
Iron	ND	0.020	0.020		mg/L	1	12/8/2016 2:44:12 PM	28978
Manganese	0.021	0.00027	0.0020		mg/L	1	12/8/2016 2:44:12 PM	28978
Silver	ND	0.0015	0.0050		mg/L	1	12/8/2016 2:44:12 PM	28978
Zinc	ND	0.0027	0.010		mg/L	1	12/8/2016 2:44:12 PM	28978
EPA 200.8: DISSOLVED METALS								
							Analyst: JLF	
Arsenic	0.0013	0.00069	0.0050	J	mg/L	5	11/30/2016 4:21:00 PM	R39071
Lead	ND	0.00017	0.00050		mg/L	1	11/28/2016 5:04:49 PM	C39007
Selenium	0.0026	0.0011	0.0050	J	mg/L	5	11/30/2016 4:21:00 PM	R39071
Uranium	0.017	0.000051	0.00050		mg/L	1	11/28/2016 5:04:49 PM	C39007
200.8 ICPMS METALS:TOTAL								
							Analyst: JLF	
Arsenic	0.0016	0.00021	0.0010		mg/L	1	12/5/2016 3:04:32 PM	28978
Lead	ND	0.000081	0.00050		mg/L	1	12/5/2016 3:04:32 PM	28978
Selenium	0.0033	0.00094	0.0050	J	mg/L	5	12/7/2016 3:19:33 PM	28978
Uranium	0.017	0.00087	0.0025		mg/L	5	12/7/2016 3:19:33 PM	28978

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611785

Date Reported: 12/19/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-13

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 10:35:00 AM

Lab ID: 1611785-003

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: JLF	
Mercury	0.000062	0.000053	0.00020	J	mg/L	1	11/29/2016 3:48:15 PM	28890
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	ND	0.096	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Toluene	ND	0.12	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Ethylbenzene	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Methyl tert-butyl ether (MTBE)	44	0.21	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,2-Dichloroethane (EDC)	0.76	0.12	1.0	J	µg/L	1	11/16/2016 5:19:31 PM	R38763
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Naphthalene	ND	0.093	2.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Acetone	ND	4.9	10		µg/L	1	11/16/2016 5:19:31 PM	R38763
Bromobenzene	ND	0.098	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Bromoform	ND	0.10	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Bromomethane	ND	0.78	3.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
2-Butanone	ND	0.74	10		µg/L	1	11/16/2016 5:19:31 PM	R38763
Carbon disulfide	ND	0.60	10		µg/L	1	11/16/2016 5:19:31 PM	R38763
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Chloroethane	ND	0.19	2.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Chloroform	ND	0.089	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Chloromethane	ND	0.21	3.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Dibromochloromethane	ND	0.087	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Dibromomethane	ND	0.12	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611785

Date Reported: 12/19/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-13

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 10:35:00 AM

Lab ID: 1611785-003

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
2-Hexanone	ND	0.84	10		µg/L	1	11/16/2016 5:19:31 PM	R38763
Isopropylbenzene	ND	0.10	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	11/16/2016 5:19:31 PM	R38763
Methylene Chloride	ND	0.19	3.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
n-Butylbenzene	ND	0.16	3.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
n-Propylbenzene	ND	0.13	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Styrene	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Vinyl chloride	ND	0.20	1.0		µg/L	1	11/16/2016 5:19:31 PM	R38763
Xylenes, Total	ND	0.37	1.5		µg/L	1	11/16/2016 5:19:31 PM	R38763
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	11/16/2016 5:19:31 PM	R38763
Surr: 4-Bromofluorobenzene	95.3	0	70-130		%Rec	1	11/16/2016 5:19:31 PM	R38763
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	11/16/2016 5:19:31 PM	R38763
Surr: Toluene-d8	101	0	70-130		%Rec	1	11/16/2016 5:19:31 PM	R38763

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	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 Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611785

