

GW - 001

REPORTS

RCRA Group 9
(SWMU12 API Separator, 13
Process Area, 14 Tanks 3-5
& 27 WW Collection System)
(4)

February 2015

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-27 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 8:40:00 AM

Lab ID: 1410080-001

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
2-Methylphenol	ND	5.6		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
3+4-Methylphenol	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
N-Nitrosodi-n-propylamine	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
N-Nitrosodiphenylamine	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
Naphthalene	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
2-Nitroaniline	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
3-Nitroaniline	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
4-Nitroaniline	ND	4.5		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
Nitrobenzene	ND	5.6		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
2-Nitrophenol	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
4-Nitrophenol	ND	2.8		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
Pentachlorophenol	ND	4.5		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
Phenanthrene	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
Phenol	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
Pyrene	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
Pyridine	ND	5.6		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
1,2,4-Trichlorobenzene	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
2,4,5-Trichlorophenol	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
2,4,6-Trichlorophenol	ND	2.3		mg/Kg-dry	1	10/3/2014 6:03:45 PM	15682
Surr: 2-Fluorophenol	0	21-111	S	%REC	1	10/3/2014 6:03:45 PM	15682
Surr: Phenol-d5	0	23.1-117	S	%REC	1	10/3/2014 6:03:45 PM	15682
Surr: 2,4,6-Tribromophenol	0	22.7-88.9	S	%REC	1	10/3/2014 6:03:45 PM	15682
Surr: Nitrobenzene-d5	0	24.5-126	S	%REC	1	10/3/2014 6:03:45 PM	15682
Surr: 2-Fluorobiphenyl	0	21.2-129	S	%REC	1	10/3/2014 6:03:45 PM	15682
Surr: 4-Terphenyl-d14	0	39.4-107	S	%REC	1	10/3/2014 6:03:45 PM	15682
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Toluene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Ethylbenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Xylenes, Total	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Methyl tert-butyl ether (MTBE)	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,2,4-Trimethylbenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,3,5-Trimethylbenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,2-Dichloroethane (EDC)	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,2-Dibromoethane (EDB)	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Naphthalene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1-Methylnaphthalene	ND	0.00434		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
2-Methylnaphthalene	ND	0.00434		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Acetone	0.0442	0.0108		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

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Project: GROUP 9

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Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Bromodichloromethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Bromoform	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Bromomethane	ND	0.00325		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
2-Butanone	ND	0.0108		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Carbon tetrachloride	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Chlorobenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Chloroethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Chloroform	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Chloromethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
2-Chlorotoluene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Carbon disulfide	ND	0.0108		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
4-Chlorotoluene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
cis-1,2-DCE	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
cis-1,3-Dichloropropene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,2-Dibromo-3-chloropropane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Dibromochloromethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Dibromomethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,2-Dichlorobenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,3-Dichlorobenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,4-Dichlorobenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Dichlorodifluoromethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,1-Dichloroethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,1-Dichloroethene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,2-Dichloropropane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,3-Dichloropropane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
2,2-Dichloropropane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,1-Dichloropropene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Hexachlorobutadiene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Isopropylbenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
4-Isopropyltoluene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Methylene chloride	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
n-Butylbenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
2-Hexanone	ND	0.0108		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
n-Propylbenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
sec-Butylbenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Styrene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
4-Methyl-2-pentanone	ND	0.0108		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
tert-Butylbenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691

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	Page 5 of 57
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

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Project: GROUP 9

Collection Date: 9/30/2014 8:40:00 AM

Lab ID: 1410080-001

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,1,2,2-Tetrachloroethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Tetrachloroethene (PCE)	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
trans-1,2-DCE	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
trans-1,3-Dichloropropene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,2,3-Trichlorobenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,2,4-Trichlorobenzene	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,1,1-Trichloroethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,1,2-Trichloroethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Trichloroethene (TCE)	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Trichlorofluoromethane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
1,2,3-Trichloropropane	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Vinyl chloride	ND	0.00217		mg/Kg-dry	1	10/3/2014 4:23:12 PM	15691
Surr: 1,2-Dichloroethane-d4	111	70-130		%REC	1	10/3/2014 4:23:12 PM	15691
Surr: 4-Bromofluorobenzene	112	65.3-135		%REC	1	10/3/2014 4:23:12 PM	15691
Surr: Dibromofluoromethane	99.1	70-130		%REC	1	10/3/2014 4:23:12 PM	15691
Surr: Toluene-d8	100	70-130		%REC	1	10/3/2014 4:23:12 PM	15691

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 6 of 57
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

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Analytical Report

Lab Order **1410080**

Date Reported: **10/29/2014**

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-28 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 9:15:00 AM

Lab ID: 1410080-002

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	11		mg/Kg-dry	1	10/3/2014 1:53:39 PM	15671
Motor Oil Range Organics (MRO)	ND	53		mg/Kg-dry	1	10/3/2014 1:53:39 PM	15671
Surr: DNOP	93.9	57.9-140		%REC	1	10/3/2014 1:53:39 PM	15671
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg-dry	1	10/3/2014 12:47:34 AM	R21609
Surr: BFB	90.0	80-120		%REC	1	10/3/2014 12:47:34 AM	R21609
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	8.0	1.0		wt%	1	10/2/2014 2:09:00 PM	R21638
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.036		mg/Kg-dry	1	10/9/2014 2:03:53 PM	15806
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.7		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Arsenic	5.8	2.7		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Barium	250	0.11		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Beryllium	0.40	0.16		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Cadmium	ND	0.11		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Chromium	4.0	0.33		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Cobalt	3.3	0.33		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Lead	2.6	0.27		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Nickel	5.1	0.55		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Selenium	ND	2.7		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Silver	ND	0.27		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Vanadium	24	2.7		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
Zinc	20	2.7		mg/Kg-dry	1	10/4/2014 2:03:03 PM	15701
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Acenaphthene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Acenaphthylene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Aniline	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Anthracene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Azobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Benz(a)anthracene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Benzo(a)pyrene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Benzo(b)fluoranthene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Benzo(g,h,i)perylene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Benzo(k)fluoranthene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Benzoic acid	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Benzyl alcohol	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682

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	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

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Lab ID: 1410080-002

Matrix: SOIL

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Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Bis(2-chloroethoxy)methane	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Bis(2-chloroethyl)ether	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Bis(2-chloroisopropyl)ether	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Bis(2-ethylhexyl)phthalate	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
4-Bromophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Butyl benzyl phthalate	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Carbazole	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
4-Chloro-3-methylphenol	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
4-Chloroaniline	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2-Chloronaphthalene	ND	0.27		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2-Chlorophenol	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
4-Chlorophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Chrysene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Di-n-butyl phthalate	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Di-n-octyl phthalate	ND	0.43		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Dibenz(a,h)anthracene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Dibenzofuran	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
1,2-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
1,3-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
1,4-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
3,3'-Dichlorobenzidine	ND	0.27		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Diethyl phthalate	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Dimethyl phthalate	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2,4-Dichlorophenol	ND	0.43		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2,4-Dimethylphenol	ND	0.33		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
4,6-Dinitro-2-methylphenol	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2,4-Dinitrophenol	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2,4-Dinitrotoluene	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2,6-Dinitrotoluene	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Fluoranthene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Fluorene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Hexachlorobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Hexachlorobutadiene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Hexachlorocyclopentadiene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Hexachloroethane	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Indeno(1,2,3-cd)pyrene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Isophorone	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
1-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-28 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 9:15:00 AM

Lab ID: 1410080-002

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
2-Methylphenol	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
3+4-Methylphenol	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
N-Nitrosodi-n-propylamine	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
N-Nitrosodiphenylamine	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Naphthalene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
3-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
4-Nitroaniline	ND	0.43		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Nitrobenzene	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2-Nitrophenol	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
4-Nitrophenol	ND	0.27		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Pentachlorophenol	ND	0.43		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Phenanthrene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Phenol	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Pyrene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Pyridine	ND	0.54		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
1,2,4-Trichlorobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2,4,5-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
2,4,6-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/3/2014 6:32:03 PM	15682
Surr: 2-Fluorophenol	54.4	21-111		%REC	1	10/3/2014 6:32:03 PM	15682
Surr: Phenol-d5	58.2	23.1-117		%REC	1	10/3/2014 6:32:03 PM	15682
Surr: 2,4,6-Tribromophenol	20.4	22.7-88.9	S	%REC	1	10/3/2014 6:32:03 PM	15682
Surr: Nitrobenzene-d5	63.8	24.5-126		%REC	1	10/3/2014 6:32:03 PM	15682
Surr: 2-Fluorobiphenyl	62.9	21.2-129		%REC	1	10/3/2014 6:32:03 PM	15682
Surr: 4-Terphenyl-d14	63.2	39.4-107		%REC	1	10/3/2014 6:32:03 PM	15682
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Toluene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Ethylbenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Xylenes, Total	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Methyl tert-butyl ether (MTBE)	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,2,4-Trimethylbenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,3,5-Trimethylbenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,2-Dichloroethane (EDC)	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,2-Dibromoethane (EDB)	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Naphthalene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1-Methylnaphthalene	ND	0.00457		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
2-Methylnaphthalene	ND	0.00457		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Acetone	0.0251	0.0114		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-28 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 9:15:00 AM

Lab ID: 1410080-002

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Bromodichloromethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Bromoform	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Bromomethane	ND	0.00343		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
2-Butanone	ND	0.0114		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Carbon tetrachloride	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Chlorobenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Chloroethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Chloroform	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Chloromethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
2-Chlorotoluene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Carbon disulfide	ND	0.0114		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
4-Chlorotoluene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
cis-1,2-DCE	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
cis-1,3-Dichloropropene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,2-Dibromo-3-chloropropane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Dibromochloromethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Dibromomethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,2-Dichlorobenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,3-Dichlorobenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,4-Dichlorobenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Dichlorodifluoromethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,1-Dichloroethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,1-Dichloroethene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,2-Dichloropropane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,3-Dichloropropane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
2,2-Dichloropropane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,1-Dichloropropene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Hexachlorobutadiene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Isopropylbenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
4-Isopropyltoluene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Methylene chloride	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
n-Butylbenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
2-Hexanone	ND	0.0114		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
n-Propylbenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
sec-Butylbenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Styrene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
4-Methyl-2-pentanone	ND	0.0114		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
tert-Butylbenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-28 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 9:15:00 AM

Lab ID: 1410080-002

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,1,2,2-Tetrachloroethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Tetrachloroethene (PCE)	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
trans-1,2-DCE	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
trans-1,3-Dichloropropene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,2,3-Trichlorobenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,2,4-Trichlorobenzene	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,1,1-Trichloroethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,1,2-Trichloroethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Trichloroethene (TCE)	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Trichlorofluoromethane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
1,2,3-Trichloropropane	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Vinyl chloride	ND	0.00228		mg/Kg-dry	1	10/3/2014 4:51:56 PM	15691
Surr: 1,2-Dichloroethane-d4	114	70-130		%REC	1	10/3/2014 4:51:56 PM	15691
Surr: 4-Bromofluorobenzene	110	65.3-135		%REC	1	10/3/2014 4:51:56 PM	15691
Surr: Dibromofluoromethane	100	70-130		%REC	1	10/3/2014 4:51:56 PM	15691
Surr: Toluene-d8	99.3	70-130		%REC	1	10/3/2014 4:51:56 PM	15691

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1410080**

Date Reported: **10/29/2014**

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-29 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 9:40:00 AM

Lab ID: 1410080-003

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	14	11		mg/Kg-dry	1	10/3/2014 2:15:38 PM	15671
Motor Oil Range Organics (MRO)	ND	56		mg/Kg-dry	1	10/3/2014 2:15:38 PM	15671
Surr: DNOP	84.9	57.9-140		%REC	1	10/3/2014 2:15:38 PM	15671
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg-dry	1	10/3/2014 1:16:08 AM	R21609
Surr: BFB	90.6	80-120		%REC	1	10/3/2014 1:16:08 AM	R21609
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	10	1.0		wt%	1	10/2/2014 2:09:00 PM	R21638
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.035		mg/Kg-dry	1	10/9/2014 2:05:44 PM	15806
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.8		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Arsenic	10	2.8		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Barium	190	0.11		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Beryllium	0.41	0.17		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Cadmium	0.24	0.11		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Chromium	9.5	0.34		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Cobalt	3.9	0.34		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Lead	7.3	0.28		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Nickel	18	0.57		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Selenium	ND	2.8		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Silver	ND	0.28		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Vanadium	29	2.8		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
Zinc	52	2.8		mg/Kg-dry	1	10/4/2014 2:04:18 PM	15701
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Acenaphthene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Acenaphthylene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Aniline	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Anthracene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Azobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Benz(a)anthracene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Benzo(a)pyrene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Benzo(b)fluoranthene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Benzo(g,h,i)perylene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Benzo(k)fluoranthene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Benzoic acid	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Benzyl alcohol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-29 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 9:40:00 AM

Lab ID: 1410080-003

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Bis(2-chloroethoxy)methane	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Bis(2-chloroethyl)ether	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Bis(2-chloroisopropyl)ether	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Bis(2-ethylhexyl)phthalate	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
4-Bromophenyl phenyl ether	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Butyl benzyl phthalate	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Carbazole	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
4-Chloro-3-methylphenol	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
4-Chloroaniline	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2-Chloronaphthalene	ND	1.4		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2-Chlorophenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
4-Chlorophenyl phenyl ether	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Chrysene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Di-n-butyl phthalate	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Di-n-octyl phthalate	ND	2.2		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Dibenz(a,h)anthracene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Dibenzofuran	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
1,2-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
1,3-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
1,4-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
3,3'-Dichlorobenzidine	ND	1.4		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Diethyl phthalate	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Dimethyl phthalate	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2,4-Dichlorophenol	ND	2.2		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2,4-Dimethylphenol	ND	1.7		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
4,6-Dinitro-2-methylphenol	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2,4-Dinitrophenol	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2,4-Dinitrotoluene	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2,6-Dinitrotoluene	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Fluoranthene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Fluorene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Hexachlorobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Hexachlorobutadiene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Hexachlorocyclopentadiene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Hexachloroethane	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Indeno(1,2,3-cd)pyrene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Isophorone	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
1-Methylnaphthalene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2-Methylnaphthalene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-29 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 9:40:00 AM

Lab ID: 1410080-003

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
2-Methylphenol	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
3+4-Methylphenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
N-Nitrosodi-n-propylamine	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
N-Nitrosodiphenylamine	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Naphthalene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2-Nitroaniline	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
3-Nitroaniline	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
4-Nitroaniline	ND	2.2		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Nitrobenzene	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2-Nitrophenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
4-Nitrophenol	ND	1.4		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Pentachlorophenol	ND	2.2		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Phenanthrene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Phenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Pyrene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Pyridine	ND	2.8		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
1,2,4-Trichlorobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2,4,5-Trichlorophenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
2,4,6-Trichlorophenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:00:27 PM	15682
Surr: 2-Fluorophenol	72.1	21-111		%REC	1	10/3/2014 7:00:27 PM	15682
Surr: Phenol-d5	80.8	23.1-117		%REC	1	10/3/2014 7:00:27 PM	15682
Surr: 2,4,6-Tribromophenol	8.91	22.7-88.9	S	%REC	1	10/3/2014 7:00:27 PM	15682
Surr: Nitrobenzene-d5	87.7	24.5-126		%REC	1	10/3/2014 7:00:27 PM	15682
Surr: 2-Fluorobiphenyl	85.7	21.2-129		%REC	1	10/3/2014 7:00:27 PM	15682
Surr: 4-Terphenyl-d14	87.1	39.4-107		%REC	1	10/3/2014 7:00:27 PM	15682
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Toluene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Ethylbenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Xylenes, Total	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Methyl tert-butyl ether (MTBE)	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,2,4-Trimethylbenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,3,5-Trimethylbenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,2-Dichloroethane (EDC)	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,2-Dibromoethane (EDB)	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Naphthalene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1-Methylnaphthalene	ND	0.00359		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
2-Methylnaphthalene	ND	0.00359		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Acetone	0.0273	0.00898		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-29 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 9:40:00 AM

Lab ID: 1410080-003

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Bromodichloromethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Bromoform	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Bromomethane	ND	0.00269		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
2-Butanone	ND	0.00898		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Carbon tetrachloride	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Chlorobenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Chloroethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Chloroform	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Chloromethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
2-Chlorotoluene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Carbon disulfide	ND	0.00898		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
4-Chlorotoluene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
cis-1,2-DCE	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
cis-1,3-Dichloropropene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,2-Dibromo-3-chloropropane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Dibromochloromethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Dibromomethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,2-Dichlorobenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,3-Dichlorobenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,4-Dichlorobenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Dichlorodifluoromethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,1-Dichloroethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,1-Dichloroethene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,2-Dichloropropane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,3-Dichloropropane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
2,2-Dichloropropane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,1-Dichloropropene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Hexachlorobutadiene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Isopropylbenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
4-Isopropyltoluene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Methylene chloride	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
n-Butylbenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
2-Hexanone	ND	0.00898		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
n-Propylbenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
sec-Butylbenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Styrene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
4-Methyl-2-pentanone	ND	0.00898		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
tert-Butylbenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-29 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 9:40:00 AM

Lab ID: 1410080-003

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,1,2,2-Tetrachloroethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Tetrachloroethene (PCE)	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
trans-1,2-DCE	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
trans-1,3-Dichloropropene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,2,3-Trichlorobenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,2,4-Trichlorobenzene	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,1,1-Trichloroethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,1,2-Trichloroethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Trichloroethene (TCE)	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Trichlorofluoromethane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
1,2,3-Trichloropropane	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Vinyl chloride	ND	0.00180		mg/Kg-dry	1	10/3/2014 5:20:40 PM	15691
Surr: 1,2-Dichloroethane-d4	111	70-130		%REC	1	10/3/2014 5:20:40 PM	15691
Surr: 4-Bromofluorobenzene	108	65.3-135		%REC	1	10/3/2014 5:20:40 PM	15691
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/3/2014 5:20:40 PM	15691
Surr: Toluene-d8	106	70-130		%REC	1	10/3/2014 5:20:40 PM	15691

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	Page 16 of 57
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1410080**

Date Reported: **10/29/2014**

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13 DUP 02

Project: GROUP 9

Collection Date: 9/30/2014

Lab ID: 1410080-004

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	76	11		mg/Kg-dry	1	10/3/2014 2:37:31 PM	15671
Motor Oil Range Organics (MRO)	440	57		mg/Kg-dry	1	10/3/2014 2:37:31 PM	15671
Surr: DNOP	83.8	57.9-140		%REC	1	10/3/2014 2:37:31 PM	15671
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg-dry	1	10/3/2014 1:44:39 AM	R21609
Surr: BFB	91.0	80-120		%REC	1	10/3/2014 1:44:39 AM	R21609
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	12	1.0		wt%	1	10/2/2014 2:09:00 PM	R21638
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.11	0.035		mg/Kg-dry	1	10/9/2014 2:07:36 PM	15806
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.9		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Arsenic	20	2.9		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Barium	170	0.12		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Beryllium	0.41	0.17		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Cadmium	ND	0.12		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Chromium	9.0	0.35		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Cobalt	3.8	0.35		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Lead	10	0.29		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Nickel	15	0.58		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Selenium	ND	2.9		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Silver	ND	0.29		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Vanadium	40	2.9		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
Zinc	73	2.9		mg/Kg-dry	1	10/4/2014 2:05:34 PM	15701
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Acenaphthene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Acenaphthylene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Aniline	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Anthracene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Azobenzene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Benz(a)anthracene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Benzo(a)pyrene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Benzo(b)fluoranthene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Benzo(g,h,i)perylene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Benzo(k)fluoranthene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Benzoic acid	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Benzyl alcohol	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13 DUP 02

Project: GROUP 9

Collection Date: 9/30/2014

Lab ID: 1410080-004

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Bis(2-chloroethoxy)methane	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Bis(2-chloroethyl)ether	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Bis(2-chloroisopropyl)ether	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Bis(2-ethylhexyl)phthalate	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
4-Bromophenyl phenyl ether	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Butyl benzyl phthalate	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Carbazole	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
4-Chloro-3-methylphenol	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
4-Chloroaniline	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2-Chloronaphthalene	ND	2.9		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2-Chlorophenol	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
4-Chlorophenyl phenyl ether	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Chrysene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Di-n-butyl phthalate	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Di-n-octyl phthalate	ND	4.6		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Dibenz(a,h)anthracene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Dibenzofuran	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
1,2-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
1,3-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
1,4-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
3,3'-Dichlorobenzidine	ND	2.9		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Diethyl phthalate	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Dimethyl phthalate	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2,4-Dichlorophenol	ND	4.6		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2,4-Dimethylphenol	ND	3.4		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
4,6-Dinitro-2-methylphenol	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2,4-Dinitrophenol	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2,4-Dinitrotoluene	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2,6-Dinitrotoluene	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Fluoranthene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Fluorene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Hexachlorobenzene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Hexachlorobutadiene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Hexachlorocyclopentadiene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Hexachloroethane	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Indeno(1,2,3-cd)pyrene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Isophorone	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
1-Methylnaphthalene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2-Methylnaphthalene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13 DUP 02

Project: GROUP 9

Collection Date: 9/30/2014

Lab ID: 1410080-004

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
2-Methylphenol	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
3+4-Methylphenol	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
N-Nitrosodi-n-propylamine	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
N-Nitrosodiphenylamine	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Naphthalene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2-Nitroaniline	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
3-Nitroaniline	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
4-Nitroaniline	ND	4.6		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Nitrobenzene	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2-Nitrophenol	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
4-Nitrophenol	ND	2.9		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Pentachlorophenol	ND	4.6		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Phenanthrene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Phenol	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Pyrene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Pyridine	ND	5.7		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
1,2,4-Trichlorobenzene	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2,4,5-Trichlorophenol	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
2,4,6-Trichlorophenol	ND	2.3		mg/Kg-dry	1	10/3/2014 7:28:49 PM	15682
Surr: 2-Fluorophenol	0	21-111	S	%REC	1	10/3/2014 7:28:49 PM	15682
Surr: Phenol-d5	0	23.1-117	S	%REC	1	10/3/2014 7:28:49 PM	15682
Surr: 2,4,6-Tribromophenol	0	22.7-88.9	S	%REC	1	10/3/2014 7:28:49 PM	15682
Surr: Nitrobenzene-d5	0	24.5-126	S	%REC	1	10/3/2014 7:28:49 PM	15682
Surr: 2-Fluorobiphenyl	0	21.2-129	S	%REC	1	10/3/2014 7:28:49 PM	15682
Surr: 4-Terphenyl-d14	0	39.4-107	S	%REC	1	10/3/2014 7:28:49 PM	15682
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Toluene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Ethylbenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Xylenes, Total	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Methyl tert-butyl ether (MTBE)	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,2,4-Trimethylbenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,3,5-Trimethylbenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,2-Dichloroethane (EDC)	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,2-Dibromoethane (EDB)	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Naphthalene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1-Methylnaphthalene	ND	0.00362		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
2-Methylnaphthalene	ND	0.00362		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Acetone	0.0545	0.00905		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13 DUP 02

Project: GROUP 9

Collection Date: 9/30/2014

Lab ID: 1410080-004

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Bromodichloromethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Bromoform	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Bromomethane	ND	0.00272		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
2-Butanone	ND	0.00905		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Carbon tetrachloride	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Chlorobenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Chloroethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Chloroform	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Chloromethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
2-Chlorotoluene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Carbon disulfide	ND	0.00905		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
4-Chlorotoluene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
cis-1,2-DCE	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
cis-1,3-Dichloropropene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,2-Dibromo-3-chloropropane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Dibromochloromethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Dibromomethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,2-Dichlorobenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,3-Dichlorobenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,4-Dichlorobenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Dichlorodifluoromethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,1-Dichloroethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,1-Dichloroethene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,2-Dichloropropane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,3-Dichloropropane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
2,2-Dichloropropane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,1-Dichloropropene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Hexachlorobutadiene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Isopropylbenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
4-Isopropyltoluene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Methylene chloride	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
n-Butylbenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
2-Hexanone	ND	0.00905		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
n-Propylbenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
sec-Butylbenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Styrene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
4-Methyl-2-pentanone	ND	0.00905		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
tert-Butylbenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13 DUP 02

Project: GROUP 9

Collection Date: 9/30/2014

Lab ID: 1410080-004

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,1,2,2-Tetrachloroethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Tetrachloroethene (PCE)	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
trans-1,2-DCE	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
trans-1,3-Dichloropropene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,2,3-Trichlorobenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,2,4-Trichlorobenzene	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,1,1-Trichloroethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,1,2-Trichloroethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Trichloroethene (TCE)	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Trichlorofluoromethane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
1,2,3-Trichloropropane	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Vinyl chloride	ND	0.00181		mg/Kg-dry	1	10/3/2014 5:49:22 PM	15691
Surr: 1,2-Dichloroethane-d4	113	70-130		%REC	1	10/3/2014 5:49:22 PM	15691
Surr: 4-Bromofluorobenzene	108	65.3-135		%REC	1	10/3/2014 5:49:22 PM	15691
Surr: Dibromofluoromethane	103	70-130		%REC	1	10/3/2014 5:49:22 PM	15691
Surr: Toluene-d8	101	70-130		%REC	1	10/3/2014 5:49:22 PM	15691

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1410080**

Date Reported: **10/29/2014**

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 4:40:00 PM

Lab ID: 1410080-005

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	120	11		mg/Kg-dry	1	10/3/2014 2:59:30 PM	15671
Motor Oil Range Organics (MRO)	270	53		mg/Kg-dry	1	10/3/2014 2:59:30 PM	15671
Surr: DNOP	92.8	57.9-140		%REC	1	10/3/2014 2:59:30 PM	15671
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg-dry	1	10/3/2014 2:13:13 AM	R21609
Surr: BFB	91.5	80-120		%REC	1	10/3/2014 2:13:13 AM	R21609
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	5.8	1.0		wt%	1	10/2/2014 2:09:00 PM	R21638
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.71	0.18		mg/Kg-dry	5	10/9/2014 2:57:04 PM	15806
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.7		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Arsenic	4.9	2.7		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Barium	170	0.11		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Beryllium	0.32	0.16		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Cadmium	0.24	0.11		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Chromium	9.9	0.32		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Cobalt	3.8	0.32		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Lead	13	0.27		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Nickel	10	0.54		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Selenium	ND	2.7		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Silver	ND	0.27		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Vanadium	20	2.7		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
Zinc	180	2.7		mg/Kg-dry	1	10/4/2014 2:06:49 PM	15701
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Acenaphthene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Acenaphthylene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Aniline	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Anthracene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Azobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Benz(a)anthracene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Benzo(a)pyrene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Benzo(b)fluoranthene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Benzo(g,h,i)perylene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Benzo(k)fluoranthene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Benzoic acid	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Benzyl alcohol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 4:40:00 PM

Lab ID: 1410080-005

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Bis(2-chloroethoxy)methane	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Bis(2-chloroethyl)ether	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Bis(2-chloroisopropyl)ether	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Bis(2-ethylhexyl)phthalate	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
4-Bromophenyl phenyl ether	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Butyl benzyl phthalate	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Carbazole	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
4-Chloro-3-methylphenol	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
4-Chloroaniline	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2-Chloronaphthalene	ND	1.3		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2-Chlorophenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
4-Chlorophenyl phenyl ether	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Chrysene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Di-n-butyl phthalate	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Di-n-octyl phthalate	ND	2.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Dibenz(a,h)anthracene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Dibenzofuran	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
1,2-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
1,3-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
1,4-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
3,3'-Dichlorobenzidine	ND	1.3		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Diethyl phthalate	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Dimethyl phthalate	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2,4-Dichlorophenol	ND	2.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2,4-Dimethylphenol	ND	1.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
4,6-Dinitro-2-methylphenol	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2,4-Dinitrophenol	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2,4-Dinitrotoluene	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2,6-Dinitrotoluene	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Fluoranthene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Fluorene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Hexachlorobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Hexachlorobutadiene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Hexachlorocyclopentadiene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Hexachloroethane	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Indeno(1,2,3-cd)pyrene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Isophorone	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
1-Methylnaphthalene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2-Methylnaphthalene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 4:40:00 PM

Lab ID: 1410080-005

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
2-Methylphenol	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
3+4-Methylphenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
N-Nitrosodi-n-propylamine	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
N-Nitrosodiphenylamine	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Naphthalene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2-Nitroaniline	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
3-Nitroaniline	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
4-Nitroaniline	ND	2.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Nitrobenzene	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2-Nitrophenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
4-Nitrophenol	ND	1.3		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Pentachlorophenol	ND	2.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Phenanthrene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Phenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Pyrene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Pyridine	ND	2.6		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
1,2,4-Trichlorobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2,4,5-Trichlorophenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
2,4,6-Trichlorophenol	ND	1.1		mg/Kg-dry	1	10/3/2014 7:57:11 PM	15682
Surr: 2-Fluorophenol	64.4	21-111		%REC	1	10/3/2014 7:57:11 PM	15682
Surr: Phenol-d5	68.4	23.1-117		%REC	1	10/3/2014 7:57:11 PM	15682
Surr: 2,4,6-Tribromophenol	20.0	22.7-88.9	S	%REC	1	10/3/2014 7:57:11 PM	15682
Surr: Nitrobenzene-d5	79.7	24.5-126		%REC	1	10/3/2014 7:57:11 PM	15682
Surr: 2-Fluorobiphenyl	82.1	21.2-129		%REC	1	10/3/2014 7:57:11 PM	15682
Surr: 4-Terphenyl-d14	78.8	39.4-107		%REC	1	10/3/2014 7:57:11 PM	15682
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Toluene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Ethylbenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Xylenes, Total	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Methyl tert-butyl ether (MTBE)	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,2,4-Trimethylbenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,3,5-Trimethylbenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,2-Dichloroethane (EDC)	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,2-Dibromoethane (EDB)	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Naphthalene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1-Methylnaphthalene	ND	0.00417		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
2-Methylnaphthalene	ND	0.00417		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Acetone	0.0489	0.0104		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 4:40:00 PM

Lab ID: 1410080-005

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Bromodichloromethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Bromoform	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Bromomethane	ND	0.00313		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
2-Butanone	0.0320	0.0104		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Carbon tetrachloride	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Chlorobenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Chloroethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Chloroform	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Chloromethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
2-Chlorotoluene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Carbon disulfide	ND	0.0104		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
4-Chlorotoluene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
cis-1,2-DCE	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
cis-1,3-Dichloropropene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,2-Dibromo-3-chloropropane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Dibromochloromethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Dibromomethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,2-Dichlorobenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,3-Dichlorobenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,4-Dichlorobenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Dichlorodifluoromethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,1-Dichloroethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,1-Dichloroethene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,2-Dichloropropane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,3-Dichloropropane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
2,2-Dichloropropane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,1-Dichloropropene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Hexachlorobutadiene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Isopropylbenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
4-Isopropyltoluene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Methylene chloride	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
n-Butylbenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
2-Hexanone	ND	0.0104		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
n-Propylbenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
sec-Butylbenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Styrene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
4-Methyl-2-pentanone	ND	0.0104		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
tert-Butylbenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 4:40:00 PM

Lab ID: 1410080-005

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES					Analyst: cadg		
1,1,1,2-Tetrachloroethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,1,2,2-Tetrachloroethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Tetrachloroethene (PCE)	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
trans-1,2-DCE	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
trans-1,3-Dichloropropene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,2,3-Trichlorobenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,2,4-Trichlorobenzene	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,1,1-Trichloroethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,1,2-Trichloroethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Trichloroethene (TCE)	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Trichlorofluoromethane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
1,2,3-Trichloropropane	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Vinyl chloride	ND	0.00209		mg/Kg-dry	1	10/3/2014 6:18:04 PM	15691
Surr: 1,2-Dichloroethane-d4	108	70-130		%REC	1	10/3/2014 6:18:04 PM	15691
Surr: 4-Bromofluorobenzene	106	65.3-135		%REC	1	10/3/2014 6:18:04 PM	15691
Surr: Dibromofluoromethane	98.0	70-130		%REC	1	10/3/2014 6:18:04 PM	15691
Surr: Toluene-d8	99.2	70-130		%REC	1	10/3/2014 6:18:04 PM	15691

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	Page 26 of 57
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1410080**

Date Reported: **10/29/2014**

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (0.5-2')

Project: GROUP 9

Collection Date: 9/30/2014 4:50:00 PM

Lab ID: 1410080-006

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	240	11		mg/Kg-dry	1	10/3/2014 3:21:21 PM	15671
Motor Oil Range Organics (MRO)	140	54		mg/Kg-dry	1	10/3/2014 3:21:21 PM	15671
Surr: DNOP	99.3	57.9-140		%REC	1	10/3/2014 3:21:21 PM	15671
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg-dry	1	10/3/2014 2:41:48 AM	R21609
Surr: BFB	113	80-120		%REC	1	10/3/2014 2:41:48 AM	R21609
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	7.7	1.0		wt%	1	10/2/2014 2:09:00 PM	R21638
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.038	0.035		mg/Kg-dry	1	10/9/2014 2:15:29 PM	15806
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.7		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Arsenic	3.3	2.7		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Barium	140	0.11		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Beryllium	0.38	0.16		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Cadmium	ND	0.11		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Chromium	7.1	0.32		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Cobalt	3.7	0.32		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Lead	5.3	0.27		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Nickel	6.1	0.54		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Selenium	ND	2.7		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Silver	ND	0.27		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Vanadium	19	2.7		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
Zinc	38	2.7		mg/Kg-dry	1	10/4/2014 2:08:05 PM	15701
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Acenaphthene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Acenaphthylene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Aniline	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Anthracene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Azobenzene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Benz(a)anthracene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Benzo(a)pyrene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Benzo(b)fluoranthene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Benzo(g,h,i)perylene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Benzo(k)fluoranthene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Benzoic acid	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Benzyl alcohol	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (0.5-2')

Project: GROUP 9

Collection Date: 9/30/2014 4:50:00 PM

Lab ID: 1410080-006

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Bis(2-chloroethoxy)methane	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Bis(2-chloroethyl)ether	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Bis(2-chloroisopropyl)ether	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Bis(2-ethylhexyl)phthalate	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
4-Bromophenyl phenyl ether	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Butyl benzyl phthalate	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Carbazole	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
4-Chloro-3-methylphenol	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
4-Chloroaniline	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2-Chloronaphthalene	ND	0.54		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2-Chlorophenol	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
4-Chlorophenyl phenyl ether	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Chrysene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Di-n-butyl phthalate	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Di-n-octyl phthalate	ND	0.87		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Dibenz(a,h)anthracene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Dibenzofuran	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
1,2-Dichlorobenzene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
1,3-Dichlorobenzene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
1,4-Dichlorobenzene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
3,3'-Dichlorobenzidine	ND	0.54		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Diethyl phthalate	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Dimethyl phthalate	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2,4-Dichlorophenol	ND	0.87		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2,4-Dimethylphenol	ND	0.65		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
4,6-Dinitro-2-methylphenol	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2,4-Dinitrophenol	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2,4-Dinitrotoluene	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2,6-Dinitrotoluene	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Fluoranthene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Fluorene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Hexachlorobenzene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Hexachlorobutadiene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Hexachlorocyclopentadiene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Hexachloroethane	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Indeno(1,2,3-cd)pyrene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Isophorone	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
1-Methylnaphthalene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2-Methylnaphthalene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (0.5-2')

Project: GROUP 9

Collection Date: 9/30/2014 4:50:00 PM

Lab ID: 1410080-006

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
2-Methylphenol	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
3+4-Methylphenol	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
N-Nitrosodi-n-propylamine	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
N-Nitrosodiphenylamine	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Naphthalene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2-Nitroaniline	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
3-Nitroaniline	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
4-Nitroaniline	ND	0.87		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Nitrobenzene	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2-Nitrophenol	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
4-Nitrophenol	ND	0.54		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Pentachlorophenol	ND	0.87		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Phenanthrene	0.56	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Phenol	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Pyrene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Pyridine	ND	1.1		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
1,2,4-Trichlorobenzene	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2,4,5-Trichlorophenol	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
2,4,6-Trichlorophenol	ND	0.43		mg/Kg-dry	1	10/3/2014 8:25:24 PM	15682
Surr: 2-Fluorophenol	89.7	21-111		%REC	1	10/3/2014 8:25:24 PM	15682
Surr: Phenol-d5	87.7	23.1-117		%REC	1	10/3/2014 8:25:24 PM	15682
Surr: 2,4,6-Tribromophenol	31.7	22.7-88.9		%REC	1	10/3/2014 8:25:24 PM	15682
Surr: Nitrobenzene-d5	99.6	24.5-126		%REC	1	10/3/2014 8:25:24 PM	15682
Surr: 2-Fluorobiphenyl	96.7	21.2-129		%REC	1	10/3/2014 8:25:24 PM	15682
Surr: 4-Terphenyl-d14	96.5	39.4-107		%REC	1	10/3/2014 8:25:24 PM	15682
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Toluene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Ethylbenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Xylenes, Total	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Methyl tert-butyl ether (MTBE)	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,2,4-Trimethylbenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,3,5-Trimethylbenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,2-Dichloroethane (EDC)	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,2-Dibromoethane (EDB)	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Naphthalene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1-Methylnaphthalene	0.0194	0.00395		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
2-Methylnaphthalene	ND	0.00395		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Acetone	0.0162	0.00988		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (0.5-2')

Project: GROUP 9

Collection Date: 9/30/2014 4:50:00 PM

Lab ID: 1410080-006

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Bromodichloromethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Bromoform	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Bromomethane	ND	0.00296		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
2-Butanone	ND	0.00988		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Carbon tetrachloride	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Chlorobenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Chloroethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Chloroform	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Chloromethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
2-Chlorotoluene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Carbon disulfide	ND	0.00988		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
4-Chlorotoluene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
cis-1,2-DCE	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
cis-1,3-Dichloropropene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,2-Dibromo-3-chloropropane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Dibromochloromethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Dibromomethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,2-Dichlorobenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,3-Dichlorobenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,4-Dichlorobenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Dichlorodifluoromethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,1-Dichloroethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,1-Dichloroethene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,2-Dichloropropane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,3-Dichloropropane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
2,2-Dichloropropane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,1-Dichloropropene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Hexachlorobutadiene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Isopropylbenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
4-Isopropyltoluene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Methylene chloride	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
n-Butylbenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
2-Hexanone	ND	0.00988		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
n-Propylbenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
sec-Butylbenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Styrene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
4-Methyl-2-pentanone	ND	0.00988		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
tert-Butylbenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (0.5-2')

Project: GROUP 9

Collection Date: 9/30/2014 4:50:00 PM

Lab ID: 1410080-006

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,1,2,2-Tetrachloroethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Tetrachloroethene (PCE)	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
trans-1,2-DCE	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
trans-1,3-Dichloropropene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,2,3-Trichlorobenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,2,4-Trichlorobenzene	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,1,1-Trichloroethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,1,2-Trichloroethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Trichloroethene (TCE)	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Trichlorofluoromethane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
1,2,3-Trichloropropane	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Vinyl chloride	ND	0.00198		mg/Kg-dry	1	10/3/2014 6:46:44 PM	15691
Surr: 1,2-Dichloroethane-d4	119	70-130		%REC	1	10/3/2014 6:46:44 PM	15691
Surr: 4-Bromofluorobenzene	90.7	65.3-135		%REC	1	10/3/2014 6:46:44 PM	15691
Surr: Dibromofluoromethane	100	70-130		%REC	1	10/3/2014 6:46:44 PM	15691
Surr: Toluene-d8	91.2	70-130		%REC	1	10/3/2014 6:46:44 PM	15691

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1410080**

Date Reported: **10/29/2014**

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (6-8')

Project: GROUP 9

Collection Date: 9/30/2014 5:05:00 PM

Lab ID: 1410080-007

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	390	12		mg/Kg-dry	1	10/3/2014 3:43:31 PM	15671
Motor Oil Range Organics (MRO)	330	59		mg/Kg-dry	1	10/3/2014 3:43:31 PM	15671
Surr: DNOP	89.7	57.9-140		%REC	1	10/3/2014 3:43:31 PM	15671
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	25	3.8		mg/Kg-dry	1	10/3/2014 3:10:18 AM	R21609
Surr: BFB	215	80-120	S	%REC	1	10/3/2014 3:10:18 AM	R21609
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	15	1.0		wt%	1	10/2/2014 2:09:00 PM	R21638
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.037		mg/Kg-dry	1	10/9/2014 2:17:14 PM	15806
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	3.0		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Arsenic	3.9	3.0		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Barium	220	0.12		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Beryllium	0.55	0.18		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Cadmium	ND	0.12		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Chromium	7.6	0.36		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Cobalt	4.9	0.36		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Lead	21	0.30		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Nickel	7.4	0.59		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Selenium	ND	3.0		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Silver	ND	0.30		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Vanadium	28	3.0		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
Zinc	35	3.0		mg/Kg-dry	1	10/4/2014 2:13:16 PM	15701
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Acenaphthene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Acenaphthylene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Aniline	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Anthracene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Azobenzene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Benz(a)anthracene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Benzo(a)pyrene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Benzo(b)fluoranthene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Benzo(g,h,i)perylene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Benzo(k)fluoranthene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Benzoic acid	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Benzyl alcohol	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (6-8')

Project: GROUP 9

Collection Date: 9/30/2014 5:05:00 PM

Lab ID: 1410080-007

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Bis(2-chloroethoxy)methane	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Bis(2-chloroethyl)ether	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Bis(2-chloroisopropyl)ether	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Bis(2-ethylhexyl)phthalate	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
4-Bromophenyl phenyl ether	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Butyl benzyl phthalate	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Carbazole	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
4-Chloro-3-methylphenol	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
4-Chloroaniline	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2-Chloronaphthalene	ND	0.59		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2-Chlorophenol	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
4-Chlorophenyl phenyl ether	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Chrysene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Di-n-butyl phthalate	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Di-n-octyl phthalate	ND	0.94		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Dibenz(a,h)anthracene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Dibenzofuran	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
1,2-Dichlorobenzene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
1,3-Dichlorobenzene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
1,4-Dichlorobenzene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
3,3'-Dichlorobenzidine	ND	0.59		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Diethyl phthalate	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Dimethyl phthalate	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2,4-Dichlorophenol	ND	0.94		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2,4-Dimethylphenol	ND	0.70		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
4,6-Dinitro-2-methylphenol	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2,4-Dinitrophenol	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2,4-Dinitrotoluene	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2,6-Dinitrotoluene	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Fluoranthene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Fluorene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Hexachlorobenzene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Hexachlorobutadiene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Hexachlorocyclopentadiene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Hexachloroethane	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Indeno(1,2,3-cd)pyrene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Isophorone	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
1-Methylnaphthalene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2-Methylnaphthalene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (6-8')

Project: GROUP 9

Collection Date: 9/30/2014 5:05:00 PM

Lab ID: 1410080-007

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
2-Methylphenol	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
3+4-Methylphenol	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
N-Nitrosodi-n-propylamine	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
N-Nitrosodiphenylamine	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Naphthalene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2-Nitroaniline	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
3-Nitroaniline	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
4-Nitroaniline	ND	0.94		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Nitrobenzene	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2-Nitrophenol	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
4-Nitrophenol	ND	0.59		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Pentachlorophenol	ND	0.94		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Phenanthrene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Phenol	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Pyrene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Pyridine	ND	1.2		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
1,2,4-Trichlorobenzene	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2,4,5-Trichlorophenol	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
2,4,6-Trichlorophenol	ND	0.47		mg/Kg-dry	1	10/3/2014 8:53:33 PM	15682
Surr: 2-Fluorophenol	89.5	21-111		%REC	1	10/3/2014 8:53:33 PM	15682
Surr: Phenol-d5	86.6	23.1-117		%REC	1	10/3/2014 8:53:33 PM	15682
Surr: 2,4,6-Tribromophenol	35.0	22.7-88.9		%REC	1	10/3/2014 8:53:33 PM	15682
Surr: Nitrobenzene-d5	94.2	24.5-126		%REC	1	10/3/2014 8:53:33 PM	15682
Surr: 2-Fluorobiphenyl	89.5	21.2-129		%REC	1	10/3/2014 8:53:33 PM	15682
Surr: 4-Terphenyl-d14	94.9	39.4-107		%REC	1	10/3/2014 8:53:33 PM	15682
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	0.00965	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Toluene	0.00611	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Ethylbenzene	0.00526	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Xylenes, Total	0.00388	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Methyl tert-butyl ether (MTBE)	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,2,4-Trimethylbenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,3,5-Trimethylbenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,2-Dichloroethane (EDC)	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,2-Dibromoethane (EDB)	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Naphthalene	0.00418	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1-Methylnaphthalene	ND	0.00466		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
2-Methylnaphthalene	ND	0.00466		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Acetone	0.0862	0.0117		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (6-8')

Project: GROUP 9

Collection Date: 9/30/2014 5:05:00 PM

Lab ID: 1410080-007

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Bromodichloromethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Bromoform	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Bromomethane	ND	0.00350		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
2-Butanone	0.0222	0.0117		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Carbon tetrachloride	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Chlorobenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Chloroethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Chloroform	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Chloromethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
2-Chlorotoluene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Carbon disulfide	ND	0.0117		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
4-Chlorotoluene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
cis-1,2-DCE	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
cis-1,3-Dichloropropene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,2-Dibromo-3-chloropropane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Dibromochloromethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Dibromomethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,2-Dichlorobenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,3-Dichlorobenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,4-Dichlorobenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Dichlorodifluoromethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,1-Dichloroethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,1-Dichloroethene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,2-Dichloropropane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,3-Dichloropropane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
2,2-Dichloropropane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,1-Dichloropropene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Hexachlorobutadiene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Isopropylbenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
4-Isopropyltoluene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Methylene chloride	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
n-Butylbenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
2-Hexanone	ND	0.0117		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
n-Propylbenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
sec-Butylbenzene	0.00462	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Styrene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
4-Methyl-2-pentanone	ND	0.0117		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
tert-Butylbenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1410080**

Date Reported: **10/29/2014**

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (6-8')

Project: GROUP 9

Collection Date: 9/30/2014 5:05:00 PM

Lab ID: 1410080-007

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,1,2,2-Tetrachloroethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Tetrachloroethene (PCE)	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
trans-1,2-DCE	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
trans-1,3-Dichloropropene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,2,3-Trichlorobenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,2,4-Trichlorobenzene	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,1,1-Trichloroethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,1,2-Trichloroethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Trichloroethene (TCE)	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Trichlorofluoromethane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
1,2,3-Trichloropropane	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Vinyl chloride	ND	0.00233		mg/Kg-dry	1	10/6/2014 12:47:27 PM	15728
Surr: 1,2-Dichloroethane-d4	97.9	70-130		%REC	1	10/6/2014 12:47:27 PM	15728
Surr: 4-Bromofluorobenzene	86.3	65.3-135		%REC	1	10/6/2014 12:47:27 PM	15728
Surr: Dibromofluoromethane	98.7	70-130		%REC	1	10/6/2014 12:47:27 PM	15728
Surr: Toluene-d8	101	70-130		%REC	1	10/6/2014 12:47:27 PM	15728

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (24-26')

Project: GROUP 9

Collection Date: 9/30/2014 5:10:00 PM

Lab ID: 1410080-008

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	630	10		mg/Kg-dry	1	10/3/2014 4:05:29 PM	15671
Motor Oil Range Organics (MRO)	ND	52		mg/Kg-dry	1	10/3/2014 4:05:29 PM	15671
Surr: DNOP	86.2	57.9-140		%REC	1	10/3/2014 4:05:29 PM	15671
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	55	25		mg/Kg-dry	5	10/3/2014 5:49:28 PM	R21650
Surr: BFB	137	80-120	S	%REC	5	10/3/2014 5:49:28 PM	R21650
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	4.7	1.0		wt%	1	10/2/2014 2:09:00 PM	R21638
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.034		mg/Kg-dry	1	10/9/2014 2:18:59 PM	15806
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.6		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Arsenic	ND	2.6		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Barium	64	0.10		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Beryllium	ND	0.16		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Cadmium	ND	0.10		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Chromium	2.9	0.31		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Cobalt	2.7	0.31		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Lead	2.2	0.26		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Nickel	2.1	0.52		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Selenium	ND	2.6		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Silver	ND	0.26		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Vanadium	17	2.6		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
Zinc	13	2.6		mg/Kg-dry	1	10/4/2014 2:15:52 PM	15701
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Acenaphthene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Acenaphthylene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Aniline	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Anthracene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Azobenzene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Benz(a)anthracene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Benzo(a)pyrene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Benzo(b)fluoranthene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Benzo(g,h,i)perylene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Benzo(k)fluoranthene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Benzoic acid	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Benzyl alcohol	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (24-26')

Project: GROUP 9

Collection Date: 9/30/2014 5:10:00 PM

Lab ID: 1410080-008

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Bis(2-chloroethoxy)methane	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Bis(2-chloroethyl)ether	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Bis(2-chloroisopropyl)ether	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Bis(2-ethylhexyl)phthalate	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
4-Bromophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Butyl benzyl phthalate	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Carbazole	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
4-Chloro-3-methylphenol	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
4-Chloroaniline	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2-Chloronaphthalene	ND	0.26		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2-Chlorophenol	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
4-Chlorophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Chrysene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Di-n-butyl phthalate	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Di-n-octyl phthalate	ND	0.42		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Dibenz(a,h)anthracene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Dibenzofuran	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
3,3'-Dichlorobenzidine	ND	0.26		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Diethyl phthalate	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Dimethyl phthalate	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2,4-Dichlorophenol	ND	0.42		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2,4-Dimethylphenol	ND	0.31		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
4,6-Dinitro-2-methylphenol	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2,4-Dinitrophenol	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2,4-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2,6-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Fluoranthene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Fluorene	0.30	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Hexachlorobenzene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Hexachlorocyclopentadiene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Hexachloroethane	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Indeno(1,2,3-cd)pyrene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Isophorone	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
1-Methylnaphthalene	3.6	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2-Methylnaphthalene	4.9	0.42		mg/Kg-dry	2	10/13/2014 4:40:10 AM	15682

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (24-26')

Project: GROUP 9

Collection Date: 9/30/2014 5:10:00 PM

Lab ID: 1410080-008

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
2-Methylphenol	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
3+4-Methylphenol	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
N-Nitrosodi-n-propylamine	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
N-Nitrosodiphenylamine	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Naphthalene	1.3	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
3-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
4-Nitroaniline	ND	0.42		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Nitrobenzene	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2-Nitrophenol	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
4-Nitrophenol	ND	0.26		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Pentachlorophenol	ND	0.42		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Phenanthrene	0.86	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Phenol	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Pyrene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Pyridine	ND	0.52		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2,4,5-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
2,4,6-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/3/2014 9:21:38 PM	15682
Surr: 2-Fluorophenol	59.9	21-111		%REC	1	10/3/2014 9:21:38 PM	15682
Surr: Phenol-d5	65.9	23.1-117		%REC	1	10/3/2014 9:21:38 PM	15682
Surr: 2,4,6-Tribromophenol	32.2	22.7-88.9		%REC	1	10/3/2014 9:21:38 PM	15682
Surr: Nitrobenzene-d5	71.3	24.5-126		%REC	1	10/3/2014 9:21:38 PM	15682
Surr: 2-Fluorobiphenyl	70.9	21.2-129		%REC	1	10/3/2014 9:21:38 PM	15682
Surr: 4-Terphenyl-d14	75.9	39.4-107		%REC	1	10/3/2014 9:21:38 PM	15682
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Toluene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Ethylbenzene	0.54	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Methyl tert-butyl ether (MTBE)	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,2,4-Trimethylbenzene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,3,5-Trimethylbenzene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,2-Dichloroethane (EDC)	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,2-Dibromoethane (EDB)	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Naphthalene	2.4	0.20		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1-Methylnaphthalene	5.7	0.40		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
2-Methylnaphthalene	11	4.0		mg/Kg-dry	20	10/4/2014 2:14:10 PM	15674
Acetone	ND	1.5		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Bromobenzene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (24-26')

Project: GROUP 9

Collection Date: 9/30/2014 5:10:00 PM

Lab ID: 1410080-008

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Bromoform	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Bromomethane	ND	0.30		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
2-Butanone	ND	0.99		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Carbon disulfide	ND	0.99		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Carbon tetrachloride	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Chlorobenzene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Chloroethane	ND	0.20		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Chloroform	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Chloromethane	ND	0.30		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
2-Chlorotoluene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
4-Chlorotoluene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
cis-1,2-DCE	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
cis-1,3-Dichloropropene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,2-Dibromo-3-chloropropane	ND	0.20		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Dibromochloromethane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Dibromomethane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,2-Dichlorobenzene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,3-Dichlorobenzene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,4-Dichlorobenzene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Dichlorodifluoromethane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,1-Dichloroethane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,1-Dichloroethene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,2-Dichloropropane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,3-Dichloropropane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
2,2-Dichloropropane	ND	0.20		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,1-Dichloropropene	ND	0.20		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Hexachlorobutadiene	ND	0.20		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
2-Hexanone	ND	0.99		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Isopropylbenzene	0.13	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
4-Isopropyltoluene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
4-Methyl-2-pentanone	ND	0.99		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Methylene chloride	ND	0.30		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
n-Butylbenzene	0.64	0.30		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
n-Propylbenzene	0.80	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
sec-Butylbenzene	0.20	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Styrene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
tert-Butylbenzene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,1,1,2-Tetrachloroethane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410080

Date Reported: 10/29/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-17 (24-26')

Project: GROUP 9

Collection Date: 9/30/2014 5:10:00 PM

Lab ID: 1410080-008

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Tetrachloroethene (PCE)	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
trans-1,2-DCE	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
trans-1,3-Dichloropropene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,2,3-Trichlorobenzene	ND	0.20		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,2,4-Trichlorobenzene	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,1,1-Trichloroethane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,1,2-Trichloroethane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Trichloroethene (TCE)	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Trichlorofluoromethane	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
1,2,3-Trichloropropane	ND	0.20		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Vinyl chloride	ND	0.099		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Xylenes, Total	0.88	0.20		mg/Kg-dry	2	10/3/2014 5:45:05 PM	15674
Surr: Dibromofluoromethane	73.5	70-130		%REC	2	10/3/2014 5:45:05 PM	15674
Surr: 1,2-Dichloroethane-d4	80.6	70-130		%REC	2	10/3/2014 5:45:05 PM	15674
Surr: Toluene-d8	85.2	70-130		%REC	2	10/3/2014 5:45:05 PM	15674
Surr: 4-Bromofluorobenzene	112	70-130		%REC	2	10/3/2014 5:45:05 PM	15674

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Anatek Labs, Inc.

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

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

Batch #: 141003046
Project Name: 1410080

Analytical Results Report

Sample Number	141003046-001	Sampling Date	9/30/2014	Date/Time Received	10/3/2014 1:30 PM
Client Sample ID	1410080-001C / SWMU 13-27 (0-0.5')			Sampling Time	8:40 AM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.273	10/13/2014	CRW	EPA 335.4	
%moisture	11.5	Percent		10/6/2014	KJS	%moisture	

Sample Number	141003046-002	Sampling Date	9/30/2014	Date/Time Received	10/3/2014 1:30 PM
Client Sample ID	1410080-002C / SWMU 13-28 (0-0.5')			Sampling Time	9:15 AM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.246	10/13/2014	CRW	EPA 335.4	
%moisture	7.7	Percent		10/6/2014	KJS	%moisture	

Sample Number	141003046-003	Sampling Date	9/30/2014	Date/Time Received	10/3/2014 1:30 PM
Client Sample ID	1410080-003C / SWMU 13-29 (0-0.5')			Sampling Time	9:40 AM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.237	10/13/2014	CRW	EPA 335.4	
%moisture	10.2	Percent		10/6/2014	KJS	%moisture	

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

Batch #: 141003046
Project Name: 1410080

Analytical Results Report

Sample Number	141003046-004	Sampling Date	9/30/2014	Date/Time Received	10/3/2014	1:30 PM	
Client Sample ID	1410080-004C / SWMU 13 DUP 02			Sampling Time			
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.244	10/13/2014	CRW	EPA 335.4	
%moisture	11.9	Percent		10/6/2014	KJS	%moisture	

Sample Number	141003046-005	Sampling Date	9/30/2014	Date/Time Received	10/3/2014	1:30 PM	
Client Sample ID	1410080-005C / SWMU 13-17 (0-0.5')			Sampling Time	4:40 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.241	mg/Kg	0.216	10/14/2014	CRW	EPA 335.4	
%moisture	5.1	Percent		10/6/2014	KJS	%moisture	

Sample Number	141003046-006	Sampling Date	9/30/2014	Date/Time Received	10/3/2014	1:30 PM	
Client Sample ID	1410080-006C / SWMU 13-17 (0.5-2')			Sampling Time	4:50 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.235	10/14/2014	CRW	EPA 335.4	
%moisture	6.5	Percent		10/6/2014	KJS	%moisture	

Sample Number	141003046-007	Sampling Date	9/30/2014	Date/Time Received	10/3/2014	1:30 PM	
Client Sample ID	1410080-007C / SWMU 13-17 (6-8')			Sampling Time	5:05 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.276	10/14/2014	CRW	EPA 335.4	
%moisture	14.2	Percent		10/6/2014	KJS	%moisture	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

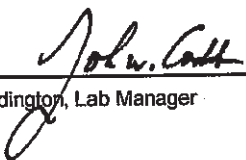
Batch #: 141003046
Project Name: 1410080

Analytical Results Report

Sample Number	141003046-008	Sampling Date	9/30/2014	Date/Time Received	10/3/2014 1:30 PM
Client Sample ID	1410080-008C / SWMU 13-17 (24-26')			Sampling Time	5:10 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.24	10/14/2014	CRW	EPA 335.4	
%moisture	4.8	Percent		10/6/2014	KJS	%moisture	

Authorized Signature


John Coddington, Lab Manager

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

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

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141003046
Project Name: 1410080

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.505	mg/kg	0.5	101.0	90-110	10/14/2014	10/14/2014
Cyanide	0.510	mg/kg	0.5	102.0	90-110	10/13/2014	10/13/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141003040-001	Cyanide	ND	12.5	mg/kg	12.3	101.6	90-110	10/14/2014	10/14/2014
141003046-004	Cyanide	ND	12.3	mg/kg	12.2	100.8	90-110	10/13/2014	10/13/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	12.7	mg/kg	12.3	103.3	1.6	0-25	10/14/2014	10/14/2014
Cyanide	12.5	mg/kg	12.2	102.5	1.6	0-25	10/13/2014	10/13/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	10/14/2014	10/14/2014
Cyanide	ND	mg/Kg	0.5	10/13/2014	10/13/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Monday, October 20, 2014

Page 1 of 1

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15671	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 15671			RunNo: 21605					
Prep Date:	10/2/2014	Analysis Date: 10/2/2014			SeqNo: 633783		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		87.2	57.9	140			

Sample ID	LCS-15671		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15671		RunNo: 21605					
Prep Date:	10/2/2014		Analysis Date: 10/2/2014		SeqNo: 633858		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.7	68.6	130			
Surr: DNOP	4.3		5.000		85.5	57.9	140			

Sample ID	1410080-001AMS		SampType: MS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	SWMU 13-27 (0-0.5')		Batch ID: 15671		RunNo: 21649					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635344		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	160	11	56.17	106.3	99.9	40.1	152			
Surr: DNOP	5.3		5.617		95.0	57.9	140			

Sample ID	1410080-001AMSD		SampType: MSD		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	SWMU 13-27 (0-0.5')		Batch ID: 15671		RunNo: 21649					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635345		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	140	11	56.34	106.3	53.0	40.1	152	17.6	32.1	
Surr: DNOP	5.4		5.634		95.6	57.9	140	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID MB-15650 MK	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: R21609			RunNo: 21609						
Prep Date:	Analysis Date: 10/2/2014			SeqNo: 634279		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		90.0	80	120			

Sample ID LCS-15650 MK	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: R21609			RunNo: 21609						
Prep Date:	Analysis Date: 10/2/2014			SeqNo: 634280		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	65.8	139			
Surr: BFB	980		1000		98.2	80	120			

Sample ID B26	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: R21609			RunNo: 21609						
Prep Date:	Analysis Date: 10/2/2014			SeqNo: 634288		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.8	80	120			

Sample ID 2.5UG GRO LCS	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: R21609			RunNo: 21609						
Prep Date:	Analysis Date: 10/2/2014			SeqNo: 634289		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	65.8	139			
Surr: BFB	970		1000		97.2	80	120			

Sample ID MB-15674 MK	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: R21650			RunNo: 21650						
Prep Date:	Analysis Date: 10/3/2014			SeqNo: 635786		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		90.0	80	120			

Sample ID LCS-15674 MK	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: R21650			RunNo: 21650						
Prep Date:	Analysis Date: 10/3/2014			SeqNo: 635787		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	LCS-15674 MK		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: R21650		RunNo: 21650					
Prep Date:			Analysis Date: 10/3/2014		SeqNo: 635787		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	65.8	139			
Surr: BFB	1000		1000		100	80	120			

Sample ID	MB-15674		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 15674		RunNo: 21650					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635810		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	900		1000		90.0	80	120			

Sample ID	LCS-15674		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 15674		RunNo: 21650					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635811		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		100	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15674		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS		Batch ID: 15674		RunNo: 21653					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635373		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15674		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15674		RunNo:	21653			
Prep Date:	10/2/2014		Analysis Date:	10/3/2014		SeqNo:	635373		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.40		0.5000		80.8	70	130			
Surr: 1,2-Dichloroethane-d4	0.39		0.5000		78.3	70	130			
Surr: Toluene-d8	0.49		0.5000		97.4	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		87.6	70	130			

Sample ID	ics-15674		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	LCSS		Batch ID:	15674		RunNo:	21653			
Prep Date:	10/2/2014		Analysis Date:	10/3/2014		SeqNo:	635374		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	107	70	130			
Toluene	0.97	0.050	1.000	0	96.8	70	130			
Chlorobenzene	1.0	0.050	1.000	0	101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15674		SampType: LCS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS		Batch ID: 15674		RunNo: 21653					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635374		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.99	0.050	1.000	0	98.9	60.5	160			
Trichloroethene (TCE)	0.88	0.050	1.000	0	88.2	58.8	139			
Surr: Dibromofluoromethane	0.40		0.5000		80.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.38		0.5000		75.3	70	130			
Surr: Toluene-d8	0.43		0.5000		86.2	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		87.2	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15691		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15691		RunNo: 21671					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635963		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00200								
Ethylbenzene	ND	0.00200								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00200								
1,2,4-Trimethylbenzene	ND	0.00200								
1,3,5-Trimethylbenzene	ND	0.00200								
1,2-Dichloroethane (EDC)	ND	0.00200								
1,2-Dibromoethane (EDB)	ND	0.00200								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00200								
Bromodichloromethane	ND	0.00200								
Bromoform	ND	0.00200								
Bromomethane	ND	0.00300								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00200								
Chlorobenzene	ND	0.00200								
Chloroethane	ND	0.00200								
Chloroform	ND	0.00200								
Chloromethane	ND	0.00200								
2-Chlorotoluene	ND	0.00200								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00200								
cis-1,2-DCE	ND	0.00200								
cis-1,3-Dichloropropene	ND	0.00200								
1,2-Dibromo-3-chloropropane	ND	0.00200								
Dibromochloromethane	ND	0.00200								
Dibromomethane	ND	0.00200								
1,2-Dichlorobenzene	ND	0.00200								
1,3-Dichlorobenzene	ND	0.00200								
1,4-Dichlorobenzene	ND	0.00200								
Dichlorodifluoromethane	ND	0.00200								
1,1-Dichloroethane	ND	0.00200								
1,1-Dichloroethene	ND	0.00200								
1,2-Dichloropropane	ND	0.00200								
1,3-Dichloropropane	ND	0.00200								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15691		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15691		RunNo: 21671					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635963		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.00200								
1,1-Dichloropropene	ND	0.00200								
Hexachlorobutadiene	ND	0.00200								
Isopropylbenzene	ND	0.00200								
4-Isopropyltoluene	ND	0.00200								
Methylene chloride	ND	0.00200								
n-Butylbenzene	ND	0.00200								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00200								
sec-Butylbenzene	ND	0.00200								
Styrene	ND	0.00200								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00200								
1,1,1,2-Tetrachloroethane	ND	0.00200								
1,1,2,2-Tetrachloroethane	ND	0.00200								
Tetrachloroethene (PCE)	ND	0.00200								
trans-1,2-DCE	ND	0.00200								
trans-1,3-Dichloropropene	ND	0.00200								
1,2,3-Trichlorobenzene	ND	0.00200								
1,2,4-Trichlorobenzene	ND	0.00200								
1,1,1-Trichloroethane	ND	0.00200								
1,1,2-Trichloroethane	ND	0.00200								
Trichloroethene (TCE)	ND	0.00200								
Trichlorofluoromethane	ND	0.00200								
1,2,3-Trichloropropane	ND	0.00200								
Vinyl chloride	ND	0.00200								
Surr: 1,2-Dichloroethane-d4	0.0198		0.02000		99.2	70	130			
Surr: 4-Bromofluorobenzene	0.0208		0.02000		104	65.3	135			
Surr: Dibromofluoromethane	0.0188		0.02000		94.2	70	130			
Surr: Toluene-d8	0.0205		0.02000		103	70	130			

Sample ID	lcs-15691		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15691		RunNo: 21671					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635966		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.00998	0.00200	0.01000	0	99.8	70	130			
Toluene	0.0102	0.00200	0.01000	0	102	70	130			
Chlorobenzene	0.00996	0.00200	0.01000	0	99.6	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15691		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15691		RunNo: 21671					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635966		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.00933	0.00200	0.01000	0	93.3	70	130			
Trichloroethene (TCE)	0.00990	0.00200	0.01000	0	99.0	61.6	131			
Surr: 1,2-Dichloroethane-d4	0.0202		0.02000		101	70	130			
Surr: 4-Bromofluorobenzene	0.0194		0.02000		97.1	65.3	135			
Surr: Dibromofluoromethane	0.0188		0.02000		93.9	70	130			
Surr: Toluene-d8	0.0207		0.02000		103	70	130			

Sample ID	mb-15728		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637384		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00200								
Ethylbenzene	ND	0.00200								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00200								
1,2,4-Trimethylbenzene	ND	0.00200								
1,3,5-Trimethylbenzene	ND	0.00200								
1,2-Dichloroethane (EDC)	ND	0.00200								
1,2-Dibromoethane (EDB)	ND	0.00200								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00200								
Bromodichloromethane	ND	0.00200								
Bromoform	ND	0.00200								
Bromomethane	ND	0.00300								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00200								
Chlorobenzene	ND	0.00200								
Chloroethane	ND	0.00200								
Chloroform	ND	0.00200								
Chloromethane	ND	0.00200								
2-Chlorotoluene	ND	0.00200								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00200								
cis-1,2-DCE	ND	0.00200								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15728		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637384		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	0.00200								
1,2-Dibromo-3-chloropropane	ND	0.00200								
Dibromochloromethane	ND	0.00200								
Dibromomethane	ND	0.00200								
1,2-Dichlorobenzene	ND	0.00200								
1,3-Dichlorobenzene	ND	0.00200								
1,4-Dichlorobenzene	ND	0.00200								
Dichlorodifluoromethane	ND	0.00200								
1,1-Dichloroethane	ND	0.00200								
1,1-Dichloroethene	ND	0.00200								
1,2-Dichloropropane	ND	0.00200								
1,3-Dichloropropane	ND	0.00200								
2,2-Dichloropropane	ND	0.00200								
1,1-Dichloropropene	ND	0.00200								
Hexachlorobutadiene	ND	0.00200								
Isopropylbenzene	ND	0.00200								
4-Isopropyltoluene	ND	0.00200								
Methylene chloride	ND	0.00200								
n-Butylbenzene	ND	0.00200								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00200								
sec-Butylbenzene	ND	0.00200								
Styrene	ND	0.00200								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00200								
1,1,1,2-Tetrachloroethane	ND	0.00200								
1,1,2,2-Tetrachloroethane	ND	0.00200								
Tetrachloroethene (PCE)	ND	0.00200								
trans-1,2-DCE	ND	0.00200								
trans-1,3-Dichloropropene	ND	0.00200								
1,2,3-Trichlorobenzene	ND	0.00200								
1,2,4-Trichlorobenzene	ND	0.00200								
1,1,1-Trichloroethane	ND	0.00200								
1,1,2-Trichloroethane	ND	0.00200								
Trichloroethene (TCE)	ND	0.00200								
Trichlorofluoromethane	ND	0.00200								
1,2,3-Trichloropropane	ND	0.00200								
Vinyl chloride	ND	0.00200								
Surr: 1,2-Dichloroethane-d4	0.0208		0.02000		104	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15728		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637384		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.0216		0.02000		108	65.3	135			
Surr: Dibromofluoromethane	0.0203		0.02000		102	70	130			
Surr: Toluene-d8	0.0210		0.02000		105	70	130			

Sample ID	lcs-15728		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637386		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0104	0.00200	0.01000	0	104	70	130			
Toluene	0.0100	0.00200	0.01000	0	100	70	130			
Chlorobenzene	0.0103	0.00200	0.01000	0	103	70	130			
1,1-Dichloroethene	0.00996	0.00200	0.01000	0	99.6	70	130			
Trichloroethene (TCE)	0.0105	0.00200	0.01000	0	105	61.6	131			
Surr: 1,2-Dichloroethane-d4	0.0211		0.02000		105	70	130			
Surr: 4-Bromofluorobenzene	0.0207		0.02000		104	65.3	135			
Surr: Dibromofluoromethane	0.0208		0.02000		104	70	130			
Surr: Toluene-d8	0.0200		0.02000		99.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15682		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBS		Batch ID: 15682		RunNo: 21673					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 636169		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15682	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15682	RunNo:	21673					
Prep Date:	10/2/2014	Analysis Date:	10/3/2014	SeqNo:	636169	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	3.0		3.330		89.6	21	111			
Surr: Phenol-d5	3.0		3.330		90.0	23.1	117			
Surr: 2,4,6-Tribromophenol	2.4		3.330		71.7	22.7	88.9			
Surr: Nitrobenzene-d5	1.7		1.670		102	24.5	126			
Surr: 2-Fluorobiphenyl	1.7		1.670		101	21.2	129			
Surr: 4-Terphenyl-d14	1.8		1.670		107	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15682		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSS		Batch ID: 15682			RunNo: 21673				
Prep Date:	10/2/2014		Analysis Date: 10/3/2014			SeqNo: 636170		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.6	0.20	1.670	0	95.5	50.7	110			
4-Chloro-3-methylphenol	3.5	0.50	3.330	0	106	47.8	107			
2-Chlorophenol	3.2	0.20	3.330	0	95.8	45.7	108			
1,4-Dichlorobenzene	1.4	0.20	1.670	0	86.5	46.1	112			
2,4-Dinitrotoluene	1.6	0.50	1.670	0	94.0	44.9	114			
N-Nitrosodi-n-propylamine	1.3	0.20	1.670	0	79.6	38.7	128			
4-Nitrophenol	2.9	0.25	3.330	0	86.0	40.2	103			
Pentachlorophenol	1.5	0.40	3.330	0	46.3	32.9	94			
Phenol	3.3	0.20	3.330	0	100	44.1	109			
Pyrene	1.6	0.20	1.670	0	94.4	51.9	109			
1,2,4-Trichlorobenzene	1.6	0.20	1.670	0	96.9	49.5	115			
Surr: 2-Fluorophenol	3.0		3.330		89.8	21	111			
Surr: Phenol-d5	3.2		3.330		95.9	23.1	117			
Surr: 2,4,6-Tribromophenol	2.6		3.330		78.6	22.7	88.9			
Surr: Nitrobenzene-d5	1.8		1.670		110	24.5	126			
Surr: 2-Fluorobiphenyl	1.7		1.670		104	21.2	129			
Surr: 4-Terphenyl-d14	1.8		1.670		108	39.4	107			S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15806		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 15806		RunNo: 21806					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640879		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.032								

Sample ID	1410080-001BMS		SampType: MS		TestCode: EPA Method 7471: Mercury					
Client ID:	SWMU 13-27 (0-0.5')		Batch ID: 15806		RunNo: 21806					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640928		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.43	0.18	0.1844	0.2518	99.2	75	125			

Sample ID	1410080-001BMSD		SampType:	MSD		TestCode:	EPA Method 7471: Mercury				
Client ID:	SWMU 13-27 (0-0.5')		Batch ID:	15806		RunNo:	21806				
Prep Date:	10/8/2014		Analysis Date:	10/9/2014		SeqNo:	640929		Units: mg/Kg-dry		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.33	0.19	0.1908	0.2518	40.2	75	125	27.9	20	RS	

Sample ID	LCS-15806			SampType:	LCS			TestCode:	EPA Method 7471: Mercury			
Client ID:	LCSS			Batch ID:	15806			RunNo:	21806			
Prep Date:	10/8/2014			Analysis Date:	10/9/2014			SeqNo:	641058		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Mercury	0.17	0.033	0.1667	0	103	80	120					

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410080

29-Oct-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15701		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	PBS		Batch ID:	15701		RunNo:	21664			
Prep Date:	10/3/2014		Analysis Date:	10/4/2014		SeqNo:	635631		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Lead	ND	0.25								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-15701		SampType:	LCS		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	LCSS		Batch ID:	15701		RunNo:	21664			
Prep Date:	10/3/2014		Analysis Date:	10/4/2014		SeqNo:	635632		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	24	2.5	25.00	0	95.3	80	120			
Arsenic	25	2.5	25.00	0	99.0	80	120			
Barium	25	0.10	25.00	0	98.0	80	120			
Beryllium	26	0.15	25.00	0	103	80	120			
Cadmium	24	0.10	25.00	0	96.8	80	120			
Chromium	24	0.30	25.00	0	96.4	80	120			
Cobalt	23	0.30	25.00	0	93.9	80	120			
Lead	23	0.25	25.00	0	93.6	80	120			
Nickel	24	0.50	25.00	0	94.7	80	120			
Selenium	24	2.5	25.00	0	95.8	80	120			
Silver	5.1	0.25	5.000	0	101	80	120			
Vanadium	26	2.5	25.00	0	103	80	120			
Zinc	24	2.5	25.00	0	95.3	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1410080

RcptNo: 1

Received by/date:

LM 10/02/14

Logged By: Anne Thorne

10/2/2014 6:50:00 AM

Anne Thorne

Completed By: Anne Thorne

10/2/2014

Anne Thorne

Reviewed By:

IO

10/02/2014

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?