Date Reported: 12/19/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-29

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 11:40:00 AM

Lab ID: 1611785-004

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: JME								
1,2-Dibromoethane	ND	0.0033	0.010		µg/L	1	11/21/2016 6:07:34 PM	28775
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: JME								
Diesel Range Organics (DRO)	ND	0.69	1.0		mg/L	1	11/17/2016 9:36:02 PM	28698
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/17/2016 9:36:02 PM	28698
Surr: DNOP	105	0	77.1-144		%Rec	1	11/17/2016 9:36:02 PM	28698
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	6.0	0.25	0.50		mg/L	10	11/16/2016 2:31:23 PM	G38747
Surr: BFB	93.0	0	66.4-120		%Rec	10	11/16/2016 2:31:23 PM	G38747
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: MED								
Barium	0.070	0.0013	0.0020		mg/L	1	12/6/2016 6:20:01 PM	B39177
Cadmium	ND	0.00075	0.0020		mg/L	1	12/6/2016 6:20:01 PM	B39177
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2016 6:20:01 PM	B39177
Copper	ND	0.0040	0.0060		mg/L	1	12/6/2016 6:20:01 PM	B39177
Iron	0.32	0.020	0.020	*	mg/L	1	12/6/2016 6:20:01 PM	B39177
Manganese	0.34	0.00032	0.0020	*	mg/L	1	12/6/2016 6:20:01 PM	B39177
Silver	ND	0.0028	0.0050		mg/L	1	12/6/2016 6:20:01 PM	B39177
Zinc	ND	0.0028	0.010		mg/L	1	12/8/2016 1:41:43 PM	A39247
EPA METHOD 200.7: TOTAL METALS								
Analyst: MED								
Barium	0.071	0.00079	0.0020		mg/L	1	12/8/2016 2:46:16 PM	28978
Cadmium	ND	0.0015	0.0020		mg/L	1	12/8/2016 2:46:16 PM	28978
Chromium	ND	0.0027	0.0060		mg/L	1	12/8/2016 2:46:16 PM	28978
Copper	ND	0.0030	0.0060		mg/L	1	12/8/2016 2:46:16 PM	28978
Iron	0.34	0.020	0.020	*	mg/L	1	12/8/2016 2:46:16 PM	28978
Manganese	0.34	0.00027	0.0020	*	mg/L	1	12/8/2016 2:46:16 PM	28978
Silver	ND	0.0015	0.0050		mg/L	1	12/8/2016 2:46:16 PM	28978
Zinc	ND	0.0027	0.010		mg/L	1	12/8/2016 2:46:16 PM	28978
EPA 200.8: DISSOLVED METALS								
Analyst: JLF								
Arsenic	0.0027	0.00069	0.0050	J	mg/L	5	11/30/2016 4:26:08 PM	R39071
Lead	ND	0.00017	0.00050		mg/L	1	11/28/2016 5:07:52 PM	C39007
Selenium	0.0076	0.0021	0.010	J	mg/L	10	11/30/2016 4:31:17 PM	R39071
Uranium	0.053	0.00026	0.0025	*	mg/L	5	11/30/2016 4:26:08 PM	R39071
200.8 ICPMS METALS:TOTAL								
Analyst: JLF								
Arsenic	0.0023	0.0011	0.0050	J	mg/L	5	12/7/2016 3:34:57 PM	28978
Lead	ND	0.00041	0.0025		mg/L	5	12/7/2016 3:34:57 PM	28978
Selenium	0.0088	0.0037	0.020	J	mg/L	20	12/7/2016 3:50:25 PM	28978
Uranium	0.055	0.00087	0.0025	*	mg/L	5	12/7/2016 3:34:57 PM	28978

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-29

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 11:40:00 AM

Lab ID: 1611785-004

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: JLF	
Mercury	0.000060	0.000053	0.00020	J	mg/L	1	11/29/2016 4:15:12 PM	28890
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	7.9	0.48	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Toluene	ND	0.59	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Ethylbenzene	1.1	0.56	5.0	J	µg/L	5	11/16/2016 8:41:24 PM	R38763
Methyl tert-butyl ether (MTBE)	3400	11	50		µg/L	50	11/16/2016 8:12:29 PM	R38763
1,2,4-Trimethylbenzene	ND	0.55	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,3,5-Trimethylbenzene	ND	0.58	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,2-Dichloroethane (EDC)	1.8	0.58	5.0	J	µg/L	5	11/16/2016 8:41:24 PM	R38763
1,2-Dibromoethane (EDB)	ND	0.56	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Naphthalene	ND	0.46	10		µg/L	5	11/16/2016 8:41:24 PM	R38763
1-Methylnaphthalene	ND	1.0	20		µg/L	5	11/16/2016 8:41:24 PM	R38763
2-Methylnaphthalene	ND	0.79	20		µg/L	5	11/16/2016 8:41:24 PM	R38763
Acetone	ND	25	50		µg/L	5	11/16/2016 8:41:24 PM	R38763
Bromobenzene	ND	0.49	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Bromodichloromethane	ND	0.70	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Bromoform	ND	0.51	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Bromomethane	ND	3.9	15		µg/L	5	11/16/2016 8:41:24 PM	R38763
2-Butanone	ND	3.7	50		µg/L	5	11/16/2016 8:41:24 PM	R38763
Carbon disulfide	ND	3.0	50		µg/L	5	11/16/2016 8:41:24 PM	R38763
Carbon Tetrachloride	ND	0.54	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Chlorobenzene	ND	0.57	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Chloroethane	ND	0.96	10		µg/L	5	11/16/2016 8:41:24 PM	R38763
Chloroform	ND	0.44	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Chloromethane	ND	1.1	15		µg/L	5	11/16/2016 8:41:24 PM	R38763
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
4-Chlorotoluene	ND	0.64	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
cis-1,2-DCE	ND	0.62	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
cis-1,3-Dichloropropene	ND	0.53	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,2-Dibromo-3-chloropropane	ND	1.2	10		µg/L	5	11/16/2016 8:41:24 PM	R38763
Dibromochloromethane	ND	0.43	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Dibromomethane	ND	0.60	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,2-Dichlorobenzene	ND	2.0	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,3-Dichlorobenzene	ND	0.72	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,4-Dichlorobenzene	ND	0.71	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Dichlorodifluoromethane	ND	1.8	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,1-Dichloroethane	ND	0.54	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,1-Dichloroethene	ND	0.54	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,2-Dichloropropane	ND	0.55	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611785

Date Reported: 12/19/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-29

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 11:40:00 AM

Lab ID: 1611785-004

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: AG	
1,3-Dichloropropane	ND	0.78	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
2,2-Dichloropropane	ND	0.83	10		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,1-Dichloropropene	ND	0.67	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Hexachlorobutadiene	ND	0.99	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
2-Hexanone	ND	4.2	50		µg/L	5	11/16/2016 8:41:24 PM	R38763
Isopropylbenzene	ND	0.52	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
4-Isopropyltoluene	ND	0.70	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
4-Methyl-2-pentanone	ND	2.1	50		µg/L	5	11/16/2016 8:41:24 PM	R38763
Methylene Chloride	ND	0.94	15		µg/L	5	11/16/2016 8:41:24 PM	R38763
n-Butylbenzene	ND	0.80	15		µg/L	5	11/16/2016 8:41:24 PM	R38763
n-Propylbenzene	ND	0.66	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
sec-Butylbenzene	ND	0.62	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Styrene	ND	0.55	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
tert-Butylbenzene	ND	0.58	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,1,1,2-Tetrachloroethane	ND	0.56	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,1,2,2-Tetrachloroethane	ND	0.64	10		µg/L	5	11/16/2016 8:41:24 PM	R38763
Tetrachloroethene (PCE)	ND	0.76	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
trans-1,2-DCE	ND	2.0	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
trans-1,3-Dichloropropene	ND	0.52	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,2,3-Trichlorobenzene	ND	0.56	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,2,4-Trichlorobenzene	ND	0.66	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,1,1-Trichloroethane	ND	0.46	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,1,2-Trichloroethane	ND	0.64	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Trichloroethene (TCE)	ND	0.88	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Trichlorofluoromethane	ND	1.0	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
1,2,3-Trichloropropane	ND	1.0	10		µg/L	5	11/16/2016 8:41:24 PM	R38763
Vinyl chloride	ND	0.98	5.0		µg/L	5	11/16/2016 8:41:24 PM	R38763
Xylenes, Total	ND	1.8	7.5		µg/L	5	11/16/2016 8:41:24 PM	R38763
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	5	11/16/2016 8:41:24 PM	R38763
Surr: 4-Bromofluorobenzene	98.0	0	70-130		%Rec	5	11/16/2016 8:41:24 PM	R38763
Surr: Dibromofluoromethane	106	0	70-130		%Rec	5	11/16/2016 8:41:24 PM	R38763
Surr: Toluene-d8	100	0	70-130		%Rec	5	11/16/2016 8:41:24 PM	R38763