Courier

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?

Yes ☒

No ☐

(Note discrepancies on chain of custody)

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?

Yes ☒

No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by:

Special Handling (if applicable)

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	1.3	Good	Yes			

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

☒ Standard ☐ Rush

Project Name:

Group 9

Project #:

Project Manager:

KELLY ROBINSON

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: 7

Container Type and #	Preservative Type
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Container

100

Sample Request ID

Matrix

Date _____ Time _____

1.30.14	1640 901L-SW4 13-17(0-0.5')
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A 4x4 grid with four arrows pointing in different directions: up, down, left, and right.

1650	SWMU 13-17 (0.5-2')
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1705	SWMU 13-17(6-8')
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1710	SWMU 13-17(24-26')
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→
→
→
→

Relinquished by:

Date:	Time:
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Date _____ Time _____

Christen L. Carter 10/1/14 1421

Date _____ Time _____

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15/11/2019

0600171

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

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 method 6010/6020
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyllead	SW-846 method 6010/6020
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

November 04, 2014

Kelly Robinson

Western Refining Southwest, Inc.
#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9

OrderNo.: 1410091

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/2/2014 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 1410091

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-30 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 10:30:00 AM

Lab ID: 1410091-001

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	11		mg/Kg-dry	1	10/3/2014 4:49:32 PM	15671
Motor Oil Range Organics (MRO)	ND	55		mg/Kg-dry	1	10/3/2014 4:49:32 PM	15671
Surr: DNOP	87.4	57.9-140		%REC	1	10/3/2014 4:49:32 PM	15671
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	2.7		mg/Kg-dry	1	10/3/2014 6:18:05 PM	R21650
Surr: BFB	90.3	80-120		%REC	1	10/3/2014 6:18:05 PM	R21650
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	11	1.0		wt%	1	10/2/2014 2:09:00 PM	R21638
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.17	0.038		mg/Kg-dry	1	10/9/2014 2:20:46 PM	15806
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.9		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Arsenic	3.8	2.9		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Barium	200	0.12		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Beryllium	0.45	0.17		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Cadmium	0.12	0.12		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Chromium	10	0.35		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Cobalt	4.3	0.35		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Lead	7.4	0.29		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Nickel	8.7	0.58		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Selenium	ND	2.9		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Silver	ND	0.29		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Vanadium	27	2.9		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
Zinc	92	2.9		mg/Kg-dry	1	10/4/2014 2:14:34 PM	15701
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
Acenaphthene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Acenaphthylene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Aniline	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Anthracene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Azobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Benz(a)anthracene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Benzo(a)pyrene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Benzo(b)fluoranthene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Benzo(g,h,i)perylene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Benzo(k)fluoranthene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Benzoic acid	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Benzyl alcohol	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410091

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-30 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 10:30:00 AM

Lab ID: 1410091-001

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC	
Bis(2-chloroethoxy)methane	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Bis(2-chloroethyl)ether	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Bis(2-chloroisopropyl)ether	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Bis(2-ethylhexyl)phthalate	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
4-Bromophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Butyl benzyl phthalate	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Carbazole	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
4-Chloro-3-methylphenol	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
4-Chloroaniline	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2-Chloronaphthalene	ND	0.28		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2-Chlorophenol	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
4-Chlorophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Chrysene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Di-n-butyl phthalate	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Di-n-octyl phthalate	ND	0.45		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Dibenz(a,h)anthracene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Dibenzofuran	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
1,2-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
1,3-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
1,4-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
3,3'-Dichlorobenzidine	ND	0.28		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Diethyl phthalate	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Dimethyl phthalate	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2,4-Dichlorophenol	ND	0.45		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2,4-Dimethylphenol	ND	0.34		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
4,6-Dinitro-2-methylphenol	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2,4-Dinitrophenol	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2,4-Dinitrotoluene	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2,6-Dinitrotoluene	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Fluoranthene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Fluorene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Hexachlorobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Hexachlorobutadiene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Hexachlorocyclopentadiene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Hexachloroethane	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Indeno(1,2,3-cd)pyrene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Isophorone	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
1-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682

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	Page 2 of 16
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410091

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-30 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 10:30:00 AM

Lab ID: 1410091-001

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: JDC
2-Methylphenol	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
3+4-Methylphenol	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
N-Nitrosodi-n-propylamine	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
N-Nitrosodiphenylamine	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Naphthalene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
3-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
4-Nitroaniline	ND	0.45		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Nitrobenzene	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2-Nitrophenol	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
4-Nitrophenol	ND	0.28		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Pentachlorophenol	ND	0.45		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Phenanthrene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Phenol	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Pyrene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Pyridine	ND	0.56		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
1,2,4-Trichlorobenzene	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2,4,5-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
2,4,6-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/3/2014 9:49:41 PM	15682
Surr: 2-Fluorophenol	73.5	21-111		%REC	1	10/3/2014 9:49:41 PM	15682
Surr: Phenol-d5	69.7	23.1-117		%REC	1	10/3/2014 9:49:41 PM	15682
Surr: 2,4,6-Tribromophenol	44.6	22.7-88.9		%REC	1	10/3/2014 9:49:41 PM	15682
Surr: Nitrobenzene-d5	82.3	24.5-126		%REC	1	10/3/2014 9:49:41 PM	15682
Surr: 2-Fluorobiphenyl	67.0	21.2-129		%REC	1	10/3/2014 9:49:41 PM	15682
Surr: 4-Terphenyl-d14	69.2	39.4-107		%REC	1	10/3/2014 9:49:41 PM	15682
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Toluene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Ethylbenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Xylenes, Total	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Methyl tert-butyl ether (MTBE)	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,2,4-Trimethylbenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,3,5-Trimethylbenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,2-Dichloroethane (EDC)	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,2-Dibromoethane (EDB)	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Naphthalene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1-Methylnaphthalene	ND	0.00331		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
2-Methylnaphthalene	ND	0.00331		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Acetone	0.0161	0.00828		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410091

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-30 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 10:30:00 AM

Lab ID: 1410091-001

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Bromodichloromethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Bromoform	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Bromomethane	ND	0.00248		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
2-Butanone	ND	0.00828		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Carbon tetrachloride	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Chlorobenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Chloroethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Chloroform	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Chloromethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
2-Chlorotoluene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Carbon disulfide	ND	0.00828		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
4-Chlorotoluene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
cis-1,2-DCE	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
cis-1,3-Dichloropropene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,2-Dibromo-3-chloropropane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Dibromochloromethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Dibromomethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,2-Dichlorobenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,3-Dichlorobenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,4-Dichlorobenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Dichlorodifluoromethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,1-Dichloroethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,1-Dichloroethene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,2-Dichloropropane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,3-Dichloropropane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
2,2-Dichloropropane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,1-Dichloropropene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Hexachlorobutadiene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Isopropylbenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
4-Isopropyltoluene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Methylene chloride	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
n-Butylbenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
2-Hexanone	ND	0.00828		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
n-Propylbenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
sec-Butylbenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Styrene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
4-Methyl-2-pentanone	ND	0.00828		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
tert-Butylbenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691

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	Page 4 of 16
	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	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410091

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-30 (0-0.5')

Project: GROUP 9

Collection Date: 9/30/2014 10:30:00 AM

Lab ID: 1410091-001

Matrix: SOIL

Received Date: 10/2/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,1,2,2-Tetrachloroethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Tetrachloroethene (PCE)	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
trans-1,2-DCE	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
trans-1,3-Dichloropropene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,2,3-Trichlorobenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,2,4-Trichlorobenzene	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,1,1-Trichloroethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,1,2-Trichloroethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Trichloroethene (TCE)	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Trichlorofluoromethane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
1,2,3-Trichloropropane	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Vinyl chloride	ND	0.00166		mg/Kg-dry	1	10/3/2014 7:44:23 PM	15691
Surr: 1,2-Dichloroethane-d4	110	70-130		%REC	1	10/3/2014 7:44:23 PM	15691
Surr: 4-Bromofluorobenzene	98.7	65.3-135		%REC	1	10/3/2014 7:44:23 PM	15691
Surr: Dibromofluoromethane	98.6	70-130		%REC	1	10/3/2014 7:44:23 PM	15691
Surr: Toluene-d8	104	70-130		%REC	1	10/3/2014 7:44:23 PM	15691

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Anatek Labs, Inc.

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

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

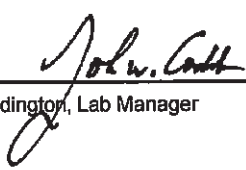
Batch #: 141003040
Project Name: 1410091

Analytical Results Report

Sample Number	141003040-001	Sampling Date	9/30/2014	Date/Time Received	10/3/2014 1:30 PM
Client Sample ID	1410091-001C / SWMU 13-30 (0-0.5)			Sampling Time	10:30 AM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.246	10/14/2014	CRW	EPA 335.4	
%moisture	12.6	Percent		10/6/2014	KJS	%moisture	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Monday, October 20, 2014

Page 1 of 1

Anatek Labs, Inc.

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

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

Batch #: 141003040
Project Name: 1410091

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.505	mg/kg	0.5	101.0	90-110	10/14/2014	10/14/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141003040-001	Cyanide	ND	12.5	mg/kg	12.3	101.6	90-110	10/14/2014	10/14/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	12.7	mg/kg	12.3	103.3	1.6	0-25	10/14/2014	10/14/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	10/14/2014	10/14/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0026; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Monday, October 20, 2014

Page 1 of 1

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Hall Environmental Analysis
4901 Hawkins NE
Albuquerque NM 87109

October 09, 2014

Project: 1410091

Submittal Date: 10/03/2014
Group Number: 1508433
PO Number: 1410091
State of Sample Origin: NM

Client Sample Description

1410091-001D Soil

Lancaster Labs (LL) #

7624279

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC
COPY TO

Hall Environmental Analysis

Attn: Lab

Respectfully Submitted,


Luz I. Garcia
Specialist

(717) 556-7262

Sample Description: 1410091-001D Soil
SWMU 13-30 (0-0.5')

LL Sample # SW 7624279
LL Group # 1508433
Account # 10738

Project Name: 1410091

Collected: 09/30/2014 10:30

Hall Environmental Analysis

Submitted: 10/03/2014 10:00

4901 Hawkins NE

Reported: 10/09/2014 10:35

Albuquerque NM 87109

10091

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
GC/MS	Organolead	SW-846 8270C	ug/kg	ug/kg	
04221	tetraethyl lead	78-00-2	< 190	190	1
Met Chemistry	SM 2540 G-1997		%	%	
00111	Moisture	n.a.	10.7	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
04221	Organolead in Soil by GC/MS	SW-846 8270C	1	14277SLB026	10/08/2014 02:57	Holly Berry	1
10498	TEL Soil Microwave	SW-846 3546	1	14277SLB026	10/06/2014 09:30	David S Schrum	1
00111	Moisture	SM 2540 G-1997	1	14281820004A	10/08/2014 18:14	Scott W Freisher	1

Quality Control Summary

Client Name: Hall Environmental Analysis
Reported: 10/09/14 at 10:35 AM

Group Number: 1508433

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 14277SLB026 tetraethyl lead	Sample number(s): 7624279 < 170	170	ug/kg	74		61-114		
Batch number: 14281820004A Moisture	Sample number(s): 7624279			100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 14277SLB026 tetraethyl lead	Sample number(s): 7624279 63	UNSPK: P623125 69	58-116	8	30				
Batch number: 14281820004A Moisture	Sample number(s): 7624279	BKG: P625574				17.2	17.2	0	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Organolead in Soil by GC/MS

Batch number: 14277SLB026

	<u>Nitrobenzene-d5</u>	<u>2-Fluorobiphenyl</u>	<u>Terphenyl-d14</u>
7624279	88	87	126
Blank	83	89	111
LCS	84	84	114
MS	78	79	89
MSD	77	76	94
Limits:	64-116	70-113	67-146

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.



CHAIN OF CUSTODY RECORD

1 | 1

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

10738/1508433/1624279

SUB CONTRACTOR: EUROFINS LANCAST		COMPANY: EUROFINS LANCASTER LAB		PHONE: (717) 656-2300	FAX:
ADDRESS: 2425 NEW HOLLAND PIKE		ACCOUNT #:		EMAIL:	
CITY, STATE, ZIP: LANCASTER, PA 17601					
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE
1	1410091-001D	SWMU 13-30 (0-0.5')	40ZGU	Soil	9/30/2014 10:30:00 AM
					# CONTAINERS: 1
					LEVEL 4 TETRAETHYL LEAD
ANALYTICAL COMMENTS					

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 10/2/2014	Time: 12:56 PM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 10-3-14	Time: 10:00
TAT: Standard			RUSH		
			Next BD ☐ 2nd BD ☐ 3rd BD ☐		
			Temp of samples: 5.4 °C Attempt to Cool? ☐		
			Comments:		
REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE					

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410091

04-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15671		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 15671		RunNo: 21605					
Prep Date:	10/2/2014		Analysis Date: 10/2/2014		SeqNo: 633783		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		87.2	57.9	140			

Sample ID	LCS-15671		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15671		RunNo: 21605					
Prep Date:	10/2/2014		Analysis Date: 10/2/2014		SeqNo: 633858		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.7	68.6	130			
Surr: DNOP	4.3		5.000		85.5	57.9	140			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410091

04-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15674 MK		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: R21650		RunNo: 21650					
Prep Date:			Analysis Date: 10/3/2014		SeqNo: 635786		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		90.0	80	120			

Sample ID	LCS-15674 MK		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: R21650		RunNo: 21650					
Prep Date:			Analysis Date: 10/3/2014		SeqNo: 635787		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	65.8	139			
Surr: BFB	1000		1000		100	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410091

04-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15691		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15691		RunNo: 21671					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635963		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00200								
Ethylbenzene	ND	0.00200								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00200								
1,2,4-Trimethylbenzene	ND	0.00200								
1,3,5-Trimethylbenzene	ND	0.00200								
1,2-Dichloroethane (EDC)	ND	0.00200								
1,2-Dibromoethane (EDB)	ND	0.00200								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00200								
Bromodichloromethane	ND	0.00200								
Bromoform	ND	0.00200								
Bromomethane	ND	0.00300								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00200								
Chlorobenzene	ND	0.00200								
Chloroethane	ND	0.00200								
Chloroform	ND	0.00200								
Chloromethane	ND	0.00200								
2-Chlorotoluene	ND	0.00200								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00200								
cis-1,2-DCE	ND	0.00200								
cis-1,3-Dichloropropene	ND	0.00200								
1,2-Dibromo-3-chloropropane	ND	0.00200								
Dibromochloromethane	ND	0.00200								
Dibromomethane	ND	0.00200								
1,2-Dichlorobenzene	ND	0.00200								
1,3-Dichlorobenzene	ND	0.00200								
1,4-Dichlorobenzene	ND	0.00200								
Dichlorodifluoromethane	ND	0.00200								
1,1-Dichloroethane	ND	0.00200								
1,1-Dichloroethene	ND	0.00200								
1,2-Dichloropropane	ND	0.00200								
1,3-Dichloropropane	ND	0.00200								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410091

04-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15691		SampType:	MBLK		TestCode:	Method 8260B/5035LOW: VOLATILES			
Client ID:	PBS		Batch ID:	15691		RunNo:	21671			
Prep Date:	10/2/2014		Analysis Date:	10/3/2014		SeqNo:	635963		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.00200								
1,1-Dichloropropene	ND	0.00200								
Hexachlorobutadiene	ND	0.00200								
Isopropylbenzene	ND	0.00200								
4-Isopropyltoluene	ND	0.00200								
Methylene chloride	ND	0.00200								
n-Butylbenzene	ND	0.00200								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00200								
sec-Butylbenzene	ND	0.00200								
Styrene	ND	0.00200								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00200								
1,1,1,2-Tetrachloroethane	ND	0.00200								
1,1,2,2-Tetrachloroethane	ND	0.00200								
Tetrachloroethene (PCE)	ND	0.00200								
trans-1,2-DCE	ND	0.00200								
trans-1,3-Dichloropropene	ND	0.00200								
1,2,3-Trichlorobenzene	ND	0.00200								
1,2,4-Trichlorobenzene	ND	0.00200								
1,1,1-Trichloroethane	ND	0.00200								
1,1,2-Trichloroethane	ND	0.00200								
Trichloroethene (TCE)	ND	0.00200								
Trichlorofluoromethane	ND	0.00200								
1,2,3-Trichloropropane	ND	0.00200								
Vinyl chloride	ND	0.00200								
Surr: 1,2-Dichloroethane-d4	0.0198		0.02000		99.2	70	130			
Surr: 4-Bromofluorobenzene	0.0208		0.02000		104	65.3	135			
Surr: Dibromofluoromethane	0.0188		0.02000		94.2	70	130			
Surr: Toluene-d8	0.0205		0.02000		103	70	130			

Sample ID	ics-15691		SampType:	LCS		TestCode:	Method 8260B/5035LOW: VOLATILES			
Client ID:	LCSS		Batch ID:	15691		RunNo:	21671			
Prep Date:	10/2/2014		Analysis Date:	10/3/2014		SeqNo:	635966		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.00998	0.00200	0.01000	0	99.8	70	130			
Toluene	0.0102	0.00200	0.01000	0	102	70	130			
Chlorobenzene	0.00996	0.00200	0.01000	0	99.6	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410091

04-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15691		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15691		RunNo: 21671					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 635966		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.00933	0.00200	0.01000	0	93.3	70	130			
Trichloroethene (TCE)	0.00990	0.00200	0.01000	0	99.0	61.6	131			
Surr: 1,2-Dichloroethane-d4	0.0202		0.02000		101	70	130			
Surr: 4-Bromofluorobenzene	0.0194		0.02000		97.1	65.3	135			
Surr: Dibromofluoromethane	0.0188		0.02000		93.9	70	130			
Surr: Toluene-d8	0.0207		0.02000		103	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410091

04-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15682		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBS		Batch ID: 15682		RunNo: 21673					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 636169		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410091

04-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15682	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15682	RunNo:	21673					
Prep Date:	10/2/2014	Analysis Date:	10/3/2014	SeqNo:	636169	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	3.0		3.330		89.6	21	111			
Surr: Phenol-d5	3.0		3.330		90.0	23.1	117			
Surr: 2,4,6-Tribromophenol	2.4		3.330		71.7	22.7	88.9			
Surr: Nitrobenzene-d5	1.7		1.670		102	24.5	126			
Surr: 2-Fluorobiphenyl	1.7		1.670		101	21.2	129			
Surr: 4-Terphenyl-d14	1.8		1.670		107	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410091

04-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15682		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 15682		RunNo: 21673					
Prep Date:	10/2/2014		Analysis Date: 10/3/2014		SeqNo: 636170		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.6	0.20	1.670	0	95.5	50.7	110			
4-Chloro-3-methylphenol	3.5	0.50	3.330	0	106	47.8	107			
2-Chlorophenol	3.2	0.20	3.330	0	95.8	45.7	108			
1,4-Dichlorobenzene	1.4	0.20	1.670	0	86.5	46.1	112			
2,4-Dinitrotoluene	1.6	0.50	1.670	0	94.0	44.9	114			
N-Nitrosodi-n-propylamine	1.3	0.20	1.670	0	79.6	38.7	128			
4-Nitrophenol	2.9	0.25	3.330	0	86.0	40.2	103			
Pentachlorophenol	1.5	0.40	3.330	0	46.3	32.9	94			
Phenol	3.3	0.20	3.330	0	100	44.1	109			
Pyrene	1.6	0.20	1.670	0	94.4	51.9	109			
1,2,4-Trichlorobenzene	1.6	0.20	1.670	0	96.9	49.5	115			
Surr: 2-Fluorophenol	3.0		3.330		89.8	21	111			
Surr: Phenol-d5	3.2		3.330		95.9	23.1	117			
Surr: 2,4,6-Tribromophenol	2.6		3.330		78.6	22.7	88.9			
Surr: Nitrobenzene-d5	1.8		1.670		110	24.5	126			
Surr: 2-Fluorobiphenyl	1.7		1.670		104	21.2	129			
Surr: 4-Terphenyl-d14	1.8		1.670		108	39.4	107			S

Sample ID	mb-15725		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBS		Batch ID: 15725		RunNo: 21852					
Prep Date:	10/6/2014		Analysis Date: 10/13/2014		SeqNo: 642289		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	3.4		3.330		103	21	111			
Surr: Phenol-d5	3.4		3.330		102	23.1	117			
Surr: 2,4,6-Tribromophenol	3.0		3.330		88.7	22.7	88.9			
Surr: Nitrobenzene-d5	1.9		1.670		111	24.5	126			
Surr: 2-Fluorobiphenyl	2.0		1.670		121	21.2	129			
Surr: 4-Terphenyl-d14	1.7		1.670		103	39.4	107			

Sample ID	Ics-15725			SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSS			Batch ID: 15725		RunNo: 21852				
Prep Date:	10/6/2014			Analysis Date: 10/13/2014		SeqNo: 642291		Units: %REC		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	3.0		3.330		91.5	21	111			
Surr: Phenol-d5	3.2		3.330		97.1	23.1	117			
Surr: 2,4,6-Tribromophenol	2.9		3.330		85.9	22.7	88.9			
Surr: Nitrobenzene-d5	1.9		1.670		111	24.5	126			
Surr: 2-Fluorobiphenyl	1.8		1.670		110	21.2	129			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410091

04-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15725		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 15725		RunNo: 21852					
Prep Date:	10/6/2014		Analysis Date: 10/13/2014		SeqNo: 642291		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	1.6		1.670		97.4	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410091

04-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15806		SampType:	MBLK		TestCode:	EPA Method 7471: Mercury				
Client ID:	PBS		Batch ID:	15806		RunNo:	21806				
Prep Date:	10/8/2014		Analysis Date:	10/9/2014		SeqNo:	640879		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercurv	ND	0.032									

Sample ID	LCS-15806		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 15806		RunNo: 21806					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 641058		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	103	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410091

04-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15701		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	PBS		Batch ID:	15701		RunNo:	21664			
Prep Date:	10/3/2014		Analysis Date:	10/4/2014		SeqNo:	635631		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Lead	ND	0.25								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-15701		SampType:	LCS		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	LCSS		Batch ID:	15701		RunNo:	21664			
Prep Date:	10/3/2014		Analysis Date:	10/4/2014		SeqNo:	635632		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	24	2.5	25.00	0	95.3	80	120			
Arsenic	25	2.5	25.00	0	99.0	80	120			
Barium	25	0.10	25.00	0	98.0	80	120			
Beryllium	26	0.15	25.00	0	103	80	120			
Cadmium	24	0.10	25.00	0	96.8	80	120			
Chromium	24	0.30	25.00	0	96.4	80	120			
Cobalt	23	0.30	25.00	0	93.9	80	120			
Lead	23	0.25	25.00	0	93.6	80	120			
Nickel	24	0.50	25.00	0	94.7	80	120			
Selenium	24	2.5	25.00	0	95.8	80	120			
Silver	5.1	0.25	5.000	0	101	80	120			
Vanadium	26	2.5	25.00	0	103	80	120			
Zinc	24	2.5	25.00	0	95.3	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1410091

RcptNo: 1

Received by/date:

LM 10/02/14

Logged By: Anne Thorne

10/2/2014 6:50:00 AM

Anne Thorne

Completed By: Anne Thorne

10/2/2014

Anne Thorne

Reviewed By:

IO

10/02/2014

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? Courier

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:

(<2 or >12 unless noted)

Adjusted?

Checked by:

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	1.3	Good	Yes			

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 3060A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl lead	SW-846 method 8270C
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

November 05, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9

OrderNo.: 1410212

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/4/2014 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
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1410212
Date: 11/5/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9

Surrogate recoveries with an "S" flag have poor or elevated recoveries due to matrix interferences and/or sample dilution.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6 (0.5-2')

Project: GROUP 9

Collection Date: 10/3/2014 10:00:00 AM

Lab ID: 1410212-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	70	11		mg/Kg-dry	1	10/8/2014 3:08:36 AM	15712
Motor Oil Range Organics (MRO)	110	55		mg/Kg-dry	1	10/8/2014 3:08:36 AM	15712
Surr: DNOP	91.4	57.9-140		%REC	1	10/8/2014 3:08:36 AM	15712
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	5.1	3.8		mg/Kg-dry	1	10/8/2014 9:55:41 PM	R21756
Surr: BFB	121	80-120	S	%REC	1	10/8/2014 9:55:41 PM	R21756
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	11	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.036		mg/Kg-dry	1	10/17/2014 12:43:20 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.9		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Arsenic	7.2	2.9		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Barium	210	0.11		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Beryllium	0.55	0.17		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Cadmium	0.43	0.11		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Chromium	8.1	0.34		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Cobalt	5.2	0.34		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Lead	6.6	0.29		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Nickel	10	0.57		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Selenium	ND	2.9		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Silver	ND	0.29		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Vanadium	30	2.9		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
Zinc	54	2.9		mg/Kg-dry	1	10/10/2014 12:38:41 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Acenaphthylene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Aniline	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Anthracene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Azobenzene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Benz(a)anthracene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Benzo(a)pyrene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Benzo(b)fluoranthene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Benzo(g,h,i)perylene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Benzo(k)fluoranthene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Benzoic acid	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Benzyl alcohol	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6 (0.5-2')

Project: GROUP 9

Collection Date: 10/3/2014 10:00:00 AM

Lab ID: 1410212-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Bis(2-chloroethyl)ether	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Bis(2-chloroisopropyl)ether	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Bis(2-ethylhexyl)phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
4-Bromophenyl phenyl ether	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Butyl benzyl phthalate	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Carbazole	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
4-Chloro-3-methylphenol	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
4-Chloroaniline	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2-Chloronaphthalene	ND	0.56		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2-Chlorophenol	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
4-Chlorophenyl phenyl ether	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Chrysene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Di-n-butyl phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Di-n-octyl phthalate	ND	0.90		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Dibenz(a,h)anthracene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Dibenzofuran	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
1,2-Dichlorobenzene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
1,3-Dichlorobenzene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
1,4-Dichlorobenzene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
3,3'-Dichlorobenzidine	ND	0.56		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Diethyl phthalate	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Dimethyl phthalate	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2,4-Dichlorophenol	ND	0.90		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2,4-Dimethylphenol	ND	0.67		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
4,6-Dinitro-2-methylphenol	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2,4-Dinitrophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2,4-Dinitrotoluene	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2,6-Dinitrotoluene	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Fluoranthene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Fluorene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Hexachlorobenzene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Hexachlorobutadiene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Hexachlorocyclopentadiene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Hexachloroethane	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Indeno(1,2,3-cd)pyrene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Isophorone	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
1-Methylnaphthalene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2-Methylnaphthalene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725

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	Page 3 of 31
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6 (0.5-2')

Project: GROUP 9

Collection Date: 10/3/2014 10:00:00 AM

Lab ID: 1410212-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
3+4-Methylphenol	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
N-Nitrosodi-n-propylamine	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
N-Nitrosodiphenylamine	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Naphthalene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2-Nitroaniline	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
3-Nitroaniline	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
4-Nitroaniline	ND	0.90		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Nitrobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2-Nitrophenol	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
4-Nitrophenol	ND	0.56		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Pentachlorophenol	ND	1.6		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Phenanthrene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Phenol	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Pyrene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Pyridine	ND	1.1		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
1,2,4-Trichlorobenzene	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2,4,5-Trichlorophenol	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
2,4,6-Trichlorophenol	ND	0.45		mg/Kg-dry	1	10/13/2014 5:55:47 PM	15725
Surr: 2-Fluorophenol	84.1	21-111		%REC	1	10/13/2014 5:55:47 PM	15725
Surr: Phenol-d5	82.3	23.1-117		%REC	1	10/13/2014 5:55:47 PM	15725
Surr: 2,4,6-Tribromophenol	49.9	22.7-88.9		%REC	1	10/13/2014 5:55:47 PM	15725
Surr: Nitrobenzene-d5	87.1	24.5-126		%REC	1	10/13/2014 5:55:47 PM	15725
Surr: 2-Fluorobiphenyl	103	21.2-129		%REC	1	10/13/2014 5:55:47 PM	15725
Surr: 4-Terphenyl-d14	80.5	39.4-107		%REC	1	10/13/2014 5:55:47 PM	15725
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	0.00399	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Toluene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Ethylbenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Xylenes, Total	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Methyl tert-butyl ether (MTBE)	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,2,4-Trimethylbenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,3,5-Trimethylbenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,2-Dichloroethane (EDC)	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,2-Dibromoethane (EDB)	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Naphthalene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1-Methylnaphthalene	ND	0.00435		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
2-Methylnaphthalene	ND	0.00435		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Acetone	0.147	0.0109		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6 (0.5-2')

Project: GROUP 9

Collection Date: 10/3/2014 10:00:00 AM

Lab ID: 1410212-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Bromodichloromethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Bromoform	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Bromomethane	ND	0.00326		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
2-Butanone	0.0436	0.0109		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Carbon tetrachloride	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Chlorobenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Chloroethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Chloroform	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Chloromethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
2-Chlorotoluene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Carbon disulfide	ND	0.0109		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
4-Chlorotoluene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
cis-1,2-DCE	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
cis-1,3-Dichloropropene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,2-Dibromo-3-chloropropane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Dibromochloromethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Dibromomethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,2-Dichlorobenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,3-Dichlorobenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,4-Dichlorobenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Dichlorodifluoromethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,1-Dichloroethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,1-Dichloroethene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,2-Dichloropropane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,3-Dichloropropane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
2,2-Dichloropropane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,1-Dichloropropene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Hexachlorobutadiene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Isopropylbenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
4-Isopropyltoluene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Methylene chloride	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
n-Butylbenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
2-Hexanone	ND	0.0109		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
n-Propylbenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
sec-Butylbenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Styrene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
4-Methyl-2-pentanone	ND	0.0109		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
tert-Butylbenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6 (0.5-2')

Project: GROUP 9

Collection Date: 10/3/2014 10:00:00 AM

Lab ID: 1410212-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,1,2,2-Tetrachloroethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Tetrachloroethene (PCE)	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
trans-1,2-DCE	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
trans-1,3-Dichloropropene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,2,3-Trichlorobenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,2,4-Trichlorobenzene	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,1,1-Trichloroethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,1,2-Trichloroethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Trichloroethene (TCE)	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Trichlorofluoromethane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
1,2,3-Trichloropropane	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Vinyl chloride	ND	0.00217		mg/Kg-dry	1	10/6/2014 1:44:52 PM	15728
Surr: 1,2-Dichloroethane-d4	108	70-130		%REC	1	10/6/2014 1:44:52 PM	15728
Surr: 4-Bromofluorobenzene	110	65.3-135		%REC	1	10/6/2014 1:44:52 PM	15728
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/6/2014 1:44:52 PM	15728
Surr: Toluene-d8	99.1	70-130		%REC	1	10/6/2014 1:44:52 PM	15728

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	Page 6 of 31
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6 (10-12')

Project: GROUP 9

Collection Date: 10/3/2014 11:15:00 AM

Lab ID: 1410212-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	11		mg/Kg-dry	1	10/8/2014 3:38:31 AM	15712
Motor Oil Range Organics (MRO)	ND	57		mg/Kg-dry	1	10/8/2014 3:38:31 AM	15712
Surr: DNOP	99.6	57.9-140		%REC	1	10/8/2014 3:38:31 AM	15712
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg-dry	1	10/8/2014 11:25:57 PM	R21756
Surr: BFB	87.0	80-120		%REC	1	10/8/2014 11:25:57 PM	R21756
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	12	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.035		mg/Kg-dry	1	10/17/2014 12:45:06 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.9		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Arsenic	3.8	2.9		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Barium	160	0.12		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Beryllium	0.58	0.18		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Cadmium	ND	0.12		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Chromium	7.3	0.35		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Cobalt	4.9	0.35		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Lead	4.7	0.29		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Nickel	7.6	0.58		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Selenium	ND	2.9		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Silver	ND	0.29		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Vanadium	24	2.9		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
Zinc	31	2.9		mg/Kg-dry	1	10/10/2014 12:39:55 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Acenaphthylene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Aniline	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Anthracene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Azobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Benz(a)anthracene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Benzo(a)pyrene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Benzo(b)fluoranthene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Benzo(g,h,i)perylene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Benzo(k)fluoranthene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Benzoic acid	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Benzyl alcohol	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6 (10-12')

Project: GROUP 9

Collection Date: 10/3/2014 11:15:00 AM

Lab ID: 1410212-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Bis(2-chloroethyl)ether	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Bis(2-chloroisopropyl)ether	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Bis(2-ethylhexyl)phthalate	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
4-Bromophenyl phenyl ether	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Butyl benzyl phthalate	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Carbazole	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
4-Chloro-3-methylphenol	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
4-Chloroaniline	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2-Chloronaphthalene	ND	0.29		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2-Chlorophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
4-Chlorophenyl phenyl ether	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Chrysene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Di-n-butyl phthalate	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Di-n-octyl phthalate	ND	0.46		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Dibenz(a,h)anthracene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Dibenzofuran	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
1,2-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
1,3-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
1,4-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
3,3'-Dichlorobenzidine	ND	0.29		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Diethyl phthalate	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Dimethyl phthalate	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2,4-Dichlorophenol	ND	0.46		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2,4-Dimethylphenol	ND	0.35		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
4,6-Dinitro-2-methylphenol	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2,4-Dinitrophenol	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2,4-Dinitrotoluene	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2,6-Dinitrotoluene	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Fluoranthene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Fluorene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Hexachlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Hexachlorobutadiene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Hexachlorocyclopentadiene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Hexachloroethane	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Indeno(1,2,3-cd)pyrene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Isophorone	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
1-Methylnaphthalene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2-Methylnaphthalene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725

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	Page 8 of 31
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6 (10-12')

Project: GROUP 9

Collection Date: 10/3/2014 11:15:00 AM

Lab ID: 1410212-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
3+4-Methylphenol	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
N-Nitrosodi-n-propylamine	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
N-Nitrosodiphenylamine	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Naphthalene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2-Nitroaniline	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
3-Nitroaniline	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
4-Nitroaniline	ND	0.46		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Nitrobenzene	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2-Nitrophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
4-Nitrophenol	ND	0.29		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Pentachlorophenol	ND	0.81		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Phenanthrene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Phenol	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Pyrene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Pyridine	ND	0.58		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
1,2,4-Trichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2,4,5-Trichlorophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
2,4,6-Trichlorophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 5:07:19 AM	15725
Surr: 2-Fluorophenol	61.7	21-111		%REC	1	10/13/2014 5:07:19 AM	15725
Surr: Phenol-d5	65.0	23.1-117		%REC	1	10/13/2014 5:07:19 AM	15725
Surr: 2,4,6-Tribromophenol	46.2	22.7-88.9		%REC	1	10/13/2014 5:07:19 AM	15725
Surr: Nitrobenzene-d5	69.3	24.5-126		%REC	1	10/13/2014 5:07:19 AM	15725
Surr: 2-Fluorobiphenyl	70.8	21.2-129		%REC	1	10/13/2014 5:07:19 AM	15725
Surr: 4-Terphenyl-d14	70.8	39.4-107		%REC	1	10/13/2014 5:07:19 AM	15725
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	0.00247	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Toluene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Ethylbenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Xylenes, Total	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Methyl tert-butyl ether (MTBE)	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,2,4-Trimethylbenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,3,5-Trimethylbenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,2-Dichloroethane (EDC)	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,2-Dibromoethane (EDB)	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Naphthalene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1-Methylnaphthalene	ND	0.00417		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
2-Methylnaphthalene	ND	0.00417		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Acetone	0.0337	0.0104		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728

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	Page 9 of 31
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6 (10-12')

Project: GROUP 9

Collection Date: 10/3/2014 11:15:00 AM

Lab ID: 1410212-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Bromodichloromethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Bromoform	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Bromomethane	ND	0.00313		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
2-Butanone	ND	0.0104		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Carbon tetrachloride	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Chlorobenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Chloroethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Chloroform	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Chloromethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
2-Chlorotoluene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Carbon disulfide	ND	0.0104		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
4-Chlorotoluene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
cis-1,2-DCE	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
cis-1,3-Dichloropropene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,2-Dibromo-3-chloropropane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Dibromochloromethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Dibromomethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,2-Dichlorobenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,3-Dichlorobenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,4-Dichlorobenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Dichlorodifluoromethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,1-Dichloroethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,1-Dichloroethene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,2-Dichloropropane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,3-Dichloropropane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
2,2-Dichloropropane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,1-Dichloropropene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Hexachlorobutadiene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Isopropylbenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
4-Isopropyltoluene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Methylene chloride	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
n-Butylbenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
2-Hexanone	ND	0.0104		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
n-Propylbenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
sec-Butylbenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Styrene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
4-Methyl-2-pentanone	ND	0.0104		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
tert-Butylbenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6 (10-12')

Project: GROUP 9

Collection Date: 10/3/2014 11:15:00 AM

Lab ID: 1410212-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,1,2,2-Tetrachloroethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Tetrachloroethene (PCE)	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
trans-1,2-DCE	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
trans-1,3-Dichloropropene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,2,3-Trichlorobenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,2,4-Trichlorobenzene	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,1,1-Trichloroethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,1,2-Trichloroethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Trichloroethene (TCE)	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Trichlorofluoromethane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
1,2,3-Trichloropropane	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Vinyl chloride	ND	0.00209		mg/Kg-dry	1	10/6/2014 3:10:51 PM	15728
Surr: 1,2-Dichloroethane-d4	115	70-130		%REC	1	10/6/2014 3:10:51 PM	15728
Surr: 4-Bromofluorobenzene	102	65.3-135		%REC	1	10/6/2014 3:10:51 PM	15728
Surr: Dibromofluoromethane	102	70-130		%REC	1	10/6/2014 3:10:51 PM	15728
Surr: Toluene-d8	100	70-130		%REC	1	10/6/2014 3:10:51 PM	15728

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6(24-26')

Project: GROUP 9

Collection Date: 10/3/2014 11:20:00 AM

Lab ID: 1410212-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	940	100		mg/Kg-dry	10	10/8/2014 11:59:53 AM	15712
Motor Oil Range Organics (MRO)	ND	520		mg/Kg-dry	10	10/8/2014 11:59:53 AM	15712
Surr: DNOP	0	57.9-140	S	%REC	10	10/8/2014 11:59:53 AM	15712
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	29	10		mg/Kg-dry	2	10/8/2014 12:07:31 AM	15739
Surr: BFB	193	80-120	S	%REC	2	10/8/2014 12:07:31 AM	15739
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	3.1	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.034		mg/Kg-dry	1	10/17/2014 12:46:53 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.6		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Arsenic	ND	2.6		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Barium	250	0.10		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Beryllium	ND	0.15		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Cadmium	ND	0.10		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Chromium	5.4	0.31		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Cobalt	5.9	0.31		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Lead	0.95	0.26		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Nickel	3.9	0.52		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Selenium	ND	2.6		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Silver	ND	0.26		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Vanadium	18	2.6		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
Zinc	17	2.6		mg/Kg-dry	1	10/10/2014 12:41:12 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Acenaphthylene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Aniline	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Azobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Benz(a)anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Benzo(a)pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Benzo(b)fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Benzo(g,h,i)perylene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Benzo(k)fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Benzoic acid	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Benzyl alcohol	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6(24-26')

Project: GROUP 9

Collection Date: 10/3/2014 11:20:00 AM

Lab ID: 1410212-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Bis(2-chloroethyl)ether	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Bis(2-chloroisopropyl)ether	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Bis(2-ethylhexyl)phthalate	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
4-Bromophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Butyl benzyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Carbazole	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
4-Chloro-3-methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
4-Chloroaniline	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2-Chloronaphthalene	ND	0.26		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2-Chlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
4-Chlorophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Chrysene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Di-n-butyl phthalate	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Di-n-octyl phthalate	ND	0.42		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Dibenz(a,h)anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Dibenzofuran	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
3,3'-Dichlorobenzidine	ND	0.26		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Diethyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Dimethyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2,4-Dichlorophenol	ND	0.42		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2,4-Dimethylphenol	ND	0.31		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
4,6-Dinitro-2-methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2,4-Dinitrophenol	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2,4-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2,6-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Fluorene	0.39	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Hexachlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Hexachlorocyclopentadiene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Hexachloroethane	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Indeno(1,2,3-cd)pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Isophorone	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
1-Methylnaphthalene	2.4	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2-Methylnaphthalene	3.7	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6(24-26')

Project: GROUP 9

Collection Date: 10/3/2014 11:20:00 AM

Lab ID: 1410212-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
3+4-Methylphenol	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
N-Nitrosodi-n-propylamine	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
N-Nitrosodiphenylamine	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Naphthalene	0.66	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
3-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
4-Nitroaniline	ND	0.42		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Nitrobenzene	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2-Nitrophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
4-Nitrophenol	ND	0.26		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Pentachlorophenol	ND	0.73		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Phenanthrene	1.1	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Phenol	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Pyridine	ND	0.52		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2,4,5-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
2,4,6-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 5:34:29 AM	15725
Surr: 2-Fluorophenol	80.7	21-111		%REC	1	10/13/2014 5:34:29 AM	15725
Surr: Phenol-d5	84.6	23.1-117		%REC	1	10/13/2014 5:34:29 AM	15725
Surr: 2,4,6-Tribromophenol	53.7	22.7-88.9		%REC	1	10/13/2014 5:34:29 AM	15725
Surr: Nitrobenzene-d5	109	24.5-126		%REC	1	10/13/2014 5:34:29 AM	15725
Surr: 2-Fluorobiphenyl	98.1	21.2-129		%REC	1	10/13/2014 5:34:29 AM	15725
Surr: 4-Terphenyl-d14	90.6	39.4-107		%REC	1	10/13/2014 5:34:29 AM	15725
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Toluene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Ethylbenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,2,4-Trimethylbenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Naphthalene	ND	1.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1-Methylnaphthalene	2.7	2.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
2-Methylnaphthalene	4.2	2.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Acetone	ND	7.5		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Bromobenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6(24-26')

Project: GROUP 9

Collection Date: 10/3/2014 11:20:00 AM

Lab ID: 1410212-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Bromoform	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Bromomethane	ND	1.5		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
2-Butanone	ND	5.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Carbon disulfide	ND	5.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Carbon tetrachloride	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Chlorobenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Chloroethane	ND	1.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Chloroform	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Chloromethane	ND	1.5		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
2-Chlorotoluene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
4-Chlorotoluene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
cis-1,2-DCE	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
cis-1,3-Dichloropropene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Dibromochloromethane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Dibromomethane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,2-Dichlorobenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,3-Dichlorobenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,4-Dichlorobenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Dichlorodifluoromethane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,1-Dichloroethane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,1-Dichloroethene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,2-Dichloropropane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,3-Dichloropropane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
2,2-Dichloropropane	ND	1.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,1-Dichloropropene	ND	1.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Hexachlorobutadiene	ND	1.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
2-Hexanone	ND	5.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Isopropylbenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
4-Isopropyltoluene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
4-Methyl-2-pentanone	ND	5.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Methylene chloride	ND	1.5		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
n-Butylbenzene	ND	1.5		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
n-Propylbenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
sec-Butylbenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Styrene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
tert-Butylbenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410212

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-6(24-26')

Project: GROUP 9

Collection Date: 10/3/2014 11:20:00 AM

Lab ID: 1410212-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Tetrachloroethene (PCE)	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
trans-1,2-DCE	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
trans-1,3-Dichloropropene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,1,1-Trichloroethane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,1,2-Trichloroethane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Trichloroethene (TCE)	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Trichlorofluoromethane	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
1,2,3-Trichloropropane	ND	1.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Vinyl chloride	ND	0.50		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Xylenes, Total	ND	1.0		mg/Kg-dry	10	10/8/2014 7:04:04 PM	15739
Surr: Dibromofluoromethane	94.4	70-130		%REC	10	10/8/2014 7:04:04 PM	15739
Surr: 1,2-Dichloroethane-d4	82.8	70-130		%REC	10	10/8/2014 7:04:04 PM	15739
Surr: Toluene-d8	83.0	70-130		%REC	10	10/8/2014 7:04:04 PM	15739
Surr: 4-Bromofluorobenzene	102	70-130		%REC	10	10/8/2014 7:04:04 PM	15739

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	Page 16 of 31
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141007053
Project Name: 1410212

Analytical Results Report

Sample Number	141007053-001	Sampling Date	10/3/2014	Date/Time Received	10/7/2014 12:30 PM
Client Sample ID	1410212-001C / SWMU 13-6 (0.5-2)			Sampling Time	10:00 AM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.264	10/16/2014	CRW	EPA 335.4	
%moisture	10.3	Percent		10/15/2014	KJS	%moisture	

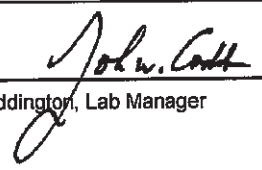
Sample Number	141007053-002	Sampling Date	10/3/2014	Date/Time Received	10/7/2014 12:30 PM
Client Sample ID	1410212-002C / SWMU 13-6 (10-12)			Sampling Time	11:15 AM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.262	10/16/2014	CRW	EPA 335.4	
%moisture	11.5	Percent		10/15/2014	KJS	%moisture	

Sample Number	141007053-003	Sampling Date	10/3/2014	Date/Time Received	10/7/2014 12:30 PM
Client Sample ID	1410212-003B / SWMU 13-6 (24-26)			Sampling Time	11:20 AM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.247	10/16/2014	CRW	EPA 335.4	
%moisture	3.1	Percent		10/15/2014	KJS	%moisture	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Monday, October 20, 2014

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

Batch #: 141007053
Project Name: 1410212

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.491	mg/kg	0.5	98.2	90-110	10/16/2014	10/16/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141007053-001	Cyanide	ND	12.4	mg/kg	13.2	93.9	90-110	10/16/2014	10/16/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	12.4	mg/kg	13.2	93.9	0.0	0-25	10/16/2014	10/16/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	10/16/2014	10/16/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15712	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 15712			RunNo: 21713					
Prep Date:	10/4/2014	Analysis Date: 10/7/2014			SeqNo: 638313		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.4		10.00		84.1	57.9	140			

Sample ID	LCS-15712		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15712		RunNo: 21713					
Prep Date:	10/4/2014		Analysis Date: 10/7/2014		SeqNo: 638314		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.8	68.6	130			
Surr: DNOP	3.9		5.000		77.9	57.9	140			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID MB-15739	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 15739			RunNo: 21730						
Prep Date: 10/6/2014	Analysis Date: 10/7/2014			SeqNo: 637950		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	830		1000		83.0	80	120			

Sample ID LCS-15739	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 15739			RunNo: 21730						
Prep Date: 10/6/2014	Analysis Date: 10/7/2014			SeqNo: 637951		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.3	65.8	139			
Surr: BFB	960		1000		96.1	80	120			

Sample ID 5ML RB	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: R21756			RunNo: 21756						
Prep Date:	Analysis Date: 10/8/2014			SeqNo: 638847		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		91.7	80	120			

Sample ID 2.5UG GRO LCS	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: R21756			RunNo: 21756						
Prep Date:	Analysis Date: 10/8/2014			SeqNo: 638848		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.4	65.8	139			
Surr: BFB	1000		1000		101	80	120			

Sample ID 1410212-001AMS	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SWMU 13-6 (0.5-2')	Batch ID: R21756			RunNo: 21756						
Prep Date:	Analysis Date: 10/8/2014			SeqNo: 638850		Units: mg/Kg-dry				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	3.8	19.19	5.119	81.5	71.8	132			
Surr: BFB	940		767.5		123	80	120			S

Sample ID 1410212-001AMSD	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SWMU 13-6 (0.5-2')	Batch ID: R21756			RunNo: 21756						
Prep Date:	Analysis Date: 10/8/2014			SeqNo: 638851		Units: mg/Kg-dry				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	1410212-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SWMU 13-6 (0.5-2')	Batch ID:	R21756	RunNo:	21756					
Prep Date:		Analysis Date:	10/8/2014	SeqNo:	638851	Units:	mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	3.8	19.19	5.119	99.8	71.8	132	15.6	20	
Surr: BFB	880		767.5		114	80	120	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15739		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS		Batch ID: 15739		RunNo: 21749					
Prep Date:	10/6/2014		Analysis Date: 10/8/2014		SeqNo: 639690		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15739		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15739		RunNo:	21749			
Prep Date:	10/6/2014		Analysis Date:	10/8/2014		SeqNo:	639690		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.45		0.5000		90.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.37		0.5000		73.0	70	130			
Surr: Toluene-d8	0.43		0.5000		85.7	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		83.8	70	130			

Sample ID	lcs-15739		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	LCSS		Batch ID:	15739		RunNo:	21749			
Prep Date:	10/6/2014		Analysis Date:	10/8/2014		SeqNo:	639691		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.050	1.000	0	94.3	70	130			
Toluene	0.86	0.050	1.000	0	86.1	70	130			
Chlorobenzene	0.96	0.050	1.000	0	96.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	Ics-15739		SampType: LCS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS		Batch ID: 15739		RunNo: 21749					
Prep Date:	10/6/2014		Analysis Date: 10/8/2014		SeqNo: 639691		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.91	0.050	1.000	0	90.7	60.5	160			
Trichloroethene (TCE)	0.90	0.050	1.000	0	89.9	58.8	139			
Surr: Dibromofluoromethane	0.43		0.5000		86.2	70	130			
Surr: 1,2-Dichloroethane-d4	0.34		0.5000		67.6	70	130			S
Surr: Toluene-d8	0.39		0.5000		78.4	70	130			
Surr: 4-Bromofluorobenzene	0.36		0.5000		72.8	70	130			

Sample ID	1410212-003ams	SampType: MS			TestCode: EPA Method 8260B: Volatiles					
Client ID:	SWMU 13-6(24-26')	Batch ID: 15739			RunNo: 21749					
Prep Date:	10/6/2014	Analysis Date: 10/8/2014			SeqNo: 639701		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.50	1.002	0	93.6	32.2	145			
Toluene	1.0	0.50	1.002	0	103	29.1	139			
Chlorobenzene	0.90	0.50	1.002	0	89.8	32.4	142			
1,1-Dichloroethene	0.77	0.50	1.002	0	76.7	32.6	155			
Trichloroethene (TCE)	0.99	0.50	1.002	0	98.9	29.2	150			
Surr: Dibromofluoromethane	4.8		5.009		96.3	70	130			
Surr: 1,2-Dichloroethane-d4	4.0		5.009		80.7	70	130			
Surr: Toluene-d8	4.3		5.009		85.4	70	130			
Surr: 4-Bromofluorobenzene	5.1		5.009		103	70	130			

Sample ID	1410212-003amsd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles					
Client ID:	SWMU 13-6(24-26")		Batch ID: 15739		RunNo: 21749					
Prep Date:	10/6/2014		Analysis Date: 10/8/2014		SeqNo: 639702		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.50	1.003	0	94.4	32.2	145	0.991	20	
Toluene	1.1	0.50	1.003	0	109	29.1	139	5.39	20	
Chlorobenzene	0.95	0.50	1.003	0	94.6	32.4	142	5.33	20	
1,1-Dichloroethene	0.73	0.50	1.003	0	73.1	32.6	155	4.59	20	
Trichloroethene (TCE)	0.94	0.50	1.003	0	94.0	29.2	150	5.01	20	
Surr: Dibromofluoromethane	4.5		5.013		88.9	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	4.0		5.013		79.4	70	130	0	0	
Surr: Toluene-d8	4.3		5.013		85.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	4.8		5.013		96.0	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15728		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637384		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00200								
Ethylbenzene	ND	0.00200								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00200								
1,2,4-Trimethylbenzene	ND	0.00200								
1,3,5-Trimethylbenzene	ND	0.00200								
1,2-Dichloroethane (EDC)	ND	0.00200								
1,2-Dibromoethane (EDB)	ND	0.00200								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00200								
Bromodichloromethane	ND	0.00200								
Bromoform	ND	0.00200								
Bromomethane	ND	0.00300								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00200								
Chlorobenzene	ND	0.00200								
Chloroethane	ND	0.00200								
Chloroform	ND	0.00200								
Chloromethane	ND	0.00200								
2-Chlorotoluene	ND	0.00200								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00200								
cis-1,2-DCE	ND	0.00200								
cis-1,3-Dichloropropene	ND	0.00200								
1,2-Dibromo-3-chloropropane	ND	0.00200								
Dibromochloromethane	ND	0.00200								
Dibromomethane	ND	0.00200								
1,2-Dichlorobenzene	ND	0.00200								
1,3-Dichlorobenzene	ND	0.00200								
1,4-Dichlorobenzene	ND	0.00200								
Dichlorodifluoromethane	ND	0.00200								
1,1-Dichloroethane	ND	0.00200								
1,1-Dichloroethene	ND	0.00200								
1,2-Dichloropropane	ND	0.00200								
1,3-Dichloropropane	ND	0.00200								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15728		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637384		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.00200								
1,1-Dichloropropene	ND	0.00200								
Hexachlorobutadiene	ND	0.00200								
Isopropylbenzene	ND	0.00200								
4-Isopropyltoluene	ND	0.00200								
Methylene chloride	ND	0.00200								
n-Butylbenzene	ND	0.00200								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00200								
sec-Butylbenzene	ND	0.00200								
Styrene	ND	0.00200								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00200								
1,1,1,2-Tetrachloroethane	ND	0.00200								
1,1,2,2-Tetrachloroethane	ND	0.00200								
Tetrachloroethene (PCE)	ND	0.00200								
trans-1,2-DCE	ND	0.00200								
trans-1,3-Dichloropropene	ND	0.00200								
1,2,3-Trichlorobenzene	ND	0.00200								
1,2,4-Trichlorobenzene	ND	0.00200								
1,1,1-Trichloroethane	ND	0.00200								
1,1,2-Trichloroethane	ND	0.00200								
Trichloroethene (TCE)	ND	0.00200								
Trichlorofluoromethane	ND	0.00200								
1,2,3-Trichloropropane	ND	0.00200								
Vinyl chloride	ND	0.00200								
Surr: 1,2-Dichloroethane-d4	0.0208		0.02000		104	70	130			
Surr: 4-Bromofluorobenzene	0.0216		0.02000		108	65.3	135			
Surr: Dibromofluoromethane	0.0203		0.02000		102	70	130			
Surr: Toluene-d8	0.0210		0.02000		105	70	130			

Sample ID	ics-15728		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637386		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0104	0.00200	0.01000	0	104	70	130			
Toluene	0.0100	0.00200	0.01000	0	100	70	130			
Chlorobenzene	0.0103	0.00200	0.01000	0	103	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	Ics-15728		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637386		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.00996	0.00200	0.01000	0	99.6	70	130			
Trichloroethene (TCE)	0.0105	0.00200	0.01000	0	105	61.6	131			
Surr: 1,2-Dichloroethane-d4	0.0211		0.02000		105	70	130			
Surr: 4-Bromofluorobenzene	0.0207		0.02000		104	65.3	135			
Surr: Dibromofluoromethane	0.0208		0.02000		104	70	130			
Surr: Toluene-d8	0.0200		0.02000		99.8	70	130			

Sample ID	1410212-001AMS		SampType: MS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	SWMU 13-6 (0.5-2')		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637389		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.00919	0.00218	0.01089	0.003992	47.7	70	130			S
Toluene	0.00913	0.00218	0.01089	0.001322	71.7	70	130			
Chlorobenzene	0.00884	0.00218	0.01089	0	81.2	70	130			
1,1-Dichloroethene	0.00933	0.00218	0.01089	0	85.7	70	130			
Trichloroethene (TCE)	0.00898	0.00218	0.01089	0	82.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.0237		0.02178		109	70	130			
Surr: 4-Bromofluorobenzene	0.0214		0.02178		98.4	65.3	135			
Surr: Dibromofluoromethane	0.0217		0.02178		99.8	70	130			
Surr: Toluene-d8	0.0219		0.02178		100	70	130			

Sample ID	1410212-001AMSD		SampType: MSD		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	SWMU 13-6 (0.5-2')		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637390		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.00995	0.00218	0.01091	0.003992	54.6	70	130	7.93	20	S
Toluene	0.00969	0.00218	0.01091	0.001322	76.7	70	130	5.89	20	
Chlorobenzene	0.00954	0.00218	0.01091	0	87.5	70	130	7.59	20	
1,1-Dichloroethene	0.0100	0.00218	0.01091	0	91.7	70	130	6.99	20	
Trichloroethene (TCE)	0.0100	0.00218	0.01091	0	92.1	70	130	11.2	20	
Surr: 1,2-Dichloroethane-d4	0.0232		0.02182		106	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.0209		0.02182		95.6	65.3	135	0	0	
Surr: Dibromofluoromethane	0.0228		0.02182		105	70	130	0	0	
Surr: Toluene-d8	0.0218		0.02182		99.9	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15725	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15725	RunNo:	21852					
Prep Date:	10/6/2014	Analysis Date:	10/13/2014	SeqNo:	642289	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15725	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15725	RunNo:	21852					
Prep Date:	10/6/2014	Analysis Date:	10/13/2014	SeqNo:	642289	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.70								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	3.4		3.330		103	21	111			
Surr: Phenol-d5	3.4		3.330		102	23.1	117			
Surr: 2,4,6-Tribromophenol	3.0		3.330		88.7	22.7	88.9			
Surr: Nitrobenzene-d5	1.9		1.670		111	24.5	126			
Surr: 2-Fluorobiphenyl	2.0		1.670		121	21.2	129			
Surr: 4-Terphenyl-d14	1.7		1.670		103	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	Ics-15725		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 15725		RunNo: 21852					
Prep Date:	10/6/2014		Analysis Date: 10/13/2014		SeqNo: 642291		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.7	0.20	1.670	0	102	50.7	110			
4-Chloro-3-methylphenol	3.6	0.50	3.330	0	107	47.8	107			S
2-Chlorophenol	3.6	0.20	3.330	0	109	45.7	108			S
1,4-Dichlorobenzene	1.6	0.20	1.670	0	97.8	46.1	112			
2,4-Dinitrotoluene	1.6	0.50	1.670	0	93.5	44.9	114			
N-Nitrosodi-n-propylamine	1.5	0.20	1.670	0	88.8	38.7	128			
4-Nitrophenol	3.1	0.25	3.330	0	92.6	40.2	103			
Pentachlorophenol	2.6	0.70	3.330	0	78.2	32.9	94			
Phenol	3.4	0.20	3.330	0	103	44.1	109			
Pyrene	1.5	0.20	1.670	0	91.4	51.9	109			
1,2,4-Trichlorobenzene	1.8	0.20	1.670	0	109	49.5	115			
Surr: 2-Fluorophenol	3.0		3.330		91.5	21	111			
Surr: Phenol-d5	3.2		3.330		97.1	23.1	117			
Surr: 2,4,6-Tribromophenol	2.9		3.330		85.9	22.7	88.9			
Surr: Nitrobenzene-d5	1.9		1.670		111	24.5	126			
Surr: 2-Fluorobiphenyl	1.8		1.670		110	21.2	129			
Surr: 4-Terphenyl-d14	1.6		1.670		97.4	39.4	107			

Sample ID	1410212-001bms	SampType: MS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	SWMU 13-6 (0.5-2')	Batch ID: 15725			RunNo: 21871					
Prep Date:	10/6/2014	Analysis Date: 10/13/2014			SeqNo: 642654		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.7	0.45	1.896	0	91.8	53.8	92.8			
4-Chloro-3-methylphenol	3.6	1.1	3.781	0	94.9	34.9	104			
2-Chlorophenol	3.3	0.45	3.781	0	87.1	18.2	105			
1,4-Dichlorobenzene	1.5	0.45	1.896	0	81.3	18.1	112			
2,4-Dinitrotoluene	1.4	1.1	1.896	0	76.2	22	144			
N-Nitrosodi-n-propylamine	1.7	0.45	1.896	0	89.0	58.6	101			
4-Nitrophenol	2.8	0.57	3.781	0	73.4	13.7	127			
Pentachlorophenol	2.3	1.6	3.781	0	59.9	16.5	107			
Phenol	3.6	0.45	3.781	0	94.4	12.5	114			
Pyrene	1.6	0.45	1.896	0	82.3	14.2	116			
1,2,4-Trichlorobenzene	1.7	0.45	1.896	0	92.2	16	125			
Surr: 2-Fluorophenol	3.2		3.781		85.6	21	111			
Surr: Phenol-d5	3.2		3.781		85.3	23.1	117			
Surr: 2,4,6-Tribromophenol	2.6		3.781		67.8	22.7	88.9			
Surr: Nitrobenzene-d5	1.8		1.896		93.5	24.5	126			
Surr: 2-Fluorobiphenyl	1.8		1.896		92.5	21.2	129			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	1410212-001bms	SampType:	MS	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	SWMU 13-6 (0.5-2')	Batch ID:	15725	RunNo:	21871					
Prep Date:	10/6/2014	Analysis Date:	10/13/2014	SeqNo:	642654	Units:	mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	1.7		1.896		89.8	39.4	107			

Sample ID	1410212-001bmsd	SampType:	MSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	SWMU 13-6 (0.5-2')	Batch ID:	15725	RunNo:	21871					
Prep Date:	10/6/2014	Analysis Date:	10/13/2014	SeqNo:	642655	Units:	mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.7	0.45	1.888	0	91.1	53.8	92.8	1.14	22	
4-Chloro-3-methylphenol	3.2	1.1	3.765	0	86.1	34.9	104	10.1	27.3	
2-Chlorophenol	3.3	0.45	3.765	0	87.7	18.2	105	0.284	26.3	
1,4-Dichlorobenzene	1.6	0.45	1.888	0	84.2	18.1	112	3.02	27.4	
2,4-Dinitrotoluene	1.5	1.1	1.888	0	77.2	22	144	0.898	27.4	
N-Nitrosodi-n-propylamine	1.7	0.45	1.888	0	89.1	58.6	101	0.313	22.6	
4-Nitrophenol	3.1	0.57	3.765	0	83.5	13.7	127	12.5	20	
Pentachlorophenol	2.3	1.6	3.765	0	62.2	16.5	107	3.47	27.1	
Phenol	3.4	0.45	3.765	0	90.1	12.5	114	5.00	32.2	
Pyrene	1.5	0.45	1.888	0	79.9	14.2	116	3.36	29.5	
1,2,4-Trichlorobenzene	1.6	0.45	1.888	0	86.4	16	125	6.84	27.8	
Surr: 2-Fluorophenol	3.2		3.765		84.4	21	111	0	0	
Surr: Phenol-d5	3.0		3.765		80.7	23.1	117	0	0	
Surr: 2,4,6-Tribromophenol	2.8		3.765		75.4	22.7	88.9	0	0	
Surr: Nitrobenzene-d5	1.7		1.888		89.6	24.5	126	0	0	
Surr: 2-Fluorobiphenyl	1.9		1.888		101	21.2	129	0	0	
Surr: 4-Terphenyl-d14	1.7		1.888		89.5	39.4	107	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15938		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 15938		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646269		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.033								

Sample ID	LCS-15938		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 15938		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646270		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1667	0	93.8	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410212

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15818		SampType: MBLK		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	PBS		Batch ID: 15818		RunNo: 21817					
Prep Date:	10/9/2014		Analysis Date: 10/10/2014		SeqNo: 641317		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Lead	ND	0.25								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-15818		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 15818		RunNo: 21817					
Prep Date:	10/9/2014		Analysis Date: 10/10/2014		SeqNo: 641318		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	24	2.5	25.00	0	96.5	80	120			
Arsenic	24	2.5	25.00	0	97.1	80	120			
Barium	25	0.10	25.00	0	98.4	80	120			
Beryllium	25	0.15	25.00	0	99.3	80	120			
Cadmium	24	0.10	25.00	0	96.1	80	120			
Chromium	24	0.30	25.00	0	96.7	80	120			
Cobalt	24	0.30	25.00	0	97.3	80	120			
Lead	24	0.25	25.00	0	96.8	80	120			
Nickel	25	0.50	25.00	0	98.5	80	120			
Selenium	24	2.5	25.00	0	94.2	80	120			
Silver	4.9	0.25	5.000	0	97.4	80	120			
Vanadium	25	2.5	25.00	0	98.9	80	120			
Zinc	25	2.5	25.00	0	100	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: **Western Refining Southw**

Work Order Number: **1410212**

RcptNo: 1

Received by/date:

[Signature]

10/04/14

Logged By: **Lindsay Mangin**

10/4/2014 7:00:00 AM

[Signature]

Completed By: **Lindsay Mangin**

10/4/2014 8:16:29 AM

[Signature]

Reviewed By:

[Signature]

10/06/14

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? Courier

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:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

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	1.3	Good	Yes			

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 method 6010/6020
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyllead	SW-846 method 6010/6020
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

November 05, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9

OrderNo.: 1410213

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 10/4/2014 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
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1410213
Date: 11/5/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9

Surrogate recoveries with an "S" flag have poor or elevated recoveries due to matrix interferences and/or sample dilution.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (0-0.5')

Project: GROUP 9

Collection Date: 10/2/2014 1:45:00 PM

Lab ID: 1410213-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	32	11		mg/Kg-dry	1	10/7/2014 11:25:48 AM	15713
Motor Oil Range Organics (MRO)	ND	53		mg/Kg-dry	1	10/7/2014 11:25:48 AM	15713
Surr: DNOP	91.6	57.9-140		%REC	1	10/7/2014 11:25:48 AM	15713
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg-dry	1	10/9/2014 3:14:56 PM	R21774
Surr: BFB	90.9	80-120		%REC	1	10/9/2014 3:14:56 PM	R21774
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	5.5	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.28	0.17		mg/Kg-dry	5	10/17/2014 2:01:29 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.7		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Arsenic	2.9	2.7		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Barium	200	0.11		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Beryllium	0.29	0.16		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Cadmium	ND	0.11		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Chromium	8.4	0.32		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Cobalt	3.5	0.32		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Lead	5.6	0.27		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Nickel	4.7	0.54		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Selenium	ND	2.7		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Silver	ND	0.27		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Vanadium	20	2.7		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
Zinc	53	2.7		mg/Kg-dry	1	10/10/2014 12:42:26 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Acenaphthylene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Aniline	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Anthracene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Azobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Benz(a)anthracene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Benzo(a)pyrene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Benzo(b)fluoranthene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Benzo(g,h,i)perylene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Benzo(k)fluoranthene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Benzoic acid	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Benzyl alcohol	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (0-0.5')

Project: GROUP 9

Collection Date: 10/2/2014 1:45:00 PM

Lab ID: 1410213-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Bis(2-chloroethyl)ether	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Bis(2-chloroisopropyl)ether	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Bis(2-ethylhexyl)phthalate	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
4-Bromophenyl phenyl ether	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Butyl benzyl phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Carbazole	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
4-Chloro-3-methylphenol	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
4-Chloroaniline	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2-Chloronaphthalene	ND	1.3		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2-Chlorophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
4-Chlorophenyl phenyl ether	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Chrysene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Di-n-butyl phthalate	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Di-n-octyl phthalate	ND	2.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Dibenz(a,h)anthracene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Dibenzofuran	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
1,2-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
1,3-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
1,4-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
3,3'-Dichlorobenzidine	ND	1.3		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Diethyl phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Dimethyl phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2,4-Dichlorophenol	ND	2.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2,4-Dimethylphenol	ND	1.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
4,6-Dinitro-2-methylphenol	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2,4-Dinitrophenol	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2,4-Dinitrotoluene	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2,6-Dinitrotoluene	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Fluoranthene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Fluorene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Hexachlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Hexachlorobutadiene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Hexachlorocyclopentadiene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Hexachloroethane	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Indeno(1,2,3-cd)pyrene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Isophorone	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
1-Methylnaphthalene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2-Methylnaphthalene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725

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	Page 3 of 35
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (0-0.5')

Project: GROUP 9

Collection Date: 10/2/2014 1:45:00 PM

Lab ID: 1410213-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
3+4-Methylphenol	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
N-Nitrosodi-n-propylamine	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
N-Nitrosodiphenylamine	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Naphthalene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2-Nitroaniline	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
3-Nitroaniline	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
4-Nitroaniline	ND	2.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Nitrobenzene	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2-Nitrophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
4-Nitrophenol	ND	1.3		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Pentachlorophenol	ND	3.7		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Phenanthrene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Phenol	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Pyrene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Pyridine	ND	2.6		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
1,2,4-Trichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2,4,5-Trichlorophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
2,4,6-Trichlorophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 7:20:14 PM	15725
Surr: 2-Fluorophenol	116	21-111	S	%REC	1	10/13/2014 7:20:14 PM	15725
Surr: Phenol-d5	109	23.1-117		%REC	1	10/13/2014 7:20:14 PM	15725
Surr: 2,4,6-Tribromophenol	73.2	22.7-88.9		%REC	1	10/13/2014 7:20:14 PM	15725
Surr: Nitrobenzene-d5	109	24.5-126		%REC	1	10/13/2014 7:20:14 PM	15725
Surr: 2-Fluorobiphenyl	132	21.2-129	S	%REC	1	10/13/2014 7:20:14 PM	15725
Surr: 4-Terphenyl-d14	118	39.4-107	S	%REC	1	10/13/2014 7:20:14 PM	15725
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Toluene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Ethylbenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Xylenes, Total	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Methyl tert-butyl ether (MTBE)	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,2,4-Trimethylbenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,3,5-Trimethylbenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,2-Dichloroethane (EDC)	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,2-Dibromoethane (EDB)	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Naphthalene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1-Methylnaphthalene	ND	0.00386		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
2-Methylnaphthalene	ND	0.00386		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Acetone	0.0180	0.00965		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728

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	Page 4 of 35
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (0-0.5')

Project: GROUP 9

Collection Date: 10/2/2014 1:45:00 PM

Lab ID: 1410213-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Bromodichloromethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Bromoform	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Bromomethane	ND	0.00289		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
2-Butanone	ND	0.00965		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Carbon tetrachloride	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Chlorobenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Chloroethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Chloroform	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Chloromethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
2-Chlorotoluene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Carbon disulfide	ND	0.00965		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
4-Chlorotoluene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
cis-1,2-DCE	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
cis-1,3-Dichloropropene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,2-Dibromo-3-chloropropane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Dibromochloromethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Dibromomethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,2-Dichlorobenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,3-Dichlorobenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,4-Dichlorobenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Dichlorodifluoromethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,1-Dichloroethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,1-Dichloroethene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,2-Dichloropropane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,3-Dichloropropane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
2,2-Dichloropropane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,1-Dichloropropene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Hexachlorobutadiene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Isopropylbenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
4-Isopropyltoluene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Methylene chloride	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
n-Butylbenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
2-Hexanone	ND	0.00965		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
n-Propylbenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
sec-Butylbenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Styrene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
4-Methyl-2-pentanone	ND	0.00965		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
tert-Butylbenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728

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	Page 5 of 35
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (0-0.5')

Project: GROUP 9

Collection Date: 10/2/2014 1:45:00 PM

Lab ID: 1410213-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,1,2,2-Tetrachloroethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Tetrachloroethene (PCE)	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
trans-1,2-DCE	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
trans-1,3-Dichloropropene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,2,3-Trichlorobenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,2,4-Trichlorobenzene	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,1,1-Trichloroethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,1,2-Trichloroethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Trichloroethene (TCE)	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Trichlorofluoromethane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
1,2,3-Trichloropropane	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Vinyl chloride	ND	0.00193		mg/Kg-dry	1	10/6/2014 3:39:32 PM	15728
Surr: 1,2-Dichloroethane-d4	119	70-130		%REC	1	10/6/2014 3:39:32 PM	15728
Surr: 4-Bromofluorobenzene	100	65.3-135		%REC	1	10/6/2014 3:39:32 PM	15728
Surr: Dibromofluoromethane	107	70-130		%REC	1	10/6/2014 3:39:32 PM	15728
Surr: Toluene-d8	101	70-130		%REC	1	10/6/2014 3:39:32 PM	15728

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	Page 6 of 35
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 1:55:00 PM

Lab ID: 1410213-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	32	11		mg/Kg-dry	1	10/7/2014 12:29:57 PM	15713
Motor Oil Range Organics (MRO)	ND	53		mg/Kg-dry	1	10/7/2014 12:29:57 PM	15713
Surr: DNOP	93.6	57.9-140		%REC	1	10/7/2014 12:29:57 PM	15713
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg-dry	1	10/9/2014 12:26:16 AM	R21756
Surr: BFB	81.5	80-120		%REC	1	10/9/2014 12:26:16 AM	R21756
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	7.4	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.15	0.035		mg/Kg-dry	1	10/17/2014 12:57:47 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.7		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Arsenic	ND	2.7		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Barium	130	0.11		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Beryllium	0.32	0.16		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Cadmium	ND	0.11		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Chromium	8.8	0.33		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Cobalt	3.1	0.33		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Lead	5.2	0.27		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Nickel	4.7	0.55		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Selenium	ND	2.7		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Silver	ND	0.27		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Vanadium	17	2.7		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
Zinc	40	2.7		mg/Kg-dry	1	10/10/2014 12:43:42 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Acenaphthylene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Aniline	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Anthracene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Azobenzene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Benz(a)anthracene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Benzo(a)pyrene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Benzo(b)fluoranthene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Benzo(g,h,i)perylene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Benzo(k)fluoranthene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Benzoic acid	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Benzyl alcohol	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 1:55:00 PM