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	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 Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611785

Date Reported: 12/19/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-01

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 1:05:00 PM

Lab ID: 1611785-005

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: JME								
1,2-Dibromoethane	ND	0.0033	0.010		µg/L	1	11/21/2016 6:22:39 PM	28775
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: JME								
Diesel Range Organics (DRO)	ND	0.69	1.0		mg/L	1	11/17/2016 9:57:52 PM	28698
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/17/2016 9:57:52 PM	28698
Surr: DNOP	101	0	77.1-144		%Rec	1	11/17/2016 9:57:52 PM	28698
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	11/16/2016 2:56:00 PM	G38747
Surr: BFB	89.1	0	66.4-120		%Rec	1	11/16/2016 2:56:00 PM	G38747
EPA METHOD 300.0: ANIONS								
Analyst: LGT								
Fluoride	0.25	0.050	0.10		mg/L	1	11/16/2016 4:14:07 PM	R38777
Chloride	81	1.0	10		mg/L	20	11/16/2016 4:26:31 PM	R38777
Nitrogen, Nitrite (As N)	ND	0.052	0.10		mg/L	1	11/16/2016 4:14:07 PM	R38777
Bromide	0.27	0.044	0.10		mg/L	1	11/16/2016 4:14:07 PM	R38777
Nitrogen, Nitrate (As N)	0.29	0.041	0.10		mg/L	1	11/16/2016 4:14:07 PM	R38777
Phosphorus, Orthophosphate (As P)	ND	0.076	0.50		mg/L	1	11/16/2016 4:14:07 PM	R38777
Sulfate	160	2.8	10		mg/L	20	11/16/2016 4:26:31 PM	R38777
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: MED								
Barium	0.034	0.0013	0.0020		mg/L	1	12/6/2016 6:21:55 PM	B39177
Cadmium	ND	0.00075	0.0020		mg/L	1	12/6/2016 6:21:55 PM	B39177
Calcium	2.1	0.50	1.0		mg/L	1	12/8/2016 1:46:00 PM	A39247
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2016 6:21:55 PM	B39177
Copper	ND	0.0040	0.0060		mg/L	1	12/6/2016 6:21:55 PM	B39177
Iron	ND	0.020	0.020		mg/L	1	12/6/2016 6:21:55 PM	B39177
Magnesium	ND	0.50	1.0		mg/L	1	12/8/2016 1:46:00 PM	A39247
Manganese	0.0029	0.00032	0.0020		mg/L	1	12/6/2016 6:21:55 PM	B39177
Potassium	0.85	0.50	1.0	J	mg/L	1	12/6/2016 6:21:55 PM	B39177
Silver	ND	0.0028	0.0050		mg/L	1	12/6/2016 6:21:55 PM	B39177
Sodium	300	2.5	5.0		mg/L	5	12/8/2016 1:48:01 PM	A39247
Zinc	ND	0.0028	0.010		mg/L	1	12/8/2016 1:46:00 PM	A39247
EPA METHOD 200.7: TOTAL METALS								
Analyst: MED								
Barium	0.036	0.00079	0.0020		mg/L	1	12/8/2016 2:54:23 PM	28978
Cadmium	ND	0.0015	0.0020		mg/L	1	12/8/2016 2:54:23 PM	28978
Chromium	ND	0.0027	0.0060		mg/L	1	12/8/2016 2:54:23 PM	28978
Copper	ND	0.0030	0.0060		mg/L	1	12/8/2016 2:54:23 PM	28978
Iron	0.24	0.020	0.020		mg/L	1	12/8/2016 2:54:23 PM	28978
Manganese	0.0088	0.00027	0.0020		mg/L	1	12/8/2016 2:54:23 PM	28978
Silver	0.0016	0.0015	0.0050	J	mg/L	1	12/8/2016 2:54:23 PM	28978