Lab ID: 1410213-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Bis(2-chloroethyl)ether	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Bis(2-chloroisopropyl)ether	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Bis(2-ethylhexyl)phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
4-Bromophenyl phenyl ether	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Butyl benzyl phthalate	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Carbazole	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
4-Chloro-3-methylphenol	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
4-Chloroaniline	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2-Chloronaphthalene	ND	0.54		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2-Chlorophenol	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
4-Chlorophenyl phenyl ether	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Chrysene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Di-n-butyl phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Di-n-octyl phthalate	ND	0.87		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Dibenz(a,h)anthracene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Dibenzofuran	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
1,2-Dichlorobenzene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
1,3-Dichlorobenzene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
1,4-Dichlorobenzene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
3,3'-Dichlorobenzidine	ND	0.54		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Diethyl phthalate	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Dimethyl phthalate	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2,4-Dichlorophenol	ND	0.87		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2,4-Dimethylphenol	ND	0.65		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
4,6-Dinitro-2-methylphenol	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2,4-Dinitrophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2,4-Dinitrotoluene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2,6-Dinitrotoluene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Fluoranthene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Fluorene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Hexachlorobenzene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Hexachlorobutadiene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Hexachlorocyclopentadiene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Hexachloroethane	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Indeno(1,2,3-cd)pyrene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Isophorone	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
1-Methylnaphthalene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2-Methylnaphthalene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 1:55:00 PM

Lab ID: 1410213-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
3+4-Methylphenol	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
N-Nitrosodi-n-propylamine	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
N-Nitrosodiphenylamine	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Naphthalene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2-Nitroaniline	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
3-Nitroaniline	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
4-Nitroaniline	ND	0.87		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Nitrobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2-Nitrophenol	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
4-Nitrophenol	ND	0.54		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Pentachlorophenol	ND	1.5		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Phenanthrene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Phenol	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Pyrene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Pyridine	ND	1.1		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
1,2,4-Trichlorobenzene	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2,4,5-Trichlorophenol	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
2,4,6-Trichlorophenol	ND	0.43		mg/Kg-dry	1	10/13/2014 7:48:14 PM	15725
Surr: 2-Fluorophenol	78.0	21-111		%REC	1	10/13/2014 7:48:14 PM	15725
Surr: Phenol-d5	76.6	23.1-117		%REC	1	10/13/2014 7:48:14 PM	15725
Surr: 2,4,6-Tribromophenol	52.4	22.7-88.9		%REC	1	10/13/2014 7:48:14 PM	15725
Surr: Nitrobenzene-d5	79.8	24.5-126		%REC	1	10/13/2014 7:48:14 PM	15725
Surr: 2-Fluorobiphenyl	86.3	21.2-129		%REC	1	10/13/2014 7:48:14 PM	15725
Surr: 4-Terphenyl-d14	82.6	39.4-107		%REC	1	10/13/2014 7:48:14 PM	15725
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Toluene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Ethylbenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Xylenes, Total	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Methyl tert-butyl ether (MTBE)	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,2,4-Trimethylbenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,3,5-Trimethylbenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,2-Dichloroethane (EDC)	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,2-Dibromoethane (EDB)	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Naphthalene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1-Methylnaphthalene	ND	0.00373		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
2-Methylnaphthalene	ND	0.00373		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Acetone	0.0112	0.00932		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 1:55:00 PM

Lab ID: 1410213-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Bromodichloromethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Bromoform	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Bromomethane	ND	0.00280		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
2-Butanone	ND	0.00932		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Carbon tetrachloride	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Chlorobenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Chloroethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Chloroform	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Chloromethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
2-Chlorotoluene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Carbon disulfide	ND	0.00932		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
4-Chlorotoluene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
cis-1,2-DCE	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
cis-1,3-Dichloropropene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,2-Dibromo-3-chloropropane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Dibromochloromethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Dibromomethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,2-Dichlorobenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,3-Dichlorobenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,4-Dichlorobenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Dichlorodifluoromethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,1-Dichloroethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,1-Dichloroethene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,2-Dichloropropane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,3-Dichloropropane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
2,2-Dichloropropane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,1-Dichloropropene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Hexachlorobutadiene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Isopropylbenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
4-Isopropyltoluene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Methylene chloride	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
n-Butylbenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
2-Hexanone	ND	0.00932		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
n-Propylbenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
sec-Butylbenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Styrene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
4-Methyl-2-pentanone	ND	0.00932		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
tert-Butylbenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 1:55:00 PM

Lab ID: 1410213-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES				Analyst: cadg			
1,1,1,2-Tetrachloroethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,1,2,2-Tetrachloroethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Tetrachloroethene (PCE)	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
trans-1,2-DCE	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
trans-1,3-Dichloropropene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,2,3-Trichlorobenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,2,4-Trichlorobenzene	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,1,1-Trichloroethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,1,2-Trichloroethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Trichloroethene (TCE)	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Trichlorofluoromethane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
1,2,3-Trichloropropane	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Vinyl chloride	ND	0.00186		mg/Kg-dry	1	10/6/2014 4:08:12 PM	15728
Surr: 1,2-Dichloroethane-d4	121	70-130		%REC	1	10/6/2014 4:08:12 PM	15728
Surr: 4-Bromofluorobenzene	100	65.3-135		%REC	1	10/6/2014 4:08:12 PM	15728
Surr: Dibromofluoromethane	110	70-130		%REC	1	10/6/2014 4:08:12 PM	15728
Surr: Toluene-d8	103	70-130		%REC	1	10/6/2014 4:08:12 PM	15728

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	Page 11 of 35
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (16-18')

Project: GROUP 9

Collection Date: 10/2/2014 2:05:00 PM

Lab ID: 1410213-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS				Analyst: BCN			
Diesel Range Organics (DRO)	ND	11		mg/Kg-dry	1	10/7/2014 12:51:31 PM	15713
Motor Oil Range Organics (MRO)	ND	55		mg/Kg-dry	1	10/7/2014 12:51:31 PM	15713
Surr: DNOP	88.1	57.9-140		%REC	1	10/7/2014 12:51:31 PM	15713
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg-dry	1	10/9/2014 3:45:15 PM	R21774
Surr: BFB	83.2	80-120		%REC	1	10/9/2014 3:45:15 PM	R21774
PERCENT MOISTURE				Analyst: cadg			
Percent Moisture	9.4	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY				Analyst: MMD			
Mercury	ND	0.035		mg/Kg-dry	1	10/17/2014 12:59:36 PM	15938
EPA METHOD 6010B: SOIL METALS				Analyst: ELS			
Antimony	ND	2.8		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Arsenic	3.2	2.8		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Barium	250	0.11		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Beryllium	0.48	0.17		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Cadmium	ND	0.11		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Chromium	5.5	0.34		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Cobalt	3.2	0.34		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Lead	2.7	0.28		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Nickel	5.2	0.56		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Selenium	ND	2.8		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Silver	ND	0.28		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Vanadium	19	2.8		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
Zinc	22	2.8		mg/Kg-dry	1	10/10/2014 12:44:59 PM	15818
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
Acenaphthene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Acenaphthylene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Aniline	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Anthracene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Azobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Benz(a)anthracene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Benzo(a)pyrene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Benzo(b)fluoranthene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Benzo(g,h,i)perylene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Benzo(k)fluoranthene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Benzoic acid	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Benzyl alcohol	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (16-18')

Project: GROUP 9

Collection Date: 10/2/2014 2:05:00 PM

Lab ID: 1410213-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Bis(2-chloroethyl)ether	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Bis(2-chloroisopropyl)ether	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Bis(2-ethylhexyl)phthalate	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
4-Bromophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Butyl benzyl phthalate	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Carbazole	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
4-Chloro-3-methylphenol	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
4-Chloroaniline	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2-Chloronaphthalene	ND	0.28		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2-Chlorophenol	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
4-Chlorophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Chrysene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Di-n-butyl phthalate	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Di-n-octyl phthalate	ND	0.44		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Dibenz(a,h)anthracene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Dibenzofuran	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
1,2-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
1,3-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
1,4-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
3,3'-Dichlorobenzidine	ND	0.28		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Diethyl phthalate	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Dimethyl phthalate	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2,4-Dichlorophenol	ND	0.44		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2,4-Dimethylphenol	ND	0.33		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
4,6-Dinitro-2-methylphenol	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2,4-Dinitrophenol	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2,4-Dinitrotoluene	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2,6-Dinitrotoluene	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Fluoranthene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Fluorene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Hexachlorobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Hexachlorobutadiene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Hexachlorocyclopentadiene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Hexachloroethane	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Indeno(1,2,3-cd)pyrene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Isophorone	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
1-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (16-18')

Project: GROUP 9

Collection Date: 10/2/2014 2:05:00 PM

Lab ID: 1410213-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
3+4-Methylphenol	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
N-Nitrosodi-n-propylamine	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
N-Nitrosodiphenylamine	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Naphthalene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
3-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
4-Nitroaniline	ND	0.44		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Nitrobenzene	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2-Nitrophenol	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
4-Nitrophenol	ND	0.28		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Pentachlorophenol	ND	0.78		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Phenanthrene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Phenol	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Pyrene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Pyridine	ND	0.56		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
1,2,4-Trichlorobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2,4,5-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
2,4,6-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/13/2014 6:01:39 AM	15725
Surr: 2-Fluorophenol	68.0	21-111		%REC	1	10/13/2014 6:01:39 AM	15725
Surr: Phenol-d5	64.0	23.1-117		%REC	1	10/13/2014 6:01:39 AM	15725
Surr: 2,4,6-Tribromophenol	52.7	22.7-88.9		%REC	1	10/13/2014 6:01:39 AM	15725
Surr: Nitrobenzene-d5	70.9	24.5-126		%REC	1	10/13/2014 6:01:39 AM	15725
Surr: 2-Fluorobiphenyl	71.4	21.2-129		%REC	1	10/13/2014 6:01:39 AM	15725
Surr: 4-Terphenyl-d14	66.9	39.4-107		%REC	1	10/13/2014 6:01:39 AM	15725
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Toluene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Ethylbenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Xylenes, Total	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Methyl tert-butyl ether (MTBE)	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,2,4-Trimethylbenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,3,5-Trimethylbenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,2-Dichloroethane (EDC)	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,2-Dibromoethane (EDB)	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Naphthalene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1-Methylnaphthalene	ND	0.00368		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
2-Methylnaphthalene	ND	0.00368		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Acetone	0.0118	0.00919		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (16-18')

Project: GROUP 9

Collection Date: 10/2/2014 2:05:00 PM

Lab ID: 1410213-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Bromodichloromethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Bromoform	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Bromomethane	ND	0.00276		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
2-Butanone	ND	0.00919		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Carbon tetrachloride	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Chlorobenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Chloroethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Chloroform	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Chloromethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
2-Chlorotoluene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Carbon disulfide	ND	0.00919		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
4-Chlorotoluene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
cis-1,2-DCE	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
cis-1,3-Dichloropropene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,2-Dibromo-3-chloropropane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Dibromochloromethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Dibromomethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,2-Dichlorobenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,3-Dichlorobenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,4-Dichlorobenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Dichlorodifluoromethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,1-Dichloroethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,1-Dichloroethene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,2-Dichloropropane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,3-Dichloropropane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
2,2-Dichloropropane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,1-Dichloropropene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Hexachlorobutadiene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Isopropylbenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
4-Isopropyltoluene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Methylene chloride	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
n-Butylbenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
2-Hexanone	ND	0.00919		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
n-Propylbenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
sec-Butylbenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Styrene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
4-Methyl-2-pentanone	ND	0.00919		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
tert-Butylbenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (16-18')

Project: GROUP 9

Collection Date: 10/2/2014 2:05:00 PM

Lab ID: 1410213-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,1,2,2-Tetrachloroethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Tetrachloroethene (PCE)	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
trans-1,2-DCE	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
trans-1,3-Dichloropropene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,2,3-Trichlorobenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,2,4-Trichlorobenzene	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,1,1-Trichloroethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,1,2-Trichloroethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Trichloroethene (TCE)	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Trichlorofluoromethane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
1,2,3-Trichloropropane	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Vinyl chloride	ND	0.00184		mg/Kg-dry	1	10/6/2014 4:36:53 PM	15728
Surr: 1,2-Dichloroethane-d4	121	70-130		%REC	1	10/6/2014 4:36:53 PM	15728
Surr: 4-Bromofluorobenzene	99.5	65.3-135		%REC	1	10/6/2014 4:36:53 PM	15728
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/6/2014 4:36:53 PM	15728
Surr: Toluene-d8	99.3	70-130		%REC	1	10/6/2014 4:36:53 PM	15728

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (24-26')

Project: GROUP 9

Collection Date: 10/2/2014 2:35:00 PM

Lab ID: 1410213-004

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	990	100		mg/Kg-dry	10	10/7/2014 1:34:35 PM	15713
Motor Oil Range Organics (MRO)	ND	510		mg/Kg-dry	10	10/7/2014 1:34:35 PM	15713
Surr: DNOP	0	57.9-140	S	%REC	10	10/7/2014 1:34:35 PM	15713
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	48		mg/Kg-dry	10	10/8/2014 12:37:32 AM	15739
Surr: BFB	111	80-120		%REC	10	10/8/2014 12:37:32 AM	15739
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	2.6	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.033		mg/Kg-dry	1	10/17/2014 1:01:26 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.5		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Arsenic	ND	2.5		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Barium	160	0.10		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Beryllium	ND	0.15		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Cadmium	ND	0.10		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Chromium	5.2	0.30		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Cobalt	3.7	0.30		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Lead	1.2	0.25		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Nickel	2.6	0.50		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Selenium	ND	2.5		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Silver	ND	0.25		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Vanadium	19	2.5		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
Zinc	14	2.5		mg/Kg-dry	1	10/10/2014 12:46:14 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Acenaphthylene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Aniline	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Azobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Benz(a)anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Benzo(a)pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Benzo(b)fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Benzo(g,h,i)perylene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Benzo(k)fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Benzoic acid	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Benzyl alcohol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (24-26')

Project: GROUP 9

Collection Date: 10/2/2014 2:35:00 PM

Lab ID: 1410213-004

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Bis(2-chloroethyl)ether	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Bis(2-chloroisopropyl)ether	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Bis(2-ethylhexyl)phthalate	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
4-Bromophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Butyl benzyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Carbazole	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
4-Chloro-3-methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
4-Chloroaniline	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2-Chloronaphthalene	ND	0.26		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2-Chlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
4-Chlorophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Chrysene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Di-n-butyl phthalate	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Di-n-octyl phthalate	ND	0.41		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Dibenz(a,h)anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Dibenzofuran	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
3,3'-Dichlorobenzidine	ND	0.26		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Diethyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Dimethyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2,4-Dichlorophenol	ND	0.41		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2,4-Dimethylphenol	ND	0.31		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
4,6-Dinitro-2-methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2,4-Dinitrophenol	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2,4-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2,6-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Fluorene	0.40	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Hexachlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Hexachlorocyclopentadiene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Hexachloroethane	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Indeno(1,2,3-cd)pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Isophorone	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
1-Methylnaphthalene	2.2	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2-Methylnaphthalene	2.6	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (24-26')

Project: GROUP 9

Collection Date: 10/2/2014 2:35:00 PM

Lab ID: 1410213-004

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
3+4-Methylphenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
N-Nitrosodi-n-propylamine	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
N-Nitrosodiphenylamine	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Naphthalene	0.72	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
3-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
4-Nitroaniline	ND	0.41		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Nitrobenzene	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2-Nitrophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
4-Nitrophenol	ND	0.26		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Pentachlorophenol	ND	0.72		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Phenanthrene	0.77	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Phenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Pyridine	ND	0.52		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2,4,5-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
2,4,6-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:28:37 AM	15725
Surr: 2-Fluorophenol	76.8	21-111		%REC	1	10/13/2014 6:28:37 AM	15725
Surr: Phenol-d5	74.7	23.1-117		%REC	1	10/13/2014 6:28:37 AM	15725
Surr: 2,4,6-Tribromophenol	49.7	22.7-88.9		%REC	1	10/13/2014 6:28:37 AM	15725
Surr: Nitrobenzene-d5	91.7	24.5-126		%REC	1	10/13/2014 6:28:37 AM	15725
Surr: 2-Fluorobiphenyl	83.7	21.2-129		%REC	1	10/13/2014 6:28:37 AM	15725
Surr: 4-Terphenyl-d14	79.6	39.4-107		%REC	1	10/13/2014 6:28:37 AM	15725
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Toluene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Ethylbenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Methyl tert-butyl ether (MTBE)	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,2,4-Trimethylbenzene	1.1	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,3,5-Trimethylbenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,2-Dichloroethane (EDC)	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,2-Dibromoethane (EDB)	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Naphthalene	ND	0.97		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1-Methylnaphthalene	2.8	1.9		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
2-Methylnaphthalene	3.5	1.9		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Acetone	ND	7.2		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Bromobenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (24-26')

Project: GROUP 9

Collection Date: 10/2/2014 2:35:00 PM

Lab ID: 1410213-004

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Bromoform	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Bromomethane	ND	1.4		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
2-Butanone	ND	4.8		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Carbon disulfide	ND	4.8		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Carbon tetrachloride	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Chlorobenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Chloroethane	ND	0.97		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Chloroform	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Chloromethane	ND	1.4		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
2-Chlorotoluene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
4-Chlorotoluene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
cis-1,2-DCE	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
cis-1,3-Dichloropropene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,2-Dibromo-3-chloropropane	ND	0.97		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Dibromochloromethane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Dibromomethane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,2-Dichlorobenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,3-Dichlorobenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,4-Dichlorobenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Dichlorodifluoromethane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,1-Dichloroethane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,1-Dichloroethene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,2-Dichloropropane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,3-Dichloropropane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
2,2-Dichloropropane	ND	0.97		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,1-Dichloropropene	ND	0.97		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Hexachlorobutadiene	ND	0.97		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
2-Hexanone	ND	4.8		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Isopropylbenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
4-Isopropyltoluene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
4-Methyl-2-pentanone	ND	4.8		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Methylene chloride	ND	1.4		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
n-Butylbenzene	ND	1.4		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
n-Propylbenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
sec-Butylbenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Styrene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
tert-Butylbenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,1,1,2-Tetrachloroethane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410213

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-12 (24-26')

Project: GROUP 9

Collection Date: 10/2/2014 2:35:00 PM

Lab ID: 1410213-004

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: RAA			
1,1,2,2-Tetrachloroethane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Tetrachloroethene (PCE)	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
trans-1,2-DCE	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
trans-1,3-Dichloropropene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,2,3-Trichlorobenzene	ND	0.97		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,2,4-Trichlorobenzene	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,1,1-Trichloroethane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,1,2-Trichloroethane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Trichloroethene (TCE)	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Trichlorofluoromethane	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
1,2,3-Trichloropropane	ND	0.97		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Vinyl chloride	ND	0.48		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Xylenes, Total	ND	0.97		mg/Kg-dry	10	10/8/2014 8:27:52 PM	15739
Surr: Dibromofluoromethane	90.1	70-130		%REC	10	10/8/2014 8:27:52 PM	15739
Surr: 1,2-Dichloroethane-d4	83.1	70-130		%REC	10	10/8/2014 8:27:52 PM	15739
Surr: Toluene-d8	78.9	70-130		%REC	10	10/8/2014 8:27:52 PM	15739
Surr: 4-Bromofluorobenzene	92.6	70-130		%REC	10	10/8/2014 8:27:52 PM	15739

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	Page 21 of 35
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Anatek Labs, Inc.

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

Batch #: 141007049
Project Name: 1410213

Analytical Results Report

Sample Number	141007049-001	Sampling Date	10/2/2014	Date/Time Received	10/7/2014 12:30 PM
Client Sample ID	1410213-001C / SWMU 13-12 (0-0.5)			Sampling Time	1:45 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.326	mg/Kg	0.282	10/16/2014	CRW	EPA 335.4	
%moisture	13.3	Percent		10/15/2014	KJS	%moisture	

Sample Number	141007049-002	Sampling Date	10/2/2014	Date/Time Received	10/7/2014 12:30 PM
Client Sample ID	1410213-002C / SWMU 13-12 (0.5-2)			Sampling Time	1:55 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.251	10/16/2014	CRW	EPA 335.4	
%moisture	5.8	Percent		10/15/2014	KJS	%moisture	

Sample Number	141007049-003	Sampling Date	10/2/2014	Date/Time Received	10/7/2014 12:30 PM
Client Sample ID	1410213-003C / SWMU 13-12 (16-18)			Sampling Time	2:05 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.253	10/16/2014	CRW	EPA 335.4	
%moisture	8.9	Percent		10/15/2014	KJS	%moisture	

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

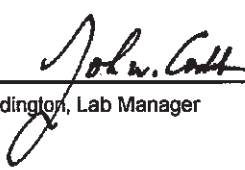
Batch #: 141007049
Project Name: 1410213

Analytical Results Report

Sample Number	141007049-004	Sampling Date	10/2/2014	Date/Time Received	10/7/2014 12:30 PM
Client Sample ID	1410213-004B / SWMU 13-12 (24-26)			Sampling Time	2:35 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.238	10/16/2014	CRW	EPA 335.4	
%moisture	2.4	Percent		10/15/2014	KJS	%moisture	

Authorized Signature


John Coddington, Lab Manager

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

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

Thursday, October 23, 2014

Page 2 of 2

Anatek Labs, Inc.

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

Batch #: 141007049
Project Name: 1410213

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.491	mg/kg	0.5	98.2	90-110	10/16/2014	10/16/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141007053-001	Cyanide	ND	12.4	mg/kg	13.2	93.9	90-110	10/16/2014	10/16/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	12.4	mg/kg	13.2	93.9	0.0	0-25	10/16/2014	10/16/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	10/16/2014	10/16/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87693; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C586; MT:Cert0095; FL(NELAP): E871099



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 09, 2014

Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

Date Received : October 07, 2014
Description :

Sample ID : 1410213-001D SWMU 13-12 0-0.5 FT

Collected By :
Collection Date : 10/02/14 13:45

ESC Sample # : L725958-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	10/09/14	1
ORP	66.		mV	2580 B-2011	10/08/14	1
pH	7.6		su	9045D	10/09/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 10/09/14 18:10 Printed: 10/09/14 18:10
L725958-01 (PH) - 7.6@22.1c



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REPORT OF ANALYSIS

October 09, 2014

Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

Date Received : October 07, 2014
Description :
Sample ID : 1410213-002D SWMU 13-12 0.5-2 FT
Collected By :
Collection Date : 10/02/14 13:55

ESC Sample # : L725958-02

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	10/09/14	1
ORP	69.		mV	2580 B-2011	10/08/14	1
pH	7.5		su	9045D	10/09/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 10/09/14 18:10 Printed: 10/09/14 18:10

L725958-02 (PH) - 7.5@21.6c



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REPORT OF ANALYSIS

October 09, 2014

Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

Date Received : October 07, 2014
Description :
Sample ID : 1410213-003D SWMU 13-12 16-18 FT
Collected By :
Collection Date : 10/02/14 14:05

ESC Sample # : L725958-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	10/09/14	1
ORP	82.		mV	2580 B-2011	10/08/14	1
pH	7.4		su	9045D	10/09/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 10/09/14 18:10 Printed: 10/09/14 18:10

L725958-03 (PH) - 7.4@21.8c



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REPORT OF ANALYSIS

October 09, 2014

Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

Date Received : October 07, 2014
Description :
Sample ID : 1410213-004C SWMU 13-12 24-26 FT
Collected By :
Collection Date : 10/02/14 14:35

ESC Sample # : L725958-04

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	10/09/14	1
ORP	41.		mV	2580 B-2011	10/08/14	1
pH	8.1		su	9045D	10/09/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 10/09/14 18:10 Printed: 10/09/14 18:10

L725958-04 (PH) - 8.1021.8c

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15713		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 15713		RunNo: 21668					
Prep Date:	10/4/2014		Analysis Date: 10/6/2014		SeqNo: 635830		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	6.8		10.00		67.5	57.9	140			

Sample ID	LCS-15713		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15713		RunNo: 21668					
Prep Date:	10/4/2014		Analysis Date: 10/6/2014		SeqNo: 636216		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.6	68.6	130			
Surr: DNOP	3.2		5.000		64.2	57.9	140			

Sample ID	1410213-001AMS		SampType: MS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	SWMU 13-12 (0-0.5')		Batch ID: 15713		RunNo: 21712					
Prep Date:	10/4/2014		Analysis Date: 10/7/2014		SeqNo: 637682		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	73	11	53.22	31.95	76.8	40.1	152			
Surr: DNOP	4.9		5.322		91.2	57.9	140			

Sample ID	1410213-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015D: Diesel Range Organics				
Client ID:	SWMU 13-12 (0-0.5')		Batch ID:	15713		RunNo:	21712				
Prep Date:	10/4/2014		Analysis Date:	10/7/2014		SeqNo:	637683		Units: mg/Kg-dry		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	82	11	53.01	31.95	94.6	40.1	152	12.0	32.1		
Surr: DNOP	5.2		5.301		97.8	57.9	140	0	0		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID MB-15739	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 15739			RunNo: 21730						
Prep Date: 10/6/2014	Analysis Date: 10/7/2014			SeqNo: 637950		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	830		1000		83.0	80	120			

Sample ID LCS-15739	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 15739			RunNo: 21730						
Prep Date: 10/6/2014	Analysis Date: 10/7/2014			SeqNo: 637951		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.3	65.8	139			
Surr: BFB	960		1000		96.1	80	120			

Sample ID 5ML RB	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: R21756			RunNo: 21756						
Prep Date:	Analysis Date: 10/8/2014			SeqNo: 638847		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		91.7	80	120			

Sample ID 2.5UG GRO LCS	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: R21756			RunNo: 21756						
Prep Date:	Analysis Date: 10/8/2014			SeqNo: 638848		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.4	65.8	139			
Surr: BFB	1000		1000		101	80	120			

Sample ID 5ML RB	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: R21774			RunNo: 21774						
Prep Date:	Analysis Date: 10/9/2014			SeqNo: 640455		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.3	80	120			

Sample ID 2.5UG GRO LCS	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: R21774			RunNo: 21774						
Prep Date:	Analysis Date: 10/9/2014			SeqNo: 640456		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R21774	RunNo:	21774					
Prep Date:		Analysis Date:	10/9/2014	SeqNo:	640456	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	65.8	139			
Surr: BFB	1100		1000		108	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15739		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15739		RunNo:	21749			
Prep Date:	10/6/2014		Analysis Date:	10/8/2014		SeqNo:	639690		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15739		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15739		RunNo:	21749			
Prep Date:	10/6/2014		Analysis Date:	10/8/2014		SeqNo:	639690		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.45		0.5000		90.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.37		0.5000		73.0	70	130			
Surr: Toluene-d8	0.43		0.5000		85.7	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		83.8	70	130			

Sample ID	ics-15739		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	LCSS		Batch ID:	15739		RunNo:	21749			
Prep Date:	10/6/2014		Analysis Date:	10/8/2014		SeqNo:	639691		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.050	1.000	0	94.3	70	130			
Toluene	0.86	0.050	1.000	0	86.1	70	130			
Chlorobenzene	0.96	0.050	1.000	0	96.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15739		SampType: LCS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS		Batch ID: 15739		RunNo: 21749					
Prep Date:	10/6/2014		Analysis Date: 10/8/2014		SeqNo: 639691		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.91	0.050	1.000	0	90.7	60.5	160			
Trichloroethene (TCE)	0.90	0.050	1.000	0	89.9	58.8	139			
Surr: Dibromofluoromethane	0.43		0.5000		86.2	70	130			
Surr: 1,2-Dichloroethane-d4	0.34		0.5000		67.6	70	130			S
Surr: Toluene-d8	0.39		0.5000		78.4	70	130			
Surr: 4-Bromofluorobenzene	0.36		0.5000		72.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15728		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637384		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00200								
Ethylbenzene	ND	0.00200								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00200								
1,2,4-Trimethylbenzene	ND	0.00200								
1,3,5-Trimethylbenzene	ND	0.00200								
1,2-Dichloroethane (EDC)	ND	0.00200								
1,2-Dibromoethane (EDB)	ND	0.00200								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00200								
Bromodichloromethane	ND	0.00200								
Bromoform	ND	0.00200								
Bromomethane	ND	0.00300								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00200								
Chlorobenzene	ND	0.00200								
Chloroethane	ND	0.00200								
Chloroform	ND	0.00200								
Chloromethane	ND	0.00200								
2-Chlorotoluene	ND	0.00200								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00200								
cis-1,2-DCE	ND	0.00200								
cis-1,3-Dichloropropene	ND	0.00200								
1,2-Dibromo-3-chloropropane	ND	0.00200								
Dibromochloromethane	ND	0.00200								
Dibromomethane	ND	0.00200								
1,2-Dichlorobenzene	ND	0.00200								
1,3-Dichlorobenzene	ND	0.00200								
1,4-Dichlorobenzene	ND	0.00200								
Dichlorodifluoromethane	ND	0.00200								
1,1-Dichloroethane	ND	0.00200								
1,1-Dichloroethene	ND	0.00200								
1,2-Dichloropropane	ND	0.00200								
1,3-Dichloropropane	ND	0.00200								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15728		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637384		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.00200								
1,1-Dichloropropene	ND	0.00200								
Hexachlorobutadiene	ND	0.00200								
Isopropylbenzene	ND	0.00200								
4-Isopropyltoluene	ND	0.00200								
Methylene chloride	ND	0.00200								
n-Butylbenzene	ND	0.00200								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00200								
sec-Butylbenzene	ND	0.00200								
Styrene	ND	0.00200								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00200								
1,1,1,2-Tetrachloroethane	ND	0.00200								
1,1,2,2-Tetrachloroethane	ND	0.00200								
Tetrachloroethene (PCE)	ND	0.00200								
trans-1,2-DCE	ND	0.00200								
trans-1,3-Dichloropropene	ND	0.00200								
1,2,3-Trichlorobenzene	ND	0.00200								
1,2,4-Trichlorobenzene	ND	0.00200								
1,1,1-Trichloroethane	ND	0.00200								
1,1,2-Trichloroethane	ND	0.00200								
Trichloroethene (TCE)	ND	0.00200								
Trichlorofluoromethane	ND	0.00200								
1,2,3-Trichloropropane	ND	0.00200								
Vinyl chloride	ND	0.00200								
Surr: 1,2-Dichloroethane-d4	0.0208		0.02000		104	70	130			
Surr: 4-Bromofluorobenzene	0.0216		0.02000		108	65.3	135			
Surr: Dibromofluoromethane	0.0203		0.02000		102	70	130			
Surr: Toluene-d8	0.0210		0.02000		105	70	130			

Sample ID	lcs-15728		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637386		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0104	0.00200	0.01000	0	104	70	130			
Toluene	0.0100	0.00200	0.01000	0	100	70	130			
Chlorobenzene	0.0103	0.00200	0.01000	0	103	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15728		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637386		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.00996	0.00200	0.01000	0	99.6	70	130			
Trichloroethene (TCE)	0.0105	0.00200	0.01000	0	105	61.6	131			
Surr: 1,2-Dichloroethane-d4	0.0211		0.02000		105	70	130			
Surr: 4-Bromofluorobenzene	0.0207		0.02000		104	65.3	135			
Surr: Dibromofluoromethane	0.0208		0.02000		104	70	130			
Surr: Toluene-d8	0.0200		0.02000		99.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15725		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBS		Batch ID: 15725		RunNo: 21852					
Prep Date:	10/6/2014		Analysis Date: 10/13/2014		SeqNo: 642289		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15725	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15725	RunNo:	21852					
Prep Date:	10/6/2014	Analysis Date:	10/13/2014	SeqNo:	642289	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.70								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	3.4		3.330		103	21	111			
Surr: Phenol-d5	3.4		3.330		102	23.1	117			
Surr: 2,4,6-Tribromophenol	3.0		3.330		88.7	22.7	88.9			
Surr: Nitrobenzene-d5	1.9		1.670		111	24.5	126			
Surr: 2-Fluorobiphenyl	2.0		1.670		121	21.2	129			
Surr: 4-Terphenyl-d14	1.7		1.670		103	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	Ics-15725		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 15725		RunNo: 21852					
Prep Date:	10/6/2014		Analysis Date: 10/13/2014		SeqNo: 642291		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.7	0.20	1.670	0	102	50.7	110			
4-Chloro-3-methylphenol	3.6	0.50	3.330	0	107	47.8	107			S
2-Chlorophenol	3.6	0.20	3.330	0	109	45.7	108			S
1,4-Dichlorobenzene	1.6	0.20	1.670	0	97.8	46.1	112			
2,4-Dinitrotoluene	1.6	0.50	1.670	0	93.5	44.9	114			
N-Nitrosodi-n-propylamine	1.5	0.20	1.670	0	88.8	38.7	128			
4-Nitrophenol	3.1	0.25	3.330	0	92.6	40.2	103			
Pentachlorophenol	2.6	0.70	3.330	0	78.2	32.9	94			
Phenol	3.4	0.20	3.330	0	103	44.1	109			
Pyrene	1.5	0.20	1.670	0	91.4	51.9	109			
1,2,4-Trichlorobenzene	1.8	0.20	1.670	0	109	49.5	115			
Surr: 2-Fluorophenol	3.0		3.330		91.5	21	111			
Surr: Phenol-d5	3.2		3.330		97.1	23.1	117			
Surr: 2,4,6-Tribromophenol	2.9		3.330		85.9	22.7	88.9			
Surr: Nitrobenzene-d5	1.9		1.670		111	24.5	126			
Surr: 2-Fluorobiphenyl	1.8		1.670		110	21.2	129			
Surr: 4-Terphenyl-d14	1.6		1.670		97.4	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15938		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 15938		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646269		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.033								

Sample ID	LCS-15938			SampType:	LCS		TestCode:	EPA Method 7471: Mercury			
Client ID:	LCSS			Batch ID:	15938		RunNo:	21990			
Prep Date:	10/16/2014			Analysis Date:	10/17/2014		SeqNo:	646270		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.16	0.033	0.1667	0	93.8	80	120				

Sample ID	1410213-001BMS		SampType: MS		TestCode: EPA Method 7471: Mercury					
Client ID:	SWMU 13-12 (0-0.5')		Batch ID: 15938		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646316		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.40	0.17	0.1729	0.2835	69.6	75	125			S

Sample ID	1410213-001BMSD		SampType:	MSD		TestCode:	EPA Method 7471: Mercury				
Client ID:	SWMU 13-12 (0-0.5')		Batch ID:	15938		RunNo:	21990				
Prep Date:	10/16/2014		Analysis Date:	10/17/2014		SeqNo:	646317		Units: mg/Kg-dry		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.43	0.18	0.1812	0.2835	83.2	75	125	7.27	20		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410213

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15818		SampType: MBLK		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	PBS		Batch ID: 15818		RunNo: 21817					
Prep Date:	10/9/2014		Analysis Date: 10/10/2014		SeqNo: 641317		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Lead	ND	0.25								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-15818		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 15818		RunNo: 21817					
Prep Date:	10/9/2014		Analysis Date: 10/10/2014		SeqNo: 641318		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	24	2.5	25.00	0	96.5	80	120			
Arsenic	24	2.5	25.00	0	97.1	80	120			
Barium	25	0.10	25.00	0	98.4	80	120			
Beryllium	25	0.15	25.00	0	99.3	80	120			
Cadmium	24	0.10	25.00	0	96.1	80	120			
Chromium	24	0.30	25.00	0	96.7	80	120			
Cobalt	24	0.30	25.00	0	97.3	80	120			
Lead	24	0.25	25.00	0	96.8	80	120			
Nickel	25	0.50	25.00	0	98.5	80	120			
Selenium	24	2.5	25.00	0	94.2	80	120			
Silver	4.9	0.25	5.000	0	97.4	80	120			
Vanadium	25	2.5	25.00	0	98.9	80	120			
Zinc	25	2.5	25.00	0	100	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: **Western Refining Southw**

Work Order Number: **1410213**

RcptNo: 1

Received by/date:

Logged By: **Lindsay Mangin**

10/4/2014 7:00:00 AM

Completed By: **Lindsay Mangin**

10/4/2014 8:26:17 AM

Reviewed By:

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? Courier

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: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

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	1.3	Good	Yes			

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel: 505-345-3975 Fax: 505-345-4107

Analysis Request

Project Manager:

KELLY ROBINSON

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: 132

HEAL No.

Preservative Type

Container

Sample Request ID

Matrix

Date _____ Time _____

2.14	1345	SOIL	SWMU 13-12 (0-0.5')
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Category	Time 1	Time 2	Time 3	Time 4
A	100%	85%	65%	25%
B	0%	15%	45%	75%
C	0%	5%	15%	25%
D	0%	5%	15%	25%

[illegible]

1355	9/11/13 17/05/21
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[illegible]

11/105	EW 1113-12 (11-19')
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[illegible]

2-13-51	STB/LINC	▲	CEH	▲
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[illegible]

Date:	Time:	Relinquished by: 
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8091 1058

Date:	Time:	Relinquished by:
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3/14	1745	Unit 1
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If necessary, samples submitted to Hall Environmental may be subco

Remarks:

* *

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possibility. An

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 3060A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl Lead	SW-846 method 8270C
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

November 05, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9

OrderNo.: 1410214

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/4/2014 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
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1410214
Date: 11/5/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9

Surrogate recoveries with an "S" flag have poor or elevated recoveries due to matrix interferences and/or sample dilution.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 4:50:00 PM

Lab ID: 1410214-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	950	110		mg/Kg-dry	10	10/7/2014 11:34:20 AM	15724
Motor Oil Range Organics (MRO)	660	570		mg/Kg-dry	10	10/7/2014 11:34:20 AM	15724
Surr: DNOP	0	57.9-140	S	%REC	10	10/7/2014 11:34:20 AM	15724
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	110	39		mg/Kg-dry	10	10/9/2014 1:26:28 AM	R21756
Surr: BFB	142	80-120	S	%REC	10	10/9/2014 1:26:28 AM	R21756
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	12	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.10	0.039		mg/Kg-dry	1	10/17/2014 1:03:16 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.9		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Arsenic	4.0	2.9		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Barium	180	0.12		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Beryllium	0.50	0.17		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Cadmium	ND	0.12		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Chromium	10	0.35		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Cobalt	4.7	0.35		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Lead	13	0.29		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Nickel	9.3	0.58		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Selenium	ND	2.9		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Silver	ND	0.29		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Vanadium	25	2.9		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
Zinc	43	2.9		mg/Kg-dry	1	10/10/2014 12:51:26 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Acenaphthylene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Aniline	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Anthracene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Azobenzene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Benz(a)anthracene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Benzo(a)pyrene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Benzo(b)fluoranthene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Benzo(g,h,i)perylene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Benzo(k)fluoranthene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Benzoic acid	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Benzyl alcohol	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 4:50:00 PM

Lab ID: 1410214-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Bis(2-chloroethyl)ether	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Bis(2-chloroisopropyl)ether	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Bis(2-ethylhexyl)phthalate	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
4-Bromophenyl phenyl ether	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Butyl benzyl phthalate	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Carbazole	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
4-Chloro-3-methylphenol	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
4-Chloroaniline	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2-Chloronaphthalene	ND	2.8		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2-Chlorophenol	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
4-Chlorophenyl phenyl ether	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Chrysene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Di-n-butyl phthalate	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Di-n-octyl phthalate	ND	4.6		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Dibenz(a,h)anthracene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Dibenzofuran	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
1,2-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
1,3-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
1,4-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
3,3'-Dichlorobenzidine	ND	2.8		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Diethyl phthalate	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Dimethyl phthalate	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2,4-Dichlorophenol	ND	4.6		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2,4-Dimethylphenol	ND	3.4		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
4,6-Dinitro-2-methylphenol	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2,4-Dinitrophenol	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2,4-Dinitrotoluene	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2,6-Dinitrotoluene	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Fluoranthene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Fluorene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Hexachlorobenzene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Hexachlorobutadiene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Hexachlorocyclopentadiene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Hexachloroethane	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Indeno(1,2,3-cd)pyrene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Isophorone	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
1-Methylnaphthalene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2-Methylnaphthalene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725

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	Page 3 of 29
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 4:50:00 PM

Lab ID: 1410214-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
3+4-Methylphenol	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
N-Nitrosodi-n-propylamine	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
N-Nitrosodiphenylamine	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Naphthalene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2-Nitroaniline	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
3-Nitroaniline	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
4-Nitroaniline	ND	4.6		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Nitrobenzene	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2-Nitrophenol	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
4-Nitrophenol	ND	2.8		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Pentachlorophenol	ND	8.0		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Phenanthrene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Phenol	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Pyrene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Pyridine	ND	5.7		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
1,2,4-Trichlorobenzene	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2,4,5-Trichlorophenol	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
2,4,6-Trichlorophenol	ND	2.3		mg/Kg-dry	1	10/13/2014 8:16:13 PM	15725
Surr: 2-Fluorophenol	148	21-111	S	%REC	1	10/13/2014 8:16:13 PM	15725
Surr: Phenol-d5	121	23.1-117	S	%REC	1	10/13/2014 8:16:13 PM	15725
Surr: 2,4,6-Tribromophenol	36.1	22.7-88.9		%REC	1	10/13/2014 8:16:13 PM	15725
Surr: Nitrobenzene-d5	118	24.5-126		%REC	1	10/13/2014 8:16:13 PM	15725
Surr: 2-Fluorobiphenyl	150	21.2-129	S	%REC	1	10/13/2014 8:16:13 PM	15725
Surr: 4-Terphenyl-d14	145	39.4-107	S	%REC	1	10/13/2014 8:16:13 PM	15725
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	0.095	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Toluene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Ethylbenzene	0.17	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Methyl tert-butyl ether (MTBE)	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,2,4-Trimethylbenzene	1.3	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,3,5-Trimethylbenzene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,2-Dichloroethane (EDC)	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,2-Dibromoethane (EDB)	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Naphthalene	0.13	0.079		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1-Methylnaphthalene	ND	0.16		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
2-Methylnaphthalene	ND	0.16		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Acetone	ND	0.59		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Bromobenzene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749

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	Page 4 of 29
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 4:50:00 PM

Lab ID: 1410214-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Bromoform	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Bromomethane	ND	0.12		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
2-Butanone	ND	0.39		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Carbon disulfide	ND	0.39		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Carbon tetrachloride	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Chlorobenzene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Chloroethane	ND	0.079		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Chloroform	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Chloromethane	ND	0.12		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
2-Chlorotoluene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
4-Chlorotoluene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
cis-1,2-DCE	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
cis-1,3-Dichloropropene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,2-Dibromo-3-chloropropane	ND	0.079		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Dibromochloromethane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Dibromomethane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,2-Dichlorobenzene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,3-Dichlorobenzene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,4-Dichlorobenzene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Dichlorodifluoromethane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,1-Dichloroethane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,1-Dichloroethene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,2-Dichloropropane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,3-Dichloropropane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
2,2-Dichloropropane	ND	0.079		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,1-Dichloropropene	ND	0.079		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Hexachlorobutadiene	ND	0.079		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
2-Hexanone	ND	0.39		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Isopropylbenzene	0.18	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
4-Isopropyltoluene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
4-Methyl-2-pentanone	ND	0.39		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Methylene chloride	ND	0.12		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
n-Butylbenzene	ND	0.12		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
n-Propylbenzene	0.26	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
sec-Butylbenzene	0.12	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Styrene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
tert-Butylbenzene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,1,1,2-Tetrachloroethane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749

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	Page 5 of 29
	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	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 4:50:00 PM

Lab ID: 1410214-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: RAA			
1,1,2,2-Tetrachloroethane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Tetrachloroethene (PCE)	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
trans-1,2-DCE	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
trans-1,3-Dichloropropene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,2,3-Trichlorobenzene	ND	0.079		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,2,4-Trichlorobenzene	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,1,1-Trichloroethane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,1,2-Trichloroethane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Trichloroethene (TCE)	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Trichlorofluoromethane	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
1,2,3-Trichloropropane	ND	0.079		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Vinyl chloride	ND	0.039		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Xylenes, Total	ND	0.079		mg/Kg-dry	1	10/8/2014 1:56:39 PM	R21749
Surr: Dibromofluoromethane	87.2	70-130		%REC	1	10/8/2014 1:56:39 PM	R21749
Surr: 1,2-Dichloroethane-d4	81.7	70-130		%REC	1	10/8/2014 1:56:39 PM	R21749
Surr: Toluene-d8	89.3	70-130		%REC	1	10/8/2014 1:56:39 PM	R21749
Surr: 4-Bromofluorobenzene	149	70-130	S	%REC	1	10/8/2014 1:56:39 PM	R21749

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	Page 6 of 29
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (2-4')

Project: GROUP 9

Collection Date: 10/2/2014 5:00:00 PM

Lab ID: 1410214-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	450	12		mg/Kg-dry	1	10/7/2014 12:04:38 PM	15724
Motor Oil Range Organics (MRO)	540	58		mg/Kg-dry	1	10/7/2014 12:04:38 PM	15724
Surr: DNOP	112	57.9-140		%REC	1	10/7/2014 12:04:38 PM	15724
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	57	37		mg/Kg-dry	10	10/9/2014 1:56:31 AM	R21756
Surr: BFB	154	80-120	S	%REC	10	10/9/2014 1:56:31 AM	R21756
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	12	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.13	0.040		mg/Kg-dry	1	10/17/2014 1:05:06 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.9		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Arsenic	3.4	2.9		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Barium	180	0.12		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Beryllium	0.51	0.18		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Cadmium	ND	0.12		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Chromium	9.4	0.35		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Cobalt	4.6	0.35		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Lead	8.2	0.29		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Nickel	8.0	0.59		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Selenium	ND	2.9		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Silver	ND	0.29		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Vanadium	25	2.9		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
Zinc	40	2.9		mg/Kg-dry	1	10/10/2014 12:52:45 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Acenaphthylene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Aniline	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Anthracene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Azobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Benz(a)anthracene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Benzo(a)pyrene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Benzo(b)fluoranthene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Benzo(g,h,i)perylene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Benzo(k)fluoranthene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Benzoic acid	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Benzyl alcohol	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (2-4')

Project: GROUP 9

Collection Date: 10/2/2014 5:00:00 PM

Lab ID: 1410214-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Bis(2-chloroethyl)ether	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Bis(2-chloroisopropyl)ether	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Bis(2-ethylhexyl)phthalate	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
4-Bromophenyl phenyl ether	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Butyl benzyl phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Carbazole	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
4-Chloro-3-methylphenol	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
4-Chloroaniline	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2-Chloronaphthalene	ND	1.4		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2-Chlorophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
4-Chlorophenyl phenyl ether	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Chrysene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Di-n-butyl phthalate	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Di-n-octyl phthalate	ND	2.3		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Dibenz(a,h)anthracene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Dibenzofuran	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
1,2-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
1,3-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
1,4-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
3,3'-Dichlorobenzidine	ND	1.4		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Diethyl phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Dimethyl phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2,4-Dichlorophenol	ND	2.3		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2,4-Dimethylphenol	ND	1.7		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
4,6-Dinitro-2-methylphenol	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2,4-Dinitrophenol	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2,4-Dinitrotoluene	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2,6-Dinitrotoluene	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Fluoranthene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Fluorene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Hexachlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Hexachlorobutadiene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Hexachlorocyclopentadiene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Hexachloroethane	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Indeno(1,2,3-cd)pyrene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Isophorone	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
1-Methylnaphthalene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2-Methylnaphthalene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725

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	Page 8 of 29
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (2-4')

Project: GROUP 9

Collection Date: 10/2/2014 5:00:00 PM

Lab ID: 1410214-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
3+4-Methylphenol	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
N-Nitrosodi-n-propylamine	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
N-Nitrosodiphenylamine	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Naphthalene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2-Nitroaniline	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
3-Nitroaniline	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
4-Nitroaniline	ND	2.3		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Nitrobenzene	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2-Nitrophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
4-Nitrophenol	ND	1.4		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Pentachlorophenol	ND	4.0		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Phenanthrene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Phenol	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Pyrene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Pyridine	ND	2.9		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
1,2,4-Trichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2,4,5-Trichlorophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
2,4,6-Trichlorophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 8:44:10 PM	15725
Surr: 2-Fluorophenol	120	21-111	S	%REC	1	10/13/2014 8:44:10 PM	15725
Surr: Phenol-d5	111	23.1-117		%REC	1	10/13/2014 8:44:10 PM	15725
Surr: 2,4,6-Tribromophenol	30.2	22.7-88.9		%REC	1	10/13/2014 8:44:10 PM	15725
Surr: Nitrobenzene-d5	125	24.5-126		%REC	1	10/13/2014 8:44:10 PM	15725
Surr: 2-Fluorobiphenyl	146	21.2-129	S	%REC	1	10/13/2014 8:44:10 PM	15725
Surr: 4-Terphenyl-d14	125	39.4-107	S	%REC	1	10/13/2014 8:44:10 PM	15725
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	0.00734	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Toluene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Ethylbenzene	0.0227	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Xylenes, Total	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Methyl tert-butyl ether (MTBE)	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,2,4-Trimethylbenzene	0.0428	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,3,5-Trimethylbenzene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,2-Dichloroethane (EDC)	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,2-Dibromoethane (EDB)	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Naphthalene	0.0251	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1-Methylnaphthalene	0.0142	0.00423		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
2-Methylnaphthalene	0.0233	0.00423		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Acetone	0.0670	0.0106		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728

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	Page 9 of 29
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (2-4')

Project: GROUP 9

Collection Date: 10/2/2014 5:00:00 PM

Lab ID: 1410214-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Bromodichloromethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Bromoform	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Bromomethane	ND	0.00317		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
2-Butanone	0.0107	0.0106		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Carbon tetrachloride	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Chlorobenzene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Chloroethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Chloroform	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Chloromethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
2-Chlorotoluene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Carbon disulfide	ND	0.0106		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
4-Chlorotoluene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
cis-1,2-DCE	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
cis-1,3-Dichloropropene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,2-Dibromo-3-chloropropane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Dibromochloromethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Dibromomethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,2-Dichlorobenzene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,3-Dichlorobenzene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,4-Dichlorobenzene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Dichlorodifluoromethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,1-Dichloroethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,1-Dichloroethene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,2-Dichloropropane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,3-Dichloropropane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
2,2-Dichloropropane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,1-Dichloropropene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Hexachlorobutadiene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Isopropylbenzene	0.0258	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
4-Isopropyltoluene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Methylene chloride	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
n-Butylbenzene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
2-Hexanone	ND	0.0106		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
n-Propylbenzene	0.0199	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
sec-Butylbenzene	0.0107	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Styrene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
4-Methyl-2-pentanone	ND	0.0106		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
tert-Butylbenzene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (2-4')

Project: GROUP 9

Collection Date: 10/2/2014 5:00:00 PM

Lab ID: 1410214-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES					Analyst: cadg		
1,1,1,2-Tetrachloroethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,1,2,2-Tetrachloroethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Tetrachloroethene (PCE)	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
trans-1,2-DCE	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
trans-1,3-Dichloropropene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,2,3-Trichlorobenzene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,2,4-Trichlorobenzene	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,1,1-Trichloroethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,1,2-Trichloroethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Trichloroethene (TCE)	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Trichlorofluoromethane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
1,2,3-Trichloropropane	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Vinyl chloride	ND	0.00211		mg/Kg-dry	1	10/6/2014 6:02:56 PM	15728
Surr: 1,2-Dichloroethane-d4	85.0	70-130		%REC	1	10/6/2014 6:02:56 PM	15728
Surr: 4-Bromofluorobenzene	83.9	65.3-135		%REC	1	10/6/2014 6:02:56 PM	15728
Surr: Dibromofluoromethane	82.8	70-130		%REC	1	10/6/2014 6:02:56 PM	15728
Surr: Toluene-d8	116	70-130		%REC	1	10/6/2014 6:02:56 PM	15728

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (26-28')

Project: GROUP 9

Collection Date: 10/2/2014 5:05:00 PM

Lab ID: 1410214-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	1500	100		mg/Kg-dry	10	10/7/2014 1:05:08 PM	15724
Motor Oil Range Organics (MRO)	ND	520		mg/Kg-dry	10	10/7/2014 1:05:08 PM	15724
Surr: DNOP	0	57.9-140	S	%REC	10	10/7/2014 1:05:08 PM	15724
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	52	35		mg/Kg-dry	10	10/9/2014 2:26:32 AM	R21756
Surr: BFB	152	80-120	S	%REC	10	10/9/2014 2:26:32 AM	R21756
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	3.4	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.036		mg/Kg-dry	1	10/17/2014 1:06:57 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.5		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Arsenic	ND	2.5		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Barium	150	0.10		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Beryllium	ND	0.15		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Cadmium	ND	0.10		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Chromium	4.2	0.30		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Cobalt	3.1	0.30		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Lead	1.3	0.25		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Nickel	2.2	0.50		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Selenium	ND	2.5		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Silver	ND	0.25		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Vanadium	17	2.5		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
Zinc	14	2.5		mg/Kg-dry	1	10/10/2014 12:54:01 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Acenaphthylene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Aniline	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Azobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Benz(a)anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Benzo(a)pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Benzo(b)fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Benzo(g,h,i)perylene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Benzo(k)fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Benzoic acid	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Benzyl alcohol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (26-28')

Project: GROUP 9

Collection Date: 10/2/2014 5:05:00 PM

Lab ID: 1410214-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Bis(2-chloroethyl)ether	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Bis(2-chloroisopropyl)ether	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Bis(2-ethylhexyl)phthalate	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
4-Bromophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Butyl benzyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Carbazole	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
4-Chloro-3-methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
4-Chloroaniline	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2-Chloronaphthalene	ND	0.26		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2-Chlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
4-Chlorophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Chrysene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Di-n-butyl phthalate	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Di-n-octyl phthalate	ND	0.41		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Dibenz(a,h)anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Dibenzofuran	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
3,3'-Dichlorobenzidine	ND	0.26		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Diethyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Dimethyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2,4-Dichlorophenol	ND	0.41		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2,4-Dimethylphenol	ND	0.31		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
4,6-Dinitro-2-methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2,4-Dinitrophenol	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2,4-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2,6-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Fluorene	0.58	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Hexachlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Hexachlorocyclopentadiene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Hexachloroethane	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Indeno(1,2,3-cd)pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Isophorone	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
1-Methylnaphthalene	3.4	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2-Methylnaphthalene	4.7	0.41		mg/Kg-dry	2	10/13/2014 4:30:26 PM	15725

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (26-28')

Project: GROUP 9

Collection Date: 10/2/2014 5:05:00 PM

Lab ID: 1410214-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
3+4-Methylphenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
N-Nitrosodi-n-propylamine	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
N-Nitrosodiphenylamine	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Naphthalene	2.0	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
3-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
4-Nitroaniline	ND	0.41		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Nitrobenzene	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2-Nitrophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
4-Nitrophenol	ND	0.26		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Pentachlorophenol	ND	0.73		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Phenanthrene	1.3	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Phenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Pyridine	ND	0.52		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2,4,5-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
2,4,6-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 6:55:43 AM	15725
Surr: 2-Fluorophenol	86.0	21-111		%REC	1	10/13/2014 6:55:43 AM	15725
Surr: Phenol-d5	85.6	23.1-117		%REC	1	10/13/2014 6:55:43 AM	15725
Surr: 2,4,6-Tribromophenol	53.1	22.7-88.9		%REC	1	10/13/2014 6:55:43 AM	15725
Surr: Nitrobenzene-d5	118	24.5-126		%REC	1	10/13/2014 6:55:43 AM	15725
Surr: 2-Fluorobiphenyl	91.2	21.2-129		%REC	1	10/13/2014 6:55:43 AM	15725
Surr: 4-Terphenyl-d14	89.1	39.4-107		%REC	1	10/13/2014 6:55:43 AM	15725
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	0.039	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Toluene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Ethylbenzene	0.71	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Methyl tert-butyl ether (MTBE)	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,2,4-Trimethylbenzene	0.082	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,3,5-Trimethylbenzene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,2-Dichloroethane (EDC)	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,2-Dibromoethane (EDB)	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Naphthalene	1.5	0.070		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1-Methylnaphthalene	3.3	1.4		mg/Kg-dry	10	10/9/2014 11:46:01 AM	R21749
2-Methylnaphthalene	5.1	1.4		mg/Kg-dry	10	10/9/2014 11:46:01 AM	R21749
Acetone	ND	0.52		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Bromobenzene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (26-28')

Project: GROUP 9

Collection Date: 10/2/2014 5:05:00 PM

Lab ID: 1410214-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Bromoform	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Bromomethane	ND	0.10		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
2-Butanone	ND	0.35		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Carbon disulfide	ND	0.35		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Carbon tetrachloride	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Chlorobenzene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Chloroethane	ND	0.070		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Chloroform	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Chloromethane	ND	0.10		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
2-Chlorotoluene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
4-Chlorotoluene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
cis-1,2-DCE	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
cis-1,3-Dichloropropene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,2-Dibromo-3-chloropropane	ND	0.070		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Dibromochloromethane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Dibromomethane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,2-Dichlorobenzene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,3-Dichlorobenzene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,4-Dichlorobenzene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Dichlorodifluoromethane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,1-Dichloroethane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,1-Dichloroethene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,2-Dichloropropane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,3-Dichloropropane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
2,2-Dichloropropane	ND	0.070		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,1-Dichloropropene	ND	0.070		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Hexachlorobutadiene	ND	0.070		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
2-Hexanone	ND	0.35		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Isopropylbenzene	0.37	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
4-Isopropyltoluene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
4-Methyl-2-pentanone	ND	0.35		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Methylene chloride	ND	0.10		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
n-Butylbenzene	0.19	0.10		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
n-Propylbenzene	0.63	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
sec-Butylbenzene	0.38	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Styrene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
tert-Butylbenzene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,1,1,2-Tetrachloroethane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410214

Date Reported: 11/5/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-14 (26-28')

Project: GROUP 9

Collection Date: 10/2/2014 5:05:00 PM

Lab ID: 1410214-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: RAA			
1,1,2,2-Tetrachloroethane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Tetrachloroethene (PCE)	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
trans-1,2-DCE	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
trans-1,3-Dichloropropene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,2,3-Trichlorobenzene	ND	0.070		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,2,4-Trichlorobenzene	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,1,1-Trichloroethane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,1,2-Trichloroethane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Trichloroethene (TCE)	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Trichlorofluoromethane	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
1,2,3-Trichloropropane	ND	0.070		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Vinyl chloride	ND	0.035		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Xylenes, Total	ND	0.070		mg/Kg-dry	1	10/8/2014 3:48:38 PM	R21749
Surr: Dibromofluoromethane	85.0	70-130		%REC	1	10/8/2014 3:48:38 PM	R21749
Surr: 1,2-Dichloroethane-d4	81.1	70-130		%REC	1	10/8/2014 3:48:38 PM	R21749
Surr: Toluene-d8	83.3	70-130		%REC	1	10/8/2014 3:48:38 PM	R21749
Surr: 4-Bromofluorobenzene	113	70-130		%REC	1	10/8/2014 3:48:38 PM	R21749

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	Page 16 of 29
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Anatek Labs, Inc.

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

Batch #: 141007052
Project Name: 1410214

Analytical Results Report

Sample Number	141007052-001	Sampling Date	10/2/2014	Date/Time Received	10/7/2014 12:30 PM
Client Sample ID	1410214-001C / SWMU 13-14 (0.5-2)	Sampling Time	4:50 PM		
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.266	10/16/2014	CRW	EPA 335.4	
%moisture	11.1	Percent		10/15/2014	KJS	%moisture	

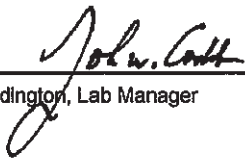
Sample Number	141007052-002	Sampling Date	10/2/2014	Date/Time Received	10/7/2014 12:30 PM
Client Sample ID	1410214-002C / SWMU 13-14 (2-4)	Sampling Time	5:00 PM		
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.258	10/16/2014	CRW	EPA 335.4	
%moisture	10.5	Percent		10/15/2014	KJS	%moisture	

Sample Number	141007052-003	Sampling Date	10/2/2014	Date/Time Received	10/7/2014 12:30 PM
Client Sample ID	1410214-003C / SWMU 13-14 (26-28)	Sampling Time	5:05 PM		
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.247	10/16/2014	CRW	EPA 335.4	
%moisture	3.6	Percent		10/15/2014	KJS	%moisture	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, October 23, 2014

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Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141007052
Project Name: 1410214

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.491	mg/kg	0.5	98.2	90-110	10/16/2014	10/16/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141007053-001	Cyanide	ND	12.4	mg/kg	13.2	93.9	90-110	10/16/2014	10/16/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	12.4	mg/kg	13.2	93.9	0.0	0-25	10/16/2014	10/16/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	10/16/2014	10/16/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C586; MT:Cert0095; FL(NELAP): E871099

Thursday, October 23, 2014

Page 1 of 1

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15724	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 15724			RunNo: 21713					
Prep Date:	10/6/2014	Analysis Date: 10/7/2014			SeqNo: 637455		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		96.8	57.9	140			

Sample ID	LCS-15724		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15724		RunNo: 21713					
Prep Date:	10/6/2014		Analysis Date: 10/7/2014		SeqNo: 637570		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	68.6	130			
Surr: DNOP	4.6		5.000		91.0	57.9	140			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: R21756		RunNo: 21756					
Prep Date:			Analysis Date: 10/8/2014		SeqNo: 638847		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		91.7	80	120			

Sample ID	2.5UG GRO LCS		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: R21756		RunNo: 21756					
Prep Date:			Analysis Date: 10/8/2014		SeqNo: 638848		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.4	65.8	139			
Surr: BFB	1000		1000		101	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	100ng lcs			SampType: LCS		TestCode: EPA Method 8260B: Volatiles				
Client ID:	LCSS			Batch ID: R21749		RunNo: 21749				
Prep Date:	Analysis Date: 10/8/2014			SeqNo: 639717		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.1	70	130			
Toluene	0.89	0.050	1.000	0	88.6	70	130			
Chlorobenzene	1.0	0.050	1.000	0	99.9	70	130			
1,1-Dichloroethene	0.99	0.050	1.000	0	98.9	60.5	160			
Trichloroethene (TCE)	0.94	0.050	1.000	0	93.8	58.8	139			
Surr: Dibromofluoromethane	0.44		0.5000		88.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.36		0.5000		71.4	70	130			
Surr: Toluene-d8	0.39		0.5000		77.1	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		86.6	70	130			

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID: R21749			RunNo: 21749					
Prep Date:		Analysis Date: 10/8/2014			SeqNo: 639718		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID: R21749			RunNo: 21749					
Prep Date:		Analysis Date: 10/8/2014			SeqNo: 639718		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	5mL-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID:	R21749	RunNo:	21749					
Prep Date:		Analysis Date:	10/8/2014	SeqNo:	639718	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.48		0.5000		96.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.5	70	130			
Surr: Toluene-d8	0.41		0.5000		81.8	70	130			
Surr: 4-Bromofluorobenzene	0.41		0.5000		81.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15728		SampType:	MBLK		TestCode:	Method 8260B/5035LOW: VOLATILES			
Client ID:	PBS		Batch ID:	15728		RunNo:	21704			
Prep Date:	10/6/2014		Analysis Date:	10/6/2014		SeqNo:	637384		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00200								
Ethylbenzene	ND	0.00200								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00200								
1,2,4-Trimethylbenzene	ND	0.00200								
1,3,5-Trimethylbenzene	ND	0.00200								
1,2-Dichloroethane (EDC)	ND	0.00200								
1,2-Dibromoethane (EDB)	ND	0.00200								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00200								
Bromodichloromethane	ND	0.00200								
Bromoform	ND	0.00200								
Bromomethane	ND	0.00300								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00200								
Chlorobenzene	ND	0.00200								
Chloroethane	ND	0.00200								
Chloroform	ND	0.00200								
Chloromethane	ND	0.00200								
2-Chlorotoluene	ND	0.00200								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00200								
cis-1,2-DCE	ND	0.00200								
cis-1,3-Dichloropropene	ND	0.00200								
1,2-Dibromo-3-chloropropane	ND	0.00200								
Dibromochloromethane	ND	0.00200								
Dibromomethane	ND	0.00200								
1,2-Dichlorobenzene	ND	0.00200								
1,3-Dichlorobenzene	ND	0.00200								
1,4-Dichlorobenzene	ND	0.00200								
Dichlorodifluoromethane	ND	0.00200								
1,1-Dichloroethane	ND	0.00200								
1,1-Dichloroethene	ND	0.00200								
1,2-Dichloropropane	ND	0.00200								
1,3-Dichloropropane	ND	0.00200								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15728		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637384		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.00200								
1,1-Dichloropropene	ND	0.00200								
Hexachlorobutadiene	ND	0.00200								
Isopropylbenzene	ND	0.00200								
4-Isopropyltoluene	ND	0.00200								
Methylene chloride	ND	0.00200								
n-Butylbenzene	ND	0.00200								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00200								
sec-Butylbenzene	ND	0.00200								
Styrene	ND	0.00200								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00200								
1,1,1,2-Tetrachloroethane	ND	0.00200								
1,1,2,2-Tetrachloroethane	ND	0.00200								
Tetrachloroethene (PCE)	ND	0.00200								
trans-1,2-DCE	ND	0.00200								
trans-1,3-Dichloropropene	ND	0.00200								
1,2,3-Trichlorobenzene	ND	0.00200								
1,2,4-Trichlorobenzene	ND	0.00200								
1,1,1-Trichloroethane	ND	0.00200								
1,1,2-Trichloroethane	ND	0.00200								
Trichloroethene (TCE)	ND	0.00200								
Trichlorofluoromethane	ND	0.00200								
1,2,3-Trichloropropane	ND	0.00200								
Vinyl chloride	ND	0.00200								
Surr: 1,2-Dichloroethane-d4	0.0208		0.02000		104	70	130			
Surr: 4-Bromofluorobenzene	0.0216		0.02000		108	65.3	135			
Surr: Dibromofluoromethane	0.0203		0.02000		102	70	130			
Surr: Toluene-d8	0.0210		0.02000		105	70	130			

Sample ID	lcs-15728		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637386		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0104	0.00200	0.01000	0	104	70	130			
Toluene	0.0100	0.00200	0.01000	0	100	70	130			
Chlorobenzene	0.0103	0.00200	0.01000	0	103	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15728		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637386		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.00996	0.00200	0.01000	0	99.6	70	130			
Trichloroethene (TCE)	0.0105	0.00200	0.01000	0	105	61.6	131			
Surr: 1,2-Dichloroethane-d4	0.0211		0.02000		105	70	130			
Surr: 4-Bromofluorobenzene	0.0207		0.02000		104	65.3	135			
Surr: Dibromofluoromethane	0.0208		0.02000		104	70	130			
Surr: Toluene-d8	0.0200		0.02000		99.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15725	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15725	RunNo:	21852					
Prep Date:	10/6/2014	Analysis Date:	10/13/2014	SeqNo:	642289	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15725	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15725	RunNo:	21852					
Prep Date:	10/6/2014	Analysis Date:	10/13/2014	SeqNo:	642289	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.70								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	3.4		3.330		103	21	111			
Surr: Phenol-d5	3.4		3.330		102	23.1	117			
Surr: 2,4,6-Tribromophenol	3.0		3.330		88.7	22.7	88.9			
Surr: Nitrobenzene-d5	1.9		1.670		111	24.5	126			
Surr: 2-Fluorobiphenyl	2.0		1.670		121	21.2	129			
Surr: 4-Terphenyl-d14	1.7		1.670		103	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	Ics-15725		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 15725		RunNo: 21852					
Prep Date:	10/6/2014		Analysis Date: 10/13/2014		SeqNo: 642291		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.7	0.20	1.670	0	102	50.7	110			
4-Chloro-3-methylphenol	3.6	0.50	3.330	0	107	47.8	107			S
2-Chlorophenol	3.6	0.20	3.330	0	109	45.7	108			S
1,4-Dichlorobenzene	1.6	0.20	1.670	0	97.8	46.1	112			
2,4-Dinitrotoluene	1.6	0.50	1.670	0	93.5	44.9	114			
N-Nitrosodi-n-propylamine	1.5	0.20	1.670	0	88.8	38.7	128			
4-Nitrophenol	3.1	0.25	3.330	0	92.6	40.2	103			
Pentachlorophenol	2.6	0.70	3.330	0	78.2	32.9	94			
Phenol	3.4	0.20	3.330	0	103	44.1	109			
Pyrene	1.5	0.20	1.670	0	91.4	51.9	109			
1,2,4-Trichlorobenzene	1.8	0.20	1.670	0	109	49.5	115			
Surr: 2-Fluorophenol	3.0		3.330		91.5	21	111			
Surr: Phenol-d5	3.2		3.330		97.1	23.1	117			
Surr: 2,4,6-Tribromophenol	2.9		3.330		85.9	22.7	88.9			
Surr: Nitrobenzene-d5	1.9		1.670		111	24.5	126			
Surr: 2-Fluorobiphenyl	1.8		1.670		110	21.2	129			
Surr: 4-Terphenyl-d14	1.6		1.670		97.4	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15938		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 15938		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646269		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.033								

Sample ID	LCS-15938		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 15938		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646270		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1667	0	93.8	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410214

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15818		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	PBS		Batch ID:	15818		RunNo:	21817			
Prep Date:	10/9/2014		Analysis Date:	10/10/2014		SeqNo:	641317		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Lead	ND	0.25								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-15818		SampType:	LCS		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	LCSS		Batch ID:	15818		RunNo:	21817			
Prep Date:	10/9/2014		Analysis Date:	10/10/2014		SeqNo:	641318		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	24	2.5	25.00	0	96.5	80	120			
Arsenic	24	2.5	25.00	0	97.1	80	120			
Barium	25	0.10	25.00	0	98.4	80	120			
Beryllium	25	0.15	25.00	0	99.3	80	120			
Cadmium	24	0.10	25.00	0	96.1	80	120			
Chromium	24	0.30	25.00	0	96.7	80	120			
Cobalt	24	0.30	25.00	0	97.3	80	120			
Lead	24	0.25	25.00	0	96.8	80	120			
Nickel	25	0.50	25.00	0	98.5	80	120			
Selenium	24	2.5	25.00	0	94.2	80	120			
Silver	4.9	0.25	5.000	0	97.4	80	120			
Vanadium	25	2.5	25.00	0	98.9	80	120			
Zinc	25	2.5	25.00	0	100	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: **Western Refining Southw**

Work Order Number: **1410214**

RcptNo: 1

Received by/date:		10/04/14
Logged By:	Lindsay Mangin	10/4/2014 7:00:00 AM
Completed By:	Lindsay Mangin	10/4/2014 8:29:03 AM
Reviewed By:		10/06/14

Chain of Custody

- Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
- Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
- How was the sample delivered? Courier

Log In

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

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

Special Handling (if applicable)

- 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 method 6010/6020
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyllead	SW-846 method 6010/6020
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

November 04, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9

OrderNo.: 1410215

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 10/4/2014 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'.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109



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

November 06, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9

OrderNo.: 1410523

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 10/10/2014 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
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1410523
Date: 11/6/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9

Surrogate recoveries with an "S" flag have poor or elevated recoveries due to matrix interferences and/or sample dilution.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (0-0.5')

Project: GROUP 9

Collection Date: 10/7/2014 12:20:00 PM

Lab ID: 1410523-001

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS				Analyst: JME			
Diesel Range Organics (DRO)	60	11		mg/Kg-dry	1	10/13/2014 12:45:45 PM	15832
Motor Oil Range Organics (MRO)	140	54		mg/Kg-dry	1	10/13/2014 12:45:45 PM	15832
Surr: DNOP	102	57.9-140		%REC	1	10/13/2014 12:45:45 PM	15832
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg-dry	1	10/10/2014 10:49:12 PM	R21847
Surr: BFB	90.3	80-120		%REC	1	10/10/2014 10:49:12 PM	R21847
PERCENT MOISTURE				Analyst: cadg			
Percent Moisture	7.7	1.0		wt%	1	10/10/2014 1:06:00 PM	R21848
EPA METHOD 7471: MERCURY				Analyst: MMD			
Mercury	5.8	0.73		mg/Kg-dry	20	10/17/2014 2:17:50 PM	15939
EPA METHOD 6010B: SOIL METALS				Analyst: ELS			
Antimony	ND	2.7		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Arsenic	3.2	2.7		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Barium	200	0.11		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Beryllium	0.45	0.16		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Cadmium	0.11	0.11		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Chromium	14	0.32		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Cobalt	4.3	0.32		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Lead	8.2	0.27		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Nickel	6.7	0.54		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Selenium	ND	2.7		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Silver	ND	0.27		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Vanadium	24	2.7		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
Zinc	90	2.7		mg/Kg-dry	1	10/15/2014 12:36:19 PM	15884
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
Acenaphthene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Acenaphthylene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Aniline	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Anthracene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Azobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Benz(a)anthracene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Benzo(a)pyrene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Benzo(b)fluoranthene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Benzo(g,h,i)perylene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Benzo(k)fluoranthene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Benzoic acid	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Benzyl alcohol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (0-0.5')

Project: GROUP 9

Collection Date: 10/7/2014 12:20:00 PM

Lab ID: 1410523-001

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Bis(2-chloroethyl)ether	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Bis(2-chloroisopropyl)ether	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Bis(2-ethylhexyl)phthalate	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
4-Bromophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Butyl benzyl phthalate	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Carbazole	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
4-Chloro-3-methylphenol	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
4-Chloroaniline	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2-Chloronaphthalene	ND	0.27		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2-Chlorophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
4-Chlorophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Chrysene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Di-n-butyl phthalate	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Di-n-octyl phthalate	ND	0.44		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Dibenz(a,h)anthracene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Dibenzofuran	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
1,2-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
1,3-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
1,4-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
3,3'-Dichlorobenzidine	ND	0.27		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Diethyl phthalate	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Dimethyl phthalate	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2,4-Dichlorophenol	ND	0.44		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2,4-Dimethylphenol	ND	0.33		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
4,6-Dinitro-2-methylphenol	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2,4-Dinitrophenol	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2,4-Dinitrotoluene	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2,6-Dinitrotoluene	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Fluoranthene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Fluorene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Hexachlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Hexachlorobutadiene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Hexachlorocyclopentadiene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Hexachloroethane	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Indeno(1,2,3-cd)pyrene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Isophorone	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
1-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869

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	Page 3 of 34
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (0-0.5')

Project: GROUP 9

Collection Date: 10/7/2014 12:20:00 PM

Lab ID: 1410523-001

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
3+4-Methylphenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
N-Nitrosodi-n-propylamine	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
N-Nitrosodiphenylamine	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Naphthalene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
3-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
4-Nitroaniline	ND	0.44		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Nitrobenzene	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2-Nitrophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
4-Nitrophenol	ND	0.27		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Pentachlorophenol	ND	0.76		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Phenanthrene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Phenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Pyrene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Pyridine	ND	0.55		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
1,2,4-Trichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2,4,5-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
2,4,6-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:18:26 PM	15869
Surr: 2-Fluorophenol	61.3	21-111		%REC	1	10/14/2014 2:18:26 PM	15869
Surr: Phenol-d5	62.5	23.1-117		%REC	1	10/14/2014 2:18:26 PM	15869
Surr: 2,4,6-Tribromophenol	58.6	22.7-88.9		%REC	1	10/14/2014 2:18:26 PM	15869
Surr: Nitrobenzene-d5	64.2	24.5-126		%REC	1	10/14/2014 2:18:26 PM	15869
Surr: 2-Fluorobiphenyl	74.3	21.2-129		%REC	1	10/14/2014 2:18:26 PM	15869
Surr: 4-Terphenyl-d14	63.0	39.4-107		%REC	1	10/14/2014 2:18:26 PM	15869
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Toluene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Ethylbenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Xylenes, Total	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Methyl tert-butyl ether (MTBE)	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,2,4-Trimethylbenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,3,5-Trimethylbenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,2-Dichloroethane (EDC)	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,2-Dibromoethane (EDB)	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Naphthalene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1-Methylnaphthalene	ND	0.00414		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
2-Methylnaphthalene	ND	0.00414		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Acetone	0.0223	0.0103		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844

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	Page 4 of 34
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (0-0.5')

Project: GROUP 9

Collection Date: 10/7/2014 12:20:00 PM

Lab ID: 1410523-001

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Bromodichloromethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Bromoform	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Bromomethane	ND	0.00310		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
2-Butanone	ND	0.0103		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Carbon tetrachloride	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Chlorobenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Chloroethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Chloroform	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Chloromethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
2-Chlorotoluene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Carbon disulfide	ND	0.0103		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
4-Chlorotoluene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
cis-1,2-DCE	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
cis-1,3-Dichloropropene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,2-Dibromo-3-chloropropane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Dibromochloromethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Dibromomethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,2-Dichlorobenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,3-Dichlorobenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,4-Dichlorobenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Dichlorodifluoromethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,1-Dichloroethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,1-Dichloroethene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,2-Dichloropropane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,3-Dichloropropane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
2,2-Dichloropropane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,1-Dichloropropene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Hexachlorobutadiene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Isopropylbenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
4-Isopropyltoluene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Methylene chloride	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
n-Butylbenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
2-Hexanone	ND	0.0103		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
n-Propylbenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
sec-Butylbenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Styrene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
4-Methyl-2-pentanone	ND	0.0103		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
tert-Butylbenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (0-0.5')

Project: GROUP 9

Collection Date: 10/7/2014 12:20:00 PM

Lab ID: 1410523-001

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,1,2,2-Tetrachloroethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Tetrachloroethene (PCE)	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
trans-1,2-DCE	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
trans-1,3-Dichloropropene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,2,3-Trichlorobenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,2,4-Trichlorobenzene	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,1,1-Trichloroethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,1,2-Trichloroethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Trichloroethene (TCE)	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Trichlorofluoromethane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
1,2,3-Trichloropropane	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Vinyl chloride	ND	0.00207		mg/Kg-dry	1	10/10/2014 2:59:34 PM	15844
Surr: 1,2-Dichloroethane-d4	107	70-130		%REC	1	10/10/2014 2:59:34 PM	15844
Surr: 4-Bromofluorobenzene	104	65.3-135		%REC	1	10/10/2014 2:59:34 PM	15844
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/10/2014 2:59:34 PM	15844
Surr: Toluene-d8	100	70-130		%REC	1	10/10/2014 2:59:34 PM	15844

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	Page 6 of 34
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (0.5-2')

Project: GROUP 9

Collection Date: 10/7/2014 12:40:00 PM

Lab ID: 1410523-002

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	11		mg/Kg-dry	1	10/13/2014 1:28:57 PM	15832
Motor Oil Range Organics (MRO)	ND	56		mg/Kg-dry	1	10/13/2014 1:28:57 PM	15832
Surr: DNOP	102	57.9-140		%REC	1	10/13/2014 1:28:57 PM	15832
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg-dry	1	10/10/2014 11:17:44 PM	R21847
Surr: BFB	97.0	80-120		%REC	1	10/10/2014 11:17:44 PM	R21847
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	10	1.0		wt%	1	10/10/2014 1:06:00 PM	R21848
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.13	0.037		mg/Kg-dry	1	10/17/2014 1:55:41 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.8		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Arsenic	3.4	2.8		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Barium	220	0.11		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Beryllium	0.51	0.17		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Cadmium	ND	0.11		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Chromium	7.0	0.34		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Cobalt	4.8	0.34		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Lead	4.7	0.28		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Nickel	7.0	0.57		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Selenium	ND	2.8		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Silver	ND	0.28		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Vanadium	26	2.8		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
Zinc	34	2.8		mg/Kg-dry	1	10/15/2014 12:37:33 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Acenaphthylene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Aniline	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Anthracene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Azobenzene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Benz(a)anthracene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Benzo(a)pyrene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Benzo(b)fluoranthene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Benzo(g,h,i)perylene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Benzo(k)fluoranthene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Benzoic acid	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Benzyl alcohol	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (0.5-2')

Project: GROUP 9

Collection Date: 10/7/2014 12:40:00 PM

Lab ID: 1410523-002

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Bis(2-chloroethyl)ether	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Bis(2-chloroisopropyl)ether	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Bis(2-ethylhexyl)phthalate	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
4-Bromophenyl phenyl ether	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Butyl benzyl phthalate	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Carbazole	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
4-Chloro-3-methylphenol	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
4-Chloroaniline	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2-Chloronaphthalene	ND	0.56		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2-Chlorophenol	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
4-Chlorophenyl phenyl ether	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Chrysene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Di-n-butyl phthalate	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Di-n-octyl phthalate	ND	0.90		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Dibenz(a,h)anthracene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Dibenzofuran	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
1,2-Dichlorobenzene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
1,3-Dichlorobenzene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
1,4-Dichlorobenzene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
3,3'-Dichlorobenzidine	ND	0.56		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Diethyl phthalate	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Dimethyl phthalate	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2,4-Dichlorophenol	ND	0.90		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2,4-Dimethylphenol	ND	0.67		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
4,6-Dinitro-2-methylphenol	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2,4-Dinitrophenol	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2,4-Dinitrotoluene	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2,6-Dinitrotoluene	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Fluoranthene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Fluorene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Hexachlorobenzene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Hexachlorobutadiene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Hexachlorocyclopentadiene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Hexachloroethane	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Indeno(1,2,3-cd)pyrene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Isophorone	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
1-Methylnaphthalene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2-Methylnaphthalene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869

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	Page 8 of 34
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (0.5-2')

Project: GROUP 9

Collection Date: 10/7/2014 12:40:00 PM

Lab ID: 1410523-002

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
3+4-Methylphenol	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
N-Nitrosodi-n-propylamine	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
N-Nitrosodiphenylamine	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Naphthalene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2-Nitroaniline	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
3-Nitroaniline	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
4-Nitroaniline	ND	0.90		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Nitrobenzene	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2-Nitrophenol	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
4-Nitrophenol	ND	0.56		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Pentachlorophenol	ND	1.6		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Phenanthrene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Phenol	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Pyrene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Pyridine	ND	1.1		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
1,2,4-Trichlorobenzene	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2,4,5-Trichlorophenol	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
2,4,6-Trichlorophenol	ND	0.45		mg/Kg-dry	1	10/14/2014 1:21:57 PM	15869
Surr: 2-Fluorophenol	65.0	21-111		%REC	1	10/14/2014 1:21:57 PM	15869
Surr: Phenol-d5	65.7	23.1-117		%REC	1	10/14/2014 1:21:57 PM	15869
Surr: 2,4,6-Tribromophenol	55.2	22.7-88.9		%REC	1	10/14/2014 1:21:57 PM	15869
Surr: Nitrobenzene-d5	69.0	24.5-126		%REC	1	10/14/2014 1:21:57 PM	15869
Surr: 2-Fluorobiphenyl	77.7	21.2-129		%REC	1	10/14/2014 1:21:57 PM	15869
Surr: 4-Terphenyl-d14	68.2	39.4-107		%REC	1	10/14/2014 1:21:57 PM	15869
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Toluene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Ethylbenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Xylenes, Total	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Methyl tert-butyl ether (MTBE)	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,2,4-Trimethylbenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,3,5-Trimethylbenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,2-Dichloroethane (EDC)	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,2-Dibromoethane (EDB)	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Naphthalene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1-Methylnaphthalene	ND	0.00382		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
2-Methylnaphthalene	ND	0.00382		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Acetone	0.0326	0.00956		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (0.5-2')

Project: GROUP 9

Collection Date: 10/7/2014 12:40:00 PM

Lab ID: 1410523-002

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Bromodichloromethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Bromoform	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Bromomethane	ND	0.00287		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
2-Butanone	ND	0.00956		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Carbon tetrachloride	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Chlorobenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Chloroethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Chloroform	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Chloromethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
2-Chlorotoluene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Carbon disulfide	ND	0.00956		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
4-Chlorotoluene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
cis-1,2-DCE	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
cis-1,3-Dichloropropene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,2-Dibromo-3-chloropropane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Dibromochloromethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Dibromomethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,2-Dichlorobenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,3-Dichlorobenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,4-Dichlorobenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Dichlorodifluoromethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,1-Dichloroethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,1-Dichloroethene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,2-Dichloropropane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,3-Dichloropropane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
2,2-Dichloropropane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,1-Dichloropropene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Hexachlorobutadiene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Isopropylbenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
4-Isopropyltoluene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Methylene chloride	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
n-Butylbenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
2-Hexanone	ND	0.00956		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
n-Propylbenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
sec-Butylbenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Styrene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
4-Methyl-2-pentanone	ND	0.00956		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
tert-Butylbenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	E	Value above quantitation range
	J	Analyte detected below quantitation limits
	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (0.5-2')

Project: GROUP 9

Collection Date: 10/7/2014 12:40:00 PM

Lab ID: 1410523-002

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,1,2,2-Tetrachloroethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Tetrachloroethene (PCE)	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
trans-1,2-DCE	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
trans-1,3-Dichloropropene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,2,3-Trichlorobenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,2,4-Trichlorobenzene	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,1,1-Trichloroethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,1,2-Trichloroethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Trichloroethene (TCE)	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Trichlorofluoromethane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
1,2,3-Trichloropropane	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Vinyl chloride	ND	0.00191		mg/Kg-dry	1	10/10/2014 3:28:17 PM	15844
Surr: 1,2-Dichloroethane-d4	108	70-130		%REC	1	10/10/2014 3:28:17 PM	15844
Surr: 4-Bromofluorobenzene	105	65.3-135		%REC	1	10/10/2014 3:28:17 PM	15844
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/10/2014 3:28:17 PM	15844
Surr: Toluene-d8	102	70-130		%REC	1	10/10/2014 3:28:17 PM	15844

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	E	Value above quantitation range
	J	Analyte detected below quantitation limits
	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (10-12')

Project: GROUP 9

Collection Date: 10/7/2014 12:50:00 PM

Lab ID: 1410523-003

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	11		mg/Kg-dry	1	10/13/2014 1:50:30 PM	15832
Motor Oil Range Organics (MRO)	ND	55		mg/Kg-dry	1	10/13/2014 1:50:30 PM	15832
Surr: DNOP	96.2	57.9-140		%REC	1	10/13/2014 1:50:30 PM	15832
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg-dry	1	10/10/2014 11:46:10 PM	R21847
Surr: BFB	116	80-120		%REC	1	10/10/2014 11:46:10 PM	R21847
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	10	1.0		wt%	1	10/10/2014 1:06:00 PM	R21848
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.036		mg/Kg-dry	1	10/17/2014 1:57:38 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.8		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Arsenic	ND	2.8		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Barium	97	0.11		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Beryllium	0.33	0.17		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Cadmium	ND	0.11		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Chromium	4.3	0.34		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Cobalt	2.9	0.34		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Lead	3.1	0.28		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Nickel	4.2	0.56		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Selenium	ND	2.8		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Silver	ND	0.28		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Vanadium	14	2.8		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
Zinc	18	2.8		mg/Kg-dry	1	10/15/2014 12:38:49 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Acenaphthylene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Aniline	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Anthracene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Azobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Benz(a)anthracene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Benzo(a)pyrene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Benzo(b)fluoranthene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Benzo(g,h,i)perylene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Benzo(k)fluoranthene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Benzoic acid	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Benzyl alcohol	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (10-12')

Project: GROUP 9

Collection Date: 10/7/2014 12:50:00 PM

Lab ID: 1410523-003

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Bis(2-chloroethyl)ether	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Bis(2-chloroisopropyl)ether	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Bis(2-ethylhexyl)phthalate	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
4-Bromophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Butyl benzyl phthalate	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Carbazole	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
4-Chloro-3-methylphenol	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
4-Chloroaniline	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2-Chloronaphthalene	ND	0.28		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2-Chlorophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
4-Chlorophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Chrysene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Di-n-butyl phthalate	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Di-n-octyl phthalate	ND	0.45		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Dibenz(a,h)anthracene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Dibenzofuran	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
1,2-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
1,3-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
1,4-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
3,3'-Dichlorobenzidine	ND	0.28		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Diethyl phthalate	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Dimethyl phthalate	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2,4-Dichlorophenol	ND	0.45		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2,4-Dimethylphenol	ND	0.33		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
4,6-Dinitro-2-methylphenol	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2,4-Dinitrophenol	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2,4-Dinitrotoluene	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2,6-Dinitrotoluene	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Fluoranthene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Fluorene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Hexachlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Hexachlorobutadiene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Hexachlorocyclopentadiene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Hexachloroethane	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Indeno(1,2,3-cd)pyrene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Isophorone	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
1-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (10-12')

Project: GROUP 9

Collection Date: 10/7/2014 12:50:00 PM

Lab ID: 1410523-003

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
3+4-Methylphenol	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
N-Nitrosodi-n-propylamine	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
N-Nitrosodiphenylamine	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Naphthalene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
3-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
4-Nitroaniline	ND	0.45		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Nitrobenzene	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2-Nitrophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
4-Nitrophenol	ND	0.28		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Pentachlorophenol	ND	0.78		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Phenanthrene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Phenol	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Pyrene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Pyridine	ND	0.56		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
1,2,4-Trichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2,4,5-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
2,4,6-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 4:12:15 PM	15869
Surr: 2-Fluorophenol	67.5	21-111		%REC	1	10/14/2014 4:12:15 PM	15869
Surr: Phenol-d5	67.1	23.1-117		%REC	1	10/14/2014 4:12:15 PM	15869
Surr: 2,4,6-Tribromophenol	60.4	22.7-88.9		%REC	1	10/14/2014 4:12:15 PM	15869
Surr: Nitrobenzene-d5	64.7	24.5-126		%REC	1	10/14/2014 4:12:15 PM	15869
Surr: 2-Fluorobiphenyl	70.0	21.2-129		%REC	1	10/14/2014 4:12:15 PM	15869
Surr: 4-Terphenyl-d14	66.6	39.4-107		%REC	1	10/14/2014 4:12:15 PM	15869
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Toluene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Ethylbenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Methyl tert-butyl ether (MTBE)	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,2,4-Trimethylbenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,3,5-Trimethylbenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,2-Dichloroethane (EDC)	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,2-Dibromoethane (EDB)	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Naphthalene	ND	0.065		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1-Methylnaphthalene	ND	0.13		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
2-Methylnaphthalene	ND	0.13		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Acetone	ND	0.48		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Bromobenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (10-12')

Project: GROUP 9

Collection Date: 10/7/2014 12:50:00 PM

Lab ID: 1410523-003

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Bromoform	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Bromomethane	ND	0.097		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
2-Butanone	ND	0.32		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Carbon disulfide	ND	0.32		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Carbon tetrachloride	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Chlorobenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Chloroethane	ND	0.065		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Chloroform	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Chloromethane	ND	0.097		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
2-Chlorotoluene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
4-Chlorotoluene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
cis-1,2-DCE	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
cis-1,3-Dichloropropene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,2-Dibromo-3-chloropropane	ND	0.065		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Dibromochloromethane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Dibromomethane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,2-Dichlorobenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,3-Dichlorobenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,4-Dichlorobenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Dichlorodifluoromethane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,1-Dichloroethane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,1-Dichloroethene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,2-Dichloropropane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,3-Dichloropropane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
2,2-Dichloropropane	ND	0.065		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,1-Dichloropropene	ND	0.065		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Hexachlorobutadiene	ND	0.065		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
2-Hexanone	ND	0.32		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Isopropylbenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
4-Isopropyltoluene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
4-Methyl-2-pentanone	ND	0.32		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Methylene chloride	ND	0.097		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
n-Butylbenzene	ND	0.097		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
n-Propylbenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
sec-Butylbenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Styrene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
tert-Butylbenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,1,1,2-Tetrachloroethane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	E	Value above quantitation range
	J	Analyte detected below quantitation limits
	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (10-12')

Project: GROUP 9

Collection Date: 10/7/2014 12:50:00 PM

Lab ID: 1410523-003

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Tetrachloroethene (PCE)	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
trans-1,2-DCE	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
trans-1,3-Dichloropropene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,2,3-Trichlorobenzene	ND	0.065		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,2,4-Trichlorobenzene	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,1,1-Trichloroethane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,1,2-Trichloroethane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Trichloroethene (TCE)	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Trichlorofluoromethane	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
1,2,3-Trichloropropane	ND	0.065		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Vinyl chloride	ND	0.032		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Xylenes, Total	ND	0.065		mg/Kg-dry	1	10/10/2014 1:00:21 PM	15821
Surr: Dibromofluoromethane	93.3	70-130		%REC	1	10/10/2014 1:00:21 PM	15821
Surr: 1,2-Dichloroethane-d4	79.8	70-130		%REC	1	10/10/2014 1:00:21 PM	15821
Surr: Toluene-d8	86.1	70-130		%REC	1	10/10/2014 1:00:21 PM	15821
Surr: 4-Bromofluorobenzene	87.4	70-130		%REC	1	10/10/2014 1:00:21 PM	15821

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (24-26')

Project: GROUP 9

Collection Date: 10/7/2014 1:00:00 PM

Lab ID: 1410523-004

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	2100	100		mg/Kg-dry	10	10/13/2014 2:33:52 PM	15832
Motor Oil Range Organics (MRO)	ND	520		mg/Kg-dry	10	10/13/2014 2:33:52 PM	15832
Surr: DNOP	0	57.9-140	S	%REC	10	10/13/2014 2:33:52 PM	15832
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	130	3.5		mg/Kg-dry	1	10/11/2014 12:14:48 AM	R21847
Surr: BFB	1050	80-120	S	%REC	1	10/11/2014 12:14:48 AM	R21847
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	4.8	1.0		wt%	1	10/10/2014 1:06:00 PM	R21848
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.034		mg/Kg-dry	1	10/17/2014 1:59:41 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.6		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Arsenic	ND	2.6		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Barium	150	0.10		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Beryllium	0.16	0.15		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Cadmium	ND	0.10		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Chromium	3.1	0.31		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Cobalt	4.0	0.31		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Lead	1.7	0.26		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Nickel	2.8	0.51		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Selenium	ND	2.6		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Silver	ND	0.26		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Vanadium	25	2.6		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
Zinc	20	2.6		mg/Kg-dry	1	10/15/2014 12:40:04 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Acenaphthylene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Aniline	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Anthracene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Azobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Benz(a)anthracene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Benzo(a)pyrene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Benzo(b)fluoranthene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Benzo(g,h,i)perylene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Benzo(k)fluoranthene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Benzoic acid	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Benzyl alcohol	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (24-26')

Project: GROUP 9

Collection Date: 10/7/2014 1:00:00 PM

Lab ID: 1410523-004

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Bis(2-chloroethyl)ether	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Bis(2-chloroisopropyl)ether	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Bis(2-ethylhexyl)phthalate	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
4-Bromophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Butyl benzyl phthalate	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Carbazole	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
4-Chloro-3-methylphenol	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
4-Chloroaniline	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
2-Chloronaphthalene	ND	0.26		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
2-Chlorophenol	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
4-Chlorophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Chrysene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Di-n-butyl phthalate	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Di-n-octyl phthalate	ND	0.42		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Dibenz(a,h)anthracene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Dibenzofuran	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
3,3'-Dichlorobenzidine	ND	0.26		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Diethyl phthalate	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Dimethyl phthalate	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
2,4-Dichlorophenol	ND	0.42		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
2,4-Dimethylphenol	ND	0.32		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
4,6-Dinitro-2-methylphenol	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
2,4-Dinitrophenol	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
2,4-Dinitrotoluene	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
2,6-Dinitrotoluene	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Fluoranthene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Fluorene	0.97	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Hexachlorobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Hexachlorocyclopentadiene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Hexachloroethane	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Indeno(1,2,3-cd)pyrene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Isophorone	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
1-Methylnaphthalene	6.4	1.1		mg/Kg-dry	5	10/14/2014 7:03:34 PM	15869
2-Methylnaphthalene	6.4	1.1		mg/Kg-dry	5	10/14/2014 7:03:34 PM	15869

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (24-26')

Project: GROUP 9

Collection Date: 10/7/2014 1:00:00 PM

Lab ID: 1410523-004

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
3+4-Methylphenol	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
N-Nitrosodi-n-propylamine	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
N-Nitrosodiphenylamine	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Naphthalene	2.0	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
2-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
3-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
4-Nitroaniline	ND	0.42		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Nitrobenzene	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
2-Nitrophenol	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
4-Nitrophenol	ND	0.26		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Pentachlorophenol	ND	0.74		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Phenanthrene	2.2	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Phenol	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Pyrene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Pyridine	ND	0.53		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
2,4,5-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
2,4,6-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/14/2014 1:50:12 PM	15869
Surr: 2-Fluorophenol	71.7	21-111		%REC	1	10/14/2014 1:50:12 PM	15869
Surr: Phenol-d5	70.1	23.1-117		%REC	1	10/14/2014 1:50:12 PM	15869
Surr: 2,4,6-Tribromophenol	33.2	22.7-88.9		%REC	1	10/14/2014 1:50:12 PM	15869
Surr: Nitrobenzene-d5	105	24.5-126		%REC	1	10/14/2014 1:50:12 PM	15869
Surr: 2-Fluorobiphenyl	73.1	21.2-129		%REC	1	10/14/2014 1:50:12 PM	15869
Surr: 4-Terphenyl-d14	79.7	39.4-107		%REC	1	10/14/2014 1:50:12 PM	15869
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Toluene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Ethylbenzene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Methyl tert-butyl ether (MTBE)	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,2,4-Trimethylbenzene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,3,5-Trimethylbenzene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,2-Dichloroethane (EDC)	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,2-Dibromoethane (EDB)	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Naphthalene	3.3	0.14		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1-Methylnaphthalene	7.6	2.8		mg/Kg-dry	20	10/10/2014 7:31:44 PM	15821
2-Methylnaphthalene	10	2.8		mg/Kg-dry	20	10/10/2014 7:31:44 PM	15821
Acetone	ND	1.1		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Bromobenzene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (24-26')

Project: GROUP 9

Collection Date: 10/7/2014 1:00:00 PM

Lab ID: 1410523-004

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Bromoform	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Bromomethane	ND	0.21		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
2-Butanone	ND	0.71		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Carbon disulfide	ND	0.71		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Carbon tetrachloride	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Chlorobenzene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Chloroethane	ND	0.14		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Chloroform	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Chloromethane	ND	0.21		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
2-Chlorotoluene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
4-Chlorotoluene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
cis-1,2-DCE	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
cis-1,3-Dichloropropene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,2-Dibromo-3-chloropropane	ND	0.14		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Dibromochloromethane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Dibromomethane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,2-Dichlorobenzene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,3-Dichlorobenzene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,4-Dichlorobenzene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Dichlorodifluoromethane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,1-Dichloroethane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,1-Dichloroethene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,2-Dichloropropane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,3-Dichloropropane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
2,2-Dichloropropane	ND	0.14		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,1-Dichloropropene	ND	0.14		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Hexachlorobutadiene	ND	0.14		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
2-Hexanone	ND	0.71		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Isopropylbenzene	0.44	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
4-Isopropyltoluene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
4-Methyl-2-pentanone	ND	0.71		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Methylene chloride	ND	0.21		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
n-Butylbenzene	0.44	0.21		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
n-Propylbenzene	0.77	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
sec-Butylbenzene	0.67	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Styrene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
tert-Butylbenzene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,1,1,2-Tetrachloroethane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	E	Value above quantitation range
	J	Analyte detected below quantitation limits
	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410523

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-13 (24-26')

Project: GROUP 9

Collection Date: 10/7/2014 1:00:00 PM

Lab ID: 1410523-004

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Tetrachloroethene (PCE)	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
trans-1,2-DCE	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
trans-1,3-Dichloropropene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,2,3-Trichlorobenzene	ND	0.14		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,2,4-Trichlorobenzene	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,1,1-Trichloroethane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,1,2-Trichloroethane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Trichloroethene (TCE)	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Trichlorofluoromethane	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
1,2,3-Trichloropropane	ND	0.14		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Vinyl chloride	ND	0.071		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Xylenes, Total	ND	0.14		mg/Kg-dry	2	10/10/2014 1:28:23 PM	15821
Surr: Dibromofluoromethane	96.4	70-130		%REC	2	10/10/2014 1:28:23 PM	15821
Surr: 1,2-Dichloroethane-d4	87.9	70-130		%REC	2	10/10/2014 1:28:23 PM	15821
Surr: Toluene-d8	92.8	70-130		%REC	2	10/10/2014 1:28:23 PM	15821
Surr: 4-Bromofluorobenzene	175	70-130	S	%REC	2	10/10/2014 1:28:23 PM	15821

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141014060
Project Name: 1410523

Analytical Results Report

Sample Number 141014060-001 **Sampling Date** 10/7/2014 **Date/Time Received** 10/14/2014 12:15 PM
Client Sample ID 1410523-001C / SWMU 13-13 (0-0.5) **Sampling Time** 12:00 PM
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.253	10/16/2014	CRW	EPA 335.4	
%moisture	6.3	Percent		10/16/2014	KJS	%moisture	

Sample Number 141014060-002 **Sampling Date** 10/7/2014 **Date/Time Received** 10/14/2014 12:15 PM
Client Sample ID 1410523-002C / SWMU 13-13 (0.5-2) **Sampling Time** 12:40 PM
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.256	10/16/2014	CRW	EPA 335.4	
%moisture	8.9	Percent		10/16/2014	KJS	%moisture	

Sample Number 141014060-003 **Sampling Date** 10/7/2014 **Date/Time Received** 10/14/2014 12:15 PM
Client Sample ID 1410523-003C / SWMU 13-13 (10-12) **Sampling Time** 12:50 PM
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.234	10/16/2014	CRW	EPA 335.4	
%moisture	7.8	Percent		10/16/2014	KJS	%moisture	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E97893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

Monday, October 27, 2014

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

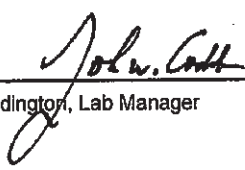
Batch #: 141014060
Project Name: 1410523

Analytical Results Report

Sample Number	141014060-004	Sampling Date	10/7/2014	Date/Time Received	10/14/2014 12:15 PM
Client Sample ID	1410523-004C / SWMU 13-13 (24-26)			Sampling Time	1:00 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.241	10/16/2014	CRW	EPA 335.4	
%moisture	4.7	Percent		10/16/2014	KJS	%moisture	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CE00028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:CE00095; FL(NELAP): E871099

Monday, October 27, 2014

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 141014060
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1410523
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.476	mg/kg	0.5	95.2	90-110	10/16/2014	10/16/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141009047-005	Cyanide	ND	10.9	mg/kg	12	90.8	90-110	10/16/2014	10/16/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	10.9	mg/kg	12	90.8	0.0	0-25	10/16/2014	10/16/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	10/16/2014	10/16/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

Monday, October 27, 2014

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15832	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 15832			RunNo: 21853					
Prep Date:	10/9/2014	Analysis Date: 10/13/2014			SeqNo: 642303		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		99.2	57.9	140			

Sample ID	LCS-15832		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15832		RunNo: 21853					
Prep Date:	10/9/2014		Analysis Date: 10/13/2014		SeqNo: 642397		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	10	50.00	0	126	68.6	130			
Surr: DNOP	3.8		5.000		75.9	57.9	140			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15821		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 15821		RunNo: 21847					
Prep Date:	10/9/2014		Analysis Date: 10/10/2014		SeqNo: 641956		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	890		1000		89.0	80	120			

Sample ID	LCS-15821		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 15821		RunNo: 21847					
Prep Date:	10/9/2014		Analysis Date: 10/10/2014		SeqNo: 641957		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	960		1000		96.3	80	120			

Sample ID	MB-15821 MK		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: R21847		RunNo: 21847					
Prep Date:			Analysis Date: 10/10/2014		SeqNo: 641973		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	890		1000		89.0	80	120			

Sample ID	LCS-15821 MK		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: R21847		RunNo: 21847					
Prep Date:			Analysis Date: 10/10/2014		SeqNo: 641974		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.8	65.8	139			
Surr: BFB	960		1000		96.3	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15821		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15821		RunNo:	21834			
Prep Date:	10/9/2014		Analysis Date:	10/10/2014		SeqNo:	641727		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15821		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15821		RunNo:	21834			
Prep Date:	10/9/2014		Analysis Date:	10/10/2014		SeqNo:	641727		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.46		0.5000		91.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.35		0.5000		70.3	70	130			
Surr: Toluene-d8	0.41		0.5000		81.4	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		88.0	70	130			

Sample ID	lcs-15821		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	LCSS		Batch ID:	15821		RunNo:	21834			
Prep Date:	10/9/2014		Analysis Date:	10/10/2014		SeqNo:	641728		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.050	1.000	0	95.2	70	130			
Toluene	0.95	0.050	1.000	0	95.4	70	130			
Chlorobenzene	0.97	0.050	1.000	0	97.4	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	Ics-15821		SampType: LCS			TestCode: EPA Method 8260B: Volatiles				
Client ID:	LCSS		Batch ID: 15821			RunNo: 21834				
Prep Date:	10/9/2014		Analysis Date: 10/10/2014			SeqNo: 641728		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.96	0.050	1.000	0	96.5	60.5	160			
Trichloroethene (TCE)	0.95	0.050	1.000	0	95.0	58.8	139			
Surr: Dibromofluoromethane	0.49		0.5000		98.2	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		81.9	70	130			
Surr: Toluene-d8	0.49		0.5000		97.5	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15844		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15844		RunNo: 21849					
Prep Date:	10/10/2014		Analysis Date: 10/10/2014		SeqNo: 642010		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00200								
Ethylbenzene	ND	0.00200								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00200								
1,2,4-Trimethylbenzene	ND	0.00200								
1,3,5-Trimethylbenzene	ND	0.00200								
1,2-Dichloroethane (EDC)	ND	0.00200								
1,2-Dibromoethane (EDB)	ND	0.00200								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00200								
Bromodichloromethane	ND	0.00200								
Bromoform	ND	0.00200								
Bromomethane	ND	0.00300								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00200								
Chlorobenzene	ND	0.00200								
Chloroethane	ND	0.00200								
Chloroform	ND	0.00200								
Chloromethane	ND	0.00200								
2-Chlorotoluene	ND	0.00200								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00200								
cis-1,2-DCE	ND	0.00200								
cis-1,3-Dichloropropene	ND	0.00200								
1,2-Dibromo-3-chloropropane	ND	0.00200								
Dibromochloromethane	ND	0.00200								
Dibromomethane	ND	0.00200								
1,2-Dichlorobenzene	ND	0.00200								
1,3-Dichlorobenzene	ND	0.00200								
1,4-Dichlorobenzene	ND	0.00200								
Dichlorodifluoromethane	ND	0.00200								
1,1-Dichloroethane	ND	0.00200								
1,1-Dichloroethene	ND	0.00200								
1,2-Dichloropropane	ND	0.00200								
1,3-Dichloropropane	ND	0.00200								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15844		SampType:	MBLK		TestCode:	Method 8260B/5035LOW: VOLATILES			
Client ID:	PBS		Batch ID:	15844		RunNo:	21849			
Prep Date:	10/10/2014		Analysis Date:	10/10/2014		SeqNo:	642010		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.00200								
1,1-Dichloropropene	ND	0.00200								
Hexachlorobutadiene	ND	0.00200								
Isopropylbenzene	ND	0.00200								
4-Isopropyltoluene	ND	0.00200								
Methylene chloride	ND	0.00200								
n-Butylbenzene	ND	0.00200								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00200								
sec-Butylbenzene	ND	0.00200								
Styrene	ND	0.00200								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00200								
1,1,1,2-Tetrachloroethane	ND	0.00200								
1,1,2,2-Tetrachloroethane	ND	0.00200								
Tetrachloroethene (PCE)	ND	0.00200								
trans-1,2-DCE	ND	0.00200								
trans-1,3-Dichloropropene	ND	0.00200								
1,2,3-Trichlorobenzene	ND	0.00200								
1,2,4-Trichlorobenzene	ND	0.00200								
1,1,1-Trichloroethane	ND	0.00200								
1,1,2-Trichloroethane	ND	0.00200								
Trichloroethene (TCE)	ND	0.00200								
Trichlorofluoromethane	ND	0.00200								
1,2,3-Trichloropropane	ND	0.00200								
Vinyl chloride	ND	0.00200								
Surr: 1,2-Dichloroethane-d4	0.0204		0.02000		102	70	130			
Surr: 4-Bromofluorobenzene	0.0222		0.02000		111	65.3	135			
Surr: Dibromofluoromethane	0.0209		0.02000		104	70	130			
Surr: Toluene-d8	0.0197		0.02000		98.7	70	130			

Sample ID	lcs-15844		SampType:	LCS		TestCode:	Method 8260B/5035LOW: VOLATILES			
Client ID:	LCSS		Batch ID:	15844		RunNo:	21849			
Prep Date:	10/10/2014		Analysis Date:	10/10/2014		SeqNo:	642012		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0103	0.00200	0.01000	0	103	70	130			
Toluene	0.0100	0.00200	0.01000	0	100	70	130			
Chlorobenzene	0.0101	0.00200	0.01000	0	101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15844		SampType: LCS			TestCode: Method 8260B/5035LOW: VOLATILES				
Client ID:	LCSS		Batch ID: 15844			RunNo: 21849				
Prep Date:	10/10/2014		Analysis Date: 10/10/2014			SeqNo: 642012		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.00960	0.00200	0.01000	0	96.0	70	130			
Trichloroethene (TCE)	0.00990	0.00200	0.01000	0	99.0	61.6	131			
Surr: 1,2-Dichloroethane-d4	0.0206		0.02000		103	70	130			
Surr: 4-Bromofluorobenzene	0.0219		0.02000		109	65.3	135			
Surr: Dibromofluoromethane	0.0203		0.02000		102	70	130			
Surr: Toluene-d8	0.0197		0.02000		98.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15869		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBS		Batch ID: 15869		RunNo: 21891					
Prep Date:	10/13/2014		Analysis Date: 10/14/2014		SeqNo: 643440		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15869	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15869	RunNo:	21891					
Prep Date:	10/13/2014	Analysis Date:	10/14/2014	SeqNo:	643440	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.70								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	2.9		3.330		86.2	21	111			
Surr: Phenol-d5	2.8		3.330		84.6	23.1	117			
Surr: 2,4,6-Tribromophenol	2.5		3.330		73.7	22.7	88.9			
Surr: Nitrobenzene-d5	1.4		1.670		85.8	24.5	126			
Surr: 2-Fluorobiphenyl	1.4		1.670		84.4	21.2	129			
Surr: 4-Terphenyl-d14	1.4		1.670		84.8	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	Ics-15869		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSS		Batch ID: 15869			RunNo: 21891				
Prep Date:	10/13/2014		Analysis Date: 10/14/2014			SeqNo: 643441		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.20	1.670	0	85.2	50.7	110			
4-Chloro-3-methylphenol	3.4	0.50	3.330	0	101	47.8	107			
2-Chlorophenol	3.0	0.20	3.330	0	90.6	45.7	108			
1,4-Dichlorobenzene	1.5	0.20	1.670	0	88.5	46.1	112			
2,4-Dinitrotoluene	1.2	0.50	1.670	0	74.7	44.9	114			
N-Nitrosodi-n-propylamine	1.7	0.20	1.670	0	102	38.7	128			
4-Nitrophenol	2.5	0.25	3.330	0	76.3	40.2	103			
Pentachlorophenol	2.4	0.70	3.330	0	71.8	32.9	94			
Phenol	3.3	0.20	3.330	0	98.4	44.1	109			
Pyrene	1.3	0.20	1.670	0	77.2	51.9	109			
1,2,4-Trichlorobenzene	1.6	0.20	1.670	0	97.2	49.5	115			
Surr: 2-Fluorophenol	2.9		3.330		87.9	21	111			
Surr: Phenol-d5	3.0		3.330		89.0	23.1	117			
Surr: 2,4,6-Tribromophenol	2.7		3.330		80.0	22.7	88.9			
Surr: Nitrobenzene-d5	1.5		1.670		89.0	24.5	126			
Surr: 2-Fluorobiphenyl	1.5		1.670		92.3	21.2	129			
Surr: 4-Terphenyl-d14	1.5		1.670		88.6	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15939		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 15939		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646271		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.033								

Sample ID	LCS-15939			SampType:	LCS		TestCode:	EPA Method 7471: Mercury			
Client ID:	LCSS			Batch ID:	15939		RunNo:	21990			
Prep Date:	10/16/2014			Analysis Date:	10/17/2014		SeqNo:	646272		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.16	0.033	0.1667	0	95.3	80	120				

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410523

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15884	SampType: MBLK			TestCode: EPA Method 6010B: Soil Metals					
Client ID:	PBS	Batch ID: 15884			RunNo: 21911					
Prep Date:	10/14/2014	Analysis Date: 10/15/2014			SeqNo: 644144		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Lead	ND	0.25								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-15884		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 15884		RunNo: 21911					
Prep Date:	10/14/2014		Analysis Date: 10/15/2014		SeqNo: 644145		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	25	2.5	25.00	0	101	80	120			
Arsenic	25	2.5	25.00	0	99.7	80	120			
Barium	25	0.10	25.00	0	100	80	120			
Beryllium	25	0.15	25.00	0	101	80	120			
Cadmium	25	0.10	25.00	0	99.3	80	120			
Chromium	25	0.30	25.00	0	98.1	80	120			
Cobalt	25	0.30	25.00	0	99.2	80	120			
Lead	25	0.25	25.00	0	99.0	80	120			
Nickel	26	0.50	25.00	0	102	80	120			
Selenium	26	2.5	25.00	0	104	80	120			
Silver	5.0	0.25	5.000	0	99.3	80	120			
Vanadium	25	2.5	25.00	0	99.5	80	120			
Zinc	26	2.5	25.00	0	104	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1410523

RcptNo: 1

Received by/date: LM 10/10/14

Logged By: Michelle Garcia 10/10/2014 7:00:00 AM *Michelle Garcia*

Completed By: Michelle Garcia 10/10/2014 10:55:22 AM *Michelle Garcia*

Reviewed By: *[Signature]* 10/10/2014

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? Courier

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: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

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	2.3	Good	Yes			

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 3060A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl Lead	SW-846 method 8270C
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

Case Narrative

WO#: 1410215
Date: 11/4/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9

Surrogate recoveries with an "S" flag have poor or elevated recoveries due to matrix interferences and/or sample dilution.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11(0-0.5')

Project: GROUP 9

Collection Date: 10/2/2014 9:15:00 AM

Lab ID: 1410215-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	21	10		mg/Kg-dry	1	10/7/2014 1:35:32 PM	15724
Motor Oil Range Organics (MRO)	ND	52		mg/Kg-dry	1	10/7/2014 1:35:32 PM	15724
Surr: DNOP	101	57.9-140		%REC	1	10/7/2014 1:35:32 PM	15724
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg-dry	1	10/9/2014 2:56:43 AM	R21756
Surr: BFB	91.9	80-120		%REC	1	10/9/2014 2:56:43 AM	R21756
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	3.8	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	1.4	0.35		mg/Kg-dry	10	10/17/2014 2:10:36 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.5		mg/Kg-dry	1	10/10/2014 1:17:30 PM	15818
Arsenic	ND	2.5		mg/Kg-dry	1	10/10/2014 12:55:15 PM	15818
Barium	160	0.10		mg/Kg-dry	1	10/10/2014 1:17:30 PM	15818
Beryllium	0.24	0.15		mg/Kg-dry	1	10/10/2014 12:55:15 PM	15818
Cadmium	ND	0.10		mg/Kg-dry	1	10/10/2014 12:55:15 PM	15818
Chromium	4.8	0.30		mg/Kg-dry	1	10/10/2014 12:55:15 PM	15818
Cobalt	3.9	0.30		mg/Kg-dry	1	10/10/2014 12:55:15 PM	15818
Lead	5.1	0.25		mg/Kg-dry	1	10/10/2014 12:55:15 PM	15818
Nickel	4.8	0.51		mg/Kg-dry	1	10/10/2014 12:55:15 PM	15818
Selenium	ND	2.5		mg/Kg-dry	1	10/10/2014 12:55:15 PM	15818
Silver	ND	0.25		mg/Kg-dry	1	10/10/2014 12:55:15 PM	15818
Vanadium	22	2.5		mg/Kg-dry	1	10/10/2014 12:55:15 PM	15818
Zinc	46	2.5		mg/Kg-dry	1	10/10/2014 1:17:30 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Acenaphthylene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Aniline	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Anthracene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Azobenzene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Benz(a)anthracene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Benzo(a)pyrene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Benzo(b)fluoranthene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Benzo(g,h,i)perylene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Benzo(k)fluoranthene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Benzoic acid	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Benzyl alcohol	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

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Project: GROUP 9

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Lab ID: 1410215-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Bis(2-chloroethyl)ether	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Bis(2-chloroisopropyl)ether	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Bis(2-ethylhexyl)phthalate	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
4-Bromophenyl phenyl ether	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Butyl benzyl phthalate	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Carbazole	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
4-Chloro-3-methylphenol	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
4-Chloroaniline	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2-Chloronaphthalene	ND	1.3		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2-Chlorophenol	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
4-Chlorophenyl phenyl ether	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Chrysene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Di-n-butyl phthalate	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Di-n-octyl phthalate	ND	2.1		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Dibenz(a,h)anthracene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Dibenzofuran	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
1,2-Dichlorobenzene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
1,3-Dichlorobenzene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
1,4-Dichlorobenzene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
3,3'-Dichlorobenzidine	ND	1.3		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Diethyl phthalate	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Dimethyl phthalate	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2,4-Dichlorophenol	ND	2.1		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2,4-Dimethylphenol	ND	1.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
4,6-Dinitro-2-methylphenol	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2,4-Dinitrophenol	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2,4-Dinitrotoluene	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2,6-Dinitrotoluene	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Fluoranthene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Fluorene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Hexachlorobenzene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Hexachlorobutadiene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Hexachlorocyclopentadiene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Hexachloroethane	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Indeno(1,2,3-cd)pyrene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Isophorone	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
1-Methylnaphthalene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2-Methylnaphthalene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725

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Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 3 of 36
	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	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11(0-0.5')

Project: GROUP 9

Collection Date: 10/2/2014 9:15:00 AM

Lab ID: 1410215-001

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
3+4-Methylphenol	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
N-Nitrosodi-n-propylamine	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
N-Nitrosodiphenylamine	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Naphthalene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2-Nitroaniline	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
3-Nitroaniline	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
4-Nitroaniline	ND	2.1		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Nitrobenzene	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2-Nitrophenol	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
4-Nitrophenol	ND	1.3		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Pentachlorophenol	ND	3.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Phenanthrene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Phenol	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Pyrene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Pyridine	ND	2.6		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
1,2,4-Trichlorobenzene	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2,4,5-Trichlorophenol	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
2,4,6-Trichlorophenol	ND	1.0		mg/Kg-dry	1	10/13/2014 9:12:17 PM	15725
Surr: 2-Fluorophenol	98.0	21-111		%REC	1	10/13/2014 9:12:17 PM	15725
Surr: Phenol-d5	90.5	23.1-117		%REC	1	10/13/2014 9:12:17 PM	15725
Surr: 2,4,6-Tribromophenol	26.6	22.7-88.9		%REC	1	10/13/2014 9:12:17 PM	15725
Surr: Nitrobenzene-d5	80.5	24.5-126		%REC	1	10/13/2014 9:12:17 PM	15725
Surr: 2-Fluorobiphenyl	92.6	21.2-129		%REC	1	10/13/2014 9:12:17 PM	15725
Surr: 4-Terphenyl-d14	91.4	39.4-107		%REC	1	10/13/2014 9:12:17 PM	15725
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Toluene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Ethylbenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Xylenes, Total	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Methyl tert-butyl ether (MTBE)	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,2,4-Trimethylbenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,3,5-Trimethylbenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,2-Dichloroethane (EDC)	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,2-Dibromoethane (EDB)	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Naphthalene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1-Methylnaphthalene	ND	0.00315		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
2-Methylnaphthalene	ND	0.00315		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Acetone	0.0173	0.00787		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728

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	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

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Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Bromodichloromethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Bromoform	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Bromomethane	ND	0.00236		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
2-Butanone	ND	0.00787		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Carbon tetrachloride	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Chlorobenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Chloroethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Chloroform	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Chloromethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
2-Chlorotoluene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Carbon disulfide	ND	0.00787		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
4-Chlorotoluene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
cis-1,2-DCE	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
cis-1,3-Dichloropropene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,2-Dibromo-3-chloropropane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Dibromochloromethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Dibromomethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,2-Dichlorobenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,3-Dichlorobenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,4-Dichlorobenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Dichlorodifluoromethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,1-Dichloroethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,1-Dichloroethene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,2-Dichloropropane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,3-Dichloropropane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
2,2-Dichloropropane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,1-Dichloropropene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Hexachlorobutadiene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Isopropylbenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
4-Isopropyltoluene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Methylene chloride	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
n-Butylbenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
2-Hexanone	ND	0.00787		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
n-Propylbenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
sec-Butylbenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Styrene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
4-Methyl-2-pentanone	ND	0.00787		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
tert-Butylbenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728

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	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

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Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,1,2,2-Tetrachloroethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Tetrachloroethene (PCE)	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
trans-1,2-DCE	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
trans-1,3-Dichloropropene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,2,3-Trichlorobenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,2,4-Trichlorobenzene	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,1,1-Trichloroethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,1,2-Trichloroethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Trichloroethene (TCE)	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Trichlorofluoromethane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
1,2,3-Trichloropropane	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Vinyl chloride	ND	0.00157		mg/Kg-dry	1	10/7/2014 12:02:21 PM	15728
Surr: 1,2-Dichloroethane-d4	118	70-130		%REC	1	10/7/2014 12:02:21 PM	15728
Surr: 4-Bromofluorobenzene	108	65.3-135		%REC	1	10/7/2014 12:02:21 PM	15728
Surr: Dibromofluoromethane	112	70-130		%REC	1	10/7/2014 12:02:21 PM	15728
Surr: Toluene-d8	100	70-130		%REC	1	10/7/2014 12:02:21 PM	15728

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	Page 6 of 36
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 9:25:00 AM

Lab ID: 1410215-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	1400	110		mg/Kg-dry	10	10/7/2014 3:06:05 PM	15724
Motor Oil Range Organics (MRO)	2500	560		mg/Kg-dry	10	10/7/2014 3:06:05 PM	15724
Surr: DNOP	0	57.9-140	S	%REC	10	10/7/2014 3:06:05 PM	15724
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	250	80		mg/Kg-dry	20	10/9/2014 3:26:54 AM	R21756
Surr: BFB	183	80-120	S	%REC	20	10/9/2014 3:26:54 AM	R21756
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	11	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.11	0.035		mg/Kg-dry	1	10/17/2014 1:12:33 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.8		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Arsenic	3.3	2.8		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Barium	230	0.11		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Beryllium	0.52	0.17		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Cadmium	ND	0.11		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Chromium	15	0.34		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Cobalt	4.7	0.34		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Lead	7.3	0.28		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Nickel	7.4	0.57		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Selenium	ND	2.8		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Silver	ND	0.28		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Vanadium	27	2.8		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
Zinc	41	2.8		mg/Kg-dry	1	10/10/2014 12:59:15 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Acenaphthylene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Aniline	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Anthracene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Azobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Benz(a)anthracene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Benzo(a)pyrene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Benzo(b)fluoranthene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Benzo(g,h,i)perylene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Benzo(k)fluoranthene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Benzoic acid	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Benzyl alcohol	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 9:25:00 AM

Lab ID: 1410215-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Bis(2-chloroethyl)ether	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Bis(2-chloroisopropyl)ether	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Bis(2-ethylhexyl)phthalate	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
4-Bromophenyl phenyl ether	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Butyl benzyl phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Carbazole	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
4-Chloro-3-methylphenol	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
4-Chloroaniline	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2-Chloronaphthalene	ND	1.4		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2-Chlorophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
4-Chlorophenyl phenyl ether	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Chrysene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Di-n-butyl phthalate	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Di-n-octyl phthalate	ND	2.2		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Dibenz(a,h)anthracene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Dibenzofuran	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
1,2-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
1,3-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
1,4-Dichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
3,3'-Dichlorobenzidine	ND	1.4		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Diethyl phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Dimethyl phthalate	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2,4-Dichlorophenol	ND	2.2		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2,4-Dimethylphenol	ND	1.7		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
4,6-Dinitro-2-methylphenol	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2,4-Dinitrophenol	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2,4-Dinitrotoluene	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2,6-Dinitrotoluene	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Fluoranthene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Fluorene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Hexachlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Hexachlorobutadiene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Hexachlorocyclopentadiene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Hexachloroethane	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Indeno(1,2,3-cd)pyrene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Isophorone	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
1-Methylnaphthalene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2-Methylnaphthalene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725

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	Page 8 of 36
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 9:25:00 AM

Lab ID: 1410215-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
3+4-Methylphenol	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
N-Nitrosodi-n-propylamine	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
N-Nitrosodiphenylamine	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Naphthalene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2-Nitroaniline	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
3-Nitroaniline	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
4-Nitroaniline	ND	2.2		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Nitrobenzene	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2-Nitrophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
4-Nitrophenol	ND	1.4		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Pentachlorophenol	ND	3.9		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Phenanthrene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Phenol	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Pyrene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Pyridine	ND	2.8		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
1,2,4-Trichlorobenzene	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2,4,5-Trichlorophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
2,4,6-Trichlorophenol	ND	1.1		mg/Kg-dry	1	10/13/2014 9:40:30 PM	15725
Surr: 2-Fluorophenol	128	21-111	S	%REC	1	10/13/2014 9:40:30 PM	15725
Surr: Phenol-d5	119	23.1-117	S	%REC	1	10/13/2014 9:40:30 PM	15725
Surr: 2,4,6-Tribromophenol	46.1	22.7-88.9		%REC	1	10/13/2014 9:40:30 PM	15725
Surr: Nitrobenzene-d5	130	24.5-126	S	%REC	1	10/13/2014 9:40:30 PM	15725
Surr: 2-Fluorobiphenyl	150	21.2-129	S	%REC	1	10/13/2014 9:40:30 PM	15725
Surr: 4-Terphenyl-d14	130	39.4-107	S	%REC	1	10/13/2014 9:40:30 PM	15725
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Toluene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Ethylbenzene	1.1	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Methyl tert-butyl ether (MTBE)	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,2,4-Trimethylbenzene	6.3	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,3,5-Trimethylbenzene	2.8	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,2-Dichloroethane (EDC)	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,2-Dibromoethane (EDB)	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Naphthalene	0.40	0.16		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1-Methylnaphthalene	ND	0.32		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
2-Methylnaphthalene	0.35	0.32		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Acetone	ND	1.2		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Bromobenzene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 9:25:00 AM

Lab ID: 1410215-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Bromoform	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Bromomethane	ND	0.24		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
2-Butanone	ND	0.80		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Carbon disulfide	ND	0.80		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Carbon tetrachloride	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Chlorobenzene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Chloroethane	ND	0.16		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Chloroform	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Chloromethane	ND	0.24		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
2-Chlorotoluene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
4-Chlorotoluene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
cis-1,2-DCE	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
cis-1,3-Dichloropropene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,2-Dibromo-3-chloropropane	ND	0.16		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Dibromochloromethane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Dibromomethane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,2-Dichlorobenzene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,3-Dichlorobenzene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,4-Dichlorobenzene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Dichlorodifluoromethane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,1-Dichloroethane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,1-Dichloroethene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,2-Dichloropropane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,3-Dichloropropane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
2,2-Dichloropropane	ND	0.16		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,1-Dichloropropene	ND	0.16		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Hexachlorobutadiene	ND	0.16		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
2-Hexanone	ND	0.80		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Isopropylbenzene	0.74	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
4-Isopropyltoluene	0.44	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
4-Methyl-2-pentanone	ND	0.80		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Methylene chloride	ND	0.24		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
n-Butylbenzene	0.34	0.24		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
n-Propylbenzene	1.2	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
sec-Butylbenzene	0.54	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Styrene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
tert-Butylbenzene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,1,1,2-Tetrachloroethane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11 (0.5-2')

Project: GROUP 9

Collection Date: 10/2/2014 9:25:00 AM

Lab ID: 1410215-002

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Tetrachloroethene (PCE)	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
trans-1,2-DCE	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
trans-1,3-Dichloropropene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,2,3-Trichlorobenzene	ND	0.16		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,2,4-Trichlorobenzene	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,1,1-Trichloroethane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,1,2-Trichloroethane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Trichloroethene (TCE)	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Trichlorofluoromethane	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
1,2,3-Trichloropropane	ND	0.16		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Vinyl chloride	ND	0.080		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Xylenes, Total	1.6	0.16		mg/Kg-dry	2	10/8/2014 4:16:34 PM	R21749
Surr: Dibromofluoromethane	80.2	70-130		%REC	2	10/8/2014 4:16:34 PM	R21749
Surr: 1,2-Dichloroethane-d4	77.5	70-130		%REC	2	10/8/2014 4:16:34 PM	R21749
Surr: Toluene-d8	83.6	70-130		%REC	2	10/8/2014 4:16:34 PM	R21749
Surr: 4-Bromofluorobenzene	162	70-130	S	%REC	2	10/8/2014 4:16:34 PM	R21749

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11 (26-28')

Project: GROUP 9

Collection Date: 10/2/2014 9:30:00 AM

Lab ID: 1410215-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	5000	110		mg/Kg-dry	10	10/7/2014 3:36:39 PM	15724
Motor Oil Range Organics (MRO)	ND	530		mg/Kg-dry	10	10/7/2014 3:36:39 PM	15724
Surr: DNOP	0	57.9-140	S	%REC	10	10/7/2014 3:36:39 PM	15724
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	430	100		mg/Kg-dry	20	10/8/2014 1:07:38 AM	15739
Surr: BFB	262	80-120	S	%REC	20	10/8/2014 1:07:38 AM	15739
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	5.0	1.0		wt%	1	10/6/2014 1:55:00 PM	R21708
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.034		mg/Kg-dry	1	10/17/2014 1:14:18 PM	15938
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.7		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Arsenic	ND	2.7		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Barium	220	0.11		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Beryllium	ND	0.16		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Cadmium	ND	0.11		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Chromium	14	0.32		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Cobalt	5.1	0.32		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Lead	1.3	0.27		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Nickel	3.5	0.53		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Selenium	ND	2.7		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Silver	ND	0.27		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Vanadium	26	2.7		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
Zinc	21	2.7		mg/Kg-dry	1	10/10/2014 1:00:30 PM	15818
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Acenaphthylene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Aniline	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Azobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Benz(a)anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Benzo(a)pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Benzo(b)fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Benzo(g,h,i)perylene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Benzo(k)fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Benzoic acid	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Benzyl alcohol	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11 (26-28')

Project: GROUP 9

Collection Date: 10/2/2014 9:30:00 AM

Lab ID: 1410215-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Bis(2-chloroethyl)ether	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Bis(2-chloroisopropyl)ether	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Bis(2-ethylhexyl)phthalate	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
4-Bromophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Butyl benzyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Carbazole	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
4-Chloro-3-methylphenol	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
4-Chloroaniline	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
2-Chloronaphthalene	ND	0.26		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
2-Chlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
4-Chlorophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Chrysene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Di-n-butyl phthalate	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Di-n-octyl phthalate	ND	0.42		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Dibenz(a,h)anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Dibenzofuran	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
3,3'-Dichlorobenzidine	ND	0.26		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Diethyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Dimethyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
2,4-Dichlorophenol	ND	0.42		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
2,4-Dimethylphenol	ND	0.32		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
4,6-Dinitro-2-methylphenol	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
2,4-Dinitrophenol	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
2,4-Dinitrotoluene	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
2,6-Dinitrotoluene	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Fluorene	1.1	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Hexachlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Hexachlorocyclopentadiene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Hexachloroethane	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Indeno(1,2,3-cd)pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Isophorone	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
1-Methylnaphthalene	12	2.1		mg/Kg-dry	10	10/13/2014 4:59:00 PM	15725
2-Methylnaphthalene	18	2.1		mg/Kg-dry	10	10/13/2014 4:59:00 PM	15725

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11 (26-28')

Project: GROUP 9

Collection Date: 10/2/2014 9:30:00 AM

Lab ID: 1410215-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
3+4-Methylphenol	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
N-Nitrosodi-n-propylamine	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
N-Nitrosodiphenylamine	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Naphthalene	5.5	2.1		mg/Kg-dry	10	10/13/2014 4:59:00 PM	15725
2-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
3-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
4-Nitroaniline	ND	0.42		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Nitrobenzene	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
2-Nitrophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
4-Nitrophenol	ND	0.26		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Pentachlorophenol	ND	0.74		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Phenanthrene	3.8	2.1		mg/Kg-dry	10	10/13/2014 4:59:00 PM	15725
Phenol	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Pyridine	ND	0.53		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
2,4,5-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
2,4,6-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 7:22:47 AM	15725
Surr: 2-Fluorophenol	34.0	21-111		%REC	1	10/13/2014 7:22:47 AM	15725
Surr: Phenol-d5	50.4	23.1-117		%REC	1	10/13/2014 7:22:47 AM	15725
Surr: 2,4,6-Tribromophenol	8.90	22.7-88.9	S	%REC	1	10/13/2014 7:22:47 AM	15725
Surr: Nitrobenzene-d5	0	24.5-126	S	%REC	1	10/13/2014 7:22:47 AM	15725
Surr: 2-Fluorobiphenyl	57.6	21.2-129		%REC	1	10/13/2014 7:22:47 AM	15725
Surr: 4-Terphenyl-d14	73.6	39.4-107		%REC	1	10/13/2014 7:22:47 AM	15725
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Toluene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Ethylbenzene	4.4	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Methyl tert-butyl ether (MTBE)	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,2,4-Trimethylbenzene	6.4	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,3,5-Trimethylbenzene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,2-Dichloroethane (EDC)	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,2-Dibromoethane (EDB)	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Naphthalene	7.0	5.0		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1-Methylnaphthalene	17	10		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
2-Methylnaphthalene	23	10		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Acetone	ND	38		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Bromobenzene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11 (26-28')

Project: GROUP 9

Collection Date: 10/2/2014 9:30:00 AM

Lab ID: 1410215-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Bromoform	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Bromomethane	ND	7.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
2-Butanone	ND	25		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Carbon disulfide	ND	25		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Carbon tetrachloride	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Chlorobenzene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Chloroethane	ND	5.0		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Chloroform	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Chloromethane	ND	7.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
2-Chlorotoluene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
4-Chlorotoluene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
cis-1,2-DCE	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
cis-1,3-Dichloropropene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,2-Dibromo-3-chloropropane	ND	5.0		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Dibromochloromethane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Dibromomethane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,2-Dichlorobenzene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,3-Dichlorobenzene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,4-Dichlorobenzene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Dichlorodifluoromethane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,1-Dichloroethane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,1-Dichloroethene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,2-Dichloropropane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,3-Dichloropropane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
2,2-Dichloropropane	ND	5.0		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,1-Dichloropropene	ND	5.0		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Hexachlorobutadiene	ND	5.0		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
2-Hexanone	ND	25		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Isopropylbenzene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
4-Isopropyltoluene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
4-Methyl-2-pentanone	ND	25		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Methylene chloride	ND	7.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
n-Butylbenzene	ND	7.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
n-Propylbenzene	3.7	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
sec-Butylbenzene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Styrene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
tert-Butylbenzene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,1,1,2-Tetrachloroethane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-11 (26-28')

Project: GROUP 9

Collection Date: 10/2/2014 9:30:00 AM

Lab ID: 1410215-003

Matrix: SOIL

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Tetrachloroethene (PCE)	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
trans-1,2-DCE	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
trans-1,3-Dichloropropene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,2,3-Trichlorobenzene	ND	5.0		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,2,4-Trichlorobenzene	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,1,1-Trichloroethane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,1,2-Trichloroethane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Trichloroethene (TCE)	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Trichlorofluoromethane	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
1,2,3-Trichloropropane	ND	5.0		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Vinyl chloride	ND	2.5		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Xylenes, Total	ND	5.0		mg/Kg-dry	50	10/9/2014 12:14:10 PM	15739
Surr: Dibromofluoromethane	99.2	70-130		%REC	50	10/9/2014 12:14:10 PM	15739
Surr: 1,2-Dichloroethane-d4	86.8	70-130		%REC	50	10/9/2014 12:14:10 PM	15739
Surr: Toluene-d8	91.1	70-130		%REC	50	10/9/2014 12:14:10 PM	15739
Surr: 4-Bromofluorobenzene	103	70-130		%REC	50	10/9/2014 12:14:10 PM	15739

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	Page 16 of 36
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: MeOH Blank

Project: GROUP 9

Collection Date:

Lab ID: 1410215-004

Matrix: MEOH BLAN

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/9/2014 4:15:32 PM	R21774
Surr: BFB	81.8	80-120		%REC	1	10/9/2014 4:15:32 PM	R21774
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Toluene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Ethylbenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Naphthalene	ND	0.10		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Acetone	ND	0.75		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Bromobenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Bromodichloromethane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Bromoform	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Bromomethane	ND	0.15		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
2-Butanone	ND	0.50		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Carbon disulfide	ND	0.50		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Carbon tetrachloride	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Chlorobenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Chloroethane	ND	0.10		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Chloroform	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Chloromethane	ND	0.15		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
2-Chlorotoluene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
4-Chlorotoluene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
cis-1,2-DCE	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Dibromochloromethane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Dibromomethane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,1-Dichloroethane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,1-Dichloroethene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410215

Date Reported: 11/4/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: MeOH Blank

Project: GROUP 9

Collection Date:

Lab ID: 1410215-004

Matrix: MEOH BLAN

Received Date: 10/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: RAA			
1,2-Dichloropropane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,3-Dichloropropane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
2,2-Dichloropropane	ND	0.10		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,1-Dichloropropene	ND	0.10		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Hexachlorobutadiene	ND	0.10		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
2-Hexanone	ND	0.50		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Isopropylbenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
4-Isopropyltoluene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Methylene chloride	ND	0.15		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
n-Butylbenzene	ND	0.15		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
n-Propylbenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
sec-Butylbenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Styrene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
tert-Butylbenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
trans-1,2-DCE	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Trichlorofluoromethane	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Vinyl chloride	ND	0.050		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Xylenes, Total	ND	0.10		mg/Kg	1	10/8/2014 5:12:21 PM	R21749
Surr: Dibromofluoromethane	87.1	70-130		%REC	1	10/8/2014 5:12:21 PM	R21749
Surr: 1,2-Dichloroethane-d4	73.8	70-130		%REC	1	10/8/2014 5:12:21 PM	R21749
Surr: Toluene-d8	82.4	70-130		%REC	1	10/8/2014 5:12:21 PM	R21749
Surr: 4-Bromofluorobenzene	76.2	70-130		%REC	1	10/8/2014 5:12:21 PM	R21749

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141007051
Project Name: 1410215

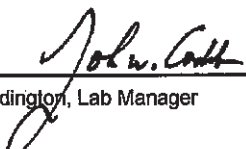
Analytical Results Report

Sample Number	141007051-001	Sampling Date	10/2/2014	Date/Time Received	10/7/2014	12:30 PM	
Client Sample ID	1410215-001C / SWMU 13-11 (0-0.5)			Sampling Time	9:15 AM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.239	10/16/2014	CRW	EPA 335.4	
%moisture	3.7	Percent		10/15/2014	KJS	%moisture	

Sample Number	141007051-002	Sampling Date	10/2/2014	Date/Time Received	10/7/2014	12:30 PM	
Client Sample ID	1410215-002C / SWMU 13-11 (0.5-2)			Sampling Time	9:25 AM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.24	10/16/2014	CRW	EPA 335.4	
%moisture	3.5	Percent		10/15/2014	KJS	%moisture	

Sample Number	141007051-003	Sampling Date	10/2/2014	Date/Time Received	10/7/2014	12:30 PM	
Client Sample ID	1410215-003B / SWMU 13-11 (26-28)			Sampling Time	9:30 AM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.244	10/16/2014	CRW	EPA 335.4	
%moisture	5.2	Percent		10/15/2014	KJS	%moisture	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Wednesday, October 22, 2014

Page 1 of 1

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 141007051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1410215
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.491	mg/kg	0.5	98.2	90-110	10/16/2014	10/16/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141007053-001	Cyanide	ND	12.4	mg/kg	13.2	93.9	90-110	10/16/2014	10/16/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	12.4	mg/kg	13.2	93.9	0.0	0-25	10/16/2014	10/16/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	10/16/2014	10/16/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15724	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 15724			RunNo: 21713					
Prep Date:	10/6/2014	Analysis Date: 10/7/2014			SeqNo: 637455		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		96.8	57.9	140			

Sample ID	LCS-15724		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15724		RunNo: 21713					
Prep Date:	10/6/2014		Analysis Date: 10/7/2014		SeqNo: 637570		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	68.6	130			
Surr: DNOP	4.6		5.000		91.0	57.9	140			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID MB-15739	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 15739		RunNo: 21730							
Prep Date: 10/6/2014	Analysis Date: 10/7/2014		SeqNo: 637950		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	830		1000		83.0	80	120			

Sample ID LCS-15739	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 15739		RunNo: 21730							
Prep Date: 10/6/2014	Analysis Date: 10/7/2014		SeqNo: 637951		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.3	65.8	139			
Surr: BFB	960		1000		96.1	80	120			

Sample ID 5ML RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: R21756		RunNo: 21756							
Prep Date:	Analysis Date: 10/8/2014		SeqNo: 638847		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		91.7	80	120			

Sample ID 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: R21756		RunNo: 21756							
Prep Date:	Analysis Date: 10/8/2014		SeqNo: 638848		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.4	65.8	139			
Surr: BFB	1000		1000		101	80	120			

Sample ID 5ML RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: R21774		RunNo: 21774							
Prep Date:	Analysis Date: 10/9/2014		SeqNo: 640455		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.3	80	120			

Sample ID 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: R21774		RunNo: 21774							
Prep Date:	Analysis Date: 10/9/2014		SeqNo: 640456		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	2.5UG GRO LCS	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID: R21774			RunNo: 21774					
Prep Date:		Analysis Date: 10/9/2014			SeqNo: 640456		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	65.8	139			
Surr: BFB	1100		1000		108	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15739		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15739		RunNo:	21749			
Prep Date:	10/6/2014		Analysis Date:	10/8/2014		SeqNo:	639690		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15739		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15739		RunNo:	21749			
Prep Date:	10/6/2014		Analysis Date:	10/8/2014		SeqNo:	639690		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.45		0.5000		90.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.37		0.5000		73.0	70	130			
Surr: Toluene-d8	0.43		0.5000		85.7	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		83.8	70	130			

Sample ID	ics-15739		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	LCSS		Batch ID:	15739		RunNo:	21749			
Prep Date:	10/6/2014		Analysis Date:	10/8/2014		SeqNo:	639691		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.050	1.000	0	94.3	70	130			
Toluene	0.86	0.050	1.000	0	86.1	70	130			
Chlorobenzene	0.96	0.050	1.000	0	96.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	ics-15739		SampType: LCS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS		Batch ID: 15739		RunNo: 21749					
Prep Date:	10/6/2014		Analysis Date: 10/8/2014		SeqNo: 639691		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.91	0.050	1.000	0	90.7	60.5	160			
Trichloroethene (TCE)	0.90	0.050	1.000	0	89.9	58.8	139			
Surr: Dibromofluoromethane	0.43		0.5000		86.2	70	130			
Surr: 1,2-Dichloroethane-d4	0.34		0.5000		67.6	70	130			S
Surr: Toluene-d8	0.39		0.5000		78.4	70	130			
Surr: 4-Bromofluorobenzene	0.36		0.5000		72.8	70	130			

Sample ID	100ng Ics		SampType: LCS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS		Batch ID: R21749		RunNo: 21749					
Prep Date:			Analysis Date: 10/8/2014		SeqNo: 639717		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.1	70	130			
Toluene	0.89	0.050	1.000	0	88.6	70	130			
Chlorobenzene	1.0	0.050	1.000	0	99.9	70	130			
1,1-Dichloroethene	0.99	0.050	1.000	0	98.9	60.5	160			
Trichloroethene (TCE)	0.94	0.050	1.000	0	93.8	58.8	139			
Surr: Dibromofluoromethane	0.44		0.5000		88.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.36		0.5000		71.4	70	130			
Surr: Toluene-d8	0.39		0.5000		77.1	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		86.6	70	130			

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID: R21749			RunNo: 21749					
Prep Date:		Analysis Date: 10/8/2014			SeqNo: 639718		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	5mL-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID:	R21749	RunNo:	21749					
Prep Date:		Analysis Date:	10/8/2014	SeqNo:	639718	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	5mL-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID:	R21749	RunNo:	21749					
Prep Date:		Analysis Date:	10/8/2014	SeqNo:	639718	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.48		0.5000		96.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.5	70	130			
Surr: Toluene-d8	0.41		0.5000		81.8	70	130			
Surr: 4-Bromofluorobenzene	0.41		0.5000		81.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15728		SampType:	MBLK		TestCode:	Method 8260B/5035LOW: VOLATILES			
Client ID:	PBS		Batch ID:	15728		RunNo:	21704			
Prep Date:	10/6/2014		Analysis Date:	10/6/2014		SeqNo:	637384		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00200								
Ethylbenzene	ND	0.00200								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00200								
1,2,4-Trimethylbenzene	ND	0.00200								
1,3,5-Trimethylbenzene	ND	0.00200								
1,2-Dichloroethane (EDC)	ND	0.00200								
1,2-Dibromoethane (EDB)	ND	0.00200								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00200								
Bromodichloromethane	ND	0.00200								
Bromoform	ND	0.00200								
Bromomethane	ND	0.00300								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00200								
Chlorobenzene	ND	0.00200								
Chloroethane	ND	0.00200								
Chloroform	ND	0.00200								
Chloromethane	ND	0.00200								
2-Chlorotoluene	ND	0.00200								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00200								
cis-1,2-DCE	ND	0.00200								
cis-1,3-Dichloropropene	ND	0.00200								
1,2-Dibromo-3-chloropropane	ND	0.00200								
Dibromochloromethane	ND	0.00200								
Dibromomethane	ND	0.00200								
1,2-Dichlorobenzene	ND	0.00200								
1,3-Dichlorobenzene	ND	0.00200								
1,4-Dichlorobenzene	ND	0.00200								
Dichlorodifluoromethane	ND	0.00200								
1,1-Dichloroethane	ND	0.00200								
1,1-Dichloroethene	ND	0.00200								
1,2-Dichloropropane	ND	0.00200								
1,3-Dichloropropane	ND	0.00200								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15728		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637384		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.00200								
1,1-Dichloropropene	ND	0.00200								
Hexachlorobutadiene	ND	0.00200								
Isopropylbenzene	ND	0.00200								
4-Isopropyltoluene	ND	0.00200								
Methylene chloride	ND	0.00200								
n-Butylbenzene	ND	0.00200								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00200								
sec-Butylbenzene	ND	0.00200								
Styrene	ND	0.00200								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00200								
1,1,1,2-Tetrachloroethane	ND	0.00200								
1,1,2,2-Tetrachloroethane	ND	0.00200								
Tetrachloroethene (PCE)	ND	0.00200								
trans-1,2-DCE	ND	0.00200								
trans-1,3-Dichloropropene	ND	0.00200								
1,2,3-Trichlorobenzene	ND	0.00200								
1,2,4-Trichlorobenzene	ND	0.00200								
1,1,1-Trichloroethane	ND	0.00200								
1,1,2-Trichloroethane	ND	0.00200								
Trichloroethene (TCE)	ND	0.00200								
Trichlorofluoromethane	ND	0.00200								
1,2,3-Trichloropropane	ND	0.00200								
Vinyl chloride	ND	0.00200								
Surr: 1,2-Dichloroethane-d4	0.0208		0.02000		104	70	130			
Surr: 4-Bromofluorobenzene	0.0216		0.02000		108	65.3	135			
Surr: Dibromofluoromethane	0.0203		0.02000		102	70	130			
Surr: Toluene-d8	0.0210		0.02000		105	70	130			