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	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 Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611785

Date Reported: 12/19/2016

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-01

Project: 2016 4th Quarter OW Wells

Collection Date: 11/15/2016 1:05:00 PM

Lab ID: 1611785-005

Matrix: AQUEOUS

Received Date: 11/15/2016 5:15:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS							Analyst: MED	
Zinc	0.025	0.0027	0.010		mg/L	1	12/8/2016 2:54:23 PM	28978
EPA 200.8: DISSOLVED METALS							Analyst: JLF	
Arsenic	0.0012	0.00069	0.0050	J	mg/L	5	11/30/2016 4:36:25 PM	R39071
Lead	ND	0.00017	0.00050		mg/L	1	11/28/2016 5:10:56 PM	C39007
Selenium	0.0047	0.00021	0.0010		mg/L	1	11/28/2016 5:10:56 PM	C39007
Uranium	0.039	0.00026	0.0025	*	mg/L	5	11/30/2016 4:36:25 PM	R39071
200.8 ICPMS METALS:TOTAL							Analyst: JLF	
Arsenic	ND	0.0011	0.0050		mg/L	5	12/7/2016 3:55:34 PM	28978
Lead	0.00013	0.000081	0.00050	J	mg/L	1	12/5/2016 3:22:39 PM	28978
Selenium	0.0042	0.00094	0.0050	J	mg/L	5	12/7/2016 3:55:34 PM	28978
Uranium	0.039	0.00087	0.0025	*	mg/L	5	12/7/2016 3:55:34 PM	28978
EPA METHOD 245.1: MERCURY							Analyst: JLF	
Mercury	0.000078	0.000053	0.00020	J	mg/L	1	11/29/2016 4:17:04 PM	28890
EPA METHOD 8260B: VOLATILES							Analyst: AG	
Benzene	1.6	0.096	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
Toluene	ND	0.12	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
Ethylbenzene	0.39	0.11	1.0	J	µg/L	1	11/16/2016 5:48:15 PM	R38763
Methyl tert-butyl ether (MTBE)	0.88	0.21	1.0	J	µg/L	1	11/16/2016 5:48:15 PM	R38763
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
Naphthalene	ND	0.093	2.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
Acetone	ND	4.9	10		µg/L	1	11/16/2016 5:48:15 PM	R38763
Bromobenzene	ND	0.098	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
Bromodichloromethane	ND	0.14	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
Bromoform	ND	0.10	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
Bromomethane	ND	0.78	3.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
2-Butanone	ND	0.74	10		µg/L	1	11/16/2016 5:48:15 PM	R38763
Carbon disulfide	ND	0.60	10		µg/L	1	11/16/2016 5:48:15 PM	R38763
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
Chloroethane	ND	0.19	2.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
Chloroform	ND	0.089	1.0		µg/L	1	11/16/2016 5:48:15 PM	R38763
Chloromethane	ND	0.21	3.0		µg/L	1	11/16/2016 5:48:15 PM	R38763

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