Sample ID	ics-15728		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15728		RunNo: 21704					
Prep Date:	10/6/2014		Analysis Date: 10/6/2014		SeqNo: 637386		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0104	0.00200	0.01000	0	104	70	130			
Toluene	0.0100	0.00200	0.01000	0	100	70	130			
Chlorobenzene	0.0103	0.00200	0.01000	0	103	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15728		SampType: LCS			TestCode: Method 8260B/5035LOW: VOLATILES				
Client ID:	LCSS		Batch ID: 15728			RunNo: 21704				
Prep Date:	10/6/2014		Analysis Date: 10/6/2014			SeqNo: 637386		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.00996	0.00200	0.01000	0	99.6	70	130			
Trichloroethene (TCE)	0.0105	0.00200	0.01000	0	105	61.6	131			
Surr: 1,2-Dichloroethane-d4	0.0211		0.02000		105	70	130			
Surr: 4-Bromofluorobenzene	0.0207		0.02000		104	65.3	135			
Surr: Dibromofluoromethane	0.0208		0.02000		104	70	130			
Surr: Toluene-d8	0.0200		0.02000		99.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15725	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15725	RunNo:	21852					
Prep Date:	10/6/2014	Analysis Date:	10/13/2014	SeqNo:	642289	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15725	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15725	RunNo:	21852					
Prep Date:	10/6/2014	Analysis Date:	10/13/2014	SeqNo:	642289	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.70								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	3.4		3.330		103	21	111			
Surr: Phenol-d5	3.4		3.330		102	23.1	117			
Surr: 2,4,6-Tribromophenol	3.0		3.330		88.7	22.7	88.9			
Surr: Nitrobenzene-d5	1.9		1.670		111	24.5	126			
Surr: 2-Fluorobiphenyl	2.0		1.670		121	21.2	129			
Surr: 4-Terphenyl-d14	1.7		1.670		103	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15725		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 15725		RunNo: 21852					
Prep Date:	10/6/2014		Analysis Date: 10/13/2014		SeqNo: 642291		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.7	0.20	1.670	0	102	50.7	110			
4-Chloro-3-methylphenol	3.6	0.50	3.330	0	107	47.8	107			S
2-Chlorophenol	3.6	0.20	3.330	0	109	45.7	108			S
1,4-Dichlorobenzene	1.6	0.20	1.670	0	97.8	46.1	112			
2,4-Dinitrotoluene	1.6	0.50	1.670	0	93.5	44.9	114			
N-Nitrosodi-n-propylamine	1.5	0.20	1.670	0	88.8	38.7	128			
4-Nitrophenol	3.1	0.25	3.330	0	92.6	40.2	103			
Pentachlorophenol	2.6	0.70	3.330	0	78.2	32.9	94			
Phenol	3.4	0.20	3.330	0	103	44.1	109			
Pyrene	1.5	0.20	1.670	0	91.4	51.9	109			
1,2,4-Trichlorobenzene	1.8	0.20	1.670	0	109	49.5	115			
Surr: 2-Fluorophenol	3.0		3.330		91.5	21	111			
Surr: Phenol-d5	3.2		3.330		97.1	23.1	117			
Surr: 2,4,6-Tribromophenol	2.9		3.330		85.9	22.7	88.9			
Surr: Nitrobenzene-d5	1.9		1.670		111	24.5	126			
Surr: 2-Fluorobiphenyl	1.8		1.670		110	21.2	129			
Surr: 4-Terphenyl-d14	1.6		1.670		97.4	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15938		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 15938		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646269		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.033								

Sample ID	LCS-15938		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 15938		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646270		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1667	0	93.8	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15818		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	PBS		Batch ID:	15818		RunNo:	21817			
Prep Date:	10/9/2014		Analysis Date:	10/10/2014		SeqNo:	641317		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Lead	ND	0.25								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-15818		SampType:	LCS		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	LCSS		Batch ID:	15818		RunNo:	21817			
Prep Date:	10/9/2014		Analysis Date:	10/10/2014		SeqNo:	641318		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	24	2.5	25.00	0	96.5	80	120			
Arsenic	24	2.5	25.00	0	97.1	80	120			
Barium	25	0.10	25.00	0	98.4	80	120			
Beryllium	25	0.15	25.00	0	99.3	80	120			
Cadmium	24	0.10	25.00	0	96.1	80	120			
Chromium	24	0.30	25.00	0	96.7	80	120			
Cobalt	24	0.30	25.00	0	97.3	80	120			
Lead	24	0.25	25.00	0	96.8	80	120			
Nickel	25	0.50	25.00	0	98.5	80	120			
Selenium	24	2.5	25.00	0	94.2	80	120			
Silver	4.9	0.25	5.000	0	97.4	80	120			
Vanadium	25	2.5	25.00	0	98.9	80	120			
Zinc	25	2.5	25.00	0	100	80	120			

Sample ID	1410215-001BMS		SampType:	MS		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	SWMU 13-11(0-0.5')		Batch ID:	15818		RunNo:	21817			
Prep Date:	10/9/2014		Analysis Date:	10/10/2014		SeqNo:	641410		Units: mg/Kg-dry	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	24	2.6	25.81	2.449	83.6	75	125			
Beryllium	23	0.15	25.81	0.2434	87.4	75	125			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	1410215-001BMS		SampType: MS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	SWMU 13-11(0-0.5')		Batch ID: 15818		RunNo: 21817					
Prep Date:	10/9/2014		Analysis Date: 10/10/2014		SeqNo: 641410		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	21	0.10	25.81	0.08097	82.7	75	125			
Chromium	26	0.31	25.81	4.809	82.2	75	125			
Cobalt	24	0.31	25.81	3.929	76.4	75	125			
Lead	27	0.26	25.81	5.128	84.8	75	125			
Nickel	25	0.52	25.81	4.800	78.9	75	125			
Selenium	21	2.6	25.81	0	80.0	75	125			
Silver	4.3	0.26	5.163	0	84.1	75	125			
Vanadium	43	2.6	25.81	21.81	80.6	75	125			

Sample ID	1410215-001BMSD	SampType:	MSD	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	SWMU 13-11(0-0.5')	Batch ID:	15818	RunNo:	21817					
Prep Date:	10/9/2014	Analysis Date:	10/10/2014	SeqNo:	641411	Units:	mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	22	2.5	25.09	2.449	79.0	75	125	7.67	20	
Beryllium	22	0.15	25.09	0.2434	86.1	75	125	4.25	20	
Cadmium	21	0.10	25.09	0.08097	81.7	75	125	4.01	20	
Chromium	27	0.30	25.09	4.809	87.1	75	125	2.39	20	
Cobalt	23	0.30	25.09	3.929	76.9	75	125	1.76	20	
Lead	25	0.25	25.09	5.128	77.9	75	125	9.08	20	
Nickel	24	0.50	25.09	4.800	77.9	75	125	3.39	20	
Selenium	20	2.5	25.09	0	80.0	75	125	2.86	20	
Silver	4.1	0.25	5.018	0	80.9	75	125	6.66	20	
Vanadium	43	2.5	25.09	21.81	83.8	75	125	0.474	20	

Sample ID	1410215-001BMS	SampType:	MS	TestCode: EPA Method 6010B: Soil Metals						
Client ID:	SWMU 13-11(0-0.5')	Batch ID:	15818	RunNo: 21817						
Prep Date:	10/9/2014	Analysis Date:	10/10/2014	SeqNo: 641422		Units: mg/Kg-dry				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	8.4	2.6	25.81	0	32.4	75	125			S
Barium	170	0.10	25.81	163.0	43.0	75	125			S
Zinc	62	2.6	25.81	46.24	60.1	75	125			S

Sample ID	1410215-001BMSD		SampType:	MSD		TestCode:	EPA Method 6010B: Soil Metals				
Client ID:	SWMU 13-11(0-0.5')		Batch ID:	15818		RunNo:	21817				
Prep Date:	10/9/2014		Analysis Date:	10/10/2014		SeqNo:	641423		Units: mg/Kg-dry		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Antimony	8.2	2.5	25.09	0	32.7	75	125	1.89	20	S	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410215

05-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	1410215-001BMSD	SampType:	MSD	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	SWMU 13-11(0-0.5')	Batch ID:	15818	RunNo:	21817					
Prep Date:	10/9/2014	Analysis Date:	10/10/2014	SeqNo:	641423	Units:	mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	180	0.10	25.09	163.0	87.4	75	125	6.04	20	
Zinc	65	2.5	25.09	46.24	72.9	75	125	4.39	20	S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: **Western Refining Southw**

Work Order Number: **1410215**

RcptNo: **1**

Received by/date:

[Signature]

10/06/14

Logged By:

Lindsay Mangin

10/4/2014 7:00:00 AM

[Signature]

Completed By:

Lindsay Mangin

10/4/2014 8:35:46 AM

[Signature]

Reviewed By:

[Signature]

10/06/14

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? Courier

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:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

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	1.3	Good	Yes			

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 method 6010/6020
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl lead	SW-846 method 6010/6020
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

November 06, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9

OrderNo.: 1410359

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/8/2014 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", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109



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

Case Narrative

WO#: 1410359
Date: 11/6/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9

Surrogate recoveries with an "S" flag have poor or elevated recoveries due to matrix interferences and/or sample dilution.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (0-0.5')

Project: GROUP 9

Collection Date: 10/6/2014 12:10:00 PM

Lab ID: 1410359-001

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	180	11		mg/Kg-dry	1	10/10/2014 9:36:15 AM	15782
Motor Oil Range Organics (MRO)	300	56		mg/Kg-dry	1	10/10/2014 9:36:15 AM	15782
Surr: DNOP	106	57.9-140		%REC	1	10/10/2014 9:36:15 AM	15782
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	7.0	3.4		mg/Kg-dry	1	10/9/2014 6:01:56 PM	R21782
Surr: BFB	95.7	80-120		%REC	1	10/9/2014 6:01:56 PM	R21782
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	13	1.0		wt%	1	10/8/2014 12:45:00 PM	R21762
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.58	0.19		mg/Kg-dry	5	10/17/2014 2:19:40 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	3.0		mg/Kg-dry	1	10/15/2014 12:41:20 PM	15884
Arsenic	13	3.0		mg/Kg-dry	1	10/15/2014 12:10:57 PM	15884
Barium	160	0.12		mg/Kg-dry	1	10/15/2014 12:41:20 PM	15884
Beryllium	0.43	0.18		mg/Kg-dry	1	10/15/2014 12:10:57 PM	15884
Cadmium	0.26	0.12		mg/Kg-dry	1	10/15/2014 12:10:57 PM	15884
Chromium	33	0.36		mg/Kg-dry	1	10/15/2014 12:41:20 PM	15884
Cobalt	4.9	0.36		mg/Kg-dry	1	10/15/2014 12:41:20 PM	15884
Lead	15	0.30		mg/Kg-dry	1	10/15/2014 12:41:20 PM	15884
Nickel	21	0.59		mg/Kg-dry	1	10/15/2014 12:10:57 PM	15884
Selenium	ND	3.0		mg/Kg-dry	1	10/15/2014 12:41:20 PM	15884
Silver	ND	0.30		mg/Kg-dry	1	10/15/2014 12:41:20 PM	15884
Vanadium	56	3.0		mg/Kg-dry	1	10/15/2014 12:41:20 PM	15884
Zinc	93	3.0		mg/Kg-dry	1	10/15/2014 12:41:20 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Acenaphthylene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Aniline	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Anthracene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Azobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Benz(a)anthracene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Benzo(a)pyrene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Benzo(b)fluoranthene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Benzo(g,h,i)perylene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Benzo(k)fluoranthene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Benzoic acid	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Benzyl alcohol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (0-0.5')

Project: GROUP 9

Collection Date: 10/6/2014 12:10:00 PM

Lab ID: 1410359-001

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Bis(2-chloroethyl)ether	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Bis(2-chloroisopropyl)ether	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Bis(2-ethylhexyl)phthalate	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
4-Bromophenyl phenyl ether	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Butyl benzyl phthalate	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Carbazole	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
4-Chloro-3-methylphenol	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
4-Chloroaniline	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2-Chloronaphthalene	ND	2.8		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2-Chlorophenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
4-Chlorophenyl phenyl ether	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Chrysene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Di-n-butyl phthalate	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Di-n-octyl phthalate	ND	4.5		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Dibenz(a,h)anthracene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Dibenzofuran	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
1,2-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
1,3-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
1,4-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
3,3'-Dichlorobenzidine	ND	2.8		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Diethyl phthalate	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Dimethyl phthalate	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2,4-Dichlorophenol	ND	4.5		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2,4-Dimethylphenol	ND	3.4		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
4,6-Dinitro-2-methylphenol	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2,4-Dinitrophenol	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2,4-Dinitrotoluene	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2,6-Dinitrotoluene	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Fluoranthene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Fluorene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Hexachlorobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Hexachlorobutadiene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Hexachlorocyclopentadiene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Hexachloroethane	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Indeno(1,2,3-cd)pyrene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Isophorone	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
1-Methylnaphthalene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2-Methylnaphthalene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	E	Value above quantitation range
	J	Analyte detected below quantitation limits
	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (0-0.5')

Project: GROUP 9

Collection Date: 10/6/2014 12:10:00 PM

Lab ID: 1410359-001

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
3+4-Methylphenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
N-Nitrosodi-n-propylamine	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
N-Nitrosodiphenylamine	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Naphthalene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2-Nitroaniline	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
3-Nitroaniline	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
4-Nitroaniline	ND	4.5		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Nitrobenzene	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2-Nitrophenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
4-Nitrophenol	ND	2.8		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Pentachlorophenol	ND	7.9		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Phenanthrene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Phenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Pyrene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Pyridine	ND	5.7		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
1,2,4-Trichlorobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2,4,5-Trichlorophenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
2,4,6-Trichlorophenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:09:29 PM	15800
Surr: 2-Fluorophenol	0	21-111	S	%REC	1	10/14/2014 5:09:29 PM	15800
Surr: Phenol-d5	0	23.1-117	S	%REC	1	10/14/2014 5:09:29 PM	15800
Surr: 2,4,6-Tribromophenol	0	22.7-88.9	S	%REC	1	10/14/2014 5:09:29 PM	15800
Surr: Nitrobenzene-d5	0	24.5-126	S	%REC	1	10/14/2014 5:09:29 PM	15800
Surr: 2-Fluorobiphenyl	0	21.2-129	S	%REC	1	10/14/2014 5:09:29 PM	15800
Surr: 4-Terphenyl-d14	0	39.4-107	S	%REC	1	10/14/2014 5:09:29 PM	15800
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	0.00237	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Toluene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Ethylbenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Xylenes, Total	0.00186	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Methyl tert-butyl ether (MTBE)	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,2,4-Trimethylbenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,3,5-Trimethylbenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,2-Dichloroethane (EDC)	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,2-Dibromoethane (EDB)	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Naphthalene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1-Methylnaphthalene	ND	0.00340		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
2-Methylnaphthalene	ND	0.00340		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Acetone	0.0243	0.00850		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (0-0.5')

Project: GROUP 9

Collection Date: 10/6/2014 12:10:00 PM

Lab ID: 1410359-001

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Bromodichloromethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Bromoform	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Bromomethane	ND	0.00255		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
2-Butanone	ND	0.00850		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Carbon tetrachloride	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Chlorobenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Chloroethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Chloroform	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Chloromethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
2-Chlorotoluene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Carbon disulfide	ND	0.00850		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
4-Chlorotoluene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
cis-1,2-DCE	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
cis-1,3-Dichloropropene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,2-Dibromo-3-chloropropane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Dibromochloromethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Dibromomethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,2-Dichlorobenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,3-Dichlorobenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,4-Dichlorobenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Dichlorodifluoromethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,1-Dichloroethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,1-Dichloroethene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,2-Dichloropropane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,3-Dichloropropane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
2,2-Dichloropropane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,1-Dichloropropene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Hexachlorobutadiene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Isopropylbenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
4-Isopropyltoluene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Methylene chloride	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
n-Butylbenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
2-Hexanone	ND	0.00850		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
n-Propylbenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
sec-Butylbenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Styrene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
4-Methyl-2-pentanone	ND	0.00850		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
tert-Butylbenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799

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	Page 5 of 43
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (0-0.5')

Project: GROUP 9

Collection Date: 10/6/2014 12:10:00 PM

Lab ID: 1410359-001

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,1,2,2-Tetrachloroethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Tetrachloroethene (PCE)	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
trans-1,2-DCE	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
trans-1,3-Dichloropropene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,2,3-Trichlorobenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,2,4-Trichlorobenzene	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,1,1-Trichloroethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,1,2-Trichloroethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Trichloroethene (TCE)	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Trichlorofluoromethane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
1,2,3-Trichloropropane	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Vinyl chloride	ND	0.00170		mg/Kg-dry	1	10/8/2014 12:54:09 PM	15799
Surr: 1,2-Dichloroethane-d4	119	70-130		%REC	1	10/8/2014 12:54:09 PM	15799
Surr: 4-Bromofluorobenzene	106	65.3-135		%REC	1	10/8/2014 12:54:09 PM	15799
Surr: Dibromofluoromethane	112	70-130		%REC	1	10/8/2014 12:54:09 PM	15799
Surr: Toluene-d8	104	70-130		%REC	1	10/8/2014 12:54:09 PM	15799

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	E	Value above quantitation range
	J	Analyte detected below quantitation limits
	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (0.5-2')

Project: GROUP 9

Collection Date: 10/6/2014 12:15:00 PM

Lab ID: 1410359-002

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	12000	220		mg/Kg-dry	20	10/10/2014 11:39:44 AM	15782
Motor Oil Range Organics (MRO)	6100	1100		mg/Kg-dry	20	10/10/2014 11:39:44 AM	15782
Surr: DNOP	0	57.9-140	S	%REC	20	10/10/2014 11:39:44 AM	15782
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	620	21		mg/Kg-dry	5	10/9/2014 6:30:27 PM	R21782
Surr: BFB	309	80-120	S	%REC	5	10/9/2014 6:30:27 PM	R21782
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	12	1.0		wt%	1	10/8/2014 12:45:00 PM	R21762
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.037		mg/Kg-dry	1	10/17/2014 1:23:29 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	5.5		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Arsenic	ND	5.5		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Barium	200	0.22		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Beryllium	0.68	0.33		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Cadmium	ND	0.22		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Chromium	8.4	0.66		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Cobalt	5.9	0.66		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Lead	6.9	0.55		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Nickel	9.1	1.1		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Selenium	ND	5.5		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Silver	ND	0.55		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Vanadium	31	5.5		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
Zinc	42	5.5		mg/Kg-dry	2	10/15/2014 12:49:09 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Acenaphthylene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Aniline	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Anthracene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Azobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Benz(a)anthracene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Benzo(a)pyrene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Benzo(b)fluoranthene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Benzo(g,h,i)perylene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Benzo(k)fluoranthene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Benzoic acid	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Benzyl alcohol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (0.5-2')

Project: GROUP 9

Collection Date: 10/6/2014 12:15:00 PM

Lab ID: 1410359-002

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Bis(2-chloroethyl)ether	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Bis(2-chloroisopropyl)ether	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Bis(2-ethylhexyl)phthalate	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
4-Bromophenyl phenyl ether	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Butyl benzyl phthalate	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Carbazole	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
4-Chloro-3-methylphenol	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
4-Chloroaniline	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2-Chloronaphthalene	ND	2.8		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2-Chlorophenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
4-Chlorophenyl phenyl ether	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Chrysene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Di-n-butyl phthalate	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Di-n-octyl phthalate	ND	4.5		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Dibenz(a,h)anthracene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Dibenzofuran	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
1,2-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
1,3-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
1,4-Dichlorobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
3,3'-Dichlorobenzidine	ND	2.8		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Diethyl phthalate	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Dimethyl phthalate	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2,4-Dichlorophenol	ND	4.5		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2,4-Dimethylphenol	ND	3.4		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
4,6-Dinitro-2-methylphenol	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2,4-Dinitrophenol	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2,4-Dinitrotoluene	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2,6-Dinitrotoluene	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Fluoranthene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Fluorene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Hexachlorobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Hexachlorobutadiene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Hexachlorocyclopentadiene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Hexachloroethane	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Indeno(1,2,3-cd)pyrene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Isophorone	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
1-Methylnaphthalene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2-Methylnaphthalene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800

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	Page 8 of 43
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (0.5-2')

Project: GROUP 9

Collection Date: 10/6/2014 12:15:00 PM

Lab ID: 1410359-002

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
3+4-Methylphenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
N-Nitrosodi-n-propylamine	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
N-Nitrosodiphenylamine	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Naphthalene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2-Nitroaniline	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
3-Nitroaniline	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
4-Nitroaniline	ND	4.5		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Nitrobenzene	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2-Nitrophenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
4-Nitrophenol	ND	2.8		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Pentachlorophenol	ND	7.9		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Phenanthrene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Phenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Pyrene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Pyridine	ND	5.7		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
1,2,4-Trichlorobenzene	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2,4,5-Trichlorophenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
2,4,6-Trichlorophenol	ND	2.3		mg/Kg-dry	1	10/14/2014 5:38:07 PM	15800
Surr: 2-Fluorophenol	0	21-111	S	%REC	1	10/14/2014 5:38:07 PM	15800
Surr: Phenol-d5	0	23.1-117	S	%REC	1	10/14/2014 5:38:07 PM	15800
Surr: 2,4,6-Tribromophenol	0	22.7-88.9	S	%REC	1	10/14/2014 5:38:07 PM	15800
Surr: Nitrobenzene-d5	0	24.5-126	S	%REC	1	10/14/2014 5:38:07 PM	15800
Surr: 2-Fluorobiphenyl	0	21.2-129	S	%REC	1	10/14/2014 5:38:07 PM	15800
Surr: 4-Terphenyl-d14	0	39.4-107	S	%REC	1	10/14/2014 5:38:07 PM	15800
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	1.2	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Toluene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Ethylbenzene	0.67	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Methyl tert-butyl ether (MTBE)	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,2,4-Trimethylbenzene	1.8	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,3,5-Trimethylbenzene	1.7	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,2-Dichloroethane (EDC)	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,2-Dibromoethane (EDB)	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Naphthalene	ND	0.43		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1-Methylnaphthalene	ND	0.86		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
2-Methylnaphthalene	ND	0.86		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Acetone	ND	3.2		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Bromobenzene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (0.5-2')

Project: GROUP 9

Collection Date: 10/6/2014 12:15:00 PM

Lab ID: 1410359-002

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Bromoform	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Bromomethane	ND	0.64		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
2-Butanone	ND	2.1		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Carbon disulfide	ND	2.1		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Carbon tetrachloride	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Chlorobenzene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Chloroethane	ND	0.43		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Chloroform	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Chloromethane	ND	0.64		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
2-Chlorotoluene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
4-Chlorotoluene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
cis-1,2-DCE	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
cis-1,3-Dichloropropene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,2-Dibromo-3-chloropropane	ND	0.43		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Dibromochloromethane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Dibromomethane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Dichlorodifluoromethane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,1-Dichloroethane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,1-Dichloroethene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,2-Dichloropropane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,3-Dichloropropane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
2,2-Dichloropropane	ND	0.43		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,1-Dichloropropene	ND	0.43		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Hexachlorobutadiene	ND	0.43		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
2-Hexanone	ND	2.1		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Isopropylbenzene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
4-Isopropyltoluene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
4-Methyl-2-pentanone	ND	2.1		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Methylene chloride	ND	0.64		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
n-Butylbenzene	ND	0.64		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
n-Propylbenzene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
sec-Butylbenzene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Styrene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
tert-Butylbenzene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,1,1,2-Tetrachloroethane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (0.5-2')

Project: GROUP 9

Collection Date: 10/6/2014 12:15:00 PM

Lab ID: 1410359-002

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Tetrachloroethene (PCE)	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
trans-1,2-DCE	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
trans-1,3-Dichloropropene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,2,3-Trichlorobenzene	ND	0.43		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,1,1-Trichloroethane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,1,2-Trichloroethane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Trichloroethene (TCE)	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Trichlorofluoromethane	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
1,2,3-Trichloropropane	ND	0.43		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Vinyl chloride	ND	0.21		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Xylenes, Total	5.5	0.43		mg/Kg-dry	5	10/8/2014 5:40:16 PM	R21749
Surr: Dibromofluoromethane	96.6	70-130		%REC	5	10/8/2014 5:40:16 PM	R21749
Surr: 1,2-Dichloroethane-d4	93.5	70-130		%REC	5	10/8/2014 5:40:16 PM	R21749
Surr: Toluene-d8	76.8	70-130		%REC	5	10/8/2014 5:40:16 PM	R21749
Surr: 4-Bromofluorobenzene	142	70-130	S	%REC	5	10/8/2014 5:40:16 PM	R21749

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (2-4')

Project: GROUP 9

Collection Date: 10/6/2014 12:20:00 PM

Lab ID: 1410359-003

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	5900	110		mg/Kg-dry	10	10/9/2014 6:03:04 PM	15782
Motor Oil Range Organics (MRO)	4500	570		mg/Kg-dry	10	10/9/2014 6:03:04 PM	15782
Surr: DNOP	0	57.9-140	S	%REC	10	10/9/2014 6:03:04 PM	15782
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	310	4.0		mg/Kg-dry	1	10/9/2014 6:59:01 PM	R21782
Surr: BFB	1400	80-120	S	%REC	1	10/9/2014 6:59:01 PM	R21782
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	13	1.0		wt%	1	10/8/2014 12:45:00 PM	R21762
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.039		mg/Kg-dry	1	10/17/2014 1:25:16 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	5.7		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Arsenic	ND	5.7		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Barium	230	0.23		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Beryllium	0.65	0.34		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Cadmium	ND	0.23		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Chromium	8.4	0.68		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Cobalt	6.5	0.68		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Lead	6.1	0.57		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Nickel	9.7	1.1		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Selenium	ND	5.7		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Silver	ND	0.57		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Vanadium	33	5.7		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
Zinc	45	5.7		mg/Kg-dry	2	10/15/2014 12:50:26 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Acenaphthylene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Aniline	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Anthracene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Azobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Benz(a)anthracene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Benzo(a)pyrene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Benzo(b)fluoranthene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Benzo(g,h,i)perylene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Benzo(k)fluoranthene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Benzoic acid	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Benzyl alcohol	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (2-4')

Project: GROUP 9

Collection Date: 10/6/2014 12:20:00 PM

Lab ID: 1410359-003

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Bis(2-chloroethyl)ether	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Bis(2-chloroisopropyl)ether	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Bis(2-ethylhexyl)phthalate	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
4-Bromophenyl phenyl ether	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Butyl benzyl phthalate	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Carbazole	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
4-Chloro-3-methylphenol	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
4-Chloroaniline	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2-Chloronaphthalene	ND	0.58		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2-Chlorophenol	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
4-Chlorophenyl phenyl ether	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Chrysene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Di-n-butyl phthalate	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Di-n-octyl phthalate	ND	0.92		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Dibenz(a,h)anthracene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Dibenzofuran	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
1,2-Dichlorobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
1,3-Dichlorobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
1,4-Dichlorobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
3,3'-Dichlorobenzidine	ND	0.58		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Diethyl phthalate	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Dimethyl phthalate	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2,4-Dichlorophenol	ND	0.92		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2,4-Dimethylphenol	ND	0.69		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
4,6-Dinitro-2-methylphenol	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2,4-Dinitrophenol	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2,4-Dinitrotoluene	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2,6-Dinitrotoluene	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Fluoranthene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Fluorene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Hexachlorobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Hexachlorobutadiene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Hexachlorocyclopentadiene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Hexachloroethane	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Indeno(1,2,3-cd)pyrene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Isophorone	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
1-Methylnaphthalene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2-Methylnaphthalene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (2-4')

Project: GROUP 9

Collection Date: 10/6/2014 12:20:00 PM

Lab ID: 1410359-003

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
3+4-Methylphenol	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
N-Nitrosodi-n-propylamine	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
N-Nitrosodiphenylamine	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Naphthalene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2-Nitroaniline	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
3-Nitroaniline	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
4-Nitroaniline	ND	0.92		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Nitrobenzene	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2-Nitrophenol	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
4-Nitrophenol	ND	0.58		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Pentachlorophenol	ND	1.6		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Phenanthrene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Phenol	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Pyrene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Pyridine	ND	1.2		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
1,2,4-Trichlorobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2,4,5-Trichlorophenol	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
2,4,6-Trichlorophenol	ND	0.46		mg/Kg-dry	1	10/14/2014 6:06:40 PM	15800
Surr: 2-Fluorophenol	41.9	21-111		%REC	1	10/14/2014 6:06:40 PM	15800
Surr: Phenol-d5	44.4	23.1-117		%REC	1	10/14/2014 6:06:40 PM	15800
Surr: 2,4,6-Tribromophenol	32.0	22.7-88.9		%REC	1	10/14/2014 6:06:40 PM	15800
Surr: Nitrobenzene-d5	0	24.5-126	S	%REC	1	10/14/2014 6:06:40 PM	15800
Surr: 2-Fluorobiphenyl	54.1	21.2-129		%REC	1	10/14/2014 6:06:40 PM	15800
Surr: 4-Terphenyl-d14	48.8	39.4-107		%REC	1	10/14/2014 6:06:40 PM	15800
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	0.22	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Toluene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Ethylbenzene	0.32	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,2,4-Trimethylbenzene	1.4	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,3,5-Trimethylbenzene	1.1	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,2-Dichloroethane (EDC)	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,2-Dibromoethane (EDB)	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Naphthalene	ND	0.40		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1-Methylnaphthalene	ND	0.81		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
2-Methylnaphthalene	ND	0.81		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Acetone	ND	3.0		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Bromobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (2-4')

Project: GROUP 9

Collection Date: 10/6/2014 12:20:00 PM

Lab ID: 1410359-003

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Bromoform	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Bromomethane	ND	0.60		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
2-Butanone	ND	2.0		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Carbon disulfide	ND	2.0		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Carbon tetrachloride	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Chlorobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Chloroethane	ND	0.40		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Chloroform	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Chloromethane	ND	0.60		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
2-Chlorotoluene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
4-Chlorotoluene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
cis-1,2-DCE	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
cis-1,3-Dichloropropene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,2-Dibromo-3-chloropropane	ND	0.40		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Dibromochloromethane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Dibromomethane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,2-Dichlorobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,3-Dichlorobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,4-Dichlorobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Dichlorodifluoromethane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,1-Dichloroethane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,1-Dichloroethene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,2-Dichloropropane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,3-Dichloropropane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
2,2-Dichloropropane	ND	0.40		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,1-Dichloropropene	ND	0.40		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Hexachlorobutadiene	ND	0.40		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
2-Hexanone	ND	2.0		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Isopropylbenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
4-Isopropyltoluene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
4-Methyl-2-pentanone	ND	2.0		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Methylene chloride	ND	0.60		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
n-Butylbenzene	ND	0.60		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
n-Propylbenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
sec-Butylbenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Styrene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
tert-Butylbenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,1,1,2-Tetrachloroethane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (2-4')

Project: GROUP 9

Collection Date: 10/6/2014 12:20:00 PM

Lab ID: 1410359-003

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: RAA			
1,1,2,2-Tetrachloroethane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Tetrachloroethene (PCE)	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
trans-1,2-DCE	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
trans-1,3-Dichloropropene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,2,3-Trichlorobenzene	ND	0.40		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,1,1-Trichloroethane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,1,2-Trichloroethane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Trichloroethene (TCE)	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Trichlorofluoromethane	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
1,2,3-Trichloropropane	ND	0.40		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Vinyl chloride	ND	0.20		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Xylenes, Total	2.5	0.40		mg/Kg-dry	5	10/8/2014 8:55:41 PM	R21749
Surr: Dibromofluoromethane	88.0	70-130		%REC	5	10/8/2014 8:55:41 PM	R21749
Surr: 1,2-Dichloroethane-d4	87.4	70-130		%REC	5	10/8/2014 8:55:41 PM	R21749
Surr: Toluene-d8	82.3	70-130		%REC	5	10/8/2014 8:55:41 PM	R21749
Surr: 4-Bromofluorobenzene	114	70-130		%REC	5	10/8/2014 8:55:41 PM	R21749

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (14-16')

Project: GROUP 9

Collection Date: 10/6/2014 12:25:00 PM

Lab ID: 1410359-004

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	11		mg/Kg-dry	1	10/9/2014 6:33:50 PM	15782
Motor Oil Range Organics (MRO)	ND	56		mg/Kg-dry	1	10/9/2014 6:33:50 PM	15782
Surr: DNOP	98.4	57.9-140		%REC	1	10/9/2014 6:33:50 PM	15782
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg-dry	1	10/9/2014 7:27:36 PM	R21782
Surr: BFB	103	80-120		%REC	1	10/9/2014 7:27:36 PM	R21782
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	10	1.0		wt%	1	10/8/2014 12:45:00 PM	R21762
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.036		mg/Kg-dry	1	10/17/2014 1:27:05 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.7		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Arsenic	3.0	2.7		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Barium	120	0.11		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Beryllium	0.35	0.16		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Cadmium	ND	0.11		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Chromium	4.4	0.33		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Cobalt	3.2	0.33		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Lead	3.1	0.27		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Nickel	4.7	0.55		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Selenium	ND	2.7		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Silver	ND	0.27		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Vanadium	17	2.7		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
Zinc	21	2.7		mg/Kg-dry	1	10/15/2014 12:19:57 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Acenaphthylene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Aniline	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Anthracene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Azobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Benz(a)anthracene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Benzo(a)pyrene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Benzo(b)fluoranthene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Benzo(g,h,i)perylene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Benzo(k)fluoranthene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Benzoic acid	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Benzyl alcohol	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (14-16')

Project: GROUP 9

Collection Date: 10/6/2014 12:25:00 PM

Lab ID: 1410359-004

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Bis(2-chloroethyl)ether	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Bis(2-chloroisopropyl)ether	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Bis(2-ethylhexyl)phthalate	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
4-Bromophenyl phenyl ether	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Butyl benzyl phthalate	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Carbazole	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
4-Chloro-3-methylphenol	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
4-Chloroaniline	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2-Chloronaphthalene	ND	0.28		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2-Chlorophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
4-Chlorophenyl phenyl ether	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Chrysene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Di-n-butyl phthalate	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Di-n-octyl phthalate	ND	0.45		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Dibenz(a,h)anthracene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Dibenzofuran	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
1,2-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
1,3-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
1,4-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
3,3'-Dichlorobenzidine	ND	0.28		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Diethyl phthalate	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Dimethyl phthalate	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2,4-Dichlorophenol	ND	0.45		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2,4-Dimethylphenol	ND	0.34		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
4,6-Dinitro-2-methylphenol	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2,4-Dinitrophenol	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2,4-Dinitrotoluene	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2,6-Dinitrotoluene	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Fluoranthene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Fluorene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Hexachlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Hexachlorobutadiene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Hexachlorocyclopentadiene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Hexachloroethane	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Indeno(1,2,3-cd)pyrene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Isophorone	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
1-Methylnaphthalene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2-Methylnaphthalene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (14-16')

Project: GROUP 9

Collection Date: 10/6/2014 12:25:00 PM

Lab ID: 1410359-004

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
3+4-Methylphenol	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
N-Nitrosodi-n-propylamine	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
N-Nitrosodiphenylamine	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Naphthalene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2-Nitroaniline	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
3-Nitroaniline	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
4-Nitroaniline	ND	0.45		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Nitrobenzene	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2-Nitrophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
4-Nitrophenol	ND	0.28		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Pentachlorophenol	ND	0.79		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Phenanthrene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Phenol	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Pyrene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Pyridine	ND	0.56		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
1,2,4-Trichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2,4,5-Trichlorophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
2,4,6-Trichlorophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 7:49:49 AM	15800
Surr: 2-Fluorophenol	73.6	21-111		%REC	1	10/13/2014 7:49:49 AM	15800
Surr: Phenol-d5	71.5	23.1-117		%REC	1	10/13/2014 7:49:49 AM	15800
Surr: 2,4,6-Tribromophenol	57.6	22.7-88.9		%REC	1	10/13/2014 7:49:49 AM	15800
Surr: Nitrobenzene-d5	75.8	24.5-126		%REC	1	10/13/2014 7:49:49 AM	15800
Surr: 2-Fluorobiphenyl	78.4	21.2-129		%REC	1	10/13/2014 7:49:49 AM	15800
Surr: 4-Terphenyl-d14	68.5	39.4-107		%REC	1	10/13/2014 7:49:49 AM	15800
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	0.00161	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Toluene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Ethylbenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Xylenes, Total	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Methyl tert-butyl ether (MTBE)	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,2,4-Trimethylbenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,3,5-Trimethylbenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,2-Dichloroethane (EDC)	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,2-Dibromoethane (EDB)	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Naphthalene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1-Methylnaphthalene	ND	0.00294		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
2-Methylnaphthalene	ND	0.00294		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Acetone	0.0515	0.00735		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (14-16')

Project: GROUP 9

Collection Date: 10/6/2014 12:25:00 PM

Lab ID: 1410359-004

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Bromodichloromethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Bromoform	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Bromomethane	ND	0.00220		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
2-Butanone	ND	0.00735		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Carbon tetrachloride	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Chlorobenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Chloroethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Chloroform	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Chloromethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
2-Chlorotoluene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Carbon disulfide	ND	0.00735		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
4-Chlorotoluene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
cis-1,2-DCE	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
cis-1,3-Dichloropropene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,2-Dibromo-3-chloropropane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Dibromochloromethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Dibromomethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,2-Dichlorobenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,3-Dichlorobenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,4-Dichlorobenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Dichlorodifluoromethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,1-Dichloroethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,1-Dichloroethene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,2-Dichloropropane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,3-Dichloropropane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
2,2-Dichloropropane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,1-Dichloropropene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Hexachlorobutadiene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Isopropylbenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
4-Isopropyltoluene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Methylene chloride	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
n-Butylbenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
2-Hexanone	ND	0.00735		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
n-Propylbenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
sec-Butylbenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Styrene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
4-Methyl-2-pentanone	ND	0.00735		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
tert-Butylbenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (14-16')

Project: GROUP 9

Collection Date: 10/6/2014 12:25:00 PM

Lab ID: 1410359-004

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,1,2,2-Tetrachloroethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Tetrachloroethene (PCE)	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
trans-1,2-DCE	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
trans-1,3-Dichloropropene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,2,3-Trichlorobenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,2,4-Trichlorobenzene	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,1,1-Trichloroethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,1,2-Trichloroethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Trichloroethene (TCE)	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Trichlorofluoromethane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
1,2,3-Trichloropropane	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Vinyl chloride	ND	0.00147		mg/Kg-dry	1	10/9/2014 2:11:33 PM	15799
Surr: 1,2-Dichloroethane-d4	114	70-130		%REC	1	10/9/2014 2:11:33 PM	15799
Surr: 4-Bromofluorobenzene	94.0	65.3-135		%REC	1	10/9/2014 2:11:33 PM	15799
Surr: Dibromofluoromethane	103	70-130		%REC	1	10/9/2014 2:11:33 PM	15799
Surr: Toluene-d8	96.3	70-130		%REC	1	10/9/2014 2:11:33 PM	15799

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (22-24')

Project: GROUP 9

Collection Date: 10/6/2014 12:30:00 PM

Lab ID: 1410359-005

Matrix: SOIL

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	3700	100		mg/Kg-dry	10	10/10/2014 12:10:03 PM	15782
Motor Oil Range Organics (MRO)	ND	520		mg/Kg-dry	10	10/10/2014 12:10:03 PM	15782
Surr: DNOP	0	57.9-140	S	%REC	10	10/10/2014 12:10:03 PM	15782
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	85	51		mg/Kg-dry	10	10/9/2014 5:04:46 PM	15760
Surr: BFB	150	80-120	S	%REC	10	10/9/2014 5:04:46 PM	15760
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	3.8	1.0		wt%	1	10/8/2014 12:45:00 PM	R21762
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.034		mg/Kg-dry	1	10/17/2014 1:29:01 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.6		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Arsenic	ND	2.6		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Barium	160	0.11		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Beryllium	ND	0.16		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Cadmium	ND	0.11		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Chromium	3.6	0.32		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Cobalt	2.5	0.32		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Lead	1.4	0.26		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Nickel	2.0	0.53		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Selenium	ND	2.6		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Silver	ND	0.26		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Vanadium	13	2.6		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
Zinc	11	2.6		mg/Kg-dry	1	10/15/2014 12:21:11 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Acenaphthylene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Aniline	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Azobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Benz(a)anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Benzo(a)pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Benzo(b)fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Benzo(g,h,i)perylene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Benzo(k)fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Benzoic acid	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Benzyl alcohol	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (22-24')

Project: GROUP 9

Collection Date: 10/6/2014 12:30:00 PM

Lab ID: 1410359-005

Matrix: SOIL

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Bis(2-chloroethyl)ether	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Bis(2-chloroisopropyl)ether	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Bis(2-ethylhexyl)phthalate	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
4-Bromophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Butyl benzyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Carbazole	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
4-Chloro-3-methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
4-Chloroaniline	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
2-Chloronaphthalene	ND	0.26		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
2-Chlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
4-Chlorophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Chrysene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Di-n-butyl phthalate	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Di-n-octyl phthalate	ND	0.42		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Dibenz(a,h)anthracene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Dibenzofuran	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
3,3'-Dichlorobenzidine	ND	0.26		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Diethyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Dimethyl phthalate	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
2,4-Dichlorophenol	ND	0.42		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
2,4-Dimethylphenol	ND	0.31		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
4,6-Dinitro-2-methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
2,4-Dinitrophenol	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
2,4-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
2,6-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Fluoranthene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Fluorene	0.93	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Hexachlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Hexachlorocyclopentadiene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Hexachloroethane	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Indeno(1,2,3-cd)pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Isophorone	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
1-Methylnaphthalene	4.4	1.0		mg/Kg-dry	5	10/13/2014 5:27:27 PM	15800
2-Methylnaphthalene	6.7	1.0		mg/Kg-dry	5	10/13/2014 5:27:27 PM	15800

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (22-24')

Project: GROUP 9

Collection Date: 10/6/2014 12:30:00 PM

Lab ID: 1410359-005

Matrix: SOIL

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
3+4-Methylphenol	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
N-Nitrosodi-n-propylamine	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
N-Nitrosodiphenylamine	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Naphthalene	1.9	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
2-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
3-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
4-Nitroaniline	ND	0.42		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Nitrobenzene	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
2-Nitrophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
4-Nitrophenol	ND	0.26		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Pentachlorophenol	ND	0.73		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Phenanthrene	2.1	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Phenol	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Pyrene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Pyridine	ND	0.52		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
2,4,5-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
2,4,6-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/13/2014 8:16:55 AM	15800
Surr: 2-Fluorophenol	76.0	21-111		%REC	1	10/13/2014 8:16:55 AM	15800
Surr: Phenol-d5	72.7	23.1-117		%REC	1	10/13/2014 8:16:55 AM	15800
Surr: 2,4,6-Tribromophenol	8.37	22.7-88.9	S	%REC	1	10/13/2014 8:16:55 AM	15800
Surr: Nitrobenzene-d5	93.2	24.5-126		%REC	1	10/13/2014 8:16:55 AM	15800
Surr: 2-Fluorobiphenyl	65.2	21.2-129		%REC	1	10/13/2014 8:16:55 AM	15800
Surr: 4-Terphenyl-d14	69.8	39.4-107		%REC	1	10/13/2014 8:16:55 AM	15800
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Toluene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Ethylbenzene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Methyl tert-butyl ether (MTBE)	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,2,4-Trimethylbenzene	4.0	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,3,5-Trimethylbenzene	1.1	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,2-Dichloroethane (EDC)	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,2-Dibromoethane (EDB)	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Naphthalene	2.7	1.0		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1-Methylnaphthalene	7.5	2.0		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
2-Methylnaphthalene	12	2.0		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Acetone	ND	7.6		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Bromobenzene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (22-24')

Project: GROUP 9

Collection Date: 10/6/2014 12:30:00 PM

Lab ID: 1410359-005

Matrix: SOIL

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Bromoform	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Bromomethane	ND	1.5		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
2-Butanone	ND	5.1		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Carbon disulfide	ND	5.1		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Carbon tetrachloride	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Chlorobenzene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Chloroethane	ND	1.0		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Chloroform	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Chloromethane	ND	1.5		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
2-Chlorotoluene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
4-Chlorotoluene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
cis-1,2-DCE	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
cis-1,3-Dichloropropene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Dibromochloromethane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Dibromomethane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,2-Dichlorobenzene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,3-Dichlorobenzene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,4-Dichlorobenzene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Dichlorodifluoromethane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,1-Dichloroethane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,1-Dichloroethene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,2-Dichloropropane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,3-Dichloropropane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
2,2-Dichloropropane	ND	1.0		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,1-Dichloropropene	ND	1.0		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Hexachlorobutadiene	ND	1.0		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
2-Hexanone	ND	5.1		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Isopropylbenzene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
4-Isopropyltoluene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
4-Methyl-2-pentanone	ND	5.1		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Methylene chloride	ND	1.5		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
n-Butylbenzene	ND	1.5		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
n-Propylbenzene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
sec-Butylbenzene	0.57	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Styrene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
tert-Butylbenzene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,1,1,2-Tetrachloroethane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410359

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-7 (22-24')

Project: GROUP 9

Collection Date: 10/6/2014 12:30:00 PM

Lab ID: 1410359-005

Matrix: SOIL

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst: RAA		
1,1,2,2-Tetrachloroethane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Tetrachloroethene (PCE)	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
trans-1,2-DCE	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
trans-1,3-Dichloropropene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,2,4-Trichlorobenzene	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,1,1-Trichloroethane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,1,2-Trichloroethane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Trichloroethene (TCE)	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Trichlorofluoromethane	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
1,2,3-Trichloropropane	ND	1.0		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Vinyl chloride	ND	0.51		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Xylenes, Total	ND	1.0		mg/Kg-dry	10	10/9/2014 1:38:25 PM	15760
Surr: Dibromofluoromethane	99.3	70-130		%REC	10	10/9/2014 1:38:25 PM	15760
Surr: 1,2-Dichloroethane-d4	83.6	70-130		%REC	10	10/9/2014 1:38:25 PM	15760
Surr: Toluene-d8	88.2	70-130		%REC	10	10/9/2014 1:38:25 PM	15760
Surr: 4-Bromofluorobenzene	105	70-130		%REC	10	10/9/2014 1:38:25 PM	15760

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	Page 26 of 43
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Anatek Labs, Inc.

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

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

Batch #: 141009045
Project Name: 1410359

Analytical Results Report

Sample Number	141009045-001	Sampling Date	10/6/2014	Date/Time Received	10/9/2014	1:40 PM	
Client Sample ID	1410359-001C / SWMU 13-7 (0-0.5')			Sampling Time	12:10 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.257	10/16/2014	CRW	EPA 335.4	
%moisture	13.2	Percent		10/16/2014	KJS	%moisture	

Sample Number	141009045-002	Sampling Date	10/6/2014	Date/Time Received	10/9/2014	1:40 PM	
Client Sample ID	1410359-002C / SWMU 13-7 (0.5-2')			Sampling Time	12:15 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.225	10/16/2014	CRW	EPA 335.4	
%moisture	11.4	Percent		10/16/2014	KJS	%moisture	

Sample Number	141009045-003	Sampling Date	10/6/2014	Date/Time Received	10/9/2014	1:40 PM	
Client Sample ID	1410359-003C / SWMU 13-7 (2-4')			Sampling Time	12:20 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.272	10/16/2014	CRW	EPA 335.4	
%moisture	11.9	Percent		10/16/2014	KJS	%moisture	

Anatek Labs, Inc.

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

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

Batch #: 141009045
Project Name: 1410359

Analytical Results Report

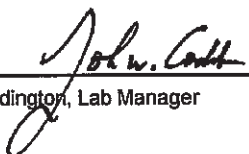
Sample Number	141009045-004	Sampling Date	10/6/2014	Date/Time Received	10/9/2014 1:40 PM
Client Sample ID	1410359-004C / SWMU 13-7 (14-16')			Sampling Time	12:25 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.26	10/16/2014	CRW	EPA 335.4	
%moisture	8.3	Percent		10/16/2014	KJS	%moisture	

Sample Number	141009045-005	Sampling Date	10/6/2014	Date/Time Received	10/9/2014 1:40 PM
Client Sample ID	1410359-005B / SWMU 13-7 (22-24')			Sampling Time	12:30 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.252	10/16/2014	CRW	EPA 335.4	
%moisture	3.2	Percent		10/16/2014	KJS	%moisture	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C586; MT:Cert0095; FL(NELAP): E871099

Friday, October 24, 2014

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Anatek Labs, Inc.

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

Batch #: 141009045
Project Name: 1410359

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.476	mg/kg	0.5	95.2	90-110	10/16/2014	10/16/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141009047-005	Cyanide	ND	10.9	mg/kg	12	90.8	90-110	10/16/2014	10/16/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	10.9	mg/kg	12	90.8	0.0	0-25	10/16/2014	10/16/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	10/16/2014	10/16/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Friday, October 24, 2014

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15782		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 15782		RunNo: 21765					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640411		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		88.1	57.9	140			

Sample ID	LCS-15782		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15782		RunNo: 21765					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640413		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	58	10	50.00	0	116	68.6	130			
Surr: DNOP	4.0		5.000		80.0	57.9	140			

Sample ID	1410359-001AMS		SampType: MS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	SWMU 13-7 (0-0.5')		Batch ID: 15782		RunNo: 21799					
Prep Date:	10/8/2014		Analysis Date: 10/10/2014		SeqNo: 640955		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	240	12	57.58	177.4	107	40.1	152			
Surr: DNOP	6.4		5.758		111	57.9	140			

Sample ID	1410359-001AMSD		SampType: MSD		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	SWMU 13-7 (0-0.5')		Batch ID: 15782		RunNo: 21799					
Prep Date:	10/8/2014		Analysis Date: 10/10/2014		SeqNo: 640956		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	220	11	56.34	177.4	81.9	40.1	152	6.64	32.1	
Surr: DNOP	5.8		5.634		104	57.9	140	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15760 MK		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: R21782		RunNo: 21782					
Prep Date:			Analysis Date: 10/9/2014		SeqNo: 640373		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.7	80	120			

Sample ID	LCS-15760 MK		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: R21782		RunNo: 21782					
Prep Date:			Analysis Date: 10/9/2014		SeqNo: 640374		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	65.8	139			
Surr: BFB	970		1000		96.9	80	120			

Sample ID	MB-15760		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 15760		RunNo: 21782					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640380		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.7	80	120			

Sample ID	LCS-15760		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 15760		RunNo: 21782					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640381		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	65.8	139			
Surr: BFB	970		1000		96.9	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	100ng lcs			SampType: LCS	TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS			Batch ID: R21749	RunNo: 21749					
Prep Date:	Analysis Date: 10/8/2014			SeqNo: 639717			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.1	70	130			
Toluene	0.89	0.050	1.000	0	88.6	70	130			
Chlorobenzene	1.0	0.050	1.000	0	99.9	70	130			
1,1-Dichloroethene	0.99	0.050	1.000	0	98.9	60.5	160			
Trichloroethene (TCE)	0.94	0.050	1.000	0	93.8	58.8	139			
Surr: Dibromofluoromethane	0.44		0.5000		88.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.36		0.5000		71.4	70	130			
Surr: Toluene-d8	0.39		0.5000		77.1	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		86.6	70	130			

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID: R21749			RunNo: 21749					
Prep Date:		Analysis Date: 10/8/2014			SeqNo: 639718		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID: R21749			RunNo: 21749					
Prep Date:		Analysis Date: 10/8/2014			SeqNo: 639718		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	5mL-rb	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles						
Client ID:	PBS	Batch ID: R21749		RunNo: 21749						
Prep Date:	Analysis Date: 10/8/2014		SeqNo: 639718		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.48		0.5000		96.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.5	70	130			
Surr: Toluene-d8	0.41		0.5000		81.8	70	130			
Surr: 4-Bromofluorobenzene	0.41		0.5000		81.8	70	130			

Sample ID	mb-15760		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS		Batch ID: 15760		RunNo: 21804					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640822		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15760		SampType: MBLK			TestCode: EPA Method 8260B: Volatiles				
Client ID:	PBS		Batch ID: 15760			RunNo: 21804				
Prep Date:	10/8/2014		Analysis Date: 10/9/2014			SeqNo: 640822		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.48		0.5000		96.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15760		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS		Batch ID: 15760		RunNo: 21804					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640822		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.39		0.5000		79.0	70	130			
Surr: Toluene-d8	0.45		0.5000		90.3	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.0	70	130			

Sample ID	lcs-15760		SampType: LCS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS		Batch ID: 15760		RunNo: 21804					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640823		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.050	1.000	0	93.0	70	130			
Toluene	0.90	0.050	1.000	0	90.2	70	130			
Chlorobenzene	1.0	0.050	1.000	0	102	70	130			
1,1-Dichloroethene	0.92	0.050	1.000	0	92.2	60.5	160			
Trichloroethene (TCE)	0.95	0.050	1.000	0	94.7	58.8	139			
Surr: Dibromofluoromethane	0.47		0.5000		93.2	70	130			
Surr: 1,2-Dichloroethane-d4	0.39		0.5000		78.1	70	130			
Surr: Toluene-d8	0.45		0.5000		89.0	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		85.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15799		SampType:	MBLK		TestCode:	Method 8260B/5035LOW: VOLATILES			
Client ID:	PBS		Batch ID:	15799		RunNo:	21763			
Prep Date:	10/8/2014		Analysis Date:	10/8/2014		SeqNo:	639338		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00200								
Ethylbenzene	ND	0.00200								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00200								
1,2,4-Trimethylbenzene	ND	0.00200								
1,3,5-Trimethylbenzene	ND	0.00200								
1,2-Dichloroethane (EDC)	ND	0.00200								
1,2-Dibromoethane (EDB)	ND	0.00200								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00200								
Bromodichloromethane	ND	0.00200								
Bromoform	ND	0.00200								
Bromomethane	ND	0.00300								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00200								
Chlorobenzene	ND	0.00200								
Chloroethane	ND	0.00200								
Chloroform	ND	0.00200								
Chloromethane	ND	0.00200								
2-Chlorotoluene	ND	0.00200								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00200								
cis-1,2-DCE	ND	0.00200								
cis-1,3-Dichloropropene	ND	0.00200								
1,2-Dibromo-3-chloropropane	ND	0.00200								
Dibromochloromethane	ND	0.00200								
Dibromomethane	ND	0.00200								
1,2-Dichlorobenzene	ND	0.00200								
1,3-Dichlorobenzene	ND	0.00200								
1,4-Dichlorobenzene	ND	0.00200								
Dichlorodifluoromethane	ND	0.00200								
1,1-Dichloroethane	ND	0.00200								
1,1-Dichloroethene	ND	0.00200								
1,2-Dichloropropane	ND	0.00200								
1,3-Dichloropropane	ND	0.00200								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15799		SampType:	MBLK		TestCode:	Method 8260B/5035LOW: VOLATILES			
Client ID:	PBS		Batch ID:	15799		RunNo:	21763			
Prep Date:	10/8/2014		Analysis Date:	10/8/2014		SeqNo:	639338		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.00200								
1,1-Dichloropropene	ND	0.00200								
Hexachlorobutadiene	ND	0.00200								
Isopropylbenzene	ND	0.00200								
4-Isopropyltoluene	ND	0.00200								
Methylene chloride	ND	0.00200								
n-Butylbenzene	ND	0.00200								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00200								
sec-Butylbenzene	ND	0.00200								
Styrene	ND	0.00200								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00200								
1,1,1,2-Tetrachloroethane	ND	0.00200								
1,1,2,2-Tetrachloroethane	ND	0.00200								
Tetrachloroethene (PCE)	ND	0.00200								
trans-1,2-DCE	ND	0.00200								
trans-1,3-Dichloropropene	ND	0.00200								
1,2,3-Trichlorobenzene	ND	0.00200								
1,2,4-Trichlorobenzene	ND	0.00200								
1,1,1-Trichloroethane	ND	0.00200								
1,1,2-Trichloroethane	ND	0.00200								
Trichloroethene (TCE)	ND	0.00200								
Trichlorofluoromethane	ND	0.00200								
1,2,3-Trichloropropane	ND	0.00200								
Vinyl chloride	ND	0.00200								
Surr: 1,2-Dichloroethane-d4	0.0202		0.02000		101	70	130			
Surr: 4-Bromofluorobenzene	0.0229		0.02000		114	65.3	135			
Surr: Dibromofluoromethane	0.0205		0.02000		102	70	130			
Surr: Toluene-d8	0.0206		0.02000		103	70	130			

Sample ID	LCS-15799		SampType:	LCS		TestCode:	Method 8260B/5035LOW: VOLATILES			
Client ID:	LCSS		Batch ID:	15799		RunNo:	21763			
Prep Date:	10/8/2014		Analysis Date:	10/8/2014		SeqNo:	639342		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.00988	0.00200	0.01000	0	98.8	70	130			
Toluene	0.00967	0.00200	0.01000	0	96.7	70	130			
Chlorobenzene	0.00971	0.00200	0.01000	0	97.1	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	LCS-15799		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15799		RunNo: 21763					
Prep Date:	10/8/2014		Analysis Date: 10/8/2014		SeqNo: 639342		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.00917	0.00200	0.01000	0	91.7	70	130			
Trichloroethene (TCE)	0.00953	0.00200	0.01000	0	95.3	61.6	131			
Surr: 1,2-Dichloroethane-d4	0.0207		0.02000		104	70	130			
Surr: 4-Bromofluorobenzene	0.0223		0.02000		112	65.3	135			
Surr: Dibromofluoromethane	0.0205		0.02000		102	70	130			
Surr: Toluene-d8	0.0200		0.02000		100	70	130			

Sample ID	1410359-001ams		SampType: MS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	SWMU 13-7 (0-0.5')		Batch ID: 15799		RunNo: 21763					
Prep Date:	10/8/2014		Analysis Date: 10/8/2014		SeqNo: 639345		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.00831	0.00171	0.008543	0.002373	69.5	70	130			S
Toluene	0.00838	0.00171	0.008543	0	98.1	70	130			
Chlorobenzene	0.00825	0.00171	0.008543	0	96.5	70	130			
1,1-Dichloroethene	0.00893	0.00171	0.008543	0	104	70	130			
Trichloroethene (TCE)	0.00838	0.00171	0.008543	0	98.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.0179		0.01709		105	70	130			
Surr: 4-Bromofluorobenzene	0.0191		0.01709		112	65.3	135			
Surr: Dibromofluoromethane	0.0178		0.01709		104	70	130			
Surr: Toluene-d8	0.0174		0.01709		102	70	130			

Sample ID	1410359-001amsd		SampType: MSD		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	SWMU 13-7 (0-0.5')		Batch ID: 15799		RunNo: 21763					
Prep Date:	10/8/2014		Analysis Date: 10/8/2014		SeqNo: 639346		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.00743	0.00171	0.008530	0.002373	59.2	70	130	11.2	20	S
Toluene	0.00698	0.00171	0.008530	0	81.8	70	130	18.3	20	
Chlorobenzene	0.00698	0.00171	0.008530	0	81.9	70	130	16.6	20	
1,1-Dichloroethene	0.00737	0.00171	0.008530	0	86.4	70	130	19.1	20	
Trichloroethene (TCE)	0.00760	0.00171	0.008530	0	89.1	70	130	9.75	20	
Surr: 1,2-Dichloroethane-d4	0.0184		0.01706		108	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.0186		0.01706		109	65.3	135	0	0	
Surr: Dibromofluoromethane	0.0171		0.01706		100	70	130	0	0	
Surr: Toluene-d8	0.0175		0.01706		103	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15800		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBS		Batch ID: 15800		RunNo: 21852					
Prep Date:	10/8/2014		Analysis Date: 10/13/2014		SeqNo: 642290		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15800	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15800	RunNo:	21852					
Prep Date:	10/8/2014	Analysis Date:	10/13/2014	SeqNo:	642290	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.70								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	3.2		3.330		95.6	21	111			
Surr: Phenol-d5	3.2		3.330		95.2	23.1	117			
Surr: 2,4,6-Tribromophenol	2.4		3.330		71.5	22.7	88.9			
Surr: Nitrobenzene-d5	1.8		1.670		105	24.5	126			
Surr: 2-Fluorobiphenyl	1.8		1.670		106	21.2	129			
Surr: 4-Terphenyl-d14	1.6		1.670		93.7	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15800		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSS		Batch ID: 15800			RunNo: 21852				
Prep Date:	10/8/2014		Analysis Date: 10/13/2014			SeqNo: 642292		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.6	0.20	1.670	0	94.5	50.7	110			
4-Chloro-3-methylphenol	3.4	0.50	3.330	0	102	47.8	107			
2-Chlorophenol	3.2	0.20	3.330	0	97.5	45.7	108			
1,4-Dichlorobenzene	1.6	0.20	1.670	0	94.2	46.1	112			
2,4-Dinitrotoluene	1.2	0.50	1.670	0	73.8	44.9	114			
N-Nitrosodi-n-propylamine	1.7	0.20	1.670	0	98.9	38.7	128			
4-Nitrophenol	2.5	0.25	3.330	0	76.4	40.2	103			
Pentachlorophenol	2.4	0.70	3.330	0	70.6	32.9	94			
Phenol	3.4	0.20	3.330	0	101	44.1	109			
Pyrene	1.5	0.20	1.670	0	87.5	51.9	109			
1,2,4-Trichlorobenzene	1.7	0.20	1.670	0	101	49.5	115			
Surr: 2-Fluorophenol	3.1		3.330		92.9	21	111			
Surr: Phenol-d5	3.1		3.330		93.6	23.1	117			
Surr: 2,4,6-Tribromophenol	2.9		3.330		85.6	22.7	88.9			
Surr: Nitrobenzene-d5	1.7		1.670		103	24.5	126			
Surr: 2-Fluorobiphenyl	1.8		1.670		109	21.2	129			
Surr: 4-Terphenyl-d14	1.7		1.670		99.0	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15939		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 15939		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646271		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.033								

Sample ID	LCS-15939			SampType:	LCS		TestCode:	EPA Method 7471: Mercury			
Client ID:	LCSS			Batch ID:	15939		RunNo:	21990			
Prep Date:	10/16/2014			Analysis Date:	10/17/2014		SeqNo:	646272		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.16	0.033	0.1667	0	95.3	80	120				

Sample ID	1410359-001BMS		SampType: MS		TestCode: EPA Method 7471: Mercury					
Client ID:	SWMU 13-7 (0-0.5')		Batch ID: 15939		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646324		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.43	0.18	0.1824	0.5849	-87.5	75	125			S

Sample ID	1410359-001BMSD		SampType:	MSD		TestCode:	EPA Method 7471: Mercury				
Client ID:	SWMU 13-7 (0-0.5')		Batch ID:	15939		RunNo:	21990				
Prep Date:	10/16/2014		Analysis Date:	10/17/2014		SeqNo:	646325		Units: mg/Kg-dry		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.47	0.18	0.1818	0.5849	-60.6	75	125	10.9	20	S	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15884		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	PBS		Batch ID:	15884		RunNo:	21911			
Prep Date:	10/14/2014		Analysis Date:	10/15/2014		SeqNo:	644144		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Lead	ND	0.25								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-15884		SampType:	LCS		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	LCSS		Batch ID:	15884		RunNo:	21911			
Prep Date:	10/14/2014		Analysis Date:	10/15/2014		SeqNo:	644145		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	25	2.5	25.00	0	101	80	120			
Arsenic	25	2.5	25.00	0	99.7	80	120			
Barium	25	0.10	25.00	0	100	80	120			
Beryllium	25	0.15	25.00	0	101	80	120			
Cadmium	25	0.10	25.00	0	99.3	80	120			
Chromium	25	0.30	25.00	0	98.1	80	120			
Cobalt	25	0.30	25.00	0	99.2	80	120			
Lead	25	0.25	25.00	0	99.0	80	120			
Nickel	26	0.50	25.00	0	102	80	120			
Selenium	26	2.5	25.00	0	104	80	120			
Silver	5.0	0.25	5.000	0	99.3	80	120			
Vanadium	25	2.5	25.00	0	99.5	80	120			
Zinc	26	2.5	25.00	0	104	80	120			

Sample ID	1410359-001BMS		SampType:	MS		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	SWMU 13-7 (0-0.5')		Batch ID:	15884		RunNo:	21911			
Prep Date:	10/14/2014		Analysis Date:	10/15/2014		SeqNo:	644156		Units: mg/Kg-dry	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	36	2.9	28.95	13.50	76.8	75	125			
Beryllium	24	0.17	28.95	0.4293	81.7	75	125			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	1410359-001BMS		SampType: MS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	SWMU 13-7 (0-0.5')		Batch ID: 15884		RunNo: 21911					
Prep Date:	10/14/2014		Analysis Date: 10/15/2014		SeqNo: 644156		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	23	0.12	28.95	0.2589	78.6	75	125			
Nickel	56	0.58	28.95	21.43	121	75	125			

Sample ID	1410359-001BMSD		SampType: MSD		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	SWMU 13-7 (0-0.5')		Batch ID: 15884		RunNo: 21911					
Prep Date:	10/14/2014		Analysis Date: 10/15/2014		SeqNo: 644157		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	39	3.0	29.99	13.50	86.2	75	125	9.64	20	
Beryllium	25	0.18	29.99	0.4293	82.1	75	125	3.97	20	
Cadmium	24	0.12	29.99	0.2589	79.9	75	125	5.10	20	
Nickel	53	0.60	29.99	21.43	106	75	125	5.88	20	

Sample ID	1410359-001BMS		SampType: MS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	SWMU 13-7 (0-0.5')		Batch ID: 15884		RunNo: 21911					
Prep Date:	10/14/2014		Analysis Date: 10/15/2014		SeqNo: 644177		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	7.7	2.9	28.95	0	26.6	75	125			S
Barium	180	0.12	28.95	160.3	55.6	75	125			S
Chromium	45	0.35	28.95	32.69	43.0	75	125			S
Cobalt	25	0.35	28.95	4.896	71.1	75	125			S
Lead	36	0.29	28.95	15.18	71.7	75	125			S
Selenium	20	2.9	28.95	0	68.4	75	125			S
Silver	4.2	0.29	5.790	0	72.3	75	125			S
Vanadium	91	2.9	28.95	55.83	122	75	125			
Zinc	140	2.9	28.95	92.60	175	75	125			S

Sample ID	1410359-001BMSD			SampType:	MSD		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	SWMU 13-7 (0-0.5')			Batch ID:	15884		RunNo:	21911			
Prep Date:	10/14/2014		Analysis Date:	10/15/2014		SeqNo:	644180		Units: mg/Kg-dry		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Antimony	5.9	3.0	29.99	0	19.6	75	125	27.1	20	RS	
Barium	180	0.12	29.99	160.3	58.4	75	125	0.812	20	S	
Chromium	38	0.36	29.99	32.69	16.4	75	125	18.2	20	S	
Cobalt	26	0.36	29.99	4.896	69.5	75	125	0.985	20	S	
Lead	38	0.30	29.99	15.18	76.0	75	125	5.51	20		
Selenium	20	3.0	29.99	0	67.0	75	125	1.53	20	S	
Silver	4.1	0.30	5.997	0	68.9	75	125	1.31	20	S	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410359

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	1410359-001BMSD	SampType:	MSD	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	SWMU 13-7 (0-0.5')	Batch ID:	15884	RunNo:	21911					
Prep Date:	10/14/2014	Analysis Date:	10/15/2014	SeqNo:	644180	Units:	mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vanadium	100	3.0	29.99	55.83	151	75	125	10.5	20	S
Zinc	180	3.0	29.99	92.60	302	75	125	24.5	20	RS

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1410359

RcptNo: 1

Received by/date:	LM	10/08/14	
Logged By:	Michelle Garcia	10/8/2014 6:50:00 AM	Michelle Garcia
Completed By:	Michelle Garcia	10/8/2014 9:37:05 AM	Michelle Garcia
Reviewed By:	<i>[Signature]</i> / IO	10/08/14	

Chain of Custody

- Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
- Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
- How was the sample delivered? Courier

Log In

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

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

Special Handling (if applicable)

- 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:			

- Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			

Chain-of-Custody Record

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

BLOOMFIELD TERMINAL

Mailing Address: **#50 CO. RD 4990**

BLOOMFIELD, NM 87413

Phone #: **505-632-4166**

Email or Fax#: **KELLY.ROBINSON@WNR.COM**

QA/QC Package:

☐ Standard

☒ Level 4 (Full Validation)

Accreditation

☐ NELAP

☐ Other

☒ EDD (Type) **EXCEL**

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

GROUP 9

Project #:

Project Manager:

KELLY ROBINSON

Sampler: **TRACY PAYNE**

On Ice: ☒ Yes ☐ No

Sample Temperature: **17**

Date Time Matrix Sample Request ID

6-14 1210 2011 SWMU 13-7(0-05')

1215

1220

1225

1230

1235

1240

1245

1250

1255

1300

1305

1310

1315

1320

1325

1330

1335

1340

1345

1350

1355

1400

1405

1410

1415

1420



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 + TMB's (8021)	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)	Metals - SEE ATTACHED	SHEET	Air Bubbles (Y or N)
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HEAL No.

1410359

Container Type and #

Preservative Type

HEAL No.

1410359

2 VIALS SOBI

2 VIALS MEOH

2 VIALS -

2 VIALS SOBI

2 VIALS MEOH

2 VIALS -

2 VIALS SOBI

2 VIALS MEOH

2 VIALS -

2 VIALS SOBI

2 VIALS MEOH

2 VIALS -

2 VIALS SOBI

2 VIALS MEOH

2 VIALS -

2 VIALS SOBI

2 VIALS MEOH

2 VIALS -

2 VIALS SOBI

2 VIALS MEOH

2 VIALS -

2 VIALS SOBI

2 VIALS MEOH

2 VIALS -

2 VIALS SOBI

2 VIALS MEOH

2 VIALS -

Remarks:

Date Time

10/14/2011 9:03

Date Time

10/08/14 06:50

Project Name:

GROUP 9

GROUP 9

Project Manager:

Kelly Robinson
Sampler: Tracy Payne

KELLY ROBINSON
Sampler: TRACY PAYNE

Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No

On Ice: ☒ Yes ☐ No

Sample Temperature: 17

HEAL No.

500-005

Date	Time
------	------

Chae

Received by:

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.

Analysis Request

Project Manager:

KELLY ROBINSON

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: 17

HEAL No.

1410359

500-005

Remarks:

Date	Time
------	------

Date Time

08/14/06

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 3060A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyllead	SW-846 method 8270C
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

November 06, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9

OrderNo.: 1410360

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/8/2014 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
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1410360
Date: 11/6/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9

Surrogate recoveries with an "S" flag have poor or elevated recoveries due to matrix interferences and/or sample dilution.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (0-0.5')

Project: GROUP 9

Collection Date: 10/6/2014 3:20:00 PM

Lab ID: 1410360-001

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	50	11		mg/Kg-dry	1	10/10/2014 12:40:37 PM	15782
Motor Oil Range Organics (MRO)	70	55		mg/Kg-dry	1	10/10/2014 12:40:37 PM	15782
Surr: DNOP	103	57.9-140		%REC	1	10/10/2014 12:40:37 PM	15782
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg-dry	1	10/9/2014 4:45:49 PM	R21774
Surr: BFB	84.3	80-120		%REC	1	10/9/2014 4:45:49 PM	R21774
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	9.0	1.0		wt%	1	10/8/2014 12:45:00 PM	R21762
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.078	0.036		mg/Kg-dry	1	10/17/2014 1:30:51 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.6		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Arsenic	4.2	2.6		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Barium	220	0.11		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Beryllium	0.50	0.16		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Cadmium	0.23	0.11		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Chromium	10	0.32		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Cobalt	4.8	0.32		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Lead	9.3	0.26		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Nickel	11	0.53		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Selenium	ND	2.6		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Silver	ND	0.26		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Vanadium	30	2.6		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
Zinc	94	2.6		mg/Kg-dry	1	10/15/2014 12:22:25 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Acenaphthylene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Aniline	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Anthracene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Azobenzene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Benz(a)anthracene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Benzo(a)pyrene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Benzo(b)fluoranthene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Benzo(g,h,i)perylene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Benzo(k)fluoranthene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Benzoic acid	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Benzyl alcohol	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (0-0.5')

Project: GROUP 9

Collection Date: 10/6/2014 3:20:00 PM

Lab ID: 1410360-001

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Bis(2-chloroethyl)ether	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Bis(2-chloroisopropyl)ether	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Bis(2-ethylhexyl)phthalate	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
4-Bromophenyl phenyl ether	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Butyl benzyl phthalate	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Carbazole	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
4-Chloro-3-methylphenol	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
4-Chloroaniline	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2-Chloronaphthalene	ND	0.55		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2-Chlorophenol	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
4-Chlorophenyl phenyl ether	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Chrysene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Di-n-butyl phthalate	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Di-n-octyl phthalate	ND	0.88		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Dibenz(a,h)anthracene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Dibenzofuran	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
1,2-Dichlorobenzene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
1,3-Dichlorobenzene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
1,4-Dichlorobenzene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
3,3'-Dichlorobenzidine	ND	0.55		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Diethyl phthalate	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Dimethyl phthalate	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2,4-Dichlorophenol	ND	0.88		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2,4-Dimethylphenol	ND	0.66		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
4,6-Dinitro-2-methylphenol	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2,4-Dinitrophenol	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2,4-Dinitrotoluene	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2,6-Dinitrotoluene	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Fluoranthene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Fluorene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Hexachlorobenzene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Hexachlorobutadiene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Hexachlorocyclopentadiene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Hexachloroethane	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Indeno(1,2,3-cd)pyrene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Isophorone	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
1-Methylnaphthalene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2-Methylnaphthalene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800

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	Page 3 of 42
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (0-0.5')

Project: GROUP 9

Collection Date: 10/6/2014 3:20:00 PM

Lab ID: 1410360-001

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
3+4-Methylphenol	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
N-Nitrosodi-n-propylamine	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
N-Nitrosodiphenylamine	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Naphthalene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2-Nitroaniline	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
3-Nitroaniline	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
4-Nitroaniline	ND	0.88		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Nitrobenzene	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2-Nitrophenol	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
4-Nitrophenol	ND	0.55		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Pentachlorophenol	ND	1.5		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Phenanthrene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Phenol	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Pyrene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Pyridine	ND	1.1		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
1,2,4-Trichlorobenzene	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2,4,5-Trichlorophenol	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
2,4,6-Trichlorophenol	ND	0.44		mg/Kg-dry	1	10/14/2014 6:35:07 PM	15800
Surr: 2-Fluorophenol	70.6	21-111		%REC	1	10/14/2014 6:35:07 PM	15800
Surr: Phenol-d5	69.8	23.1-117		%REC	1	10/14/2014 6:35:07 PM	15800
Surr: 2,4,6-Tribromophenol	64.6	22.7-88.9		%REC	1	10/14/2014 6:35:07 PM	15800
Surr: Nitrobenzene-d5	74.0	24.5-126		%REC	1	10/14/2014 6:35:07 PM	15800
Surr: 2-Fluorobiphenyl	81.2	21.2-129		%REC	1	10/14/2014 6:35:07 PM	15800
Surr: 4-Terphenyl-d14	75.6	39.4-107		%REC	1	10/14/2014 6:35:07 PM	15800
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Toluene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Ethylbenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Xylenes, Total	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Methyl tert-butyl ether (MTBE)	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,2,4-Trimethylbenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,3,5-Trimethylbenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,2-Dichloroethane (EDC)	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,2-Dibromoethane (EDB)	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Naphthalene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1-Methylnaphthalene	ND	0.00386		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
2-Methylnaphthalene	ND	0.00386		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Acetone	0.0295	0.00966		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799

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	Page 4 of 42
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (0-0.5')

Project: GROUP 9

Collection Date: 10/6/2014 3:20:00 PM

Lab ID: 1410360-001

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Bromodichloromethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Bromoform	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Bromomethane	ND	0.00290		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
2-Butanone	ND	0.00966		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Carbon tetrachloride	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Chlorobenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Chloroethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Chloroform	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Chloromethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
2-Chlorotoluene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Carbon disulfide	ND	0.00966		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
4-Chlorotoluene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
cis-1,2-DCE	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
cis-1,3-Dichloropropene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,2-Dibromo-3-chloropropane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Dibromochloromethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Dibromomethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,2-Dichlorobenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,3-Dichlorobenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,4-Dichlorobenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Dichlorodifluoromethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,1-Dichloroethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,1-Dichloroethene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,2-Dichloropropane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,3-Dichloropropane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
2,2-Dichloropropane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,1-Dichloropropene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Hexachlorobutadiene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Isopropylbenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
4-Isopropyltoluene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Methylene chloride	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
n-Butylbenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
2-Hexanone	ND	0.00966		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
n-Propylbenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
sec-Butylbenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Styrene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
4-Methyl-2-pentanone	ND	0.00966		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
tert-Butylbenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (0-0.5')

Project: GROUP 9

Collection Date: 10/6/2014 3:20:00 PM

Lab ID: 1410360-001

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,1,2,2-Tetrachloroethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Tetrachloroethene (PCE)	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
trans-1,2-DCE	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
trans-1,3-Dichloropropene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,2,3-Trichlorobenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,2,4-Trichlorobenzene	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,1,1-Trichloroethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,1,2-Trichloroethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Trichloroethene (TCE)	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Trichlorofluoromethane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
1,2,3-Trichloropropane	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Vinyl chloride	ND	0.00193		mg/Kg-dry	1	10/8/2014 3:18:06 PM	15799
Surr: 1,2-Dichloroethane-d4	115	70-130		%REC	1	10/8/2014 3:18:06 PM	15799
Surr: 4-Bromofluorobenzene	95.2	65.3-135		%REC	1	10/8/2014 3:18:06 PM	15799
Surr: Dibromofluoromethane	108	70-130		%REC	1	10/8/2014 3:18:06 PM	15799
Surr: Toluene-d8	99.5	70-130		%REC	1	10/8/2014 3:18:06 PM	15799

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	Page 6 of 42
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (0.5-2')

Project: GROUP 9

Collection Date: 10/6/2014 3:25:00 PM

Lab ID: 1410360-002

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	11		mg/Kg-dry	1	10/9/2014 8:05:09 PM	15782
Motor Oil Range Organics (MRO)	ND	56		mg/Kg-dry	1	10/9/2014 8:05:09 PM	15782
Surr: DNOP	101	57.9-140		%REC	1	10/9/2014 8:05:09 PM	15782
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg-dry	1	10/9/2014 6:16:11 PM	R21774
Surr: BFB	80.4	80-120		%REC	1	10/9/2014 6:16:11 PM	R21774
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	12	1.0		wt%	1	10/8/2014 12:45:00 PM	R21762
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.036		mg/Kg-dry	1	10/17/2014 1:32:44 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.8		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Arsenic	3.9	2.8		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Barium	200	0.11		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Beryllium	0.54	0.17		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Cadmium	ND	0.11		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Chromium	7.4	0.33		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Cobalt	5.2	0.33		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Lead	5.9	0.28		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Nickel	7.8	0.56		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Selenium	ND	2.8		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Silver	ND	0.28		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Vanadium	28	2.8		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
Zinc	39	2.8		mg/Kg-dry	1	10/15/2014 12:23:40 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Acenaphthylene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Aniline	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Anthracene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Azobenzene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Benz(a)anthracene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Benzo(a)pyrene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Benzo(b)fluoranthene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Benzo(g,h,i)perylene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Benzo(k)fluoranthene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Benzoic acid	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Benzyl alcohol	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (0.5-2')

Project: GROUP 9

Collection Date: 10/6/2014 3:25:00 PM

Lab ID: 1410360-002

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Bis(2-chloroethyl)ether	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Bis(2-chloroisopropyl)ether	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Bis(2-ethylhexyl)phthalate	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
4-Bromophenyl phenyl ether	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Butyl benzyl phthalate	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Carbazole	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
4-Chloro-3-methylphenol	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
4-Chloroaniline	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2-Chloronaphthalene	ND	0.28		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2-Chlorophenol	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
4-Chlorophenyl phenyl ether	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Chrysene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Di-n-butyl phthalate	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Di-n-octyl phthalate	ND	0.45		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Dibenz(a,h)anthracene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Dibenzofuran	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
1,2-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
1,3-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
1,4-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
3,3'-Dichlorobenzidine	ND	0.28		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Diethyl phthalate	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Dimethyl phthalate	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2,4-Dichlorophenol	ND	0.45		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2,4-Dimethylphenol	ND	0.34		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
4,6-Dinitro-2-methylphenol	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2,4-Dinitrophenol	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2,4-Dinitrotoluene	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2,6-Dinitrotoluene	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Fluoranthene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Fluorene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Hexachlorobenzene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Hexachlorobutadiene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Hexachlorocyclopentadiene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Hexachloroethane	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Indeno(1,2,3-cd)pyrene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Isophorone	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
1-Methylnaphthalene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2-Methylnaphthalene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800

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	Page 8 of 42
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (0.5-2')

Project: GROUP 9

Collection Date: 10/6/2014 3:25:00 PM

Lab ID: 1410360-002

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
3+4-Methylphenol	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
N-Nitrosodi-n-propylamine	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
N-Nitrosodiphenylamine	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Naphthalene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2-Nitroaniline	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
3-Nitroaniline	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
4-Nitroaniline	ND	0.45		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Nitrobenzene	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2-Nitrophenol	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
4-Nitrophenol	ND	0.28		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Pentachlorophenol	ND	0.79		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Phenanthrene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Phenol	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Pyrene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Pyridine	ND	0.57		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
1,2,4-Trichlorobenzene	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2,4,5-Trichlorophenol	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
2,4,6-Trichlorophenol	ND	0.23		mg/Kg-dry	1	10/14/2014 4:40:48 PM	15800
Surr: 2-Fluorophenol	49.5	21-111		%REC	1	10/14/2014 4:40:48 PM	15800
Surr: Phenol-d5	52.3	23.1-117		%REC	1	10/14/2014 4:40:48 PM	15800
Surr: 2,4,6-Tribromophenol	44.5	22.7-88.9		%REC	1	10/14/2014 4:40:48 PM	15800
Surr: Nitrobenzene-d5	53.1	24.5-126		%REC	1	10/14/2014 4:40:48 PM	15800
Surr: 2-Fluorobiphenyl	59.1	21.2-129		%REC	1	10/14/2014 4:40:48 PM	15800
Surr: 4-Terphenyl-d14	61.5	39.4-107		%REC	1	10/14/2014 4:40:48 PM	15800
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Toluene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Ethylbenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Xylenes, Total	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Methyl tert-butyl ether (MTBE)	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,2,4-Trimethylbenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,3,5-Trimethylbenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,2-Dichloroethane (EDC)	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,2-Dibromoethane (EDB)	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Naphthalene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1-Methylnaphthalene	ND	0.00398		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
2-Methylnaphthalene	ND	0.00398		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Acetone	0.0566	0.00994		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799

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	Page 9 of 42
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (0.5-2')

Project: GROUP 9

Collection Date: 10/6/2014 3:25:00 PM

Lab ID: 1410360-002

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Bromodichloromethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Bromoform	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Bromomethane	ND	0.00298		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
2-Butanone	ND	0.00994		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Carbon tetrachloride	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Chlorobenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Chloroethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Chloroform	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Chloromethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
2-Chlorotoluene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Carbon disulfide	ND	0.00994		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
4-Chlorotoluene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
cis-1,2-DCE	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
cis-1,3-Dichloropropene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,2-Dibromo-3-chloropropane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Dibromochloromethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Dibromomethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,2-Dichlorobenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,3-Dichlorobenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,4-Dichlorobenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Dichlorodifluoromethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,1-Dichloroethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,1-Dichloroethene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,2-Dichloropropane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,3-Dichloropropane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
2,2-Dichloropropane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,1-Dichloropropene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Hexachlorobutadiene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Isopropylbenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
4-Isopropyltoluene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Methylene chloride	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
n-Butylbenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
2-Hexanone	ND	0.00994		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
n-Propylbenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
sec-Butylbenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Styrene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
4-Methyl-2-pentanone	ND	0.00994		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
tert-Butylbenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (0.5-2')

Project: GROUP 9

Collection Date: 10/6/2014 3:25:00 PM

Lab ID: 1410360-002

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,1,2,2-Tetrachloroethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Tetrachloroethene (PCE)	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
trans-1,2-DCE	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
trans-1,3-Dichloropropene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,2,3-Trichlorobenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,2,4-Trichlorobenzene	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,1,1-Trichloroethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,1,2-Trichloroethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Trichloroethene (TCE)	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Trichlorofluoromethane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
1,2,3-Trichloropropane	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Vinyl chloride	ND	0.00199		mg/Kg-dry	1	10/9/2014 2:40:23 PM	15799
Surr: 1,2-Dichloroethane-d4	111	70-130		%REC	1	10/9/2014 2:40:23 PM	15799
Surr: 4-Bromofluorobenzene	94.1	65.3-135		%REC	1	10/9/2014 2:40:23 PM	15799
Surr: Dibromofluoromethane	102	70-130		%REC	1	10/9/2014 2:40:23 PM	15799
Surr: Toluene-d8	99.1	70-130		%REC	1	10/9/2014 2:40:23 PM	15799

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (12-14')

Project: GROUP 9

Collection Date: 10/6/2014 3:30:00 PM

Lab ID: 1410360-003

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	310	11		mg/Kg-dry	1	10/9/2014 8:35:33 PM	15782
Motor Oil Range Organics (MRO)	ND	56		mg/Kg-dry	1	10/9/2014 8:35:33 PM	15782
Surr: DNOP	107	57.9-140		%REC	1	10/9/2014 8:35:33 PM	15782
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	170	41		mg/Kg-dry	10	10/9/2014 6:46:24 PM	R21774
Surr: BFB	174	80-120	S	%REC	10	10/9/2014 6:46:24 PM	R21774
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	13	1.0		wt%	1	10/8/2014 12:45:00 PM	R21762
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.036		mg/Kg-dry	1	10/17/2014 1:34:34 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	5.5		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Arsenic	ND	5.5		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Barium	120	0.22		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Beryllium	0.68	0.33		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Cadmium	ND	0.22		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Chromium	9.2	0.66		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Cobalt	6.3	0.66		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Lead	8.5	0.55		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Nickel	8.9	1.1		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Selenium	ND	5.5		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Silver	ND	0.55		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Vanadium	28	5.5		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
Zinc	40	5.5		mg/Kg-dry	2	10/15/2014 12:51:41 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Acenaphthylene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Aniline	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Anthracene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Azobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Benz(a)anthracene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Benzo(a)pyrene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Benzo(b)fluoranthene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Benzo(g,h,i)perylene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Benzo(k)fluoranthene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Benzoic acid	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Benzyl alcohol	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (12-14')

Project: GROUP 9

Collection Date: 10/6/2014 3:30:00 PM

Lab ID: 1410360-003

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Bis(2-chloroethyl)ether	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Bis(2-chloroisopropyl)ether	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Bis(2-ethylhexyl)phthalate	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
4-Bromophenyl phenyl ether	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Butyl benzyl phthalate	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Carbazole	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
4-Chloro-3-methylphenol	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
4-Chloroaniline	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2-Chloronaphthalene	ND	0.29		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2-Chlorophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
4-Chlorophenyl phenyl ether	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Chrysene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Di-n-butyl phthalate	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Di-n-octyl phthalate	ND	0.46		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Dibenz(a,h)anthracene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Dibenzofuran	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
1,2-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
1,3-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
1,4-Dichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
3,3'-Dichlorobenzidine	ND	0.29		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Diethyl phthalate	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Dimethyl phthalate	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2,4-Dichlorophenol	ND	0.46		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2,4-Dimethylphenol	ND	0.34		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
4,6-Dinitro-2-methylphenol	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2,4-Dinitrophenol	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2,4-Dinitrotoluene	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2,6-Dinitrotoluene	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Fluoranthene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Fluorene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Hexachlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Hexachlorobutadiene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Hexachlorocyclopentadiene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Hexachloroethane	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Indeno(1,2,3-cd)pyrene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Isophorone	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
1-Methylnaphthalene	1.3	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2-Methylnaphthalene	2.5	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (12-14')

Project: GROUP 9

Collection Date: 10/6/2014 3:30:00 PM

Lab ID: 1410360-003

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
2-Methylphenol	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
3+4-Methylphenol	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
N-Nitrosodi-n-propylamine	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
N-Nitrosodiphenylamine	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Naphthalene	1.5	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2-Nitroaniline	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
3-Nitroaniline	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
4-Nitroaniline	ND	0.46		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Nitrobenzene	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2-Nitrophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
4-Nitrophenol	ND	0.29		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Pentachlorophenol	ND	0.80		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Phenanthrene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Phenol	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Pyrene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Pyridine	ND	0.57		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
1,2,4-Trichlorobenzene	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2,4,5-Trichlorophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
2,4,6-Trichlorophenol	ND	0.23		mg/Kg-dry	1	10/13/2014 11:16:20 AM	15800
Surr: 2-Fluorophenol	63.8	21-111		%REC	1	10/13/2014 11:16:20 AM	15800
Surr: Phenol-d5	57.7	23.1-117		%REC	1	10/13/2014 11:16:20 AM	15800
Surr: 2,4,6-Tribromophenol	30.7	22.7-88.9		%REC	1	10/13/2014 11:16:20 AM	15800
Surr: Nitrobenzene-d5	61.4	24.5-126		%REC	1	10/13/2014 11:16:20 AM	15800
Surr: 2-Fluorobiphenyl	71.9	21.2-129		%REC	1	10/13/2014 11:16:20 AM	15800
Surr: 4-Terphenyl-d14	70.2	39.4-107		%REC	1	10/13/2014 11:16:20 AM	15800
EPA METHOD 8260B: VOLATILES				Analyst: RAA			
Benzene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Toluene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Ethylbenzene	0.84	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Methyl tert-butyl ether (MTBE)	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,2,4-Trimethylbenzene	9.8	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,3,5-Trimethylbenzene	3.6	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,2-Dichloroethane (EDC)	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,2-Dibromoethane (EDB)	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Naphthalene	2.3	0.81		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1-Methylnaphthalene	1.9	1.6		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
2-Methylnaphthalene	4.0	1.6		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Acetone	ND	6.1		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Bromobenzene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (12-14')

Project: GROUP 9

Collection Date: 10/6/2014 3:30:00 PM

Lab ID: 1410360-003

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Bromoform	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Bromomethane	ND	1.2		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
2-Butanone	ND	4.1		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Carbon disulfide	ND	4.1		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Carbon tetrachloride	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Chlorobenzene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Chloroethane	ND	0.81		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Chloroform	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Chloromethane	ND	1.2		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
2-Chlorotoluene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
4-Chlorotoluene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
cis-1,2-DCE	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
cis-1,3-Dichloropropene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,2-Dibromo-3-chloropropane	ND	0.81		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Dibromochloromethane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Dibromomethane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,2-Dichlorobenzene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,3-Dichlorobenzene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,4-Dichlorobenzene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Dichlorodifluoromethane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,1-Dichloroethane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,1-Dichloroethene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,2-Dichloropropane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,3-Dichloropropane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
2,2-Dichloropropane	ND	0.81		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,1-Dichloropropene	ND	0.81		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Hexachlorobutadiene	ND	0.81		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
2-Hexanone	ND	4.1		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Isopropylbenzene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
4-Isopropyltoluene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
4-Methyl-2-pentanone	ND	4.1		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Methylene chloride	ND	1.2		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
n-Butylbenzene	1.2	1.2		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
n-Propylbenzene	1.2	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
sec-Butylbenzene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Styrene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
tert-Butylbenzene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,1,1,2-Tetrachloroethane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (12-14')

Project: GROUP 9

Collection Date: 10/6/2014 3:30:00 PM

Lab ID: 1410360-003

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Tetrachloroethene (PCE)	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
trans-1,2-DCE	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
trans-1,3-Dichloropropene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,2,3-Trichlorobenzene	ND	0.81		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,2,4-Trichlorobenzene	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,1,1-Trichloroethane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,1,2-Trichloroethane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Trichloroethene (TCE)	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Trichlorofluoromethane	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
1,2,3-Trichloropropane	ND	0.81		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Vinyl chloride	ND	0.41		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Xylenes, Total	2.8	0.81		mg/Kg-dry	10	10/8/2014 6:08:15 PM	R21749
Surr: Dibromofluoromethane	88.6	70-130		%REC	10	10/8/2014 6:08:15 PM	R21749
Surr: 1,2-Dichloroethane-d4	80.2	70-130		%REC	10	10/8/2014 6:08:15 PM	R21749
Surr: Toluene-d8	84.1	70-130		%REC	10	10/8/2014 6:08:15 PM	R21749
Surr: 4-Bromofluorobenzene	97.8	70-130		%REC	10	10/8/2014 6:08:15 PM	R21749

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	Page 16 of 42
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (14-16')

Project: GROUP 9

Collection Date: 10/6/2014 3:40:00 PM

Lab ID: 1410360-004

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	320	11		mg/Kg-dry	1	10/9/2014 9:06:01 PM	15782
Motor Oil Range Organics (MRO)	ND	55		mg/Kg-dry	1	10/9/2014 9:06:01 PM	15782
Surr: DNOP	99.9	57.9-140		%REC	1	10/9/2014 9:06:01 PM	15782
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	170	4.1		mg/Kg-dry	1	10/9/2014 7:16:26 PM	R21774
Surr: BFB	800	80-120	S	%REC	1	10/9/2014 7:16:26 PM	R21774
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	9.4	1.0		wt%	1	10/8/2014 12:45:00 PM	R21762
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.038		mg/Kg-dry	1	10/17/2014 1:43:46 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.8		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Arsenic	ND	2.8		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Barium	62	0.11		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Beryllium	0.45	0.17		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Cadmium	ND	0.11		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Chromium	6.1	0.34		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Cobalt	3.5	0.34		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Lead	5.8	0.28		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Nickel	5.9	0.56		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Selenium	ND	2.8		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Silver	ND	0.28		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Vanadium	18	2.8		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
Zinc	23	2.8		mg/Kg-dry	1	10/15/2014 12:26:07 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Acenaphthylene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Aniline	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Anthracene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Azobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Benz(a)anthracene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Benzo(a)pyrene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Benzo(b)fluoranthene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Benzo(g,h,i)perylene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Benzo(k)fluoranthene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Benzoic acid	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Benzyl alcohol	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (14-16')

Project: GROUP 9

Collection Date: 10/6/2014 3:40:00 PM

Lab ID: 1410360-004

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Bis(2-chloroethyl)ether	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Bis(2-chloroisopropyl)ether	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Bis(2-ethylhexyl)phthalate	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
4-Bromophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Butyl benzyl phthalate	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Carbazole	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
4-Chloro-3-methylphenol	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
4-Chloroaniline	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2-Chloronaphthalene	ND	0.28		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2-Chlorophenol	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
4-Chlorophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Chrysene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Di-n-butyl phthalate	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Di-n-octyl phthalate	ND	0.44		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Dibenz(a,h)anthracene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Dibenzofuran	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
1,2-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
1,3-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
1,4-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
3,3'-Dichlorobenzidine	ND	0.28		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Diethyl phthalate	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Dimethyl phthalate	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2,4-Dichlorophenol	ND	0.44		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2,4-Dimethylphenol	ND	0.33		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
4,6-Dinitro-2-methylphenol	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2,4-Dinitrophenol	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2,4-Dinitrotoluene	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2,6-Dinitrotoluene	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Fluoranthene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Fluorene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Hexachlorobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Hexachlorobutadiene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Hexachlorocyclopentadiene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Hexachloroethane	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Indeno(1,2,3-cd)pyrene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Isophorone	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
1-Methylnaphthalene	1.7	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2-Methylnaphthalene	3.0	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (14-16')

Project: GROUP 9

Collection Date: 10/6/2014 3:40:00 PM

Lab ID: 1410360-004

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
2-Methylphenol	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
3+4-Methylphenol	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
N-Nitrosodi-n-propylamine	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
N-Nitrosodiphenylamine	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Naphthalene	2.0	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
3-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
4-Nitroaniline	ND	0.44		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Nitrobenzene	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2-Nitrophenol	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
4-Nitrophenol	ND	0.28		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Pentachlorophenol	ND	0.77		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Phenanthrene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Phenol	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Pyrene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Pyridine	ND	0.55		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
1,2,4-Trichlorobenzene	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2,4,5-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
2,4,6-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/13/2014 11:44:25 AM	15800
Surr: 2-Fluorophenol	82.0	21-111		%REC	1	10/13/2014 11:44:25 AM	15800
Surr: Phenol-d5	66.2	23.1-117		%REC	1	10/13/2014 11:44:25 AM	15800
Surr: 2,4,6-Tribromophenol	47.2	22.7-88.9		%REC	1	10/13/2014 11:44:25 AM	15800
Surr: Nitrobenzene-d5	73.3	24.5-126		%REC	1	10/13/2014 11:44:25 AM	15800
Surr: 2-Fluorobiphenyl	89.2	21.2-129		%REC	1	10/13/2014 11:44:25 AM	15800
Surr: 4-Terphenyl-d14	84.0	39.4-107		%REC	1	10/13/2014 11:44:25 AM	15800
EPA METHOD 8260B: VOLATILES				Analyst: RAA			
Benzene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Toluene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Ethylbenzene	0.63	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Methyl tert-butyl ether (MTBE)	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,2,4-Trimethylbenzene	9.9	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,3,5-Trimethylbenzene	3.2	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,2-Dichloroethane (EDC)	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,2-Dibromoethane (EDB)	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Naphthalene	2.2	0.41		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1-Methylnaphthalene	1.9	0.82		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
2-Methylnaphthalene	3.6	0.82		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Acetone	ND	3.1		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Bromobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (14-16')

Project: GROUP 9

Collection Date: 10/6/2014 3:40:00 PM

Lab ID: 1410360-004

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Bromoform	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Bromomethane	ND	0.61		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
2-Butanone	ND	2.0		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Carbon disulfide	ND	2.0		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Carbon tetrachloride	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Chlorobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Chloroethane	ND	0.41		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Chloroform	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Chloromethane	ND	0.61		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
2-Chlorotoluene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
4-Chlorotoluene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
cis-1,2-DCE	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
cis-1,3-Dichloropropene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,2-Dibromo-3-chloropropane	ND	0.41		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Dibromochloromethane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Dibromomethane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,2-Dichlorobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,3-Dichlorobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,4-Dichlorobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Dichlorodifluoromethane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,1-Dichloroethane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,1-Dichloroethene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,2-Dichloropropane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,3-Dichloropropane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
2,2-Dichloropropane	ND	0.41		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,1-Dichloropropene	ND	0.41		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Hexachlorobutadiene	ND	0.41		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
2-Hexanone	ND	2.0		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Isopropylbenzene	0.24	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
4-Isopropyltoluene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
4-Methyl-2-pentanone	ND	2.0		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Methylene chloride	ND	0.61		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
n-Butylbenzene	1.4	0.61		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
n-Propylbenzene	1.2	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
sec-Butylbenzene	0.38	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Styrene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
tert-Butylbenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,1,1,2-Tetrachloroethane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (14-16')

Project: GROUP 9

Collection Date: 10/6/2014 3:40:00 PM

Lab ID: 1410360-004

Matrix: MEOH (SOIL)

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Tetrachloroethene (PCE)	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
trans-1,2-DCE	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
trans-1,3-Dichloropropene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,2,3-Trichlorobenzene	ND	0.41		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,1,1-Trichloroethane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,1,2-Trichloroethane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Trichloroethene (TCE)	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Trichlorofluoromethane	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
1,2,3-Trichloropropane	ND	0.41		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Vinyl chloride	ND	0.20		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Xylenes, Total	2.1	0.41		mg/Kg-dry	5	10/8/2014 6:36:07 PM	R21749
Surr: Dibromofluoromethane	98.4	70-130		%REC	5	10/8/2014 6:36:07 PM	R21749
Surr: 1,2-Dichloroethane-d4	90.6	70-130		%REC	5	10/8/2014 6:36:07 PM	R21749
Surr: Toluene-d8	79.6	70-130		%REC	5	10/8/2014 6:36:07 PM	R21749
Surr: 4-Bromofluorobenzene	113	70-130		%REC	5	10/8/2014 6:36:07 PM	R21749

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	Page 21 of 42
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (24-26')

Project: GROUP 9

Collection Date: 10/6/2014 5:00:00 PM

Lab ID: 1410360-005

Matrix: SOIL

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	770	15		mg/Kg-dry	1	10/9/2014 9:36:37 PM	15782
Motor Oil Range Organics (MRO)	ND	74		mg/Kg-dry	1	10/9/2014 9:36:37 PM	15782
Surr: DNOP	107	57.9-140		%REC	1	10/9/2014 9:36:37 PM	15782
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	42	25		mg/Kg-dry	5	10/9/2014 5:33:22 PM	15760
Surr: BFB	156	80-120	S	%REC	5	10/9/2014 5:33:22 PM	15760
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	3.1	1.0		wt%	1	10/8/2014 12:45:00 PM	R21762
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.033		mg/Kg-dry	1	10/17/2014 1:45:37 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	5.1		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Arsenic	ND	5.1		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Barium	200	0.20		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Beryllium	ND	0.31		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Cadmium	ND	0.20		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Chromium	16	0.61		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Cobalt	6.2	0.61		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Lead	5.5	0.51		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Nickel	4.8	1.0		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Selenium	ND	5.1		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Silver	ND	0.51		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Vanadium	24	5.1		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
Zinc	21	5.1		mg/Kg-dry	1	10/15/2014 12:31:15 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Acenaphthylene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Aniline	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Anthracene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Azobenzene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Benz(a)anthracene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Benzo(a)pyrene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Benzo(b)fluoranthene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Benzo(g,h,i)perylene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Benzo(k)fluoranthene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Benzoic acid	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Benzyl alcohol	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (24-26')

Project: GROUP 9

Collection Date: 10/6/2014 5:00:00 PM

Lab ID: 1410360-005

Matrix: SOIL

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Butyl benzyl phthalate	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Carbazole	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
4-Chloro-3-methylphenol	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
4-Chloroaniline	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2-Chloronaphthalene	ND	0.25		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2-Chlorophenol	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Chrysene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Di-n-butyl phthalate	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Di-n-octyl phthalate	ND	0.40		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Dibenz(a,h)anthracene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Dibenzofuran	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
1,2-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
1,3-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
1,4-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Diethyl phthalate	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Dimethyl phthalate	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2,4-Dichlorophenol	ND	0.40		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2,4-Dimethylphenol	ND	0.30		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2,4-Dinitrophenol	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2,4-Dinitrotoluene	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2,6-Dinitrotoluene	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Fluoranthene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Fluorene	0.26	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Hexachlorobenzene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Hexachlorobutadiene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Hexachlorocyclopentadiene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Hexachloroethane	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Isophorone	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
1-Methylnaphthalene	1.7	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2-Methylnaphthalene	2.7	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (24-26')

Project: GROUP 9

Collection Date: 10/6/2014 5:00:00 PM

Lab ID: 1410360-005

Matrix: SOIL

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
2-Methylphenol	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
3+4-Methylphenol	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
N-Nitrosodiphenylamine	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Naphthalene	0.88	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2-Nitroaniline	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
3-Nitroaniline	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
4-Nitroaniline	ND	0.40		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Nitrobenzene	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2-Nitrophenol	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
4-Nitrophenol	ND	0.25		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Pentachlorophenol	ND	0.70		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Phenanthrene	0.68	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Phenol	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Pyrene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Pyridine	ND	0.50		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2,4,5-Trichlorophenol	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
2,4,6-Trichlorophenol	ND	0.20		mg/Kg-dry	1	10/13/2014 12:12:23 PM	15800
Surr: 2-Fluorophenol	69.0	21-111		%REC	1	10/13/2014 12:12:23 PM	15800
Surr: Phenol-d5	70.6	23.1-117		%REC	1	10/13/2014 12:12:23 PM	15800
Surr: 2,4,6-Tribromophenol	9.76	22.7-88.9	S	%REC	1	10/13/2014 12:12:23 PM	15800
Surr: Nitrobenzene-d5	78.0	24.5-126		%REC	1	10/13/2014 12:12:23 PM	15800
Surr: 2-Fluorobiphenyl	79.3	21.2-129		%REC	1	10/13/2014 12:12:23 PM	15800
Surr: 4-Terphenyl-d14	74.9	39.4-107		%REC	1	10/13/2014 12:12:23 PM	15800
EPA METHOD 8260B: VOLATILES				Analyst: RAA			
Benzene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Toluene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Ethylbenzene	0.46	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Methyl tert-butyl ether (MTBE)	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,2,4-Trimethylbenzene	0.60	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,3,5-Trimethylbenzene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,2-Dichloroethane (EDC)	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,2-Dibromoethane (EDB)	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Naphthalene	1.5	0.50		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1-Methylnaphthalene	3.1	1.0		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
2-Methylnaphthalene	5.1	1.0		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Acetone	ND	3.8		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Bromobenzene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (24-26')

Project: GROUP 9

Collection Date: 10/6/2014 5:00:00 PM

Lab ID: 1410360-005

Matrix: SOIL

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Bromoform	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Bromomethane	ND	0.76		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
2-Butanone	ND	2.5		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Carbon disulfide	ND	2.5		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Carbon tetrachloride	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Chlorobenzene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Chloroethane	ND	0.50		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Chloroform	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Chloromethane	ND	0.76		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
2-Chlorotoluene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
4-Chlorotoluene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
cis-1,2-DCE	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
cis-1,3-Dichloropropene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,2-Dibromo-3-chloropropane	ND	0.50		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Dibromochloromethane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Dibromomethane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,2-Dichlorobenzene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,3-Dichlorobenzene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,4-Dichlorobenzene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Dichlorodifluoromethane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,1-Dichloroethane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,1-Dichloroethene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,2-Dichloropropane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,3-Dichloropropane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
2,2-Dichloropropane	ND	0.50		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,1-Dichloropropene	ND	0.50		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Hexachlorobutadiene	ND	0.50		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
2-Hexanone	ND	2.5		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Isopropylbenzene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
4-Isopropyltoluene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
4-Methyl-2-pentanone	ND	2.5		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Methylene chloride	ND	0.76		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
n-Butylbenzene	ND	0.76		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
n-Propylbenzene	0.61	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
sec-Butylbenzene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Styrene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
tert-Butylbenzene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,1,1,2-Tetrachloroethane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410360

Date Reported: 11/6/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-15 (24-26')

Project: GROUP 9

Collection Date: 10/6/2014 5:00:00 PM

Lab ID: 1410360-005

Matrix: SOIL

Received Date: 10/8/2014 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Tetrachloroethene (PCE)	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
trans-1,2-DCE	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
trans-1,3-Dichloropropene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,2,3-Trichlorobenzene	ND	0.50		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,2,4-Trichlorobenzene	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,1,1-Trichloroethane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,1,2-Trichloroethane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Trichloroethene (TCE)	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Trichlorofluoromethane	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
1,2,3-Trichloropropane	ND	0.50		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Vinyl chloride	ND	0.25		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Xylenes, Total	ND	0.50		mg/Kg-dry	5	10/9/2014 2:06:27 PM	15760
Surr: Dibromofluoromethane	96.5	70-130		%REC	5	10/9/2014 2:06:27 PM	15760
Surr: 1,2-Dichloroethane-d4	86.9	70-130		%REC	5	10/9/2014 2:06:27 PM	15760
Surr: Toluene-d8	85.9	70-130		%REC	5	10/9/2014 2:06:27 PM	15760
Surr: 4-Bromofluorobenzene	109	70-130		%REC	5	10/9/2014 2:06:27 PM	15760

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	Page 26 of 42
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Anatek Labs, Inc.

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

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

Batch #: 141009047
Project Name: 1410360

Analytical Results Report

Sample Number	141009047-001	Sampling Date	10/6/2014	Date/Time Received	10/9/2014	1:40 PM	
Client Sample ID	1410360-001C / SWMU 13-15 (0-0.5')			Sampling Time	3:20 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.232	10/16/2014	CRW	EPA 335.4	
%moisture	7.4	Percent		10/16/2014	KJS	%moisture	

Sample Number	141009047-002	Sampling Date	10/6/2014	Date/Time Received	10/9/2014	1:40 PM	
Client Sample ID	1410360-002C / SWMU 13-15 (0.5-2')			Sampling Time	3:25 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.258	10/16/2014	CRW	EPA 335.4	
%moisture	11.1	Percent		10/16/2014	KJS	%moisture	

Sample Number	141009047-003	Sampling Date	10/6/2014	Date/Time Received	10/9/2014	1:40 PM	
Client Sample ID	1410360-003C / SWMU 13-15 (12-14')			Sampling Time	3:30 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.241	10/16/2014	CRW	EPA 335.4	
%moisture	11.6	Percent		10/16/2014	KJS	%moisture	

Sample Number	141009047-004	Sampling Date	10/6/2014	Date/Time Received	10/9/2014	1:40 PM	
Client Sample ID	1410360-004C / SWMU 13-15 (14-16')			Sampling Time	3:40 PM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.249	10/16/2014	CRW	EPA 335.4	
%moisture	8.3	Percent		10/16/2014	KJS	%moisture	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

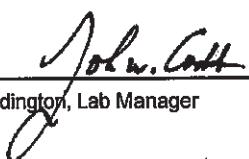
Batch #: 141009047
Project Name: 1410360

Analytical Results Report

Sample Number	141009047-005	Sampling Date	10/6/2014	Date/Time Received	10/9/2014 1:40 PM
Client Sample ID	1410360-005B / SWMU 13-15 (24-26")			Sampling Time	5:00 PM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.24	10/16/2014	CRW	EPA 335.4	
%moisture	2.3	Percent		10/16/2014	KJS	%moisture	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0085; FL(NELAP): E871099

Thursday, October 23, 2014

Page 2 of 2

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141009047
Project Name: 1410360

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.476	mg/kg	0.5	95.2	90-110	10/16/2014	10/16/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141009047-005	Cyanide	ND	10.9	mg/kg	12	90.8	90-110	10/16/2014	10/16/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	10.9	mg/kg	12	90.8	0.0	0-25	10/16/2014	10/16/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	10/16/2014	10/16/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C585
Certifications held by Anatek Labs WA: EPA:WA00189; ID:WA00189; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, October 23, 2014

Page 1 of 1

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Hall Environmental Analysis
4901 Hawkins NE
Albuquerque NM 87109

October 24, 2014

Project: 1410360

Submittal Date: 10/09/2014

Group Number: 1509858

SDG: HEB01

PO Number: 1410360

State of Sample Origin: NA

Client Sample Description

1410360-001D Soil

1410360-002D Soil

1410360-003D Soil

1410360-004D Soil

1410360-005C Soil

Lancaster Labs (LL)

7631492

7631493

7631494

7631495

7631496

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC

Hall Environmental Analysis

Attn: Lab

COPY TO

1 COPY TO

Data Package Group

Respectfully Submitted,



Luz I. Garcia
Specialist

(717) 556-7262

Sample Description: 1410360-001D Soil
SWMU 13-15 (0-0.5')

LL Sample # SW 7631492
LL Group # 1509858
Account # 10738

Project Name: 1410360

Collected: 10/06/2014 15:20

Hall Environmental Analysis

Submitted: 10/09/2014 09:10

4901 Hawkins NE

Reported: 10/24/2014 10:02

Albuquerque NM 87109

001D SDG#: HEB01-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
GC/MS	Organolead	SW-846 8270C	ug/kg	ug/kg	
04221	tetraethyl lead	78-00-2	< 180	180	1
Met Chemistry	SM 2540 G-1997		%	%	
00111	Moisture	n.a.	7.5	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
04221	Organolead in Soil by GC/MS	SW-846 8270C	1	142848LC026	10/15/2014 17:20	Linda M Hartenstine	1
0498	TEL Soil Microwave	SW-846 3546	1	142848LC026	10/13/2014 05:10	Sherry L Morrow	1
00111	Moisture	SM 2540 G-1997	1	14288820001A	10/15/2014 17:30	Scott W Freisher	1

Sample Description: 1410360-002D Soil
SWMU 13-15 (0.5-2')

LL Sample # SW 7631493
LL Group # 1509858
Account # 10738

Project Name: 1410360

Collected: 10/06/2014 15:25

Hall Environmental Analysis

Submitted: 10/09/2014 09:10

4901 Hawkins NE

Reported: 10/24/2014 10:02

Albuquerque NM 87109

002D SDG#: HEB01-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
GC/MS	Organolead	SW-846 8270C	ug/kg	ug/kg	
04221	tetraethyl lead	78-00-2	< 190	190	1
Wet Chemistry	SM 2540 G-1997		%	%	
00111	Moisture	n.a.	11.8	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
04221	Organolead in Soil by GC/MS	SW-846 8270C	1	14284SLC026	10/15/2014 18:31	Linda M Hartenstine	1
10498	TEL Soil Microwave	SW-846 3546	1	14284SLC026	10/13/2014 05:10	Sherry L Morrow	1
00111	Moisture	SM 2540 G-1997	1	14288820001A	10/15/2014 17:30	Scott W Freisher	1

Sample Description: 1410360-003D Soil
SWMU 13-15 (12-14')

LL Sample # SW 7631494
LL Group # 1509858
Account # 10738

Project Name: 1410360

Collected: 10/06/2014 15:30

Hall Environmental Analysis

Submitted: 10/09/2014 09:10

4901 Hawkins NE

Reported: 10/24/2014 10:02

Albuquerque NM 87109

H003D SDG#: HEB01-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
GC/MS	Organolead	SW-846 8270C	ug/kg	ug/kg	
04221	tetraethyl lead	78-00-2	< 190	190	1
Wet Chemistry	SM 2540 G-1997		%	%	
00111	Moisture	n.a.	12.8	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
04221	Organolead in Soil by GC/MS	SW-846 8270C	1	14284SLC026	10/15/2014 18:55	Linda M Hartenstine	1
10498	TEL Soil Microwave	SW-846 3546	1	14284SLC026	10/13/2014 05:10	Sherry L Morrow	1
00111	Moisture	SM 2540 G-1997	1	14288820001A	10/15/2014 17:30	Scott W Freisher	1

Sample Description: 1410360-004D Soil
SWMU 13-15 (14-16')

LL Sample # SW 7631495
LL Group # 1509858
Account # 10738

Project Name: 1410360

Collected: 10/06/2014 15:40

Hall Environmental Analysis

Submitted: 10/09/2014 09:10

4901 Hawkins NE

Reported: 10/24/2014 10:02

Albuquerque NM 87109

H004D SDG#: HEB01-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
GC/MS	Organolead	SW-846 8270C	ug/kg	ug/kg	
04221	tetraethyl lead	78-00-2	< 180	180	1
Wet Chemistry	SM 2540 G-1997		%	%	
00111	Moisture	n.a.	9.0	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
04221	Organolead in Soil by GC/MS	SW-846 8270C	1	14284SLC026	10/15/2014 19:18	Linda M Hartenstine	1
10498	TEL Soil Microwave	SW-846 3546	1	14284SLC026	10/13/2014 05:10	Sherry L Morrow	1
00111	Moisture	SM 2540 G-1997	1	14288820001A	10/15/2014 17:30	Scott W Freisher	1

Sample Description: 1410360-005C Soil
SWMU 13-15 (24-26')

LL Sample # SW 7631496
LL Group # 1509858
Account # 10738

Project Name: 1410360

Collected: 10/06/2014 17:00

Hall Environmental Analysis

Submitted: 10/09/2014 09:10

4901 Hawkins NE

Reported: 10/24/2014 10:02

Albuquerque NM 87109

1005C SDG#: HEB01-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation	Dilution Factor
GC/MS	Organolead	SW-846 8270C	ug/kg	ug/kg	
04221	tetraethyl lead	78-00-2	< 170	170	1
Met Chemistry	SM 2540 G-1997		%	%	
00111	Moisture	n.a.	2.9	0.50	1
Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
04221	Organolead in Soil by GC/MS	SW-846 8270C	1	14284SLC026	10/15/2014 19:42	Linda M Hartenstine	1
10498	TEL Soil Microwave	SW-846 3546	1	14284SLC026	10/13/2014 05:10	Sherry L Morrow	1
00111	Moisture	SM 2540 G-1997	1	14288820001A	10/15/2014 17:30	Scott W Freisher	1

Quality Control Summary

Client Name: Hall Environmental Analysis
Reported: 10/24/14 at 10:02 AM

Group Number: 1509858

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 14284SLC026 tetraethyl lead	Sample number(s): 7631492-7631496 < 170	170.	ug/kg	77		61-114		
Batch number: 14288820001A Moisture	Sample number(s): 7631492-7631496			100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 14284SLC026 tetraethyl lead	Sample number(s): 7631492-7631496 UNSPK: 7631492 94	65	58-116	36*	30				
Batch number: 14288820001A Moisture	Sample number(s): 7631492-7631496 BKG: P631257 10.8					10.8	11.6	7*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Organolead in Soil by GC/MS
Batch number: 14284SLC026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7631492	95	100	137
7631493	90	96	141
7631494	87	92	128
7631495	95	93	134
7631496	94	98	136
Blank	101	105	137
LCS	98	97	125
MS	95	104	144
MSD	67	71	99
Limits:	64-116	70-113	67-146

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Quality Control SummaryClient Name: Hall Environmental Analysis
Reported: 10/24/14 at 10:02 AM

Group Number: 1509858

Surrogate Quality Control

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.



CHAIN OF CUSTODY RECORD

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

10738/1509858/7631492-96

SUB CONTRACTOR: EUROFINS LANCAS		COMPANY: EUROFINS LANCASTER LA		PHONE: (717) 656-2300	FAX:		
ADDRESS: 2425 NEW HOLLAND PIKE		ACCOUNT #:		EMAIL:			
CITY, STATE, ZIP: LANCASTER, PA 17601							
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	1410360-001D	SWMU 13-15 (0-0.5')	40ZGU	MeOH (S)	10/6/2014 3:20:00 PM	1	Level 4 - TETRAETHYL Pb
2	1410360-002D	SWMU 13-15 (0.5-2')	40ZGU	MeOH (S)	10/6/2014 3:25:00 PM	1	Level 4 - TETRAETHYL Pb
3	1410360-003D	SWMU 13-15 (12-14')	40ZGU	MeOH (S)	10/6/2014 3:30:00 PM	1	Level 4 - TETRAETHYL Pb
4	1410360-004D	SWMU 13-15 (14-16')	40ZGU	MeOH (S)	10/6/2014 3:40:00 PM	1	Level 4 - TETRAETHYL Pb
5	1410360-005C	SWMU 13-15 (24-26')	40ZGU	Soil	10/6/2014 5:00:00 PM	1	Level 4 - TETRAETHYL Pb

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: <i>[Signature]</i>	Date: 10/6/2014	Time: 10:03 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: <i>[Signature]</i>	Date: 10/6/14	Time: 9:10
TAT: Standard ☒ RUSH			Next BD ☐ 2nd BD ☐ 3rd BD ☐		
REPORT TRANSMITTAL DESIRED: ☐ HARD COPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE			FOR LAB USE ONLY		
Temp of samples 1.4 °C			Attempt to Cool? ☒		
Comments:					

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15782	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 15782			RunNo: 21765					
Prep Date:	10/8/2014	Analysis Date: 10/9/2014			SeqNo: 640411		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		88.1	57.9	140			

Sample ID	LCS-15782		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15782		RunNo: 21765					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640413		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	58	10	50.00	0	116	68.6	130			
Surr: DNOP	4.0		5.000		80.0	57.9	140			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID MB-15760	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 15760		RunNo: 21782							
Prep Date: 10/8/2014	Analysis Date: 10/9/2014		SeqNo: 640380		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.7	80	120			

Sample ID LCS-15760	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 15760		RunNo: 21782							
Prep Date: 10/8/2014	Analysis Date: 10/9/2014		SeqNo: 640381		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	65.8	139			
Surr: BFB	970		1000		96.9	80	120			

Sample ID 5ML RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: R21774		RunNo: 21774							
Prep Date:	Analysis Date: 10/9/2014		SeqNo: 640455		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.3	80	120			

Sample ID 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: R21774		RunNo: 21774							
Prep Date:	Analysis Date: 10/9/2014		SeqNo: 640456		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	65.8	139			
Surr: BFB	1100		1000		108	80	120			

Sample ID 1410360-001AMS	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: SWMU 13-15 (0-0.5')	Batch ID: R21774		RunNo: 21774							
Prep Date:	Analysis Date: 10/9/2014		SeqNo: 640461		Units: mg/Kg-dry					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	4.0	19.92	0	89.2	71.8	132			
Surr: BFB	710		796.7		88.7	80	120			

Sample ID 1410360-001AMSD	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: SWMU 13-15 (0-0.5')	Batch ID: R21774		RunNo: 21774							
Prep Date:	Analysis Date: 10/9/2014		SeqNo: 640462		Units: mg/Kg-dry					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	1410360-001AMSD				SampType:	MSD		TestCode:	EPA Method 8015D: Gasoline Range		
Client ID:	SWMU 13-15 (0-0.5')		Batch ID:	R21774		RunNo:	21774				
Prep Date:			Analysis Date:	10/9/2014		SeqNo:	640462		Units:	mg/Kg-dry	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	17	4.0	19.92	0	86.2	71.8	132	3.47	20		
Surr: BFB	760		796.7		95.8	80	120	0	0		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS		Batch ID: R21749		RunNo: 21749					
Prep Date:			Analysis Date: 10/8/2014		SeqNo: 639717		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.1	70	130			
Toluene	0.89	0.050	1.000	0	88.6	70	130			
Chlorobenzene	1.0	0.050	1.000	0	99.9	70	130			
1,1-Dichloroethene	0.99	0.050	1.000	0	98.9	60.5	160			
Trichloroethene (TCE)	0.94	0.050	1.000	0	93.8	58.8	139			
Surr: Dibromofluoromethane	0.44		0.5000		88.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.36		0.5000		71.4	70	130			
Surr: Toluene-d8	0.39		0.5000		77.1	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		86.6	70	130			

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID: R21749			RunNo: 21749					
Prep Date:		Analysis Date: 10/8/2014			SeqNo: 639718		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID: R21749			RunNo: 21749					
Prep Date:		Analysis Date: 10/8/2014			SeqNo: 639718		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	5mL-rb	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles						
Client ID:	PBS	Batch ID: R21749		RunNo: 21749						
Prep Date:		Analysis Date: 10/8/2014		SeqNo: 639718		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.48		0.5000		96.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.5	70	130			
Surr: Toluene-d8	0.41		0.5000		81.8	70	130			
Surr: 4-Bromofluorobenzene	0.41		0.5000		81.8	70	130			

Sample ID	mb-15760		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS		Batch ID: 15760		RunNo: 21804					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640822		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15760		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15760		RunNo:	21804			
Prep Date:	10/8/2014		Analysis Date:	10/9/2014		SeqNo:	640822		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.48		0.5000		96.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15760		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS		Batch ID: 15760		RunNo: 21804					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640822		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.39		0.5000		79.0	70	130			
Surr: Toluene-d8	0.45		0.5000		90.3	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.5000		90.0	70	130			

Sample ID	lcs-15760		SampType: LCS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS		Batch ID: 15760		RunNo: 21804					
Prep Date:	10/8/2014		Analysis Date: 10/9/2014		SeqNo: 640823		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.050	1.000	0	93.0	70	130			
Toluene	0.90	0.050	1.000	0	90.2	70	130			
Chlorobenzene	1.0	0.050	1.000	0	102	70	130			
1,1-Dichloroethene	0.92	0.050	1.000	0	92.2	60.5	160			
Trichloroethene (TCE)	0.95	0.050	1.000	0	94.7	58.8	139			
Surr: Dibromofluoromethane	0.47		0.5000		93.2	70	130			
Surr: 1,2-Dichloroethane-d4	0.39		0.5000		78.1	70	130			
Surr: Toluene-d8	0.45		0.5000		89.0	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		85.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15799		SampType:	MBLK		TestCode:	Method 8260B/5035LOW: VOLATILES			
Client ID:	PBS		Batch ID:	15799		RunNo:	21763			
Prep Date:	10/8/2014		Analysis Date:	10/8/2014		SeqNo:	639338		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00200								
Ethylbenzene	ND	0.00200								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00200								
1,2,4-Trimethylbenzene	ND	0.00200								
1,3,5-Trimethylbenzene	ND	0.00200								
1,2-Dichloroethane (EDC)	ND	0.00200								
1,2-Dibromoethane (EDB)	ND	0.00200								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00200								
Bromodichloromethane	ND	0.00200								
Bromoform	ND	0.00200								
Bromomethane	ND	0.00300								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00200								
Chlorobenzene	ND	0.00200								
Chloroethane	ND	0.00200								
Chloroform	ND	0.00200								
Chloromethane	ND	0.00200								
2-Chlorotoluene	ND	0.00200								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00200								
cis-1,2-DCE	ND	0.00200								
cis-1,3-Dichloropropene	ND	0.00200								
1,2-Dibromo-3-chloropropane	ND	0.00200								
Dibromochloromethane	ND	0.00200								
Dibromomethane	ND	0.00200								
1,2-Dichlorobenzene	ND	0.00200								
1,3-Dichlorobenzene	ND	0.00200								
1,4-Dichlorobenzene	ND	0.00200								
Dichlorodifluoromethane	ND	0.00200								
1,1-Dichloroethane	ND	0.00200								
1,1-Dichloroethene	ND	0.00200								
1,2-Dichloropropane	ND	0.00200								
1,3-Dichloropropane	ND	0.00200								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15799		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15799		RunNo: 21763					
Prep Date:	10/8/2014		Analysis Date: 10/8/2014		SeqNo: 639338		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.00200								
1,1-Dichloropropene	ND	0.00200								
Hexachlorobutadiene	ND	0.00200								
Isopropylbenzene	ND	0.00200								
4-Isopropyltoluene	ND	0.00200								
Methylene chloride	ND	0.00200								
n-Butylbenzene	ND	0.00200								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00200								
sec-Butylbenzene	ND	0.00200								
Styrene	ND	0.00200								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00200								
1,1,1,2-Tetrachloroethane	ND	0.00200								
1,1,2,2-Tetrachloroethane	ND	0.00200								
Tetrachloroethene (PCE)	ND	0.00200								
trans-1,2-DCE	ND	0.00200								
trans-1,3-Dichloropropene	ND	0.00200								
1,2,3-Trichlorobenzene	ND	0.00200								
1,2,4-Trichlorobenzene	ND	0.00200								
1,1,1-Trichloroethane	ND	0.00200								
1,1,2-Trichloroethane	ND	0.00200								
Trichloroethene (TCE)	ND	0.00200								
Trichlorofluoromethane	ND	0.00200								
1,2,3-Trichloropropane	ND	0.00200								
Vinyl chloride	ND	0.00200								
Surr: 1,2-Dichloroethane-d4	0.0202		0.02000		101	70	130			
Surr: 4-Bromofluorobenzene	0.0229		0.02000		114	65.3	135			
Surr: Dibromofluoromethane	0.0205		0.02000		102	70	130			
Surr: Toluene-d8	0.0206		0.02000		103	70	130			

Sample ID	LCS-15799		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15799		RunNo: 21763					
Prep Date:	10/8/2014		Analysis Date: 10/8/2014		SeqNo: 639342		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.00988	0.00200	0.01000	0	98.8	70	130			
Toluene	0.00967	0.00200	0.01000	0	96.7	70	130			
Chlorobenzene	0.00971	0.00200	0.01000	0	97.1	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	LCS-15799		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15799		RunNo: 21763					
Prep Date:	10/8/2014		Analysis Date: 10/8/2014		SeqNo: 639342		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.00917	0.00200	0.01000	0	91.7	70	130			
Trichloroethene (TCE)	0.00953	0.00200	0.01000	0	95.3	61.6	131			
Surr: 1,2-Dichloroethane-d4	0.0207		0.02000		104	70	130			
Surr: 4-Bromofluorobenzene	0.0223		0.02000		112	65.3	135			
Surr: Dibromofluoromethane	0.0205		0.02000		102	70	130			
Surr: Toluene-d8	0.0200		0.02000		100	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15800	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15800	RunNo:	21852					
Prep Date:	10/8/2014	Analysis Date:	10/13/2014	SeqNo:	642290	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15800	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15800	RunNo:	21852					
Prep Date:	10/8/2014	Analysis Date:	10/13/2014	SeqNo:	642290	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.70								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	3.2		3.330		95.6	21	111			
Surr: Phenol-d5	3.2		3.330		95.2	23.1	117			
Surr: 2,4,6-Tribromophenol	2.4		3.330		71.5	22.7	88.9			
Surr: Nitrobenzene-d5	1.8		1.670		105	24.5	126			
Surr: 2-Fluorobiphenyl	1.8		1.670		106	21.2	129			
Surr: 4-Terphenyl-d14	1.6		1.670		93.7	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15800		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSS		Batch ID: 15800			RunNo: 21852				
Prep Date:	10/8/2014		Analysis Date: 10/13/2014			SeqNo: 642292		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.6	0.20	1.670	0	94.5	50.7	110			
4-Chloro-3-methylphenol	3.4	0.50	3.330	0	102	47.8	107			
2-Chlorophenol	3.2	0.20	3.330	0	97.5	45.7	108			
1,4-Dichlorobenzene	1.6	0.20	1.670	0	94.2	46.1	112			
2,4-Dinitrotoluene	1.2	0.50	1.670	0	73.8	44.9	114			
N-Nitrosodi-n-propylamine	1.7	0.20	1.670	0	98.9	38.7	128			
4-Nitrophenol	2.5	0.25	3.330	0	76.4	40.2	103			
Pentachlorophenol	2.4	0.70	3.330	0	70.6	32.9	94			
Phenol	3.4	0.20	3.330	0	101	44.1	109			
Pyrene	1.5	0.20	1.670	0	87.5	51.9	109			
1,2,4-Trichlorobenzene	1.7	0.20	1.670	0	101	49.5	115			
Surr: 2-Fluorophenol	3.1		3.330		92.9	21	111			
Surr: Phenol-d5	3.1		3.330		93.6	23.1	117			
Surr: 2,4,6-Tribromophenol	2.9		3.330		85.6	22.7	88.9			
Surr: Nitrobenzene-d5	1.7		1.670		103	24.5	126			
Surr: 2-Fluorobiphenyl	1.8		1.670		109	21.2	129			
Surr: 4-Terphenyl-d14	1.7		1.670		99.0	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15939		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 15939		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646271		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.033								

Sample ID	LCS-15939		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 15939		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646272		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1667	0	95.3	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410360

06-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15884		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	PBS		Batch ID:	15884		RunNo:	21911			
Prep Date:	10/14/2014		Analysis Date:	10/15/2014		SeqNo:	644144		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Lead	ND	0.25								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-15884		SampType:	LCS		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	LCSS		Batch ID:	15884		RunNo:	21911			
Prep Date:	10/14/2014		Analysis Date:	10/15/2014		SeqNo:	644145		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	25	2.5	25.00	0	101	80	120			
Arsenic	25	2.5	25.00	0	99.7	80	120			
Barium	25	0.10	25.00	0	100	80	120			
Beryllium	25	0.15	25.00	0	101	80	120			
Cadmium	25	0.10	25.00	0	99.3	80	120			
Chromium	25	0.30	25.00	0	98.1	80	120			
Cobalt	25	0.30	25.00	0	99.2	80	120			
Lead	25	0.25	25.00	0	99.0	80	120			
Nickel	26	0.50	25.00	0	102	80	120			
Selenium	26	2.5	25.00	0	104	80	120			
Silver	5.0	0.25	5.000	0	99.3	80	120			
Vanadium	25	2.5	25.00	0	99.5	80	120			
Zinc	26	2.5	25.00	0	104	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1410360

RcptNo: 1

Received by/date: LM 10/08/14

Logged By: Michelle Garcia 10/8/2014 6:50:00 AM

Michelle Garcia

Completed By: Michelle Garcia 10/8/2014 9:59:37 AM

Michelle Garcia

Reviewed By: IO 10/08/2014

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? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified:

By Whom:

Regarding:

Client Instructions:

Date:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			

Chain-of-Custody Record

Turn-Around Time:

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

BLOOMFIELD TERMINAL

Vailing Address: **# 50 CO RD 4990**

BLOOMFIELD, NM 87413

Phone #: **505-632-4166**

Email or Fax#: **KELLY.ROBINSON@WNR.COM**

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☒ EDD (Type) **EXCEL**

Date Time Matrix Sample Request ID

16-14 1700 SOIL SNMU 13-15 (24-26)

1 JAR

HEAL No.
1410360

-605

☒ Standard ☐ Rush
Project Name: **GROUP 9**
Project #:

Project Manager:

KELLY ROBINSON
SAMPLER: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: **1.7**

Container Type and #

Preservative Type

HEAL No.
1410360

-605



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

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)
METALS - SEE
ATTACHED LIST **
Air Bubbles (Y or N)

Remarks:

**** ANALYZE FOR TETRAETHYL LEAD ****

Received by: **Christine Waeter** Date: **10/7/14** Time: **903**

Received by: **Christine Waeter** Date: **10/08/14** Time: **0650**

Date: **10/14/14** Time: **903** Relinquished by: **Christine Waeter**

Date: **10/14/14** Time: **1945** Relinquished by: **Christine Waeter**

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.

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 8000A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl lead	SW-846 method 8270C
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

November 10, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9

OrderNo.: 1410522

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 10/10/2014 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
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1410522
Date: 11/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9

Surrogate recoveries with an "S" flag have poor or elevated recoveries due to matrix interferences and/or sample dilution.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (0.5-2')

Project: GROUP 9

Collection Date: 10/8/2014 10:05:00 AM

Lab ID: 1410522-001

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS				Analyst: JME			
Diesel Range Organics (DRO)	ND	11		mg/Kg-dry	1	10/13/2014 11:41:01 AM	15832
Motor Oil Range Organics (MRO)	ND	55		mg/Kg-dry	1	10/13/2014 11:41:01 AM	15832
Surr: DNOP	87.5	57.9-140		%REC	1	10/13/2014 11:41:01 AM	15832
EPA METHOD 8015D: GASOLINE RANGE				Analyst: NSB			
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg-dry	1	10/10/2014 9:52:06 PM	R21847
Surr: BFB	95.0	80-120		%REC	1	10/10/2014 9:52:06 PM	R21847
PERCENT MOISTURE				Analyst: cadg			
Percent Moisture	8.0	1.0		wt%	1	10/10/2014 1:06:00 PM	R21848
EPA METHOD 7471: MERCURY				Analyst: MMD			
Mercury	ND	0.035		mg/Kg-dry	1	10/17/2014 1:47:21 PM	15939
EPA METHOD 6010B: SOIL METALS				Analyst: ELS			
Antimony	ND	2.7		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Arsenic	ND	2.7		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Barium	82	0.11		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Beryllium	0.33	0.16		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Cadmium	ND	0.11		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Chromium	4.3	0.32		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Cobalt	2.8	0.32		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Lead	2.8	0.27		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Nickel	4.1	0.54		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Selenium	ND	2.7		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Silver	ND	0.27		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Vanadium	15	2.7		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
Zinc	17	2.7		mg/Kg-dry	1	10/15/2014 12:32:31 PM	15884
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
Acenaphthene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Acenaphthylene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Aniline	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Anthracene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Azobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Benz(a)anthracene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Benzo(a)pyrene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Benzo(b)fluoranthene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Benzo(g,h,i)perylene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Benzo(k)fluoranthene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Benzoic acid	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Benzyl alcohol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (0.5-2')

Project: GROUP 9

Collection Date: 10/8/2014 10:05:00 AM

Lab ID: 1410522-001

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Bis(2-chloroethyl)ether	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Bis(2-chloroisopropyl)ether	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Bis(2-ethylhexyl)phthalate	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
4-Bromophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Butyl benzyl phthalate	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Carbazole	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
4-Chloro-3-methylphenol	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
4-Chloroaniline	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2-Chloronaphthalene	ND	0.27		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2-Chlorophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
4-Chlorophenyl phenyl ether	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Chrysene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Di-n-butyl phthalate	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Di-n-octyl phthalate	ND	0.44		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Dibenz(a,h)anthracene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Dibenzofuran	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
1,2-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
1,3-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
1,4-Dichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
3,3'-Dichlorobenzidine	ND	0.27		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Diethyl phthalate	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Dimethyl phthalate	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2,4-Dichlorophenol	ND	0.44		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2,4-Dimethylphenol	ND	0.33		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
4,6-Dinitro-2-methylphenol	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2,4-Dinitrophenol	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2,4-Dinitrotoluene	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2,6-Dinitrotoluene	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Fluoranthene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Fluorene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Hexachlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Hexachlorobutadiene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Hexachlorocyclopentadiene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Hexachloroethane	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Indeno(1,2,3-cd)pyrene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Isophorone	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
1-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2-Methylnaphthalene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869

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	Page 3 of 32
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (0.5-2')

Project: GROUP 9

Collection Date: 10/8/2014 10:05:00 AM

Lab ID: 1410522-001

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
3+4-Methylphenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
N-Nitrosodi-n-propylamine	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
N-Nitrosodiphenylamine	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Naphthalene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
3-Nitroaniline	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
4-Nitroaniline	ND	0.44		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Nitrobenzene	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2-Nitrophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
4-Nitrophenol	ND	0.27		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Pentachlorophenol	ND	0.76		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Phenanthrene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Phenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Pyrene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Pyridine	ND	0.55		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
1,2,4-Trichlorobenzene	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2,4,5-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
2,4,6-Trichlorophenol	ND	0.22		mg/Kg-dry	1	10/14/2014 2:46:54 PM	15869
Surr: 2-Fluorophenol	78.4	21-111		%REC	1	10/14/2014 2:46:54 PM	15869
Surr: Phenol-d5	79.0	23.1-117		%REC	1	10/14/2014 2:46:54 PM	15869
Surr: 2,4,6-Tribromophenol	72.3	22.7-88.9		%REC	1	10/14/2014 2:46:54 PM	15869
Surr: Nitrobenzene-d5	80.1	24.5-126		%REC	1	10/14/2014 2:46:54 PM	15869
Surr: 2-Fluorobiphenyl	92.4	21.2-129		%REC	1	10/14/2014 2:46:54 PM	15869
Surr: 4-Terphenyl-d14	83.4	39.4-107		%REC	1	10/14/2014 2:46:54 PM	15869
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Benzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Toluene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Ethylbenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Xylenes, Total	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Methyl tert-butyl ether (MTBE)	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,2,4-Trimethylbenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,3,5-Trimethylbenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,2-Dichloroethane (EDC)	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,2-Dibromoethane (EDB)	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Naphthalene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1-Methylnaphthalene	ND	0.00342		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
2-Methylnaphthalene	ND	0.00342		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Acetone	0.0127	0.00856		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844

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	Page 4 of 32
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (0.5-2')

Project: GROUP 9

Collection Date: 10/8/2014 10:05:00 AM

Lab ID: 1410522-001

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Bromodichloromethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Bromoform	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Bromomethane	ND	0.00257		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
2-Butanone	ND	0.00856		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Carbon tetrachloride	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Chlorobenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Chloroethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Chloroform	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Chloromethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
2-Chlorotoluene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Carbon disulfide	ND	0.00856		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
4-Chlorotoluene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
cis-1,2-DCE	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
cis-1,3-Dichloropropene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,2-Dibromo-3-chloropropane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Dibromochloromethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Dibromomethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,2-Dichlorobenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,3-Dichlorobenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,4-Dichlorobenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Dichlorodifluoromethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,1-Dichloroethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,1-Dichloroethene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,2-Dichloropropane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,3-Dichloropropane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
2,2-Dichloropropane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,1-Dichloropropene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Hexachlorobutadiene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Isopropylbenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
4-Isopropyltoluene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Methylene chloride	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
n-Butylbenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
2-Hexanone	ND	0.00856		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
n-Propylbenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
sec-Butylbenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Styrene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
4-Methyl-2-pentanone	ND	0.00856		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
tert-Butylbenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (0.5-2')

Project: GROUP 9

Collection Date: 10/8/2014 10:05:00 AM

Lab ID: 1410522-001

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,1,2,2-Tetrachloroethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Tetrachloroethene (PCE)	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
trans-1,2-DCE	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
trans-1,3-Dichloropropene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,2,3-Trichlorobenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,2,4-Trichlorobenzene	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,1,1-Trichloroethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,1,2-Trichloroethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Trichloroethene (TCE)	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Trichlorofluoromethane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
1,2,3-Trichloropropane	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Vinyl chloride	ND	0.00171		mg/Kg-dry	1	10/10/2014 1:04:34 PM	15844
Surr: 1,2-Dichloroethane-d4	115	70-130		%REC	1	10/10/2014 1:04:34 PM	15844
Surr: 4-Bromofluorobenzene	100	65.3-135		%REC	1	10/10/2014 1:04:34 PM	15844
Surr: Dibromofluoromethane	107	70-130		%REC	1	10/10/2014 1:04:34 PM	15844
Surr: Toluene-d8	98.1	70-130		%REC	1	10/10/2014 1:04:34 PM	15844

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	Page 6 of 32
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (12-14')

Project: GROUP 9

Collection Date: 10/8/2014 10:15:00 AM

Lab ID: 1410522-002

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	70	11		mg/Kg-dry	1	10/13/2014 12:02:34 PM	15832
Motor Oil Range Organics (MRO)	140	56		mg/Kg-dry	1	10/13/2014 12:02:34 PM	15832
Surr: DNOP	106	57.9-140		%REC	1	10/13/2014 12:02:34 PM	15832
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg-dry	1	10/10/2014 10:20:42 PM	R21847
Surr: BFB	89.2	80-120		%REC	1	10/10/2014 10:20:42 PM	R21847
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	13	1.0		wt%	1	10/10/2014 1:06:00 PM	R21848
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.036		mg/Kg-dry	1	10/17/2014 1:49:05 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.9		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Arsenic	3.2	2.9		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Barium	210	0.12		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Beryllium	0.53	0.18		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Cadmium	ND	0.12		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Chromium	11	0.35		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Cobalt	4.6	0.35		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Lead	4.8	0.29		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Nickel	7.0	0.58		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Selenium	ND	2.9		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Silver	ND	0.29		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Vanadium	23	2.9		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
Zinc	34	2.9		mg/Kg-dry	1	10/15/2014 12:33:48 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Acenaphthylene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Aniline	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Anthracene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Azobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Benz(a)anthracene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Benzo(a)pyrene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Benzo(b)fluoranthene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Benzo(g,h,i)perylene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Benzo(k)fluoranthene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Benzoic acid	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Benzyl alcohol	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869

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	Page 7 of 32
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (12-14')

Project: GROUP 9

Collection Date: 10/8/2014 10:15:00 AM

Lab ID: 1410522-002

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Bis(2-chloroethyl)ether	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Bis(2-chloroisopropyl)ether	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Bis(2-ethylhexyl)phthalate	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
4-Bromophenyl phenyl ether	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Butyl benzyl phthalate	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Carbazole	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
4-Chloro-3-methylphenol	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
4-Chloroaniline	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2-Chloronaphthalene	ND	0.58		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2-Chlorophenol	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
4-Chlorophenyl phenyl ether	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Chrysene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Di-n-butyl phthalate	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Di-n-octyl phthalate	ND	0.92		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Dibenz(a,h)anthracene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Dibenzofuran	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
1,2-Dichlorobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
1,3-Dichlorobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
1,4-Dichlorobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
3,3'-Dichlorobenzidine	ND	0.58		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Diethyl phthalate	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Dimethyl phthalate	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2,4-Dichlorophenol	ND	0.92		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2,4-Dimethylphenol	ND	0.69		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
4,6-Dinitro-2-methylphenol	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2,4-Dinitrophenol	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2,4-Dinitrotoluene	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2,6-Dinitrotoluene	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Fluoranthene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Fluorene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Hexachlorobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Hexachlorobutadiene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Hexachlorocyclopentadiene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Hexachloroethane	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Indeno(1,2,3-cd)pyrene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Isophorone	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
1-Methylnaphthalene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2-Methylnaphthalene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869

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	Page 8 of 32
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (12-14')

Project: GROUP 9

Collection Date: 10/8/2014 10:15:00 AM

Lab ID: 1410522-002

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
2-Methylphenol	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
3+4-Methylphenol	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
N-Nitrosodi-n-propylamine	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
N-Nitrosodiphenylamine	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Naphthalene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2-Nitroaniline	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
3-Nitroaniline	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
4-Nitroaniline	ND	0.92		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Nitrobenzene	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2-Nitrophenol	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
4-Nitrophenol	ND	0.58		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Pentachlorophenol	ND	1.6		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Phenanthrene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Phenol	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Pyrene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Pyridine	ND	1.2		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
1,2,4-Trichlorobenzene	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2,4,5-Trichlorophenol	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
2,4,6-Trichlorophenol	ND	0.46		mg/Kg-dry	1	10/14/2014 12:53:37 PM	15869
Surr: 2-Fluorophenol	84.9	21-111		%REC	1	10/14/2014 12:53:37 PM	15869
Surr: Phenol-d5	80.5	23.1-117		%REC	1	10/14/2014 12:53:37 PM	15869
Surr: 2,4,6-Tribromophenol	62.1	22.7-88.9		%REC	1	10/14/2014 12:53:37 PM	15869
Surr: Nitrobenzene-d5	83.6	24.5-126		%REC	1	10/14/2014 12:53:37 PM	15869
Surr: 2-Fluorobiphenyl	92.4	21.2-129		%REC	1	10/14/2014 12:53:37 PM	15869
Surr: 4-Terphenyl-d14	82.6	39.4-107		%REC	1	10/14/2014 12:53:37 PM	15869
METHOD 8260B/5035LOW: VOLATILES				Analyst: cadg			
Benzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Toluene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Ethylbenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Xylenes, Total	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Methyl tert-butyl ether (MTBE)	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,2,4-Trimethylbenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,3,5-Trimethylbenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,2-Dichloroethane (EDC)	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,2-Dibromoethane (EDB)	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Naphthalene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1-Methylnaphthalene	ND	0.00365		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
2-Methylnaphthalene	ND	0.00365		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Acetone	0.0190	0.00912		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (12-14')

Project: GROUP 9

Collection Date: 10/8/2014 10:15:00 AM

Lab ID: 1410522-002

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
Bromobenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Bromodichloromethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Bromoform	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Bromomethane	ND	0.00274		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
2-Butanone	ND	0.00912		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Carbon tetrachloride	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Chlorobenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Chloroethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Chloroform	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Chloromethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
2-Chlorotoluene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Carbon disulfide	ND	0.00912		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
4-Chlorotoluene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
cis-1,2-DCE	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
cis-1,3-Dichloropropene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,2-Dibromo-3-chloropropane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Dibromochloromethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Dibromomethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,2-Dichlorobenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,3-Dichlorobenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,4-Dichlorobenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Dichlorodifluoromethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,1-Dichloroethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,1-Dichloroethene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,2-Dichloropropane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,3-Dichloropropane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
2,2-Dichloropropane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,1-Dichloropropene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Hexachlorobutadiene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Isopropylbenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
4-Isopropyltoluene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Methylene chloride	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
n-Butylbenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
2-Hexanone	ND	0.00912		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
n-Propylbenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
sec-Butylbenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Styrene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
4-Methyl-2-pentanone	ND	0.00912		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
tert-Butylbenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844

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	Page 10 of 32
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (12-14')

Project: GROUP 9

Collection Date: 10/8/2014 10:15:00 AM

Lab ID: 1410522-002

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
METHOD 8260B/5035LOW: VOLATILES							Analyst: cadg
1,1,1,2-Tetrachloroethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,1,2,2-Tetrachloroethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Tetrachloroethene (PCE)	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
trans-1,2-DCE	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
trans-1,3-Dichloropropene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,2,3-Trichlorobenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,2,4-Trichlorobenzene	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,1,1-Trichloroethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,1,2-Trichloroethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Trichloroethene (TCE)	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Trichlorofluoromethane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
1,2,3-Trichloropropane	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Vinyl chloride	ND	0.00182		mg/Kg-dry	1	10/10/2014 2:30:51 PM	15844
Surr: 1,2-Dichloroethane-d4	115	70-130		%REC	1	10/10/2014 2:30:51 PM	15844
Surr: 4-Bromofluorobenzene	110	65.3-135		%REC	1	10/10/2014 2:30:51 PM	15844
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/10/2014 2:30:51 PM	15844
Surr: Toluene-d8	99.2	70-130		%REC	1	10/10/2014 2:30:51 PM	15844

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	E	Value above quantitation range
	J	Analyte detected below quantitation limits
	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (26-28')

Project: GROUP 9

Collection Date: 10/8/2014 10:50:00 AM

Lab ID: 1410522-003

Matrix: SOIL

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	1600	110		mg/Kg-dry	10	10/13/2014 1:07:18 PM	15832
Motor Oil Range Organics (MRO)	ND	560		mg/Kg-dry	10	10/13/2014 1:07:18 PM	15832
Surr: DNOP	0	57.9-140	S	%REC	10	10/13/2014 1:07:18 PM	15832
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	110	26		mg/Kg-dry	5	10/13/2014 5:54:17 PM	15847
Surr: BFB	272	80-120	S	%REC	5	10/13/2014 5:54:17 PM	15847
PERCENT MOISTURE							Analyst: cadg
Percent Moisture	4.4	1.0		wt%	1	10/10/2014 1:06:00 PM	R21848
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.036		mg/Kg-dry	1	10/17/2014 1:50:50 PM	15939
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Antimony	ND	2.6		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Arsenic	ND	2.6		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Barium	96	0.11		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Beryllium	ND	0.16		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Cadmium	ND	0.11		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Chromium	11	0.32		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Cobalt	5.2	0.32		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Lead	1.6	0.26		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Nickel	6.1	0.53		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Selenium	ND	2.6		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Silver	ND	0.26		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Vanadium	15	2.6		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
Zinc	35	2.6		mg/Kg-dry	1	10/15/2014 12:35:04 PM	15884
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Acenaphthylene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Aniline	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Anthracene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Azobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Benz(a)anthracene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Benzo(a)pyrene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Benzo(b)fluoranthene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Benzo(g,h,i)perylene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Benzo(k)fluoranthene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Benzoic acid	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Benzyl alcohol	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (26-28')

Project: GROUP 9

Collection Date: 10/8/2014 10:50:00 AM

Lab ID: 1410522-003

Matrix: SOIL

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Bis(2-chloroethoxy)methane	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Bis(2-chloroethyl)ether	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Bis(2-chloroisopropyl)ether	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Bis(2-ethylhexyl)phthalate	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
4-Bromophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Butyl benzyl phthalate	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Carbazole	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
4-Chloro-3-methylphenol	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
4-Chloroaniline	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2-Chloronaphthalene	ND	0.26		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2-Chlorophenol	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
4-Chlorophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Chrysene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Di-n-butyl phthalate	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Di-n-octyl phthalate	ND	0.41		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Dibenz(a,h)anthracene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Dibenzofuran	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
3,3'-Dichlorobenzidine	ND	0.26		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Diethyl phthalate	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Dimethyl phthalate	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2,4-Dichlorophenol	ND	0.41		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2,4-Dimethylphenol	ND	0.31		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
4,6-Dinitro-2-methylphenol	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2,4-Dinitrophenol	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2,4-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2,6-Dinitrotoluene	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Fluoranthene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Fluorene	0.38	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Hexachlorobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Hexachlorocyclopentadiene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Hexachloroethane	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Indeno(1,2,3-cd)pyrene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Isophorone	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
1-Methylnaphthalene	1.7	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2-Methylnaphthalene	2.3	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (26-28')

Project: GROUP 9

Collection Date: 10/8/2014 10:50:00 AM

Lab ID: 1410522-003

Matrix: SOIL

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2-Methylphenol	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
3+4-Methylphenol	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
N-Nitrosodi-n-propylamine	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
N-Nitrosodiphenylamine	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Naphthalene	0.55	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
3-Nitroaniline	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
4-Nitroaniline	ND	0.41		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Nitrobenzene	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2-Nitrophenol	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
4-Nitrophenol	ND	0.26		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Pentachlorophenol	ND	0.72		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Phenanthrene	0.66	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Phenol	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Pyrene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Pyridine	ND	0.52		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2,4,5-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
2,4,6-Trichlorophenol	ND	0.21		mg/Kg-dry	1	10/14/2014 3:43:47 PM	15869
Surr: 2-Fluorophenol	57.0	21-111		%REC	1	10/14/2014 3:43:47 PM	15869
Surr: Phenol-d5	63.1	23.1-117		%REC	1	10/14/2014 3:43:47 PM	15869
Surr: 2,4,6-Tribromophenol	53.6	22.7-88.9		%REC	1	10/14/2014 3:43:47 PM	15869
Surr: Nitrobenzene-d5	76.3	24.5-126		%REC	1	10/14/2014 3:43:47 PM	15869
Surr: 2-Fluorobiphenyl	72.3	21.2-129		%REC	1	10/14/2014 3:43:47 PM	15869
Surr: 4-Terphenyl-d14	71.7	39.4-107		%REC	1	10/14/2014 3:43:47 PM	15869
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Toluene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Ethylbenzene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,2,4-Trimethylbenzene	2.9	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,3,5-Trimethylbenzene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,2-Dichloroethane (EDC)	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,2-Dibromoethane (EDB)	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Naphthalene	1.4	0.21		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1-Methylnaphthalene	4.8	0.42		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
2-Methylnaphthalene	7.4	0.42		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Acetone	ND	1.6		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Bromobenzene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (26-28')

Project: GROUP 9

Collection Date: 10/8/2014 10:50:00 AM

Lab ID: 1410522-003

Matrix: SOIL

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Bromodichloromethane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Bromoform	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Bromomethane	ND	0.31		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
2-Butanone	ND	1.0		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Carbon disulfide	ND	1.0		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Carbon tetrachloride	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Chlorobenzene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Chloroethane	ND	0.21		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Chloroform	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Chloromethane	ND	0.31		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
2-Chlorotoluene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
4-Chlorotoluene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
cis-1,2-DCE	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
cis-1,3-Dichloropropene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,2-Dibromo-3-chloropropane	ND	0.21		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Dibromochloromethane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Dibromomethane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,2-Dichlorobenzene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,3-Dichlorobenzene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,4-Dichlorobenzene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Dichlorodifluoromethane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,1-Dichloroethane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,1-Dichloroethene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,2-Dichloropropane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,3-Dichloropropane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
2,2-Dichloropropane	ND	0.21		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,1-Dichloropropene	ND	0.21		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
2-Hexanone	ND	1.0		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Isopropylbenzene	0.20	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
4-Isopropyltoluene	0.23	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
4-Methyl-2-pentanone	ND	1.0		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Methylene chloride	ND	0.31		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
n-Butylbenzene	0.41	0.31		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
n-Propylbenzene	0.44	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
sec-Butylbenzene	0.38	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Styrene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
tert-Butylbenzene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,1,1,2-Tetrachloroethane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SWMU 13-19 (26-28')

Project: GROUP 9

Collection Date: 10/8/2014 10:50:00 AM

Lab ID: 1410522-003

Matrix: SOIL

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1,2,2-Tetrachloroethane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Tetrachloroethene (PCE)	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
trans-1,2-DCE	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
trans-1,3-Dichloropropene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,2,3-Trichlorobenzene	ND	0.21		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,2,4-Trichlorobenzene	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,1,1-Trichloroethane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,1,2-Trichloroethane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Trichloroethene (TCE)	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Trichlorofluoromethane	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
1,2,3-Trichloropropane	ND	0.21		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Vinyl chloride	ND	0.10		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Xylenes, Total	ND	0.21		mg/Kg-dry	2	10/13/2014 1:36:06 PM	15847
Surr: Dibromofluoromethane	99.3	70-130		%REC	2	10/13/2014 1:36:06 PM	15847
Surr: 1,2-Dichloroethane-d4	81.9	70-130		%REC	2	10/13/2014 1:36:06 PM	15847
Surr: Toluene-d8	82.9	70-130		%REC	2	10/13/2014 1:36:06 PM	15847
Surr: 4-Bromofluorobenzene	135	70-130	S	%REC	2	10/13/2014 1:36:06 PM	15847

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: MeOH Blank

Project: GROUP 9

Collection Date:

Lab ID: 1410522-004

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Toluene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Ethylbenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Naphthalene	ND	0.10		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1-Methylnaphthalene	ND	0.20		mg/Kg	1	10/13/2014 1:07:46 PM	15847
2-Methylnaphthalene	ND	0.20		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Acetone	ND	0.75		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Bromobenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Bromodichloromethane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Bromoform	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Bromomethane	ND	0.15		mg/Kg	1	10/13/2014 1:07:46 PM	15847
2-Butanone	ND	0.50		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Carbon disulfide	ND	0.50		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Carbon tetrachloride	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Chlorobenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Chloroethane	ND	0.10		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Chloroform	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Chloromethane	ND	0.15		mg/Kg	1	10/13/2014 1:07:46 PM	15847
2-Chlorotoluene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
4-Chlorotoluene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
cis-1,2-DCE	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Dibromochloromethane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Dibromomethane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,1-Dichloroethane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,1-Dichloroethene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,2-Dichloropropane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,3-Dichloropropane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
2,2-Dichloropropane	ND	0.10		mg/Kg	1	10/13/2014 1:07:46 PM	15847

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1410522

Date Reported: 11/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: MeOH Blank

Project: GROUP 9

Collection Date:

Lab ID: 1410522-004

Matrix: MEOH (SOIL)

Received Date: 10/10/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
1,1-Dichloropropene	ND	0.10		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Hexachlorobutadiene	ND	0.10		mg/Kg	1	10/13/2014 1:07:46 PM	15847
2-Hexanone	ND	0.50		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Isopropylbenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
4-Isopropyltoluene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Methylene chloride	ND	0.15		mg/Kg	1	10/13/2014 1:07:46 PM	15847
n-Butylbenzene	ND	0.15		mg/Kg	1	10/13/2014 1:07:46 PM	15847
n-Propylbenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
sec-Butylbenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Styrene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
tert-Butylbenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
trans-1,2-DCE	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,2,3-Trichlorobenzene	ND	0.10		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Trichlorofluoromethane	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Vinyl chloride	ND	0.050		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Xylenes, Total	ND	0.10		mg/Kg	1	10/13/2014 1:07:46 PM	15847
Surr: Dibromofluoromethane	104	70-130		%REC	1	10/13/2014 1:07:46 PM	15847
Surr: 1,2-Dichloroethane-d4	77.6	70-130		%REC	1	10/13/2014 1:07:46 PM	15847
Surr: Toluene-d8	92.8	70-130		%REC	1	10/13/2014 1:07:46 PM	15847
Surr: 4-Bromofluorobenzene	97.5	70-130		%REC	1	10/13/2014 1:07:46 PM	15847

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141014058
Project Name: 1410522

Analytical Results Report

Sample Number	141014058-001	Sampling Date	10/8/2014	Date/Time Received	10/14/2014 12:15 PM
Client Sample ID	1410522-001C / SWMU 13-19 (0.5-2)			Sampling Time	10:05 AM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.224	10/16/2014	CRW	EPA 335.4	
%moisture	7	Percent		10/16/2014	KJS	%moisture	

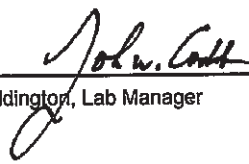
Sample Number	141014058-002	Sampling Date	10/8/2014	Date/Time Received	10/14/2014 12:15 PM
Client Sample ID	1410522-002C / SWMU 13-19 (12-14)			Sampling Time	10:15 AM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.275	10/16/2014	CRW	EPA 335.4	
%moisture	11.7	Percent		10/16/2014	KJS	%moisture	

Sample Number	141014058-003	Sampling Date	10/8/2014	Date/Time Received	10/14/2014 12:15 PM
Client Sample ID	1410522-003B / SWMU 13-19 (26-28)			Sampling Time	10:50 AM
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.239	10/16/2014	CRW	EPA 335.4	
%moisture	4.4	Percent		10/16/2014	KJS	%moisture	

Authorized Signature


John Coddington, Lab Manager

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

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Monday, October 27, 2014

Page 1 of 1

Anatek Labs, Inc.

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

Batch #: 141014058
Project Name: 1410522

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.491	mg/kg	0.5	98.2	90-110	10/16/2014	10/16/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141007053-001	Cyanide	ND	12.4	mg/kg	13.2	93.9	90-110	10/16/2014	10/16/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	12.4	mg/kg	13.2	93.9	0.0	0-25	10/16/2014	10/16/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	10/16/2014	10/16/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00189; ID:WA00189; WA:C585; MT:Cert0095; FL(NELAP): E871099

Monday, October 27, 2014

Page 1 of 1



12065 Lebanon Rd.
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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 21, 2014

Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

Date Received : October 14, 2014
Description :

Sample ID : 1410522-001D SWMU 13-19 0.5-2 FT

Collected By :
Collection Date : 10/08/14 10:05

ESC Sample # : L727321-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	10/16/14	1
ORP	160		mV	2580 B-2011	10/21/14	1
pH	8.1		su	9045D	10/15/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 10/21/14 14:51 Printed: 10/21/14 14:52
L727321-01 (PH) - 8.1@21.5c



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Est. 1970

REPORT OF ANALYSIS

October 21, 2014

Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

Date Received : October 14, 2014
Description :
Sample ID : 1410522-002D SWMU 13-19 12-14 FT
Collected By :
Collection Date : 10/08/14 10:15

ESC Sample # : L727321-02

Site ID :
Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	10/16/14	1
ORP	120		mV	2580 B-2011	10/21/14	1
pH	8.1		su	9045D	10/15/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 10/21/14 14:51 Printed: 10/21/14 14:52
L727321-02 (PH) - 8.1@21.5c



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Est. 1970

REPORT OF ANALYSIS

October 21, 2014

Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

Date Received : October 14, 2014
Description :
Sample ID : 1410522-003C SWMU 13-19 26-28 FT
Collected By :
Collection Date : 10/08/14 10:50

ESC Sample # : L727321-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chromium, Hexavalent	BDL	2.0	mg/kg	3060A/7196A	10/16/14	1
ORP	85.		mV	2580 B-2011	10/21/14	1
pH	8.3		su	9045D	10/15/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 10/21/14 14:51 Printed: 10/21/14 14:52

L727321-03 (PH) - 8.3@21.5c



YOUR LAB OF CHOICE

Hall Environmental Analysis Laboratory

4901 Hawkins NE

Albuquerque, NM 87109

Quality Assurance Report
Level II

L727321

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Est. 1970

October 21, 2014

Analyte	Result	Laboratory Blank Units	% Rec	Limit	Batch	Date Analyzed
Chromium, Hexavalent	< 2	mg/kg			WG748893	10/16/14 14:39

Analyte	Units	Result	Duplicate Duplicate	RPD	Limit	Ref Samp	Batch
pH	su	6.70	6.70	0.149	1	L727051-02	WG748528
pH	su	8.30	8.30	0.361	1	L727321-03	WG748528
Chromium, Hexavalent	mg/kg	0.0	0.0	0.0	20	L727321-02	WG748893
ORP	mV	31.0	32.0	3.17	20	L727864-01	WG749630
ORP	mV	0.0	0.0	0.0	20	L728529-04	WG749630

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
pH	su	6.33	6.33	100.	98.3-101.7	WG748528
Chromium, Hexavalent	mg/kg	187	193.	103.	80-120	WG748893
ORP	mV	100	99.0	99.0	90-110	WG749630

Analyte	Units	Result	Laboratory Control Sample Ref	% Rec	Limit	RPD	Limit	Batch
pH	su	6.32	6.33	100.	98.3-101.7	0.158	20	WG748528
Chromium, Hexavalent	mg/kg	189.	193.	101.	80-120	2.09	20	WG748893
ORP	mV	98.0	99.0	98.0	90-110	1.02	20	WG749630

Analyte	Units	MS Res	Matrix Spike Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Chromium, Hexavalent	mg/kg	19.4	0.0	20	97.0	75-125	L727321-01	WG748893

Analyte	Units	MSD	Matrix Spike Ref	% Rec	Limit	RPD	Limit	Ref Samp	Batch
Chromium, Hexavalent	mg/kg	19.5	19.4	97.5	75-125	0.514	20	L727321-01	WG748893

Batch number /Run number / Sample number cross reference

WG748528: R2997619: L727321-01 02 03
WG748893: R2998124: L727321-01 02 03
WG749630: R2999041: L727321-01 02 03

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15832		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 15832		RunNo: 21853					
Prep Date:	10/9/2014		Analysis Date: 10/13/2014		SeqNo: 642303		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		99.2	57.9	140			

Sample ID	LCS-15832		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15832		RunNo: 21853					
Prep Date:	10/9/2014		Analysis Date: 10/13/2014		SeqNo: 642397		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	10	50.00	0	126	68.6	130			
Surr: DNOP	3.8		5.000		75.9	57.9	140			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15821 MK		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: R21847		RunNo: 21847					
Prep Date:			Analysis Date: 10/10/2014		SeqNo: 641973		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	890		1000		89.0	80	120			

Sample ID	LCS-15821 MK		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: R21847		RunNo: 21847					
Prep Date:			Analysis Date: 10/10/2014		SeqNo: 641974		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.8	65.8	139			
Surr: BFB	960		1000		96.3	80	120			

Sample ID	MB-15847		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 15847		RunNo: 21865					
Prep Date:	10/10/2014		Analysis Date: 10/13/2014		SeqNo: 642515		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		91.9	80	120			

Sample ID	LCS-15847		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 15847		RunNo: 21865					
Prep Date:	10/10/2014		Analysis Date: 10/13/2014		SeqNo: 642516		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.0	65.8	139			
Surr: BFB	1000		1000		99.8	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15847		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS		Batch ID: 15847		RunNo: 21877					
Prep Date:	10/10/2014		Analysis Date: 10/13/2014		SeqNo: 642937		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15847	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID: 15847			RunNo: 21877					
Prep Date:	10/10/2014	Analysis Date: 10/13/2014			SeqNo: 642937		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.51		0.5000		101	70	130			
Surr: 1,2-Dichloroethane-d4	0.39		0.5000		78.4	70	130			
Surr: Toluene-d8	0.48		0.5000		95.3	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.6	70	130			

Sample ID	lcs-15847		SampType: LCS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS		Batch ID: 15847		RunNo: 21877					
Prep Date:	10/10/2014		Analysis Date: 10/13/2014		SeqNo: 642938		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	70	130			
Toluene	0.85	0.050	1.000	0	85.2	70	130			
Chlorobenzene	0.97	0.050	1.000	0	97.1	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	Ics-15847		SampType: LCS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS		Batch ID: 15847		RunNo: 21877					
Prep Date:	10/10/2014		Analysis Date: 10/13/2014		SeqNo: 642938		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.87	0.050	1.000	0	86.5	60.5	160			
Trichloroethene (TCE)	0.92	0.050	1.000	0	91.7	58.8	139			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		81.8	70	130			
Surr: Toluene-d8	0.44		0.5000		88.3	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.2	70	130			

Sample ID	1410522-003ams		SampType: MS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	SWMU 13-19 (26-28'		Batch ID: 15847		RunNo: 21877					
Prep Date:	10/10/2014		Analysis Date: 10/13/2014		SeqNo: 642940		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.52	0.052	0.5213	0	99.8	32.2	145			
Toluene	0.49	0.052	0.5213	0	93.8	29.1	139			
Chlorobenzene	0.50	0.052	0.5213	0	95.7	32.4	142			
1,1-Dichloroethene	0.46	0.052	0.5213	0	87.4	32.6	155			
Trichloroethene (TCE)	0.49	0.052	0.5213	0	94.1	29.2	150			
Surr: Dibromofluoromethane	0.52		0.5213		99.2	70	130			
Surr: 1,2-Dichloroethane-d4	0.45		0.5213		86.9	70	130			
Surr: Toluene-d8	0.47		0.5213		90.6	70	130			
Surr: 4-Bromofluorobenzene	1.0		0.5213		196	70	130			S

Sample ID	1410522-003amsd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles					
Client ID:	SWMU 13-19 (26-28'		Batch ID: 15847		RunNo: 21877					
Prep Date:	10/10/2014		Analysis Date: 10/13/2014		SeqNo: 642941		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.49	0.052	0.5198	0	93.9	32.2	145	6.30	20	
Toluene	0.49	0.052	0.5198	0	93.6	29.1	139	0.499	20	
Chlorobenzene	0.51	0.052	0.5198	0	97.5	32.4	142	1.50	20	
1,1-Dichloroethene	0.44	0.052	0.5198	0	85.3	32.6	155	2.76	20	
Trichloroethene (TCE)	0.48	0.052	0.5198	0	92.8	29.2	150	1.64	20	
Surr: Dibromofluoromethane	0.53		0.5198		102	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.44		0.5198		85.1	70	130	0	0	
Surr: Toluene-d8	0.45		0.5198		86.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.94		0.5198		181	70	130	0	0	S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15844		SampType:	MBLK		TestCode:	Method 8260B/5035LOW: VOLATILES			
Client ID:	PBS		Batch ID:	15844		RunNo:	21849			
Prep Date:	10/10/2014		Analysis Date:	10/10/2014		SeqNo:	642010		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00200								
Ethylbenzene	ND	0.00200								
Xylenes, Total	ND	0.00200								
Methyl tert-butyl ether (MTBE)	ND	0.00200								
1,2,4-Trimethylbenzene	ND	0.00200								
1,3,5-Trimethylbenzene	ND	0.00200								
1,2-Dichloroethane (EDC)	ND	0.00200								
1,2-Dibromoethane (EDB)	ND	0.00200								
Naphthalene	ND	0.00200								
1-Methylnaphthalene	ND	0.00400								
2-Methylnaphthalene	ND	0.00400								
Acetone	ND	0.0100								
Bromobenzene	ND	0.00200								
Bromodichloromethane	ND	0.00200								
Bromoform	ND	0.00200								
Bromomethane	ND	0.00300								
2-Butanone	ND	0.0100								
Carbon tetrachloride	ND	0.00200								
Chlorobenzene	ND	0.00200								
Chloroethane	ND	0.00200								
Chloroform	ND	0.00200								
Chloromethane	ND	0.00200								
2-Chlorotoluene	ND	0.00200								
Carbon disulfide	ND	0.0100								
4-Chlorotoluene	ND	0.00200								
cis-1,2-DCE	ND	0.00200								
cis-1,3-Dichloropropene	ND	0.00200								
1,2-Dibromo-3-chloropropane	ND	0.00200								
Dibromochloromethane	ND	0.00200								
Dibromomethane	ND	0.00200								
1,2-Dichlorobenzene	ND	0.00200								
1,3-Dichlorobenzene	ND	0.00200								
1,4-Dichlorobenzene	ND	0.00200								
Dichlorodifluoromethane	ND	0.00200								
1,1-Dichloroethane	ND	0.00200								
1,1-Dichloroethene	ND	0.00200								
1,2-Dichloropropane	ND	0.00200								
1,3-Dichloropropane	ND	0.00200								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15844		SampType: MBLK		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	PBS		Batch ID: 15844		RunNo: 21849					
Prep Date:	10/10/2014		Analysis Date: 10/10/2014		SeqNo: 642010		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.00200								
1,1-Dichloropropene	ND	0.00200								
Hexachlorobutadiene	ND	0.00200								
Isopropylbenzene	ND	0.00200								
4-Isopropyltoluene	ND	0.00200								
Methylene chloride	ND	0.00200								
n-Butylbenzene	ND	0.00200								
2-Hexanone	ND	0.0100								
n-Propylbenzene	ND	0.00200								
sec-Butylbenzene	ND	0.00200								
Styrene	ND	0.00200								
4-Methyl-2-pentanone	ND	0.0100								
tert-Butylbenzene	ND	0.00200								
1,1,1,2-Tetrachloroethane	ND	0.00200								
1,1,2,2-Tetrachloroethane	ND	0.00200								
Tetrachloroethene (PCE)	ND	0.00200								
trans-1,2-DCE	ND	0.00200								
trans-1,3-Dichloropropene	ND	0.00200								
1,2,3-Trichlorobenzene	ND	0.00200								
1,2,4-Trichlorobenzene	ND	0.00200								
1,1,1-Trichloroethane	ND	0.00200								
1,1,2-Trichloroethane	ND	0.00200								
Trichloroethene (TCE)	ND	0.00200								
Trichlorofluoromethane	ND	0.00200								
1,2,3-Trichloropropane	ND	0.00200								
Vinyl chloride	ND	0.00200								
Surr: 1,2-Dichloroethane-d4	0.0204		0.02000		102	70	130			
Surr: 4-Bromofluorobenzene	0.0222		0.02000		111	65.3	135			
Surr: Dibromofluoromethane	0.0209		0.02000		104	70	130			
Surr: Toluene-d8	0.0197		0.02000		98.7	70	130			

Sample ID	ics-15844		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15844		RunNo: 21849					
Prep Date:	10/10/2014		Analysis Date: 10/10/2014		SeqNo: 642012		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0103	0.00200	0.01000	0	103	70	130			
Toluene	0.0100	0.00200	0.01000	0	100	70	130			
Chlorobenzene	0.0101	0.00200	0.01000	0	101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	Ics-15844		SampType: LCS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	LCSS		Batch ID: 15844		RunNo: 21849					
Prep Date:	10/10/2014		Analysis Date: 10/10/2014		SeqNo: 642012		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.00960	0.00200	0.01000	0	96.0	70	130			
Trichloroethene (TCE)	0.00990	0.00200	0.01000	0	99.0	61.6	131			
Surr: 1,2-Dichloroethane-d4	0.0206		0.02000		103	70	130			
Surr: 4-Bromofluorobenzene	0.0219		0.02000		109	65.3	135			
Surr: Dibromofluoromethane	0.0203		0.02000		102	70	130			
Surr: Toluene-d8	0.0197		0.02000		98.4	70	130			

Sample ID	1410522-001ams		SampType: MS		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	SWMU 13-19 (0.5-2')		Batch ID: 15844		RunNo: 21849					
Prep Date:	10/10/2014		Analysis Date: 10/10/2014		SeqNo: 642014		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.00799	0.00170	0.008522	0	93.7	70	130			
Toluene	0.00797	0.00170	0.008522	0	93.6	70	130			
Chlorobenzene	0.00775	0.00170	0.008522	0	91.0	70	130			
1,1-Dichloroethene	0.00745	0.00170	0.008522	0	87.5	70	130			
Trichloroethene (TCE)	0.00787	0.00170	0.008522	0	92.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.0185		0.01704		109	70	130			
Surr: 4-Bromofluorobenzene	0.0191		0.01704		112	65.3	135			
Surr: Dibromofluoromethane	0.0174		0.01704		102	70	130			
Surr: Toluene-d8	0.0168		0.01704		98.3	70	130			

Sample ID	1410522-001amsd		SampType: MSD		TestCode: Method 8260B/5035LOW: VOLATILES					
Client ID:	SWMU 13-19 (0.5-2')		Batch ID: 15844		RunNo: 21849					
Prep Date:	10/10/2014		Analysis Date: 10/10/2014		SeqNo: 642015		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.00808	0.00170	0.008508	0	94.9	70	130	1.16	20	
Toluene	0.00777	0.00170	0.008508	0	91.3	70	130	2.59	20	
Chlorobenzene	0.00779	0.00170	0.008508	0	91.6	70	130	0.501	20	
1,1-Dichloroethene	0.00772	0.00170	0.008508	0	90.7	70	130	3.51	20	
Trichloroethene (TCE)	0.00783	0.00170	0.008508	0	92.0	70	130	0.580	20	
Surr: 1,2-Dichloroethane-d4	0.0183		0.01702		107	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.0186		0.01702		109	65.3	135	0	0	
Surr: Dibromofluoromethane	0.0179		0.01702		105	70	130	0	0	
Surr: Toluene-d8	0.0168		0.01702		98.7	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15869		SampType:	MBLK		TestCode:	EPA Method 8270C: Semivolatiles			
Client ID:	PBS		Batch ID:	15869		RunNo:	21891			
Prep Date:	10/13/2014		Analysis Date:	10/14/2014		SeqNo:	643440		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	mb-15869		SampType: MBLK			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	PBS		Batch ID: 15869			RunNo: 21891				
Prep Date:	10/13/2014		Analysis Date: 10/14/2014			SeqNo: 643440	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.70								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	2.9		3.330		86.2	21	111			
Surr: Phenol-d5	2.8		3.330		84.6	23.1	117			
Surr: 2,4,6-Tribromophenol	2.5		3.330		73.7	22.7	88.9			
Surr: Nitrobenzene-d5	1.4		1.670		85.8	24.5	126			
Surr: 2-Fluorobiphenyl	1.4		1.670		84.4	21.2	129			
Surr: 4-Terphenyl-d14	1.4		1.670		84.8	39.4	107			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	lcs-15869		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 15869		RunNo: 21891					
Prep Date:	10/13/2014		Analysis Date: 10/14/2014		SeqNo: 643441		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.20	1.670	0	85.2	50.7	110			
4-Chloro-3-methylphenol	3.4	0.50	3.330	0	101	47.8	107			
2-Chlorophenol	3.0	0.20	3.330	0	90.6	45.7	108			
1,4-Dichlorobenzene	1.5	0.20	1.670	0	88.5	46.1	112			
2,4-Dinitrotoluene	1.2	0.50	1.670	0	74.7	44.9	114			
N-Nitrosodi-n-propylamine	1.7	0.20	1.670	0	102	38.7	128			
4-Nitrophenol	2.5	0.25	3.330	0	76.3	40.2	103			
Pentachlorophenol	2.4	0.70	3.330	0	71.8	32.9	94			
Phenol	3.3	0.20	3.330	0	98.4	44.1	109			
Pyrene	1.3	0.20	1.670	0	77.2	51.9	109			
1,2,4-Trichlorobenzene	1.6	0.20	1.670	0	97.2	49.5	115			
Surr: 2-Fluorophenol	2.9		3.330		87.9	21	111			
Surr: Phenol-d5	3.0		3.330		89.0	23.1	117			
Surr: 2,4,6-Tribromophenol	2.7		3.330		80.0	22.7	88.9			
Surr: Nitrobenzene-d5	1.5		1.670		89.0	24.5	126			
Surr: 2-Fluorobiphenyl	1.5		1.670		92.3	21.2	129			
Surr: 4-Terphenyl-d14	1.5		1.670		88.6	39.4	107			

Sample ID	1410522-001bms	SampType: MS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	SWMU 13-19 (0.5-2')	Batch ID: 15869			RunNo: 21891					
Prep Date:	10/13/2014	Analysis Date: 10/14/2014			SeqNo: 643455		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.22	1.823	0	78.5	53.8	92.8			
4-Chloro-3-methylphenol	3.3	0.55	3.634	0	90.4	34.9	104			
2-Chlorophenol	2.9	0.22	3.634	0	78.7	18.2	105			
1,4-Dichlorobenzene	1.4	0.22	1.823	0	75.5	18.1	112			
2,4-Dinitrotoluene	1.3	0.55	1.823	0	69.5	22	144			
N-Nitrosodi-n-propylamine	1.6	0.22	1.823	0	85.2	58.6	101			
4-Nitrophenol	3.0	0.27	3.634	0	81.4	13.7	127			
Pentachlorophenol	2.6	0.76	3.634	0	70.8	16.5	107			
Phenol	3.1	0.22	3.634	0	85.5	12.5	114			
Pyrene	1.3	0.22	1.823	0	73.5	14.2	116			
1,2,4-Trichlorobenzene	1.5	0.22	1.823	0	81.5	16	125			
Surr: 2-Fluorophenol	2.6		3.634		71.5	21	111			
Surr: Phenol-d5	2.8		3.634		77.9	23.1	117			
Surr: 2,4,6-Tribromophenol	2.7		3.634		74.8	22.7	88.9			
Surr: Nitrobenzene-d5	1.4		1.823		76.9	24.5	126			
Surr: 2-Fluorobiphenyl	1.5		1.823		82.2	21.2	129			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	1410522-001bms		SampType: MS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	SWMU 13-19 (0.5-2')		Batch ID: 15869		RunNo: 21891					
Prep Date:	10/13/2014		Analysis Date: 10/14/2014		SeqNo: 643455		Units: mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terophenyl-d14	1.6		1.823		86.6	39.4	107			

Sample ID	1410522-001bmsd	SampType:	MSD		TestCode:	EPA Method 8270C: Semivolatiles				
Client ID:	SWMU 13-19 (0.5-2')	Batch ID:	15869		RunNo:	21891				
Prep Date:	10/13/2014	Analysis Date:	10/14/2014		SeqNo:	643456		Units: mg/Kg-dry		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.3	0.22	1.826	0	73.5	53.8	92.8	6.50	22	
4-Chloro-3-methylphenol	2.8	0.55	3.642	0	78.2	34.9	104	14.3	27.3	
2-Chlorophenol	2.7	0.22	3.642	0	73.8	18.2	105	6.17	26.3	
1,4-Dichlorobenzene	1.2	0.22	1.826	0	67.8	18.1	112	10.6	27.4	
2,4-Dinitrotoluene	1.3	0.55	1.826	0	69.6	22	144	0.230	27.4	
N-Nitrosodi-n-propylamine	1.3	0.22	1.826	0	72.8	58.6	101	15.4	22.6	
4-Nitrophenol	2.7	0.27	3.642	0	73.0	13.7	127	10.6	20	
Pentachlorophenol	2.1	0.77	3.642	0	57.2	16.5	107	21.1	27.1	
Phenol	2.8	0.22	3.642	0	78.1	12.5	114	8.77	32.2	
Pyrene	1.3	0.22	1.826	0	68.7	14.2	116	6.51	29.5	
1,2,4-Trichlorobenzene	1.3	0.22	1.826	0	70.9	16	125	13.7	27.8	
Surr: 2-Fluorophenol	2.4		3.642		65.4	21	111	0	0	
Surr: Phenol-d5	2.6		3.642		70.4	23.1	117	0	0	
Surr: 2,4,6-Tribromophenol	2.4		3.642		64.6	22.7	88.9	0	0	
Surr: Nitrobenzene-d5	1.3		1.826		69.9	24.5	126	0	0	
Surr: 2-Fluorobiphenyl	1.4		1.826		74.3	21.2	129	0	0	
Surr: 4-Terphenyl-d14	1.4		1.826		76.5	39.4	107	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15939		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 15939		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646271		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	LCS-15939		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 15939		RunNo: 21990					
Prep Date:	10/16/2014		Analysis Date: 10/17/2014		SeqNo: 646272		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1667	0	95.3	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1410522

10-Nov-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9

Sample ID	MB-15884		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	PBS		Batch ID:	15884		RunNo:	21911			
Prep Date:	10/14/2014		Analysis Date:	10/15/2014		SeqNo:	644144		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	2.5								
Arsenic	ND	2.5								
Barium	ND	0.10								
Beryllium	ND	0.15								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Cobalt	ND	0.30								
Lead	ND	0.25								
Nickel	ND	0.50								
Selenium	ND	2.5								
Silver	ND	0.25								
Vanadium	ND	2.5								
Zinc	ND	2.5								

Sample ID	LCS-15884		SampType:	LCS		TestCode:	EPA Method 6010B: Soil Metals			
Client ID:	LCSS		Batch ID:	15884		RunNo:	21911			
Prep Date:	10/14/2014		Analysis Date:	10/15/2014		SeqNo:	644145		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	25	2.5	25.00	0	101	80	120			
Arsenic	25	2.5	25.00	0	99.7	80	120			
Barium	25	0.10	25.00	0	100	80	120			
Beryllium	25	0.15	25.00	0	101	80	120			
Cadmium	25	0.10	25.00	0	99.3	80	120			
Chromium	25	0.30	25.00	0	98.1	80	120			
Cobalt	25	0.30	25.00	0	99.2	80	120			
Lead	25	0.25	25.00	0	99.0	80	120			
Nickel	26	0.50	25.00	0	102	80	120			
Selenium	26	2.5	25.00	0	104	80	120			
Silver	5.0	0.25	5.000	0	99.3	80	120			
Vanadium	25	2.5	25.00	0	99.5	80	120			
Zinc	26	2.5	25.00	0	104	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1410522

RcptNo: 1

Received by/date: LM 10/10/14

Logged By: Michelle Garcia 10/10/2014 7:00:00 AM

Michelle Garcia

Completed By: Michelle Garcia 10/10/2014 10:41:15 AM

Michelle Garcia

Reviewed By: *[Signature]* 10/10/14

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? Courier

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:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

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	2.3	Good	Yes			

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 3060A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl lead	SW-846 method 8270C
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

December 08, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9 11-6-14

OrderNo.: 1411265

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/7/2014 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

Analytical Report

Lab Order: 1411265

Date Reported: 12/8/2014

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** MW-72**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 10:00:00 AM**Lab ID:** 1411265-001A**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	8600	200		µg/L	200	11/12/2014 4:51:56 PM	R22503
Toluene	32	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Ethylbenzene	700	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Methyl tert-butyl ether (MTBE)	36	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,2,4-Trimethylbenzene	440	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,3,5-Trimethylbenzene	110	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,2-Dichloroethane (EDC)	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,2-Dibromoethane (EDB)	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Naphthalene	210	40		µg/L	20	11/12/2014 5:20:06 PM	R22503
1-Methylnaphthalene	ND	80		µg/L	20	11/12/2014 5:20:06 PM	R22503
2-Methylnaphthalene	ND	80		µg/L	20	11/12/2014 5:20:06 PM	R22503
Acetone	ND	200		µg/L	20	11/12/2014 5:20:06 PM	R22503
Bromobenzene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Bromodichloromethane	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Bromoform	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Bromomethane	ND	60		µg/L	20	11/12/2014 5:20:06 PM	R22503
2-Butanone	ND	200		µg/L	20	11/12/2014 5:20:06 PM	R22503
Carbon disulfide	ND	200		µg/L	20	11/12/2014 5:20:06 PM	R22503
Carbon Tetrachloride	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Chlorobenzene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Chloroethane	ND	40		µg/L	20	11/12/2014 5:20:06 PM	R22503
Chloroform	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Chloromethane	ND	60		µg/L	20	11/12/2014 5:20:06 PM	R22503
2-Chlorotoluene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
4-Chlorotoluene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
cis-1,2-DCE	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
cis-1,3-Dichloropropene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,2-Dibromo-3-chloropropane	ND	40		µg/L	20	11/12/2014 5:20:06 PM	R22503
Dibromochloromethane	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Dibromomethane	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,2-Dichlorobenzene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,3-Dichlorobenzene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,4-Dichlorobenzene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Dichlorodifluoromethane	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,1-Dichloroethane	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,1-Dichloroethene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,2-Dichloropropane	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,3-Dichloropropane	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
2,2-Dichloropropane	ND	40		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,1-Dichloropropene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Hexachlorobutadiene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411265

Date Reported: 12/8/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411265-001A

Client Sample ID: MW-72
Collection Date: 11/6/2014 10:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	200		µg/L	20	11/12/2014 5:20:06 PM	R22503
Isopropylbenzene	120	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
4-Isopropyltoluene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
4-Methyl-2-pentanone	ND	200		µg/L	20	11/12/2014 5:20:06 PM	R22503
Methylene Chloride	ND	60		µg/L	20	11/12/2014 5:20:06 PM	R22503
n-Butylbenzene	ND	60		µg/L	20	11/12/2014 5:20:06 PM	R22503
n-Propylbenzene	140	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
sec-Butylbenzene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Styrene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
tert-Butylbenzene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,1,1,2-Tetrachloroethane	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,1,2,2-Tetrachloroethane	ND	40		µg/L	20	11/12/2014 5:20:06 PM	R22503
Tetrachloroethene (PCE)	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
trans-1,2-DCE	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
trans-1,3-Dichloropropene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,2,3-Trichlorobenzene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,2,4-Trichlorobenzene	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,1,1-Trichloroethane	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,1,2-Trichloroethane	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Trichloroethene (TCE)	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Trichlorofluoromethane	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
1,2,3-Trichloropropane	ND	40		µg/L	20	11/12/2014 5:20:06 PM	R22503
Vinyl chloride	ND	20		µg/L	20	11/12/2014 5:20:06 PM	R22503
Xylenes, Total	1500	30		µg/L	20	11/12/2014 5:20:06 PM	R22503
Surr: 1,2-Dichloroethane-d4	74.2	70-130		%REC	20	11/12/2014 5:20:06 PM	R22503
Surr: 4-Bromofluorobenzene	72.7	70-130		%REC	20	11/12/2014 5:20:06 PM	R22503
Surr: Dibromofluoromethane	82.2	70-130		%REC	20	11/12/2014 5:20:06 PM	R22503
Surr: Toluene-d8	93.6	70-130		%REC	20	11/12/2014 5:20:06 PM	R22503

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411265

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: MW-72

Project: GROUP 9 11-6-14

Collection Date: 11/6/2014 10:00:00 AM

Lab ID: 1411265-001B

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	25	2.5		mg/L	50	11/11/2014 4:27:19 PM	R22479
Surr: BFB	101	80-120		%REC	50	11/11/2014 4:27:19 PM	R22479

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411265

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411265-001C

Client Sample ID: MW-72
Collection Date: 11/6/2014 10:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: JME
Diesel Range Organics (DRO)	3.3	0.20		mg/L	1	11/11/2014 12:45:29 AM	16294
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	11/11/2014 12:45:29 AM	16294
Surr: DNOP	146	75.2-161		%REC	1	11/11/2014 12:45:29 AM	16294

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411265

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: MW-72

Project: GROUP 9 11-6-14

Collection Date: 11/6/2014 10:00:00 AM

Lab ID: 1411265-001D

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: DAM	
Acenaphthene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Acenaphthylene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Aniline	32	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Anthracene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Azobenzene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Benz(a)anthracene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Benzo(a)pyrene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Benzo(b)fluoranthene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Benzo(k)fluoranthene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Benzoic acid	ND	20		µg/L	1	11/17/2014 12:55:15 PM	16326
Benzyl alcohol	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Bis(2-ethylhexyl)phthalate	21	10		µg/L	1	11/17/2014 12:55:15 PM	16326
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Butyl benzyl phthalate	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Carbazole	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
4-Chloro-3-methylphenol	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
4-Chloroaniline	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
2-Chloronaphthalene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
2-Chlorophenol	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Chrysene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Di-n-butyl phthalate	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Di-n-octyl phthalate	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Dibenzofuran	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
1,2-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
1,3-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
1,4-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
3,3'-Dichlorobenzidine	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Diethyl phthalate	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Dimethyl phthalate	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
2,4-Dichlorophenol	ND	20		µg/L	1	11/17/2014 12:55:15 PM	16326
2,4-Dimethylphenol	24	10		µg/L	1	11/17/2014 12:55:15 PM	16326
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	11/17/2014 12:55:15 PM	16326
2,4-Dinitrophenol	ND	20		µg/L	1	11/17/2014 12:55:15 PM	16326
2,4-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
2,6-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411265

Date Reported: 12/8/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411265-001D

Client Sample ID: MW-72
Collection Date: 11/6/2014 10:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: DAM	
Fluoranthene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Fluorene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Hexachlorobenzene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Hexachlorobutadiene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Hexachloroethane	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Isophorone	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
1-Methylnaphthalene	54	10		µg/L	1	11/17/2014 12:55:15 PM	16326
2-Methylnaphthalene	79	10		µg/L	1	11/17/2014 12:55:15 PM	16326
2-Methylphenol	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
3+4-Methylphenol	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
N-Nitrosodimethylamine	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Naphthalene	140	10		µg/L	1	11/17/2014 12:55:15 PM	16326
2-Nitroaniline	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
3-Nitroaniline	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
4-Nitroaniline	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Nitrobenzene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
2-Nitrophenol	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
4-Nitrophenol	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Pentachlorophenol	ND	20		µg/L	1	11/17/2014 12:55:15 PM	16326
Phenanthrene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Phenol	27	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Pyrene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Pyridine	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/17/2014 12:55:15 PM	16326
Surr: 2-Fluorophenol	55.9	17.6-104		%REC	1	11/17/2014 12:55:15 PM	16326
Surr: Phenol-d5	45.2	17.7-89.9		%REC	1	11/17/2014 12:55:15 PM	16326
Surr: 2,4,6-Tribromophenol	85.9	16.3-122		%REC	1	11/17/2014 12:55:15 PM	16326
Surr: Nitrobenzene-d5	82.1	45.3-117		%REC	1	11/17/2014 12:55:15 PM	16326
Surr: 2-Fluorobiphenyl	80.8	43-113		%REC	1	11/17/2014 12:55:15 PM	16326
Surr: 4-Terphenyl-d14	73.8	47.6-122		%REC	1	11/17/2014 12:55:15 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411265

Date Reported: 12/8/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411265-001E

Client Sample ID: MW-72
Collection Date: 11/6/2014 10:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	230	10		mg/L	20	11/7/2014 5:27:33 PM	R22427
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/7/2014 5:15:09 PM	R22427
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	11/7/2014 5:15:09 PM	R22427
Sulfate	47	2.5		mg/L	5	11/7/2014 5:15:09 PM	R22427
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	1100	20		mg/L CaCO3	1	11/13/2014 3:58:15 PM	R22543
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/13/2014 3:58:15 PM	R22543
Total Alkalinity (as CaCO3)	1100	20		mg/L CaCO3	1	11/13/2014 3:58:15 PM	R22543
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1490	200	*	mg/L	1	11/10/2014 4:36:00 PM	16288

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 7 of 24

Analytical Report

Lab Order: 1411265

Date Reported: 12/8/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411265-001F

Client Sample ID: MW-72
Collection Date: 11/6/2014 10:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	0.87	0.0020		mg/L	1	11/11/2014 8:39:21 PM	R22482
Beryllium	ND	0.0020		mg/L	1	11/10/2014 5:21:51 PM	R22450
Cadmium	ND	0.0020		mg/L	1	11/10/2014 5:21:51 PM	R22450
Calcium	130	5.0		mg/L	5	11/10/2014 5:23:32 PM	R22450
Chromium	ND	0.0060		mg/L	1	11/10/2014 5:21:51 PM	R22450
Cobalt	ND	0.0060		mg/L	1	11/11/2014 8:39:21 PM	R22482
Iron	7.5	0.20	*	mg/L	10	11/11/2014 8:41:11 PM	R22482
Magnesium	53	1.0		mg/L	1	11/10/2014 5:21:51 PM	R22450
Manganese	2.5	0.010	*	mg/L	5	11/10/2014 5:23:32 PM	R22450
Nickel	ND	0.010		mg/L	1	11/11/2014 8:39:21 PM	R22482
Potassium	5.2	1.0		mg/L	1	11/10/2014 5:21:51 PM	R22450
Silver	ND	0.0050		mg/L	1	11/10/2014 5:21:51 PM	R22450
Sodium	380	5.0		mg/L	5	11/10/2014 5:23:32 PM	R22450
Vanadium	ND	0.050		mg/L	1	11/10/2014 5:21:51 PM	R22450
Zinc	0.12	0.010		mg/L	1	11/11/2014 8:39:21 PM	R22482
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/24/2014 2:24:54 PM	R22774
Arsenic	ND	0.020		mg/L	20	11/24/2014 5:57:31 PM	R22774
Lead	0.0020	0.0010		mg/L	1	11/24/2014 2:24:54 PM	R22774
Selenium	ND	0.020		mg/L	20	11/24/2014 5:57:31 PM	R22774
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 11:22:15 AM	16434

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 8 of 24

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411265

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411265-001G

Client Sample ID: MW-72
Collection Date: 11/6/2014 10:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: JLF			
Barium	1.2	0.010		mg/L	5	11/12/2014 4:28:19 PM	16338
Beryllium	0.0032	0.0020		mg/L	1	11/12/2014 3:58:55 PM	16338
Cadmium	ND	0.0020		mg/L	1	11/12/2014 3:58:55 PM	16338
Calcium	160	5.0		mg/L	5	11/12/2014 4:28:19 PM	16338
Chromium	0.018	0.0060		mg/L	1	11/12/2014 3:58:55 PM	16338
Cobalt	0.016	0.0060		mg/L	1	11/12/2014 3:58:55 PM	16338
Iron	38	1.0	*	mg/L	50	11/12/2014 4:30:01 PM	16338
Magnesium	64	1.0		mg/L	1	11/12/2014 3:58:55 PM	16338
Manganese	3.3	0.010	*	mg/L	5	11/12/2014 4:28:19 PM	16338
Nickel	0.024	0.010		mg/L	1	11/12/2014 3:58:55 PM	16338
Potassium	8.8	1.0		mg/L	1	11/12/2014 3:58:55 PM	16338
Silver	ND	0.0050		mg/L	1	11/12/2014 3:58:55 PM	16338
Sodium	400	5.0		mg/L	5	11/12/2014 4:28:19 PM	16338
Vanadium	0.051	0.050		mg/L	1	11/12/2014 3:58:55 PM	16338
Zinc	0.11	0.010		mg/L	1	11/12/2014 3:58:55 PM	16338
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/13/2014 3:59:55 PM	16338
Arsenic	ND	0.020		mg/L	20	11/18/2014 5:24:11 PM	16338
Lead	0.030	0.0010	*	mg/L	1	11/13/2014 3:59:55 PM	16338
Selenium	ND	0.020		mg/L	20	11/18/2014 5:24:11 PM	16338
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 11:24:05 AM	16434

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Anatek Labs, Inc.

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

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

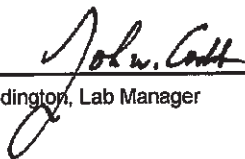
Batch #: 141111018
Project Name: 1411265

Analytical Results Report

Sample Number	141111018-001	Sampling Date	11/6/2014	Date/Time Received	11/11/2014 11:50 AM
Client Sample ID	1411265-001H / MW-72	Sampling Time	10:00 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	11/14/2014	CRW	EPA 335.4	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, November 18, 2014

Page 1 of 1

Anatek Labs, Inc.

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

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

Batch #: 141111018
Project Name: 1411265

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	11/13/2014	11/14/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141111021-001	Cyanide	ND	0.990	mg/L	1	99.0	90-110	11/13/2014	11/14/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.982	mg/L	1	98.2	0.8	0-20	11/13/2014	11/14/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	11/13/2014	11/14/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP):E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB		SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals				
Client ID:	PBW		Batch ID: R22450			RunNo: 22450				
Prep Date:			Analysis Date: 11/10/2014			SeqNo: 661543		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID	LCS		SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals				
Client ID:	LCSW		Batch ID: R22450			RunNo: 22450				
Prep Date:			Analysis Date: 11/10/2014			SeqNo: 661544		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.5	85	115			
Calcium	48	1.0	50.00	0	97.0	85	115			
Chromium	0.47	0.0060	0.5000	0	94.2	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Manganese	0.46	0.0020	0.5000	0	92.7	85	115			
Potassium	48	1.0	50.00	0	95.3	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.0	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			

Sample ID	MB		SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals				
Client ID:	PBW		Batch ID: R22450			RunNo: 22450				
Prep Date:			Analysis Date: 11/10/2014			SeqNo: 661545		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22450		RunNo: 22450							
Prep Date:	Analysis Date: 11/10/2014		SeqNo: 661545		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22450		RunNo: 22450							
Prep Date:	Analysis Date: 11/10/2014		SeqNo: 661546		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	99.3	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.7	85	115			
Calcium	49	1.0	50.00	0	98.0	85	115			
Chromium	0.46	0.0060	0.5000	0	92.9	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Manganese	0.46	0.0020	0.5000	0	91.0	85	115			
Potassium	48	1.0	50.00	0	95.6	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	49	1.0	50.00	0	98.2	85	115			
Vanadium	0.50	0.050	0.5000	0	100	85	115			

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662817		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662818		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	99.7	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.7	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Nickel	0.49	0.010	0.5000	0	98.0	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662819		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662820		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.3	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Nickel	0.48	0.010	0.5000	0	96.0	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16338	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	16338	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663340	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID	LCS-16338	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	16338	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663341	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Beryllium	0.53	0.0020	0.5000	0	106	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	97.9	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.5	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Manganese	0.47	0.0020	0.5000	0	94.6	85	115			
Nickel	0.48	0.010	0.5000	0	95.3	85	115			
Potassium	49	1.0	50.00	0	98.2	85	115			
Silver	0.11	0.0050	0.1000	0	107	85	115			
Sodium	51	1.0	50.00	0	101	85	115			
Vanadium	0.53	0.050	0.5000	0	105	85	115			
Zinc	0.50	0.010	0.5000	0	99.0	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS		SampType: LCS			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	LCSW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672122		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	90.6	85	115			
Arsenic	0.023	0.0010	0.02500	0	92.5	85	115			
Lead	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.022	0.0010	0.02500	0	89.7	85	115			

Sample ID	LCS		SampType: LCS			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	LCSW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672123		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	97.3	85	115			
Lead	0.024	0.0010	0.02500	0	97.3	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	PBW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672124		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	PBW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672125		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LLLCS-16338		SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	BatchQC		Batch ID: 16338		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664408		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	105	85	115			
Arsenic	0.024	0.0010	0.02500	0	94.2	85	115			
Lead	0.025	0.0010	0.02500	0	100	85	115			
Selenium	0.023	0.0010	0.02500	0	92.5	85	115			

Sample ID	MB-16338		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	PBW		Batch ID: 16338		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664410		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16434		SampType:	MBLK		TestCode:	EPA Method 245.1: Mercury				
Client ID:	PBW		Batch ID:	16434		RunNo:	22633				
Prep Date:	11/18/2014		Analysis Date:	11/19/2014		SeqNo:	667581		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	ND	0.00020									

Sample ID	LCS-16434		SampType: LCS		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 16434		RunNo: 22633					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667582		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0052	0.00020	0.005000	0	103	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661019		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R22427		RunNo: 22427					
Prep Date:			Analysis Date: 11/7/2014		SeqNo: 661020		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.2	67.5	109			
Nitrogen, Nitrate (As N)	2.3	0.10	2.500	0	93.3	84	109			
Sulfate	9.4	0.50	10.00	0	93.9	88.3	114			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661041		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R22427		RunNo: 22427					
Prep Date:			Analysis Date: 11/7/2014		SeqNo: 661042		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.2	81.8	112			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.0	67.5	109			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	84	109			
Sulfate	9.8	0.50	10.00	0	97.7	88.3	114			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16294		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/10/2014		SeqNo: 661403		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.20								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.67		0.5000		134	75.2	161			

Sample ID	LCS-16294		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	LCSW		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/11/2014		SeqNo: 661404		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.1	0.20	2.500	0	125	65.8	162			
Surr: DNOP	0.33		0.2500		131	75.2	161			

Sample ID	1411265-001CMS		SampType: MS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	MW-72		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/11/2014		SeqNo: 661415		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.7	0.20	2.500	3.290	135	64.4	178			
Surr: DNOP	0.34		0.2500		134	75.2	161			

Sample ID	1411265-001CMSD		SampType: MSD		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	MW-72		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/11/2014		SeqNo: 661416		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.6	0.20	2.500	3.290	131	64.4	178	1.56	20	
Surr: DNOP	0.34		0.2500		137	75.2	161	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662578		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		90.2	80	120			

Sample ID	2.5UG GRO LCS		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662580		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	96.3	80	120			
Surr: BFB	19		20.00		94.7	80	120			

Sample ID	1411265-001BMS		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	MW-72		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662583		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	47	2.5	25.00	24.76	87.0	70.4	127			
Surr: BFB	1000		1000		104	80	120			

Sample ID	1411265-001BMSD			SampType:	MSD		TestCode:	EPA Method 8015D: Gasoline Range			
Client ID:	MW-72			Batch ID:	R22479		RunNo:	22479			
Prep Date:				Analysis Date:	11/11/2014		SeqNo:	662585		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	46	2.5	25.00	24.76	83.8	70.4	127	1.78	20		
Surr: BFB	1000		1000		104	80	120	0	0		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID b5	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R22481			RunNo: 22481						
Prep Date:	Analysis Date: 11/11/2014			SeqNo: 662755		Units: %REC				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.9	70	130			
Surr: 4-Bromofluorobenzene	7.8		10.00		77.6	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.0	70	130			
Surr: Toluene-d8	9.6		10.00		96.0	70	130			

Sample ID 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R22481			RunNo: 22481						
Prep Date:	Analysis Date: 11/11/2014			SeqNo: 662757		Units: %REC				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.4	70	130			
Surr: 4-Bromofluorobenzene	8.1		10.00		80.6	70	130			
Surr: Dibromofluoromethane	9.1		10.00		90.6	70	130			
Surr: Toluene-d8	9.0		10.00		90.5	70	130			

Sample ID b8	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R22503			RunNo: 22503						
Prep Date:	Analysis Date: 11/12/2014			SeqNo: 663544		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID b8	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R22503			RunNo: 22503						
Prep Date:	Analysis Date: 11/12/2014			SeqNo: 663544	Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID b8	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R22503			RunNo: 22503						
Prep Date:	Analysis Date: 11/12/2014			SeqNo: 663544		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.5	70	130			
Surr: 4-Bromofluorobenzene	8.0		10.00		79.9	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.3	70	130			
Surr: Toluene-d8	9.2		10.00		91.7	70	130			

Sample ID 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R22503			RunNo: 22503						
Prep Date:	Analysis Date: 11/12/2014			SeqNo: 663562		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	122	70	130			
Toluene	22	1.0	20.00	0	108	80	120			
Chlorobenzene	19	1.0	20.00	0	96.3	70	130			
1,1-Dichloroethene	25	1.0	20.00	0	124	82.6	131			
Trichloroethene (TCE)	21	1.0	20.00	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	8.9		10.00		89.0	70	130			
Surr: 4-Bromofluorobenzene	8.1		10.00		81.4	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.2	70	130			
Surr: Toluene-d8	9.0		10.00		89.7	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-1		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664664		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	Ics-1		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664665		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16288		SampType:	MBLK		TestCode:	SM2540C MOD: Total Dissolved Solids				
Client ID:	PBW		Batch ID:	16288		RunNo:	22441				
Prep Date:	11/7/2014		Analysis Date:	11/10/2014		SeqNo:	661315		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Dissolved Solids	ND	20.0									

Sample ID	LCS-16288		SampType:	LCS		TestCode:	SM2540C MOD: Total Dissolved Solids				
Client ID:	LCSW		Batch ID:	16288		RunNo:	22441				
Prep Date:	11/7/2014		Analysis Date:	11/10/2014		SeqNo:	661316		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Dissolved Solids	1010	20.0	1000	0	101	80	120				

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID: mb-16377	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 16377	RunNo: 22600								
Prep Date: 11/13/2014	Analysis Date: 11/17/2014	SeqNo: 666318	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
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								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID: mb-16377	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 16377	RunNo: 22600								
Prep Date: 11/13/2014	Analysis Date: 11/17/2014	SeqNo: 666318 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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	95		200.0		47.6	17.6	104			
Surr: Phenol-d5	96		200.0		48.2	17.7	89.9			
Surr: 2,4,6-Tribromophenol	75		200.0		37.5	16.3	122			
Surr: Nitrobenzene-d5	67		100.0		67.1	45.3	117			
Surr: 2-Fluorobiphenyl	61		100.0		61.2	43	113			
Surr: 4-Terphenyl-d14	73		100.0		72.5	47.6	122			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID: Ics-16377	SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles							
Client ID: LCSW	Batch ID: 16377		RunNo: 22600							
Prep Date: 11/13/2014	Analysis Date: 11/17/2014		SeqNo: 666368		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	66	10	100.0	0	66.2	47.9	114			
4-Chloro-3-methylphenol	160	10	200.0	0	82.4	51.7	122			
2-Chlorophenol	140	10	200.0	0	69.9	40.7	113			
1,4-Dichlorobenzene	44	10	100.0	0	44.3	39.6	99.9			
2,4-Dinitrotoluene	68	10	100.0	0	68.0	40.8	113			
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.3	51.2	111			
4-Nitrophenol	100	10	200.0	0	50.6	15.7	86.9			
Pentachlorophenol	130	20	200.0	0	67.5	21.6	104			
Phenol	90	10	200.0	0	44.8	28.6	71.7			
Pyrene	78	10	100.0	0	77.8	54.2	128			
1,2,4-Trichlorobenzene	50	10	100.0	0	50.0	40.9	101			
Surr: 2-Fluorophenol	94		200.0		47.0	17.6	104			
Surr: Phenol-d5	77		200.0		38.5	17.7	89.9			
Surr: 2,4,6-Tribromophenol	160		200.0		80.7	16.3	122			
Surr: Nitrobenzene-d5	69		100.0		69.3	45.3	117			
Surr: 2-Fluorobiphenyl	65		100.0		64.8	43	113			
Surr: 4-Terphenyl-d14	85		100.0		85.0	47.6	122			

Sample ID: Icsd-16377	SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles							
Client ID: LCSS02	Batch ID: 16377		RunNo: 22600							
Prep Date: 11/13/2014	Analysis Date: 11/17/2014		SeqNo: 666369		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	67	10	100.0	0	67.5	47.9	114	1.98	27.2	
4-Chloro-3-methylphenol	160	10	200.0	0	81.4	51.7	122	1.26	25.9	
2-Chlorophenol	140	10	200.0	0	68.2	40.7	113	2.40	22.5	
1,4-Dichlorobenzene	49	10	100.0	0	49.0	39.6	99.9	10.2	24.6	
2,4-Dinitrotoluene	69	10	100.0	0	68.8	40.8	113	1.20	25.3	
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.3	51.2	111	0.0269	23.6	
4-Nitrophenol	130	10	200.0	0	63.4	15.7	86.9	22.5	34.7	
Pentachlorophenol	130	20	200.0	0	67.5	21.6	104	0.0148	32.8	
Phenol	100	10	200.0	0	52.0	28.6	71.7	14.9	25.5	
Pyrene	77	10	100.0	0	77.4	54.2	128	0.567	31.4	
1,2,4-Trichlorobenzene	54	10	100.0	0	53.7	40.9	101	7.13	25.9	
Surr: 2-Fluorophenol	110		200.0		53.4	17.6	104	0	0	
Surr: Phenol-d5	93		200.0		46.6	17.7	89.9	0	0	
Surr: 2,4,6-Tribromophenol	160		200.0		80.9	16.3	122	0	0	
Surr: Nitrobenzene-d5	70		100.0		70.1	45.3	117	0	0	
Surr: 2-Fluorobiphenyl	70		100.0		69.5	43	113	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411265

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID: lcsd-16377	SampType: LCSD	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: LCSS02	Batch ID: 16377	RunNo: 22600								
Prep Date: 11/13/2014	Analysis Date: 11/17/2014	SeqNo: 666369	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	81		100.0		81.3	47.6	122	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH greater than 2.

RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1411265

RcptNo: 1

Received by/date:

Logged By: Ashley Gallegos

11/7/2014 7:00:00 AM

Completed By: Ashley Gallegos

11/7/2014 8:22:08 AM

Reviewed By:

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? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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:

Adjusted?

Checked by:

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	1.3	Good	Yes			

General Chemistry Parameters for Groundwater Samples

Analyte	Analytical Method
Total Dissolved Solids	SM-2540C
Bicarbonate	SM-2320B
Chloride	EPA method 300.0
Sulfate	EPA method 300.0
Calcium	EPA method 6010/6020
Magnesium	EPA method 6010/6020
Sodium	EPA method 6010/6020
Potassium	EPA method 6010/6020
Manganese	SW-846 method 6010/6020
Nitrate/nitrite	EPA method 300.0
Ferric/ferrous Iron	SW-846 method 6010/6020 & SM 3500Fe2+

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 method 6010/6020
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl lead	SW-846 method 6010/6020
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

December 08, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9 11-6-14

OrderNo.: 1411267

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/7/2014 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

Analytical Report

Lab Order: 1411267

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.**Client Sample ID:** MW-73**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 10:30:00 AM**Lab ID:** 1411267-001A**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	4100	100		µg/L	100	11/11/2014 1:47:35 PM	R224481
Toluene	410	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Ethylbenzene	680	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Methyl tert-butyl ether (MTBE)	120	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,2,4-Trimethylbenzene	580	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,3,5-Trimethylbenzene	140	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,2-Dichloroethane (EDC)	15	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Naphthalene	220	20		µg/L	10	11/10/2014 5:41:26 PM	R22448
1-Methylnaphthalene	47	40		µg/L	10	11/10/2014 5:41:26 PM	R22448
2-Methylnaphthalene	81	40		µg/L	10	11/10/2014 5:41:26 PM	R22448
Acetone	ND	100		µg/L	10	11/10/2014 5:41:26 PM	R22448
Bromobenzene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Bromodichloromethane	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Bromoform	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Bromomethane	ND	30		µg/L	10	11/10/2014 5:41:26 PM	R22448
2-Butanone	ND	100		µg/L	10	11/10/2014 5:41:26 PM	R22448
Carbon disulfide	ND	100		µg/L	10	11/10/2014 5:41:26 PM	R22448
Carbon Tetrachloride	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Chlorobenzene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Chloroethane	ND	20		µg/L	10	11/10/2014 5:41:26 PM	R22448
Chloroform	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Chloromethane	ND	30		µg/L	10	11/10/2014 5:41:26 PM	R22448
2-Chlorotoluene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
4-Chlorotoluene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
cis-1,2-DCE	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
cis-1,3-Dichloropropene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	11/10/2014 5:41:26 PM	R22448
Dibromochloromethane	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Dibromomethane	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,2-Dichlorobenzene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,3-Dichlorobenzene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,4-Dichlorobenzene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Dichlorodifluoromethane	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,1-Dichloroethane	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,1-Dichloroethene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,2-Dichloropropane	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,3-Dichloropropane	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
2,2-Dichloropropane	ND	20		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,1-Dichloropropene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Hexachlorobutadiene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 1 of 26

Analytical Report

Lab Order: 1411267

Date Reported: 12/8/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411267-001A

Client Sample ID: MW-73
Collection Date: 11/6/2014 10:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	100		µg/L	10	11/10/2014 5:41:26 PM	R22448
Isopropylbenzene	63	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
4-Isopropyltoluene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
4-Methyl-2-pentanone	ND	100		µg/L	10	11/10/2014 5:41:26 PM	R22448
Methylene Chloride	ND	30		µg/L	10	11/10/2014 5:41:26 PM	R22448
n-Butylbenzene	ND	30		µg/L	10	11/10/2014 5:41:26 PM	R22448
n-Propylbenzene	80	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
sec-Butylbenzene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Styrene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
tert-Butylbenzene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	11/10/2014 5:41:26 PM	R22448
Tetrachloroethene (PCE)	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
trans-1,2-DCE	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
trans-1,3-Dichloropropene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,2,3-Trichlorobenzene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,2,4-Trichlorobenzene	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,1,1-Trichloroethane	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,1,2-Trichloroethane	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Trichloroethene (TCE)	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Trichlorofluoromethane	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
1,2,3-Trichloropropane	ND	20		µg/L	10	11/10/2014 5:41:26 PM	R22448
Vinyl chloride	ND	10		µg/L	10	11/10/2014 5:41:26 PM	R22448
Xylenes, Total	2500	15		µg/L	10	11/10/2014 5:41:26 PM	R22448
Surr: 1,2-Dichloroethane-d4	75.7	70-130		%REC	10	11/10/2014 5:41:26 PM	R22448
Surr: 4-Bromofluorobenzene	85.3	70-130		%REC	10	11/10/2014 5:41:26 PM	R22448
Surr: Dibromofluoromethane	81.5	70-130		%REC	10	11/10/2014 5:41:26 PM	R22448
Surr: Toluene-d8	95.3	70-130		%REC	10	11/10/2014 5:41:26 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411267

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411267-001B

Client Sample ID: MW-73
Collection Date: 11/6/2014 10:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	20	2.5		mg/L	50	11/11/2014 5:49:01 PM	R22479
Surr: BFB	81.6	80-120		%REC	50	11/11/2014 5:49:01 PM	R22479

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411267

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411267-001C

Client Sample ID: MW-73
Collection Date: 11/6/2014 10:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: JME
Diesel Range Organics (DRO)	3.3	0.20		mg/L	1	11/11/2014 2:15:42 AM	16294
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	11/11/2014 2:15:42 AM	16294
Surr: DNOP	136	75.2-161		%REC	1	11/11/2014 2:15:42 AM	16294

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411267

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411267-001D

Client Sample ID: MW-73
Collection Date: 11/6/2014 10:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: DAM	
Acenaphthene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Acenaphthylene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Aniline	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Anthracene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Azobenzene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Benz(a)anthracene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Benzo(a)pyrene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Benzo(b)fluoranthene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Benzo(k)fluoranthene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Benzoic acid	ND	20		µg/L	1	11/17/2014 1:22:58 PM	16326
Benzyl alcohol	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Butyl benzyl phthalate	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Carbazole	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
4-Chloro-3-methylphenol	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
4-Chloroaniline	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
2-Chloronaphthalene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
2-Chlorophenol	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Chrysene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Di-n-butyl phthalate	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Di-n-octyl phthalate	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Dibenzofuran	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
1,2-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
1,3-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
1,4-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
3,3'-Dichlorobenzidine	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Diethyl phthalate	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Dimethyl phthalate	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
2,4-Dichlorophenol	ND	20		µg/L	1	11/17/2014 1:22:58 PM	16326
2,4-Dimethylphenol	14	10		µg/L	1	11/17/2014 1:22:58 PM	16326
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	11/17/2014 1:22:58 PM	16326
2,4-Dinitrophenol	ND	20		µg/L	1	11/17/2014 1:22:58 PM	16326
2,4-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
2,6-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411267

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411267-001D

Client Sample ID: MW-73
Collection Date: 11/6/2014 10:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Fluoranthene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Fluorene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Hexachlorobenzene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Hexachlorobutadiene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Hexachloroethane	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Isophorone	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
1-Methylnaphthalene	48	10		µg/L	1	11/17/2014 1:22:58 PM	16326
2-Methylnaphthalene	63	10		µg/L	1	11/17/2014 1:22:58 PM	16326
2-Methylphenol	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
3+4-Methylphenol	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
N-Nitrosodimethylamine	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Naphthalene	120	10		µg/L	1	11/17/2014 1:22:58 PM	16326
2-Nitroaniline	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
3-Nitroaniline	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
4-Nitroaniline	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Nitrobenzene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
2-Nitrophenol	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
4-Nitrophenol	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Pentachlorophenol	ND	20		µg/L	1	11/17/2014 1:22:58 PM	16326
Phenanthrene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Phenol	59	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Pyrene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Pyridine	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/17/2014 1:22:58 PM	16326
Surr: 2-Fluorophenol	45.9	17.6-104		%REC	1	11/17/2014 1:22:58 PM	16326
Surr: Phenol-d5	43.6	17.7-89.9		%REC	1	11/17/2014 1:22:58 PM	16326
Surr: 2,4,6-Tribromophenol	64.7	16.3-122		%REC	1	11/17/2014 1:22:58 PM	16326
Surr: Nitrobenzene-d5	70.3	45.3-117		%REC	1	11/17/2014 1:22:58 PM	16326
Surr: 2-Fluorobiphenyl	69.8	43-113		%REC	1	11/17/2014 1:22:58 PM	16326
Surr: 4-Terphenyl-d14	65.6	47.6-122		%REC	1	11/17/2014 1:22:58 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1411267**Date Reported: **12/8/2014****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** MW-73**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 10:30:00 AM**Lab ID:** 1411267-001E**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	160	10		mg/L	20	11/7/2014 6:17:09 PM	R22427
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/7/2014 6:04:45 PM	R22427
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	11/7/2014 6:04:45 PM	R22427
Sulfate	390	10	*	mg/L	20	11/7/2014 6:17:09 PM	R22427
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	1000	20		mg/L CaCO ₃	1	11/13/2014 4:36:58 PM	R22543
Carbonate (As CaCO ₃)	ND	2.0		mg/L CaCO ₃	1	11/13/2014 4:36:58 PM	R22543
Total Alkalinity (as CaCO ₃)	1000	20		mg/L CaCO ₃	1	11/13/2014 4:36:58 PM	R22543
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	2000	100	*	mg/L	1	11/10/2014 4:36:00 PM	16288

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 7 of 26

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411267

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411267-001F

Client Sample ID: MW-73
Collection Date: 11/6/2014 10:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	0.17	0.0020		mg/L	1	11/11/2014 8:42:49 PM	R22482
Beryllium	ND	0.0020		mg/L	1	11/10/2014 5:25:15 PM	R22450
Cadmium	ND	0.0020		mg/L	1	11/10/2014 5:25:15 PM	R22450
Calcium	170	5.0		mg/L	5	11/10/2014 5:26:53 PM	R22450
Chromium	ND	0.0060		mg/L	1	11/10/2014 5:25:15 PM	R22450
Cobalt	ND	0.0060		mg/L	1	11/11/2014 8:42:49 PM	R22482
Iron	1.9	0.10	*	mg/L	5	11/11/2014 8:44:37 PM	R22482
Magnesium	53	1.0		mg/L	1	11/10/2014 5:25:15 PM	R22450
Manganese	3.0	0.010	*	mg/L	5	11/10/2014 5:26:53 PM	R22450
Nickel	ND	0.010		mg/L	1	11/11/2014 8:42:49 PM	R22482
Potassium	6.3	1.0		mg/L	1	11/10/2014 5:25:15 PM	R22450
Silver	ND	0.0050		mg/L	1	11/10/2014 5:25:15 PM	R22450
Sodium	450	5.0		mg/L	5	11/10/2014 5:26:53 PM	R22450
Vanadium	ND	0.050		mg/L	1	11/10/2014 5:25:15 PM	R22450
Zinc	0.13	0.010		mg/L	1	11/11/2014 8:42:49 PM	R22482
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/24/2014 2:30:17 PM	R22774
Arsenic	ND	0.010		mg/L	10	11/24/2014 6:00:36 PM	R22774
Lead	0.0050	0.0010		mg/L	1	11/24/2014 2:30:17 PM	R22774
Selenium	ND	0.010		mg/L	10	11/24/2014 6:00:36 PM	R22774
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 11:40:35 AM	16434

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411267

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411267-001G

Client Sample ID: MW-73
Collection Date: 11/6/2014 10:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: JLF			
Barium	1.3	0.010		mg/L	5	11/12/2014 4:31:45 PM	16338
Beryllium	ND	0.0020		mg/L	1	11/12/2014 4:00:39 PM	16338
Cadmium	ND	0.0020		mg/L	1	11/12/2014 4:00:39 PM	16338
Calcium	200	5.0		mg/L	5	11/12/2014 4:31:45 PM	16338
Chromium	0.013	0.0060		mg/L	1	11/12/2014 4:00:39 PM	16338
Cobalt	0.013	0.0060		mg/L	1	11/12/2014 4:00:39 PM	16338
Iron	39	1.0	*	mg/L	50	11/12/2014 4:33:33 PM	16338
Magnesium	61	1.0		mg/L	1	11/12/2014 4:00:39 PM	16338
Manganese	3.8	0.010	*	mg/L	5	11/12/2014 4:31:45 PM	16338
Nickel	0.017	0.010		mg/L	1	11/12/2014 4:00:39 PM	16338
Potassium	8.0	1.0		mg/L	1	11/12/2014 4:00:39 PM	16338
Silver	ND	0.0050		mg/L	1	11/12/2014 4:00:39 PM	16338
Sodium	470	5.0		mg/L	5	11/12/2014 4:31:45 PM	16338
Vanadium	ND	0.050		mg/L	1	11/12/2014 4:00:39 PM	16338
Zinc	0.050	0.010		mg/L	1	11/12/2014 4:00:39 PM	16338
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/13/2014 4:05:17 PM	16338
Arsenic	0.014	0.010	*	mg/L	10	11/14/2014 12:21:41 PM	16338
Lead	0.026	0.0010	*	mg/L	1	11/13/2014 4:05:17 PM	16338
Selenium	0.013	0.010		mg/L	10	11/14/2014 12:21:41 PM	16338
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 11:42:19 AM	16434

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411267

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/8/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411267-002A

Client Sample ID: TRIP BLANK
Collection Date:
Matrix: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Toluene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Ethylbenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Naphthalene	ND	2.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Acetone	ND	10		µg/L	1	11/10/2014 6:09:16 PM	R22448
Bromobenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Bromoform	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Bromomethane	ND	3.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
2-Butanone	ND	10		µg/L	1	11/10/2014 6:09:16 PM	R22448
Carbon disulfide	ND	10		µg/L	1	11/10/2014 6:09:16 PM	R22448
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Chlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Chloroethane	ND	2.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Chloroform	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Chloromethane	ND	3.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Dibromomethane	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411267

Date Reported: 12/8/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411267-002A

Client Sample ID: TRIP BLANK
Collection Date:
Matrix: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	10		µg/L	1	11/10/2014 6:09:16 PM	R22448
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2014 6:09:16 PM	R22448
Methylene Chloride	ND	3.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Styrene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Vinyl chloride	ND	1.0		µg/L	1	11/10/2014 6:09:16 PM	R22448
Xylenes, Total	ND	1.5		µg/L	1	11/10/2014 6:09:16 PM	R22448
Surr: 1,2-Dichloroethane-d4	80.5	70-130		%REC	1	11/10/2014 6:09:16 PM	R22448
Surr: 4-Bromofluorobenzene	83.2	70-130		%REC	1	11/10/2014 6:09:16 PM	R22448
Surr: Dibromofluoromethane	86.1	70-130		%REC	1	11/10/2014 6:09:16 PM	R22448
Surr: Toluene-d8	96.2	70-130		%REC	1	11/10/2014 6:09:16 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 11 of 26

Anatek Labs, Inc.

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

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

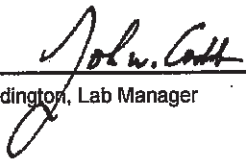
Batch #: 141111013
Project Name: 1411267

Analytical Results Report

Sample Number	141111013-001	Sampling Date	11/6/2014	Date/Time Received	11/11/2014 11:50 AM
Client Sample ID	1411267-001H / MW-73	Sampling Time	10:30 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	11/14/2014	CRW	EPA 335.4	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, November 18, 2014

Page 1 of 1

Anatek Labs, Inc.

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

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

Batch #: 141111013
Project Name: 1411267

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	11/13/2014	11/14/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141111021-001	Cyanide	ND	0.990	mg/L	1	99.0	90-110	11/13/2014	11/14/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.982	mg/L	1	98.2	0.8	0-20	11/13/2014	11/14/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	11/13/2014	11/14/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661543		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661544		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.5	85	115			
Calcium	48	1.0	50.00	0	97.0	85	115			
Chromium	0.47	0.0060	0.5000	0	94.2	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Manganese	0.46	0.0020	0.5000	0	92.7	85	115			
Potassium	48	1.0	50.00	0	95.3	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.0	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661545		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R22450	RunNo:	22450					
Prep Date:		Analysis Date:	11/10/2014	SeqNo:	661545	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R22450	RunNo:	22450					
Prep Date:		Analysis Date:	11/10/2014	SeqNo:	661546	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	99.3	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.7	85	115			
Calcium	49	1.0	50.00	0	98.0	85	115			
Chromium	0.46	0.0060	0.5000	0	92.9	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Manganese	0.46	0.0020	0.5000	0	91.0	85	115			
Potassium	48	1.0	50.00	0	95.6	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	49	1.0	50.00	0	98.2	85	115			
Vanadium	0.50	0.050	0.5000	0	100	85	115			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R22482	RunNo:	22482					
Prep Date:		Analysis Date:	11/11/2014	SeqNo:	662817	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R22482	RunNo:	22482					
Prep Date:		Analysis Date:	11/11/2014	SeqNo:	662818	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	99.7	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.7	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Nickel	0.49	0.010	0.5000	0	98.0	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662819		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662820		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.3	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Nickel	0.48	0.010	0.5000	0	96.0	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16338	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	16338	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663340	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID	LCS-16338	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	16338	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663341	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Beryllium	0.53	0.0020	0.5000	0	106	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	97.9	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.5	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Manganese	0.47	0.0020	0.5000	0	94.6	85	115			
Nickel	0.48	0.010	0.5000	0	95.3	85	115			
Potassium	49	1.0	50.00	0	98.2	85	115			
Silver	0.11	0.0050	0.1000	0	107	85	115			
Sodium	51	1.0	50.00	0	101	85	115			
Vanadium	0.53	0.050	0.5000	0	105	85	115			
Zinc	0.50	0.010	0.5000	0	99.0	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672122		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	90.6	85	115			
Arsenic	0.023	0.0010	0.02500	0	92.5	85	115			
Lead	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.022	0.0010	0.02500	0	89.7	85	115			

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672123		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	97.3	85	115			
Lead	0.024	0.0010	0.02500	0	97.3	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Sample ID	MB		SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672124		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB		SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672125		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LLLCS-16338		SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	BatchQC		Batch ID: 16338		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664408		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	105	85	115			
Arsenic	0.024	0.0010	0.02500	0	94.2	85	115			
Lead	0.025	0.0010	0.02500	0	100	85	115			
Selenium	0.023	0.0010	0.02500	0	92.5	85	115			

Sample ID	MB-16338		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	PBW		Batch ID: 16338		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664410		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16434		SampType: MBLK		TestCode: EPA Method 245.1: Mercury					
Client ID:	PBW		Batch ID: 16434		RunNo: 22633					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667581		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.00020								

Sample ID	LCS-16434		SampType: LCS		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 16434		RunNo: 22633					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667582		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0052	0.00020	0.005000	0	103	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB		SampType: MBLK		TestCode: EPA Method 300.0: Anions					
Client ID:	PBW		Batch ID: R22427		RunNo: 22427					
Prep Date:			Analysis Date: 11/7/2014		SeqNo: 661019		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R22427		RunNo: 22427					
Prep Date:			Analysis Date: 11/7/2014		SeqNo: 661020		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.2	67.5	109			
Nitrogen, Nitrate (As N)	2.3	0.10	2.500	0	93.3	84	109			
Sulfate	9.4	0.50	10.00	0	93.9	88.3	114			

Sample ID	MB		SampType: MBLK		TestCode: EPA Method 300.0: Anions					
Client ID:	PBW		Batch ID: R22427		RunNo: 22427					
Prep Date:			Analysis Date: 11/7/2014		SeqNo: 661041		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R22427		RunNo: 22427					
Prep Date:			Analysis Date: 11/7/2014		SeqNo: 661042		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.2	81.8	112			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.0	67.5	109			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	84	109			
Sulfate	9.8	0.50	10.00	0	97.7	88.3	114			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16294	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW	Batch ID: 16294			RunNo: 22413					
Prep Date:	11/7/2014	Analysis Date: 11/10/2014			SeqNo: 661403		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.20								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.67		0.5000		134	75.2	161			

Sample ID	LCS-16294		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	LCSW		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/11/2014		SeqNo: 661404		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.1	0.20	2.500	0	125	65.8	162			
Surr: DNOP	0.33		0.2500		131	75.2	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662578		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		90.2	80	120			

Sample ID	2.5UG GRO LCS		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662580		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	96.3	80	120			
Surr: BFB	19		20.00		94.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R22448			RunNo: 22448					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661480		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R22448			RunNo: 22448					
Prep Date:	Analysis Date: 11/10/2014			SeqNo: 661480		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.4		10.00		84.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	8.9		10.00		88.8	70	130			
Surr: Toluene-d8	9.5		10.00		94.6	70	130			

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R22448			RunNo: 22448					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661648		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	21	1.0	20.00	0	105	80	120			
Chlorobenzene	19	1.0	20.00	0	92.9	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW		Batch ID: R22448		RunNo: 22448					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661648		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	104	82.6	131			
Trichloroethene (TCE)	18	1.0	20.00	0	91.8	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		85.6	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.3	70	130			
Surr: Dibromofluoromethane	8.8		10.00		87.7	70	130			
Surr: Toluene-d8	9.4		10.00		93.6	70	130			

Sample ID	b5	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R22481			RunNo: 22481					
Prep Date:		Analysis Date: 11/11/2014			SeqNo: 662755		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	9.2		10.00		91.9	70	130			
Surr: 4-Bromofluorobenzene	7.8		10.00		77.6	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.0	70	130			
Surr: Toluene-d8	9.6		10.00		96.0	70	130			

Sample ID	100ng lcs			SampType: LCS		TestCode: EPA Method 8260B: VOLATILES				
Client ID:	LCSW			Batch ID: R22481		RunNo: 22481				
Prep Date:	Analysis Date: 11/11/2014			SeqNo: 662757		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	113	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.4	70	130			
Surr: 4-Bromofluorobenzene	8.1		10.00		80.6	70	130			
Surr: Dibromofluoromethane	9.1		10.00		90.6	70	130			
Surr: Toluene-d8	9.0		10.00		90.5	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-1		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664664		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	Ics-1		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664665		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267

08-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID MB-16288	SampType: MBLK		TestCode: SM2540C MOD: Total Dissolved Solids							
Client ID: PBW	Batch ID: 16288		RunNo: 22441							
Prep Date: 11/7/2014	Analysis Date: 11/10/2014		SeqNo: 661315		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID LCS-16288	SampType: LCS		TestCode: SM2540C MOD: Total Dissolved Solids							
Client ID: LCSW	Batch ID: 16288		RunNo: 22441							
Prep Date: 11/7/2014	Analysis Date: 11/10/2014		SeqNo: 661316		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Sample ID 1411267-001EMS	SampType: MS		TestCode: SM2540C MOD: Total Dissolved Solids							
Client ID: MW-73	Batch ID: 16288		RunNo: 22441							
Prep Date: 11/7/2014	Analysis Date: 11/10/2014		SeqNo: 661336		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	7040	100	5000	1995	101	80	120			

Sample ID 1411267-001EMSD	SampType: MSD		TestCode: SM2540C MOD: Total Dissolved Solids							
Client ID: MW-73	Batch ID: 16288		RunNo: 22441							
Prep Date: 11/7/2014	Analysis Date: 11/10/2014		SeqNo: 661337		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	7040	100	5000	1995	101	80	120	0.0710	5	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 11 columns for Analyte results (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical analytes like Acenaphthene, Anthracene, Benz(a)anthracene, etc.

Qualifiers:
* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit
Page 1 of 0

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 10 columns for analyte results (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical analytes like 2,4-Dinitrotoluene, Fluoranthene, and various phenols, along with their respective results and limits.

Qualifiers:
* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit
Page 2 of 0

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 10 columns of results (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical compounds like Acenaphthene, 4-Chloro-3-methylphenol, etc.

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 10 columns of results (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical compounds like Acenaphthene, 4-Chloro-3-methylphenol, etc.

Qualifiers:
* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit
Page 3 of 0

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411267
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Sample ID	icsd-16377	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666369	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	81		100.0		81.3	47.6	122	0	0	

Qualifiers:

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

Page 4 of 0

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1411267

RcptNo: 1

Received by/date: *LM*

Logged By: Ashley Gallegos

11/7/2014 7:00:00 AM

Completed By: Ashley Gallegos

11/7/2014 8:51:41 AM

Reviewed By: *CS*

11/07/14

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? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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 ☐

12 METALS ANALYSIS: ADDED 1ML HNO₃ TO EACH FOR ACCEPTABLE PH. HELD IN LOGIN FOR 24 HOURS AFTER PRESERVATION

of preserved bottles checked for pH: *3*
2 or >12 unless noted
 Adjusted? *YES*
 Checked by: *[Signature]*

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	1.3	Good	Yes			

General Chemistry Parameters for Groundwater Samples

Analyte	Analytical Method
Total Dissolved Solids	SM-2540C
Bicarbonate	SM-2320B
Chloride	EPA method 300.0
Sulfate	EPA method 300.0
Calcium	EPA method 6010/6020
Magnesium	EPA method 6010/6020
Sodium	EPA method 6010/6020
Potassium	EPA method 6010/6020
Manganese	SW-846 method 6010/6020
Nitrate/nitrite	EPA method 300.0
Ferric/ferrous Iron	SW-846 method 6010/6020 & SM 3500Fe ²⁺

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 method 8890A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl Lead	SW-846 method 62700
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

December 09, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9 11-6-14

OrderNo.: 1411268

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/7/2014 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

Analytical Report

Lab Order: 1411268

Date Reported: 12/9/2014

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** EB01**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 11:15:00 AM**Lab ID:** 1411268-001A**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Toluene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Ethylbenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Naphthalene	ND	2.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Acetone	ND	10		µg/L	1	11/10/2014 6:37:06 PM	R22448
Bromobenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Bromoform	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Bromomethane	ND	3.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
2-Butanone	ND	10		µg/L	1	11/10/2014 6:37:06 PM	R22448
Carbon disulfide	ND	10		µg/L	1	11/10/2014 6:37:06 PM	R22448
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Chlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Chloroethane	ND	2.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Chloroform	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Chloromethane	ND	3.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Dibromomethane	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411268

Date Reported: 12/9/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411268-001A

Client Sample ID: EB01
Collection Date: 11/6/2014 11:15:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	10		µg/L	1	11/10/2014 6:37:06 PM	R22448
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2014 6:37:06 PM	R22448
Methylene Chloride	ND	3.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Styrene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Vinyl chloride	ND	1.0		µg/L	1	11/10/2014 6:37:06 PM	R22448
Xylenes, Total	ND	1.5		µg/L	1	11/10/2014 6:37:06 PM	R22448
Surr: 1,2-Dichloroethane-d4	90.0	70-130		%REC	1	11/10/2014 6:37:06 PM	R22448
Surr: 4-Bromofluorobenzene	87.6	70-130		%REC	1	11/10/2014 6:37:06 PM	R22448
Surr: Dibromofluoromethane	90.1	70-130		%REC	1	11/10/2014 6:37:06 PM	R22448
Surr: Toluene-d8	100	70-130		%REC	1	11/10/2014 6:37:06 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411268

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: EB01

Project: GROUP 9 11-6-14

Collection Date: 11/6/2014 11:15:00 AM

Lab ID: 1411268-001B

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/11/2014 6:16:10 PM	R22479
Surr: BFB	90.9	80-120		%REC	1	11/11/2014 6:16:10 PM	R22479

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411268

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411268-001C

Client Sample ID: EB01
Collection Date: 11/6/2014 11:15:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: JME
Diesel Range Organics (DRO)	ND	0.20		mg/L	1	11/11/2014 2:45:40 AM	16294
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	11/11/2014 2:45:40 AM	16294
Surr: DNOP	135	75.2-161		%REC	1	11/11/2014 2:45:40 AM	16294

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411268

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411268-001D

Client Sample ID: EB01
Collection Date: 11/6/2014 11:15:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Acenaphthylene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Aniline	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Anthracene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Azobenzene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Benz(a)anthracene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Benzo(a)pyrene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Benzo(b)fluoranthene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Benzo(k)fluoranthene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Benzoic acid	ND	20		µg/L	1	11/17/2014 1:50:31 PM	16326
Benzyl alcohol	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Bis(2-ethylhexyl)phthalate	10	10		µg/L	1	11/17/2014 1:50:31 PM	16326
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Butyl benzyl phthalate	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Carbazole	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
4-Chloro-3-methylphenol	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
4-Chloroaniline	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
2-Chloronaphthalene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
2-Chlorophenol	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Chrysene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Di-n-butyl phthalate	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Di-n-octyl phthalate	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Dibenzofuran	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
1,2-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
1,3-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
1,4-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
3,3'-Dichlorobenzidine	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Diethyl phthalate	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Dimethyl phthalate	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
2,4-Dichlorophenol	ND	20		µg/L	1	11/17/2014 1:50:31 PM	16326
2,4-Dimethylphenol	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	11/17/2014 1:50:31 PM	16326
2,4-Dinitrophenol	ND	20		µg/L	1	11/17/2014 1:50:31 PM	16326
2,4-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
2,6-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411268

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.**Client Sample ID:** EB01**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 11:15:00 AM**Lab ID:** 1411268-001D**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Fluoranthene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Fluorene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Hexachlorobenzene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Hexachlorobutadiene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Hexachloroethane	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Isophorone	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
1-Methylnaphthalene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
2-Methylnaphthalene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
2-Methylphenol	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
3+4-Methylphenol	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
N-Nitrosodimethylamine	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Naphthalene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
2-Nitroaniline	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
3-Nitroaniline	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
4-Nitroaniline	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Nitrobenzene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
2-Nitrophenol	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
4-Nitrophenol	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Pentachlorophenol	ND	20		µg/L	1	11/17/2014 1:50:31 PM	16326
Phenanthrene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Phenol	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Pyrene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Pyridine	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/17/2014 1:50:31 PM	16326
Surr: 2-Fluorophenol	65.7	17.6-104		%REC	1	11/17/2014 1:50:31 PM	16326
Surr: Phenol-d5	54.0	17.7-89.9		%REC	1	11/17/2014 1:50:31 PM	16326
Surr: 2,4,6-Tribromophenol	75.2	16.3-122		%REC	1	11/17/2014 1:50:31 PM	16326
Surr: Nitrobenzene-d5	79.8	45.3-117		%REC	1	11/17/2014 1:50:31 PM	16326
Surr: 2-Fluorobiphenyl	71.5	43-113		%REC	1	11/17/2014 1:50:31 PM	16326
Surr: 4-Terphenyl-d14	75.6	47.6-122		%REC	1	11/17/2014 1:50:31 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1411268**Date Reported: **12/9/2014****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** EB01**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 11:15:00 AM**Lab ID:** 1411268-001E**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	ND	0.50		mg/L	1	11/7/2014 6:29:34 PM	R22427
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/7/2014 6:29:34 PM	R22427
Nitrogen, Nitrate (As N)	0.11	0.10		mg/L	1	11/7/2014 6:29:34 PM	R22427
Sulfate	ND	0.50		mg/L	1	11/7/2014 6:29:34 PM	R22427
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	ND	20		mg/L CaCO ₃	1	11/13/2014 5:12:01 PM	R22543
Carbonate (As CaCO ₃)	ND	2.0		mg/L CaCO ₃	1	11/13/2014 5:12:01 PM	R22543
Total Alkalinity (as CaCO ₃)	ND	20		mg/L CaCO ₃	1	11/13/2014 5:12:01 PM	R22543
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	ND	20.0		mg/L	1	11/10/2014 4:36:00 PM	16288

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 7 of 24

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411268

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411268-001F

Client Sample ID: EB01
Collection Date: 11/6/2014 11:15:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	ND	0.0020		mg/L	1	11/11/2014 8:53:30 PM	R22482
Beryllium	ND	0.0020		mg/L	1	11/10/2014 5:28:50 PM	R22450
Cadmium	ND	0.0020		mg/L	1	11/10/2014 5:28:50 PM	R22450
Calcium	ND	1.0		mg/L	1	11/10/2014 5:28:50 PM	R22450
Chromium	ND	0.0060		mg/L	1	11/10/2014 5:28:50 PM	R22450
Cobalt	ND	0.0060		mg/L	1	11/11/2014 8:53:30 PM	R22482
Iron	ND	0.020		mg/L	1	11/11/2014 8:53:30 PM	R22482
Magnesium	ND	1.0		mg/L	1	11/10/2014 5:28:50 PM	R22450
Manganese	ND	0.0020		mg/L	1	11/10/2014 5:28:50 PM	R22450
Nickel	ND	0.010		mg/L	1	11/11/2014 8:53:30 PM	R22482
Potassium	ND	1.0		mg/L	1	11/10/2014 5:28:50 PM	R22450
Silver	ND	0.0050		mg/L	1	11/10/2014 5:28:50 PM	R22450
Sodium	ND	1.0		mg/L	1	11/10/2014 5:28:50 PM	R22450
Vanadium	ND	0.050		mg/L	1	11/10/2014 5:28:50 PM	R22450
Zinc	ND	0.010		mg/L	1	11/11/2014 8:53:30 PM	R22482
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/24/2014 2:35:39 PM	R22774
Arsenic	ND	0.0010		mg/L	1	11/24/2014 2:35:39 PM	R22774
Lead	ND	0.0010		mg/L	1	11/24/2014 2:35:39 PM	R22774
Selenium	ND	0.0010		mg/L	1	11/24/2014 2:35:39 PM	R22774
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 11:44:04 AM	16434

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1411268**Date Reported: **12/9/2014****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** EB01**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 11:15:00 AM**Lab ID:** 1411268-001G**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: JLF			
Barium	ND	0.0020		mg/L	1	11/12/2014 4:02:25 PM	16338
Beryllium	ND	0.0020		mg/L	1	11/12/2014 4:02:25 PM	16338
Cadmium	ND	0.0020		mg/L	1	11/12/2014 4:02:25 PM	16338
Calcium	ND	1.0		mg/L	1	11/12/2014 4:02:25 PM	16338
Chromium	ND	0.0060		mg/L	1	11/12/2014 4:02:25 PM	16338
Cobalt	ND	0.0060		mg/L	1	11/12/2014 4:02:25 PM	16338
Iron	0.050	0.020		mg/L	1	11/12/2014 4:02:25 PM	16338
Magnesium	ND	1.0		mg/L	1	11/12/2014 4:02:25 PM	16338
Manganese	ND	0.0020		mg/L	1	11/12/2014 4:02:25 PM	16338
Nickel	ND	0.010		mg/L	1	11/12/2014 4:02:25 PM	16338
Potassium	ND	1.0		mg/L	1	11/12/2014 4:02:25 PM	16338
Silver	ND	0.0050		mg/L	1	11/12/2014 4:02:25 PM	16338
Sodium	2.5	1.0		mg/L	1	11/12/2014 4:02:25 PM	16338
Vanadium	ND	0.050		mg/L	1	11/12/2014 4:02:25 PM	16338
Zinc	ND	0.010		mg/L	1	11/12/2014 4:02:25 PM	16338
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/13/2014 4:10:38 PM	16338
Arsenic	ND	0.0010		mg/L	1	11/13/2014 4:10:38 PM	16338
Lead	ND	0.0010		mg/L	1	11/13/2014 4:10:38 PM	16338
Selenium	ND	0.0010		mg/L	1	11/13/2014 4:10:38 PM	16338
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 11:45:49 AM	16434

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

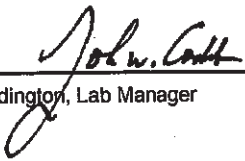
Batch #: 141111017
Project Name: 1411268

Analytical Results Report

Sample Number	141111017-001	Sampling Date	11/6/2014	Date/Time Received	11/11/2014 11:50 AM
Client Sample ID	1411268-001H / EB01	Sampling Time	11:15 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	11/14/2014	CRW	EPA 335.4	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0085; FL(NELAP): E871099

Tuesday, November 18, 2014

Page 1 of 1

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141111017
Project Name: 1411268

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	11/13/2014	11/14/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141111021-001	Cyanide	ND	0.990	mg/L	1	99.0	90-110	11/13/2014	11/14/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.982	mg/L	1	98.2	0.8	0-20	11/13/2014	11/14/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	11/13/2014	11/14/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cen0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661543		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661544		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.5	85	115			
Calcium	48	1.0	50.00	0	97.0	85	115			
Chromium	0.47	0.0060	0.5000	0	94.2	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Manganese	0.46	0.0020	0.5000	0	92.7	85	115			
Potassium	48	1.0	50.00	0	95.3	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.0	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661545		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22450		RunNo: 22450							
Prep Date:	Analysis Date: 11/10/2014		SeqNo: 661545		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22450		RunNo: 22450							
Prep Date:	Analysis Date: 11/10/2014		SeqNo: 661546		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	99.3	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.7	85	115			
Calcium	49	1.0	50.00	0	98.0	85	115			
Chromium	0.46	0.0060	0.5000	0	92.9	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Manganese	0.46	0.0020	0.5000	0	91.0	85	115			
Potassium	48	1.0	50.00	0	95.6	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	49	1.0	50.00	0	98.2	85	115			
Vanadium	0.50	0.050	0.5000	0	100	85	115			

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662817		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662818		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	99.7	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.7	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Nickel	0.49	0.010	0.5000	0	98.0	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662819		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662820		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.3	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Nickel	0.48	0.010	0.5000	0	96.0	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16338	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	16338	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663340	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID	LCS-16338	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	16338	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663341	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Beryllium	0.53	0.0020	0.5000	0	106	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	97.9	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.5	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Manganese	0.47	0.0020	0.5000	0	94.6	85	115			
Nickel	0.48	0.010	0.5000	0	95.3	85	115			
Potassium	49	1.0	50.00	0	98.2	85	115			
Silver	0.11	0.0050	0.1000	0	107	85	115			
Sodium	51	1.0	50.00	0	101	85	115			
Vanadium	0.53	0.050	0.5000	0	105	85	115			
Zinc	0.50	0.010	0.5000	0	99.0	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672122		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	90.6	85	115			
Arsenic	0.023	0.0010	0.02500	0	92.5	85	115			
Lead	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.022	0.0010	0.02500	0	89.7	85	115			

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672123		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	97.3	85	115			
Lead	0.024	0.0010	0.02500	0	97.3	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Sample ID	MB		SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672124		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB		SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672125		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LLLCS-16338		SampType: LCSLL			TestCode: 200.8 ICPMS Metals:Total				
Client ID:	BatchQC		Batch ID: 16338			RunNo: 22532				
Prep Date:	11/11/2014		Analysis Date: 11/13/2014			SeqNo: 664408		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	105	85	115			
Arsenic	0.024	0.0010	0.02500	0	94.2	85	115			
Lead	0.025	0.0010	0.02500	0	100	85	115			
Selenium	0.023	0.0010	0.02500	0	92.5	85	115			

Sample ID	MB-16338		SampType: MBLK			TestCode: 200.8 ICPMS Metals:Total				
Client ID:	PBW		Batch ID: 16338			RunNo: 22532				
Prep Date:	11/11/2014		Analysis Date: 11/13/2014			SeqNo: 664410		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16434		SampType:	MBLK		TestCode:	EPA Method 245.1: Mercury				
Client ID:	PBW		Batch ID:	16434		RunNo:	22633				
Prep Date:	11/18/2014		Analysis Date:	11/19/2014		SeqNo:	667581		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	ND	0.00020									

Sample ID	LCS-16434		SampType: LCS		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 16434		RunNo: 22633					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667582		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0052	0.00020	0.005000	0	103	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB		SampType: MBLK			TestCode: EPA Method 300.0: Anions				
Client ID:	PBW		Batch ID: R22427			RunNo: 22427				
Prep Date:			Analysis Date: 11/7/2014			SeqNo: 661019		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS			TestCode: EPA Method 300.0: Anions				
Client ID:	LCSW		Batch ID: R22427			RunNo: 22427				
Prep Date:			Analysis Date: 11/7/2014			SeqNo: 661020		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.2	67.5	109			
Nitrogen, Nitrate (As N)	2.3	0.10	2.500	0	93.3	84	109			
Sulfate	9.4	0.50	10.00	0	93.9	88.3	114			

Sample ID	MB		SampType: MBLK			TestCode: EPA Method 300.0: Anions				
Client ID:	PBW		Batch ID: R22427			RunNo: 22427				
Prep Date:			Analysis Date: 11/7/2014			SeqNo: 661041		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS			TestCode: EPA Method 300.0: Anions				
Client ID:	LCSW		Batch ID: R22427			RunNo: 22427				
Prep Date:			Analysis Date: 11/7/2014			SeqNo: 661042		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.2	81.8	112			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.0	67.5	109			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	84	109			
Sulfate	9.8	0.50	10.00	0	97.7	88.3	114			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16294	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW	Batch ID: 16294			RunNo: 22413					
Prep Date:	11/7/2014	Analysis Date: 11/10/2014			SeqNo: 661403		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.20								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.67		0.5000		134	75.2	161			

Sample ID	LCS-16294		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	LCSW		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/11/2014		SeqNo: 661404		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.1	0.20	2.500	0	125	65.8	162			
Surr: DNOP	0.33		0.2500		131	75.2	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662578		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		90.2	80	120			

Sample ID	2.5UG GRO LCS		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662580		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	96.3	80	120			
Surr: BFB	19		20.00		94.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R22448			RunNo: 22448					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661480		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R22448			RunNo: 22448					
Prep Date:	Analysis Date: 11/10/2014			SeqNo: 661480		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.4		10.00		84.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	8.9		10.00		88.8	70	130			
Surr: Toluene-d8	9.5		10.00		94.6	70	130			

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R22448			RunNo: 22448					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661648		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	21	1.0	20.00	0	105	80	120			
Chlorobenzene	19	1.0	20.00	0	92.9	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R22448			RunNo: 22448					
Prep Date:	Analysis Date: 11/10/2014			SeqNo: 661648		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	104	82.6	131			
Trichloroethene (TCE)	18	1.0	20.00	0	91.8	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		85.6	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.3	70	130			
Surr: Dibromofluoromethane	8.8		10.00		87.7	70	130			
Surr: Toluene-d8	9.4		10.00		93.6	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-1		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664664		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	lcs-1		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664665		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16288		SampType:	MBLK		TestCode:	SM2540C MOD: Total Dissolved Solids				
Client ID:	PBW		Batch ID:	16288		RunNo:	22441				
Prep Date:	11/7/2014		Analysis Date:	11/10/2014		SeqNo:	661315		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Dissolved Solids	ND	20.0									

Sample ID	LCS-16288		SampType:	LCS		TestCode:	SM2540C MOD: Total Dissolved Solids				
Client ID:	LCSW		Batch ID:	16288		RunNo:	22441				
Prep Date:	11/7/2014		Analysis Date:	11/10/2014		SeqNo:	661316		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Dissolved Solids	1010	20.0	1000	0	101	80	120				

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-16377	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666318	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
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								

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH greater than 2.

RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 7 columns for results (PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical analytes like 2,4-Dinitrotoluene, Fluoranthene, and several surs (Surr: 2-Fluorophenol, etc.).

Qualifiers:
* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit
Page 2 of 0

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	Ics-16377		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSW		Batch ID: 16377			RunNo: 22600				
Prep Date:	11/13/2014		Analysis Date: 11/17/2014			SeqNo: 666368		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	66	10	100.0	0	66.2	47.9	114			
4-Chloro-3-methylphenol	160	10	200.0	0	82.4	51.7	122			
2-Chlorophenol	140	10	200.0	0	69.9	40.7	113			
1,4-Dichlorobenzene	44	10	100.0	0	44.3	39.6	99.9			
2,4-Dinitrotoluene	68	10	100.0	0	68.0	40.8	113			
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.3	51.2	111			
4-Nitrophenol	100	10	200.0	0	50.6	15.7	86.9			
Pentachlorophenol	130	20	200.0	0	67.5	21.6	104			
Phenol	90	10	200.0	0	44.8	28.6	71.7			
Pyrene	78	10	100.0	0	77.8	54.2	128			
1,2,4-Trichlorobenzene	50	10	100.0	0	50.0	40.9	101			
Surr: 2-Fluorophenol	94		200.0		47.0	17.6	104			
Surr: Phenol-d5	77		200.0		38.5	17.7	89.9			
Surr: 2,4,6-Tribromophenol	160		200.0		80.7	16.3	122			
Surr: Nitrobenzene-d5	69		100.0		69.3	45.3	117			
Surr: 2-Fluorobiphenyl	65		100.0		64.8	43	113			
Surr: 4-Terphenyl-d14	85		100.0		85.0	47.6	122			

Sample ID	Icsd-16377		SampType: LCSD			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSS02		Batch ID: 16377			RunNo: 22600				
Prep Date:	11/13/2014		Analysis Date: 11/17/2014			SeqNo: 666369		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	67	10	100.0	0	67.5	47.9	114	1.98	27.2	
4-Chloro-3-methylphenol	160	10	200.0	0	81.4	51.7	122	1.26	25.9	
2-Chlorophenol	140	10	200.0	0	68.2	40.7	113	2.40	22.5	
1,4-Dichlorobenzene	49	10	100.0	0	49.0	39.6	99.9	10.2	24.6	
2,4-Dinitrotoluene	69	10	100.0	0	68.8	40.8	113	1.20	25.3	
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.3	51.2	111	0.0269	23.6	
4-Nitrophenol	130	10	200.0	0	63.4	15.7	86.9	22.5	34.7	
Pentachlorophenol	130	20	200.0	0	67.5	21.6	104	0.0148	32.8	
Phenol	100	10	200.0	0	52.0	28.6	71.7	14.9	25.5	
Pyrene	77	10	100.0	0	77.4	54.2	128	0.567	31.4	
1,2,4-Trichlorobenzene	54	10	100.0	0	53.7	40.9	101	7.13	25.9	
Surr: 2-Fluorophenol	110		200.0		53.4	17.6	104	0	0	
Surr: Phenol-d5	93		200.0		46.6	17.7	89.9	0	0	
Surr: 2,4,6-Tribromophenol	160		200.0		80.9	16.3	122	0	0	
Surr: Nitrobenzene-d5	70		100.0		70.1	45.3	117	0	0	
Surr: 2-Fluorobiphenyl	70		100.0		69.5	43	113	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411268
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Sample ID	lcscd-16377	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666369	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	81		100.0		81.3	47.6	122	0	0	

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1411268

RcptNo: 1

Received by/date:

Logged By: Ashley Gallegos

11/7/2014 7:00:00 AM

Completed By: Ashley Gallegos

11/7/2014 8:54:21 AM

Reviewed By:

CS

11/07/14

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? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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: 3
62 or 12 unless noted
Adjusted? NO
Checked by: [Signature]

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	1.3	Good	Yes			

General Chemistry Parameters for Groundwater Samples

Analyte	Analytical Method
Total Dissolved Solids	SM-2540C
Bicarbonate	SM-2320B
Chloride	EPA method 300.0
Sulfate	EPA method 300.0
Calcium	EPA method 6010/6020
Magnesium	EPA method 6010/6020
Sodium	EPA method 6010/6020
Potassium	EPA method 6010/6020
Manganese	SW-846 method 6010/6020
Nitrate/nitrite	EPA method 300.0
Ferric/ferrous Iron	SW-846 method 6010/6020 & SM 3500Fe2+

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 method 3060A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl lead	SW-846 method 8270G
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

December 09, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9 11-6-14

OrderNo.: 1411269

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/7/2014 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

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** FB01**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 10:45:00 AM**Lab ID:** 1411269-001A**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Toluene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Ethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Naphthalene	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Acetone	ND	10		µg/L	1	11/10/2014 7:05:01 PM	R22448
Bromobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Bromoform	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Bromomethane	ND	3.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
2-Butanone	ND	10		µg/L	1	11/10/2014 7:05:01 PM	R22448
Carbon disulfide	ND	10		µg/L	1	11/10/2014 7:05:01 PM	R22448
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Chlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Chloroethane	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Chloroform	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Chloromethane	ND	3.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Dibromomethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-001A

Client Sample ID: FB01
Collection Date: 11/6/2014 10:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	10		µg/L	1	11/10/2014 7:05:01 PM	R22448
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2014 7:05:01 PM	R22448
Methylene Chloride	ND	3.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Styrene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Vinyl chloride	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Xylenes, Total	ND	1.5		µg/L	1	11/10/2014 7:05:01 PM	R22448
Surr: 1,2-Dichloroethane-d4	84.9	70-130		%REC	1	11/10/2014 7:05:01 PM	R22448
Surr: 4-Bromofluorobenzene	80.5	70-130		%REC	1	11/10/2014 7:05:01 PM	R22448
Surr: Dibromofluoromethane	88.9	70-130		%REC	1	11/10/2014 7:05:01 PM	R22448
Surr: Toluene-d8	99.5	70-130		%REC	1	11/10/2014 7:05:01 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: FB01

Project: GROUP 9 11-6-14

Collection Date: 11/6/2014 10:45:00 AM

Lab ID: 1411269-001B

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/11/2014 6:43:31 PM	R22479
Surr: BFB	89.6	80-120		%REC	1	11/11/2014 6:43:31 PM	R22479

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-001C

Client Sample ID: FB01
Collection Date: 11/6/2014 10:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: JME
Diesel Range Organics (DRO)	ND	0.20		mg/L	1	11/11/2014 3:15:46 AM	16294
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	11/11/2014 3:15:46 AM	16294
Surr: DNOP	138	75.2-161		%REC	1	11/11/2014 3:15:46 AM	16294

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411269

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-001D

Client Sample ID: FB01
Collection Date: 11/6/2014 10:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Acenaphthylene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Aniline	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Anthracene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Azobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benz(a)anthracene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzo(a)pyrene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzo(b)fluoranthene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzo(k)fluoranthene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzoic acid	ND	20		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzyl alcohol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Butyl benzyl phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Carbazole	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Chloro-3-methylphenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Chloroaniline	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Chloronaphthalene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Chlorophenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Chrysene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Di-n-butyl phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Di-n-octyl phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Dibenzofuran	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
1,2-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
1,3-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
1,4-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
3,3'-Dichlorobenzidine	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Diethyl phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Dimethyl phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4-Dichlorophenol	ND	20		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4-Dimethylphenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4-Dinitrophenol	ND	20		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2,6-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: FB01

Project: GROUP 9 11-6-14

Collection Date: 11/6/2014 10:45:00 AM

Lab ID: 1411269-001D

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
Fluoranthene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Fluorene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Hexachlorobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Hexachlorobutadiene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Hexachloroethane	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Isophorone	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
1-Methylnaphthalene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Methylnaphthalene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Methylphenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
3+4-Methylphenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
N-Nitrosodimethylamine	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Naphthalene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Nitroaniline	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
3-Nitroaniline	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Nitroaniline	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Nitrobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Nitrophenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Nitrophenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Pentachlorophenol	ND	20		µg/L	1	11/17/2014 2:18:11 PM	16326
Phenanthrene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Phenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Pyrene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Pyridine	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Surr: 2-Fluorophenol	30.0	17.6-104		%REC	1	11/17/2014 2:18:11 PM	16326
Surr: Phenol-d5	41.6	17.7-89.9		%REC	1	11/17/2014 2:18:11 PM	16326
Surr: 2,4,6-Tribromophenol	18.2	16.3-122		%REC	1	11/17/2014 2:18:11 PM	16326
Surr: Nitrobenzene-d5	76.6	45.3-117		%REC	1	11/17/2014 2:18:11 PM	16326
Surr: 2-Fluorobiphenyl	70.5	43-113		%REC	1	11/17/2014 2:18:11 PM	16326
Surr: 4-Terphenyl-d14	86.8	47.6-122		%REC	1	11/17/2014 2:18:11 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 6 of 27

Analytical ReportLab Order: **1411269**Date Reported: **12/9/2014****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** FB01**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 10:45:00 AM**Lab ID:** 1411269-001E**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	ND	0.50		mg/L	1	11/7/2014 6:54:23 PM	R22427
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/7/2014 6:54:23 PM	R22427
Nitrogen, Nitrate (As N)	0.45	0.10		mg/L	1	11/7/2014 6:54:23 PM	R22427
Sulfate	ND	0.50		mg/L	1	11/7/2014 6:54:23 PM	R22427
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	ND	20		mg/L CaCO ₃	1	11/13/2014 5:17:51 PM	R22543
Carbonate (As CaCO ₃)	ND	2.0		mg/L CaCO ₃	1	11/13/2014 5:17:51 PM	R22543
Total Alkalinity (as CaCO ₃)	ND	20		mg/L CaCO ₃	1	11/13/2014 5:17:51 PM	R22543
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	40.0	20.0		mg/L	1	11/12/2014 1:18:00 PM	16340

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 7 of 27

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-001F

Client Sample ID: FB01
Collection Date: 11/6/2014 10:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	ND	0.0020		mg/L	1	11/11/2014 8:55:24 PM	R22482
Beryllium	ND	0.0020		mg/L	1	11/10/2014 5:32:18 PM	R22450
Cadmium	ND	0.0020		mg/L	1	11/10/2014 5:32:18 PM	R22450
Calcium	ND	1.0		mg/L	1	11/10/2014 5:32:18 PM	R22450
Chromium	ND	0.0060		mg/L	1	11/10/2014 5:32:18 PM	R22450
Cobalt	ND	0.0060		mg/L	1	11/11/2014 8:55:24 PM	R22482
Iron	ND	0.020		mg/L	1	11/11/2014 8:55:24 PM	R22482
Magnesium	ND	1.0		mg/L	1	11/10/2014 5:32:18 PM	R22450
Manganese	ND	0.0020		mg/L	1	11/10/2014 5:32:18 PM	R22450
Nickel	ND	0.010		mg/L	1	11/11/2014 8:55:24 PM	R22482
Potassium	ND	1.0		mg/L	1	11/10/2014 5:32:18 PM	R22450
Silver	ND	0.0050		mg/L	1	11/10/2014 5:32:18 PM	R22450
Sodium	ND	1.0		mg/L	1	11/10/2014 5:32:18 PM	R22450
Vanadium	ND	0.050		mg/L	1	11/10/2014 5:32:18 PM	R22450
Zinc	ND	0.010		mg/L	1	11/11/2014 8:55:24 PM	R22482
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/24/2014 2:41:02 PM	R22774
Arsenic	ND	0.0010		mg/L	1	11/24/2014 2:41:02 PM	R22774
Lead	ND	0.0010		mg/L	1	11/24/2014 2:41:02 PM	R22774
Selenium	ND	0.0010		mg/L	1	11/24/2014 2:41:02 PM	R22774
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 11:51:20 AM	16434

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-001G

Client Sample ID: FB01
Collection Date: 11/6/2014 10:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: JLF			
Barium	ND	0.0020		mg/L	1	11/12/2014 4:04:08 PM	16338
Beryllium	ND	0.0020		mg/L	1	11/12/2014 4:04:08 PM	16338
Cadmium	ND	0.0020		mg/L	1	11/12/2014 4:04:08 PM	16338
Calcium	ND	1.0		mg/L	1	11/12/2014 4:04:08 PM	16338
Chromium	ND	0.0060		mg/L	1	11/12/2014 4:04:08 PM	16338
Cobalt	ND	0.0060		mg/L	1	11/12/2014 4:04:08 PM	16338
Iron	ND	0.020		mg/L	1	11/12/2014 4:04:08 PM	16338
Magnesium	ND	1.0		mg/L	1	11/12/2014 4:04:08 PM	16338
Manganese	ND	0.0020		mg/L	1	11/12/2014 4:04:08 PM	16338
Nickel	ND	0.010		mg/L	1	11/12/2014 4:04:08 PM	16338
Potassium	ND	1.0		mg/L	1	11/12/2014 4:04:08 PM	16338
Silver	ND	0.0050		mg/L	1	11/12/2014 4:04:08 PM	16338
Sodium	ND	1.0		mg/L	1	11/12/2014 4:04:08 PM	16338
Vanadium	ND	0.050		mg/L	1	11/12/2014 4:04:08 PM	16338
Zinc	ND	0.010		mg/L	1	11/12/2014 4:04:08 PM	16338
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/13/2014 4:16:00 PM	16338
Arsenic	ND	0.0010		mg/L	1	11/13/2014 4:16:00 PM	16338
Lead	ND	0.0010		mg/L	1	11/13/2014 4:16:00 PM	16338
Selenium	ND	0.0010		mg/L	1	11/13/2014 4:16:00 PM	16338
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 11:53:06 AM	16434

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-002A

Client Sample ID: TRIP BLANK
Collection Date:
Matrix: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Toluene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Ethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Naphthalene	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Acetone	ND	10		µg/L	1	11/10/2014 7:33:02 PM	R22448
Bromobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Bromoform	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Bromomethane	ND	3.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
2-Butanone	ND	10		µg/L	1	11/10/2014 7:33:02 PM	R22448
Carbon disulfide	ND	10		µg/L	1	11/10/2014 7:33:02 PM	R22448
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Chlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Chloroethane	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Chloroform	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Chloromethane	ND	3.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Dibromomethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-002A

Client Sample ID: TRIP BLANK
Collection Date:
Matrix: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	10		µg/L	1	11/10/2014 7:33:02 PM	R22448
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2014 7:33:02 PM	R22448
Methylene Chloride	ND	3.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Styrene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Vinyl chloride	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Xylenes, Total	ND	1.5		µg/L	1	11/10/2014 7:33:02 PM	R22448
Surr: 1,2-Dichloroethane-d4	82.5	70-130		%REC	1	11/10/2014 7:33:02 PM	R22448
Surr: 4-Bromofluorobenzene	82.9	70-130		%REC	1	11/10/2014 7:33:02 PM	R22448
Surr: Dibromofluoromethane	89.6	70-130		%REC	1	11/10/2014 7:33:02 PM	R22448
Surr: Toluene-d8	96.7	70-130		%REC	1	11/10/2014 7:33:02 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Anatek Labs, Inc.

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

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

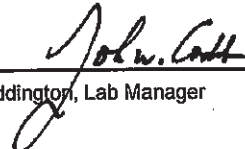
Batch #: 141111012
Project Name: 1411269

Analytical Results Report

Sample Number	141111012-001	Sampling Date	11/6/2014	Date/Time Received	11/11/2014 11:50 AM
Client Sample ID	1411269-001H / FB01	Sampling Time	10:45 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	11/14/2014	CRW	EPA 335.4	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0085; FL(NELAP): E871099

Tuesday, November 18, 2014

Page 1 of 1

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141111012
Project Name: 1411269

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	11/13/2014	11/14/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141111021-001	Cyanide	ND	0.990	mg/L	1	99.0	90-110	11/13/2014	11/14/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.982	mg/L	1	98.2	0.8	0-20	11/13/2014	11/14/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	11/13/2014	11/14/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, November 18, 2014

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661543		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661544		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.5	85	115			
Calcium	48	1.0	50.00	0	97.0	85	115			
Chromium	0.47	0.0060	0.5000	0	94.2	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Manganese	0.46	0.0020	0.5000	0	92.7	85	115			
Potassium	48	1.0	50.00	0	95.3	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.0	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661545		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R22450	RunNo:	22450					
Prep Date:		Analysis Date:	11/10/2014	SeqNo:	661545	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R22450	RunNo:	22450					
Prep Date:		Analysis Date:	11/10/2014	SeqNo:	661546	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	99.3	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.7	85	115			
Calcium	49	1.0	50.00	0	98.0	85	115			
Chromium	0.46	0.0060	0.5000	0	92.9	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Manganese	0.46	0.0020	0.5000	0	91.0	85	115			
Potassium	48	1.0	50.00	0	95.6	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	49	1.0	50.00	0	98.2	85	115			
Vanadium	0.50	0.050	0.5000	0	100	85	115			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R22482	RunNo:	22482					
Prep Date:		Analysis Date:	11/11/2014	SeqNo:	662817	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R22482	RunNo:	22482					
Prep Date:		Analysis Date:	11/11/2014	SeqNo:	662818	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	99.7	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.7	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Nickel	0.49	0.010	0.5000	0	98.0	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22482			RunNo: 22482					
Prep Date:		Analysis Date: 11/11/2014			SeqNo: 662819		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22482		RunNo: 22482					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662820		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.3	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Nickel	0.48	0.010	0.5000	0	96.0	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16338	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	16338	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663340	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID	LCS-16338	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	16338	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663341	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Beryllium	0.53	0.0020	0.5000	0	106	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	97.9	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.5	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Manganese	0.47	0.0020	0.5000	0	94.6	85	115			
Nickel	0.48	0.010	0.5000	0	95.3	85	115			
Potassium	49	1.0	50.00	0	98.2	85	115			
Silver	0.11	0.0050	0.1000	0	107	85	115			
Sodium	51	1.0	50.00	0	101	85	115			
Vanadium	0.53	0.050	0.5000	0	105	85	115			
Zinc	0.50	0.010	0.5000	0	99.0	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	1411269-001GMS			SampType:	MS		TestCode:	EPA Method 200.7: Total Metals		
Client ID:	FB01			Batch ID:	16338		RunNo:	22496		
Prep Date:	11/11/2014			Analysis Date:	11/12/2014		SeqNo:	663630		
							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	99.0	70	130			
Beryllium	0.53	0.0020	0.5000	0	106	70	130			
Cadmium	0.50	0.0020	0.5000	0	100	70	130			
Calcium	52	1.0	50.00	0	104	70	130			
Chromium	0.49	0.0060	0.5000	0	98.3	70	130			
Cobalt	0.48	0.0060	0.5000	0	95.8	70	130			
Iron	0.49	0.020	0.5000	0	98.1	70	130			
Magnesium	52	1.0	50.00	0	103	70	130			
Manganese	0.47	0.0020	0.5000	0	95.0	70	130			
Nickel	0.48	0.010	0.5000	0	95.9	70	130			
Potassium	49	1.0	50.00	0.2515	97.5	70	130			
Silver	0.11	0.0050	0.1000	0	106	70	130			
Sodium	50	1.0	50.00	0	101	70	130			
Vanadium	0.53	0.050	0.5000	0	105	70	130			
Zinc	0.50	0.010	0.5000	0.004610	99.5	70	130			

Sample ID	1411269-001GMSD			SampType:	MSD		TestCode:	EPA Method 200.7: Total Metals		
Client ID:	FB01			Batch ID:	16338		RunNo:	22496		
Prep Date:	11/11/2014			Analysis Date:	11/12/2014		SeqNo:	663631		
							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	99.2	70	130	0.153	20	
Beryllium	0.53	0.0020	0.5000	0	105	70	130	0.966	20	
Cadmium	0.49	0.0020	0.5000	0	98.8	70	130	1.28	20	
Calcium	52	1.0	50.00	0	103	70	130	0.963	20	
Chromium	0.49	0.0060	0.5000	0	98.3	70	130	0.0753	20	
Cobalt	0.47	0.0060	0.5000	0	94.7	70	130	1.18	20	
Iron	0.49	0.020	0.5000	0	97.1	70	130	0.971	20	
Magnesium	51	1.0	50.00	0	102	70	130	1.69	20	
Manganese	0.47	0.0020	0.5000	0	94.9	70	130	0.0590	20	
Nickel	0.48	0.010	0.5000	0	96.2	70	130	0.279	20	
Potassium	48	1.0	50.00	0.2515	96.2	70	130	1.36	20	
Silver	0.11	0.0050	0.1000	0	106	70	130	0.141	20	
Sodium	50	1.0	50.00	0	99.2	70	130	1.73	20	
Vanadium	0.53	0.050	0.5000	0	105	70	130	0.110	20	
Zinc	0.50	0.010	0.5000	0.004610	99.8	70	130	0.219	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS		SampType: LCS			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	LCSW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672122		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	90.6	85	115			
Arsenic	0.023	0.0010	0.02500	0	92.5	85	115			
Lead	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.022	0.0010	0.02500	0	89.7	85	115			

Sample ID	LCS		SampType: LCS			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	LCSW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672123		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	97.3	85	115			
Lead	0.024	0.0010	0.02500	0	97.3	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	PBW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672124		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	PBW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672125		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LLLCS-16338		SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	BatchQC		Batch ID: 16338		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664408		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	105	85	115			
Arsenic	0.024	0.0010	0.02500	0	94.2	85	115			
Lead	0.025	0.0010	0.02500	0	100	85	115			
Selenium	0.023	0.0010	0.02500	0	92.5	85	115			

Sample ID	MB-16338		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	PBW		Batch ID: 16338		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664410		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16434		SampType:	MBLK		TestCode:	EPA Method 245.1: Mercury				
Client ID:	PBW		Batch ID:	16434		RunNo:	22633				
Prep Date:	11/18/2014		Analysis Date:	11/19/2014		SeqNo:	667581		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	ND	0.00020									

Sample ID	LCS-16434		SampType: LCS		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 16434		RunNo: 22633					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667582		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0052	0.00020	0.005000	0	103	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R22427	RunNo:	22427					
Prep Date:		Analysis Date:	11/7/2014	SeqNo:	661019	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R22427	RunNo:	22427					
Prep Date:		Analysis Date:	11/7/2014	SeqNo:	661020	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.2	67.5	109			
Nitrogen, Nitrate (As N)	2.3	0.10	2.500	0	93.3	84	109			
Sulfate	9.4	0.50	10.00	0	93.9	88.3	114			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R22427	RunNo:	22427					
Prep Date:		Analysis Date:	11/7/2014	SeqNo:	661041	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R22427	RunNo:	22427					
Prep Date:		Analysis Date:	11/7/2014	SeqNo:	661042	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.2	81.8	112			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.0	67.5	109			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	84	109			
Sulfate	9.8	0.50	10.00	0	97.7	88.3	114			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16294	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW	Batch ID: 16294			RunNo: 22413					
Prep Date:	11/7/2014	Analysis Date: 11/10/2014			SeqNo: 661403		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.20								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.67		0.5000		134	75.2	161			

Sample ID	LCS-16294		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	LCSW		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/11/2014		SeqNo: 661404		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.1	0.20	2.500	0	125	65.8	162			
Surr: DNOP	0.33		0.2500		131	75.2	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662578		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		90.2	80	120			

Sample ID	2.5UG GRO LCS		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662580		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	96.3	80	120			
Surr: BFB	19		20.00		94.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R22448			RunNo: 22448					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661480		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R22448	RunNo:	22448					
Prep Date:		Analysis Date:	11/10/2014	SeqNo:	661480	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.4		10.00		84.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	8.9		10.00		88.8	70	130			
Surr: Toluene-d8	9.5		10.00		94.6	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R22448	RunNo:	22448					
Prep Date:		Analysis Date:	11/10/2014	SeqNo:	661648	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	21	1.0	20.00	0	105	80	120			
Chlorobenzene	19	1.0	20.00	0	92.9	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R22448			RunNo: 22448					
Prep Date:	Analysis Date: 11/10/2014			SeqNo: 661648		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	104	82.6	131			
Trichloroethene (TCE)	18	1.0	20.00	0	91.8	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		85.6	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.3	70	130			
Surr: Dibromofluoromethane	8.8		10.00		87.7	70	130			
Surr: Toluene-d8	9.4		10.00		93.6	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-1		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664664		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	Ics-1		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664665		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16340		SampType: MBLK		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663255		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	LCS-16340		SampType: LCS		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663256		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-16377	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666318	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
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								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 7 columns for results (PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical analytes like 2,4-Dinitrotoluene, Fluoranthene, and several surrogates.

Qualifiers:
* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit
Page 2 of 0

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Sample ID	ics-16377	SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSW	Batch ID: 16377			RunNo: 22600					
Prep Date:	11/13/2014	Analysis Date: 11/17/2014			SeqNo: 666368		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	66	10	100.0	0	66.2	47.9	114			
4-Chloro-3-methylphenol	160	10	200.0	0	82.4	51.7	122			
2-Chlorophenol	140	10	200.0	0	69.9	40.7	113			
1,4-Dichlorobenzene	44	10	100.0	0	44.3	39.6	99.9			
2,4-Dinitrotoluene	68	10	100.0	0	68.0	40.8	113			
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.3	51.2	111			
4-Nitrophenol	100	10	200.0	0	50.6	15.7	86.9			
Pentachlorophenol	130	20	200.0	0	67.5	21.6	104			
Phenol	90	10	200.0	0	44.8	28.6	71.7			
Pyrene	78	10	100.0	0	77.8	54.2	128			
1,2,4-Trichlorobenzene	50	10	100.0	0	50.0	40.9	101			
Surr: 2-Fluorophenol	94		200.0		47.0	17.6	104			
Surr: Phenol-d5	77		200.0		38.5	17.7	89.9			
Surr: 2,4,6-Tribromophenol	160		200.0		80.7	16.3	122			
Surr: Nitrobenzene-d5	69		100.0		69.3	45.3	117			
Surr: 2-Fluorobiphenyl	65		100.0		64.8	43	113			
Surr: 4-Terphenyl-d14	85		100.0		85.0	47.6	122			

Sample ID	icsd-16377	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles						
Client ID:	LCSS02	Batch ID:	16377	RunNo:	22600						
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666369	Units:	µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Acenaphthene	67	10	100.0	0	67.5	47.9	114	1.98	27.2		
4-Chloro-3-methylphenol	160	10	200.0	0	81.4	51.7	122	1.26	25.9		
2-Chlorophenol	140	10	200.0	0	68.2	40.7	113	2.40	22.5		
1,4-Dichlorobenzene	49	10	100.0	0	49.0	39.6	99.9	10.2	24.6		
2,4-Dinitrotoluene	69	10	100.0	0	68.8	40.8	113	1.20	25.3		
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.3	51.2	111	0.0269	23.6		
4-Nitrophenol	130	10	200.0	0	63.4	15.7	86.9	22.5	34.7		
Pentachlorophenol	130	20	200.0	0	67.5	21.6	104	0.0148	32.8		
Phenol	100	10	200.0	0	52.0	28.6	71.7	14.9	25.5		
Pyrene	77	10	100.0	0	77.4	54.2	128	0.567	31.4		
1,2,4-Trichlorobenzene	54	10	100.0	0	53.7	40.9	101	7.13	25.9		
Surr: 2-Fluorophenol	110		200.0		53.4	17.6	104	0	0		
Surr: Phenol-d5	93		200.0		46.6	17.7	89.9	0	0		
Surr: 2,4,6-Tribromophenol	160		200.0		80.9	16.3	122	0	0		
Surr: Nitrobenzene-d5	70		100.0		70.1	45.3	117	0	0		
Surr: 2-Fluorobiphenyl	70		100.0		69.5	43	113	0	0		

Qualifiers:
* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Page 3 of 0

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Sample ID	icsd-16377	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666369	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	81		100.0		81.3	47.6	122	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH greater than 2.

RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1411269

RcptNo: 1

Received by/date:

Logged By: Ashley Gallegos

11/7/2014 7:00:00 AM

Completed By: Ashley Gallegos

11/7/2014 8:58:38 AM

Reviewed By:

AS

11/07/14

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? Courier

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: 3 7
(<2 or >12 unless noted)
Adjusted? NO
Checked by: 

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	1.3	Good	Yes			

General Chemistry Parameters for Groundwater Samples

Analyte	Analytical Method
Total Dissolved Solids	SM-2540C
Bicarbonate	SM-2320B
Chloride	EPA method 300.0
Sulfate	EPA method 300.0
Calcium	EPA method 6010/6020
Magnesium	EPA method 6010/6020
Sodium	EPA method 6010/6020
Potassium	EPA method 6010/6020
Manganese	SW-846 method 6010/6020
Nitrate/nitrite	EPA method 300.0
Ferric/ferrous Iron	SW-846 method 6010/6020 & SM 3500Fe2+

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 8000A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl Lead	SW-846 method 80700
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

December 09, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9 11-6-14

OrderNo.: 1411269

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/7/2014 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

Analytical Report

Lab Order: 1411269

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.**Client Sample ID:** FB01**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 10:45:00 AM**Lab ID:** 1411269-001A**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Toluene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Ethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Naphthalene	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Acetone	ND	10		µg/L	1	11/10/2014 7:05:01 PM	R22448
Bromobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Bromoform	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Bromomethane	ND	3.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
2-Butanone	ND	10		µg/L	1	11/10/2014 7:05:01 PM	R22448
Carbon disulfide	ND	10		µg/L	1	11/10/2014 7:05:01 PM	R22448
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Chlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Chloroethane	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Chloroform	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Chloromethane	ND	3.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Dibromomethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 1 of 27

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** FB01**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 10:45:00 AM**Lab ID:** 1411269-001A**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	10		µg/L	1	11/10/2014 7:05:01 PM	R22448
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2014 7:05:01 PM	R22448
Methylene Chloride	ND	3.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Styrene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Vinyl chloride	ND	1.0		µg/L	1	11/10/2014 7:05:01 PM	R22448
Xylenes, Total	ND	1.5		µg/L	1	11/10/2014 7:05:01 PM	R22448
Surr: 1,2-Dichloroethane-d4	84.9	70-130		%REC	1	11/10/2014 7:05:01 PM	R22448
Surr: 4-Bromofluorobenzene	80.5	70-130		%REC	1	11/10/2014 7:05:01 PM	R22448
Surr: Dibromofluoromethane	88.9	70-130		%REC	1	11/10/2014 7:05:01 PM	R22448
Surr: Toluene-d8	99.5	70-130		%REC	1	11/10/2014 7:05:01 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 2 of 27

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-001B

Client Sample ID: FB01
Collection Date: 11/6/2014 10:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/11/2014 6:43:31 PM	R22479
Surr: BFB	89.6	80-120		%REC	1	11/11/2014 6:43:31 PM	R22479

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-001C

Client Sample ID: FB01
Collection Date: 11/6/2014 10:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: JME
Diesel Range Organics (DRO)	ND	0.20		mg/L	1	11/11/2014 3:15:46 AM	16294
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	11/11/2014 3:15:46 AM	16294
Surr: DNOP	138	75.2-161		%REC	1	11/11/2014 3:15:46 AM	16294

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411269

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-001D

Client Sample ID: FB01
Collection Date: 11/6/2014 10:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Acenaphthylene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Aniline	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Anthracene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Azobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benz(a)anthracene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzo(a)pyrene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzo(b)fluoranthene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzo(k)fluoranthene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzoic acid	ND	20		µg/L	1	11/17/2014 2:18:11 PM	16326
Benzyl alcohol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Butyl benzyl phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Carbazole	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Chloro-3-methylphenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Chloroaniline	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Chloronaphthalene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Chlorophenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Chrysene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Di-n-butyl phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Di-n-octyl phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Dibenzofuran	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
1,2-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
1,3-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
1,4-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
3,3'-Dichlorobenzidine	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Diethyl phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Dimethyl phthalate	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4-Dichlorophenol	ND	20		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4-Dimethylphenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4-Dinitrophenol	ND	20		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2,6-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: FB01

Project: GROUP 9 11-6-14

Collection Date: 11/6/2014 10:45:00 AM

Lab ID: 1411269-001D

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
Fluoranthene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Fluorene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Hexachlorobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Hexachlorobutadiene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Hexachloroethane	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Isophorone	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
1-Methylnaphthalene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Methylnaphthalene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Methylphenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
3+4-Methylphenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
N-Nitrosodimethylamine	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Naphthalene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Nitroaniline	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
3-Nitroaniline	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Nitroaniline	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Nitrobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2-Nitrophenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
4-Nitrophenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Pentachlorophenol	ND	20		µg/L	1	11/17/2014 2:18:11 PM	16326
Phenanthrene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Phenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Pyrene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Pyridine	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/17/2014 2:18:11 PM	16326
Surr: 2-Fluorophenol	30.0	17.6-104		%REC	1	11/17/2014 2:18:11 PM	16326
Surr: Phenol-d5	41.6	17.7-89.9		%REC	1	11/17/2014 2:18:11 PM	16326
Surr: 2,4,6-Tribromophenol	18.2	16.3-122		%REC	1	11/17/2014 2:18:11 PM	16326
Surr: Nitrobenzene-d5	76.6	45.3-117		%REC	1	11/17/2014 2:18:11 PM	16326
Surr: 2-Fluorobiphenyl	70.5	43-113		%REC	1	11/17/2014 2:18:11 PM	16326
Surr: 4-Terphenyl-d14	86.8	47.6-122		%REC	1	11/17/2014 2:18:11 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1411269**Date Reported: **12/9/2014****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-001E

Client Sample ID: FB01
Collection Date: 11/6/2014 10:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	ND	0.50		mg/L	1	11/7/2014 6:54:23 PM	R22427
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/7/2014 6:54:23 PM	R22427
Nitrogen, Nitrate (As N)	0.45	0.10		mg/L	1	11/7/2014 6:54:23 PM	R22427
Sulfate	ND	0.50		mg/L	1	11/7/2014 6:54:23 PM	R22427
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	ND	20		mg/L CaCO ₃	1	11/13/2014 5:17:51 PM	R22543
Carbonate (As CaCO ₃)	ND	2.0		mg/L CaCO ₃	1	11/13/2014 5:17:51 PM	R22543
Total Alkalinity (as CaCO ₃)	ND	20		mg/L CaCO ₃	1	11/13/2014 5:17:51 PM	R22543
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	40.0	20.0		mg/L	1	11/12/2014 1:18:00 PM	16340

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-001F

Client Sample ID: FB01
Collection Date: 11/6/2014 10:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	ND	0.0020		mg/L	1	11/11/2014 8:55:24 PM	R22482
Beryllium	ND	0.0020		mg/L	1	11/10/2014 5:32:18 PM	R22450
Cadmium	ND	0.0020		mg/L	1	11/10/2014 5:32:18 PM	R22450
Calcium	ND	1.0		mg/L	1	11/10/2014 5:32:18 PM	R22450
Chromium	ND	0.0060		mg/L	1	11/10/2014 5:32:18 PM	R22450
Cobalt	ND	0.0060		mg/L	1	11/11/2014 8:55:24 PM	R22482
Iron	ND	0.020		mg/L	1	11/11/2014 8:55:24 PM	R22482
Magnesium	ND	1.0		mg/L	1	11/10/2014 5:32:18 PM	R22450
Manganese	ND	0.0020		mg/L	1	11/10/2014 5:32:18 PM	R22450
Nickel	ND	0.010		mg/L	1	11/11/2014 8:55:24 PM	R22482
Potassium	ND	1.0		mg/L	1	11/10/2014 5:32:18 PM	R22450
Silver	ND	0.0050		mg/L	1	11/10/2014 5:32:18 PM	R22450
Sodium	ND	1.0		mg/L	1	11/10/2014 5:32:18 PM	R22450
Vanadium	ND	0.050		mg/L	1	11/10/2014 5:32:18 PM	R22450
Zinc	ND	0.010		mg/L	1	11/11/2014 8:55:24 PM	R22482
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/24/2014 2:41:02 PM	R22774
Arsenic	ND	0.0010		mg/L	1	11/24/2014 2:41:02 PM	R22774
Lead	ND	0.0010		mg/L	1	11/24/2014 2:41:02 PM	R22774
Selenium	ND	0.0010		mg/L	1	11/24/2014 2:41:02 PM	R22774
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 11:51:20 AM	16434

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-001G

Client Sample ID: FB01
Collection Date: 11/6/2014 10:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: JLF			
Barium	ND	0.0020		mg/L	1	11/12/2014 4:04:08 PM	16338
Beryllium	ND	0.0020		mg/L	1	11/12/2014 4:04:08 PM	16338
Cadmium	ND	0.0020		mg/L	1	11/12/2014 4:04:08 PM	16338
Calcium	ND	1.0		mg/L	1	11/12/2014 4:04:08 PM	16338
Chromium	ND	0.0060		mg/L	1	11/12/2014 4:04:08 PM	16338
Cobalt	ND	0.0060		mg/L	1	11/12/2014 4:04:08 PM	16338
Iron	ND	0.020		mg/L	1	11/12/2014 4:04:08 PM	16338
Magnesium	ND	1.0		mg/L	1	11/12/2014 4:04:08 PM	16338
Manganese	ND	0.0020		mg/L	1	11/12/2014 4:04:08 PM	16338
Nickel	ND	0.010		mg/L	1	11/12/2014 4:04:08 PM	16338
Potassium	ND	1.0		mg/L	1	11/12/2014 4:04:08 PM	16338
Silver	ND	0.0050		mg/L	1	11/12/2014 4:04:08 PM	16338
Sodium	ND	1.0		mg/L	1	11/12/2014 4:04:08 PM	16338
Vanadium	ND	0.050		mg/L	1	11/12/2014 4:04:08 PM	16338
Zinc	ND	0.010		mg/L	1	11/12/2014 4:04:08 PM	16338
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/13/2014 4:16:00 PM	16338
Arsenic	ND	0.0010		mg/L	1	11/13/2014 4:16:00 PM	16338
Lead	ND	0.0010		mg/L	1	11/13/2014 4:16:00 PM	16338
Selenium	ND	0.0010		mg/L	1	11/13/2014 4:16:00 PM	16338
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 11:53:06 AM	16434

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-002A

Client Sample ID: TRIP BLANK
Collection Date:
Matrix: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Toluene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Ethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Naphthalene	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
2-Methylnaphthalene	ND	4.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Acetone	ND	10		µg/L	1	11/10/2014 7:33:02 PM	R22448
Bromobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Bromodichloromethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Bromoform	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Bromomethane	ND	3.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
2-Butanone	ND	10		µg/L	1	11/10/2014 7:33:02 PM	R22448
Carbon disulfide	ND	10		µg/L	1	11/10/2014 7:33:02 PM	R22448
Carbon Tetrachloride	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Chlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Chloroethane	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Chloroform	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Chloromethane	ND	3.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
2-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
4-Chlorotoluene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
cis-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Dibromochloromethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Dibromomethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1-Dichloroethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1-Dichloroethene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,3-Dichloropropane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
2,2-Dichloropropane	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Hexachlorobutadiene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411269

Date Reported: 12/9/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411269-002A

Client Sample ID: TRIP BLANK
Collection Date:
Matrix: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	10		µg/L	1	11/10/2014 7:33:02 PM	R22448
Isopropylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
4-Isopropyltoluene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
4-Methyl-2-pentanone	ND	10		µg/L	1	11/10/2014 7:33:02 PM	R22448
Methylene Chloride	ND	3.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
n-Butylbenzene	ND	3.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
n-Propylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
sec-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Styrene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
tert-Butylbenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
trans-1,2-DCE	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Trichlorofluoromethane	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Vinyl chloride	ND	1.0		µg/L	1	11/10/2014 7:33:02 PM	R22448
Xylenes, Total	ND	1.5		µg/L	1	11/10/2014 7:33:02 PM	R22448
Surr: 1,2-Dichloroethane-d4	82.5	70-130		%REC	1	11/10/2014 7:33:02 PM	R22448
Surr: 4-Bromofluorobenzene	82.9	70-130		%REC	1	11/10/2014 7:33:02 PM	R22448
Surr: Dibromofluoromethane	89.6	70-130		%REC	1	11/10/2014 7:33:02 PM	R22448
Surr: Toluene-d8	96.7	70-130		%REC	1	11/10/2014 7:33:02 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

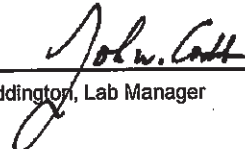
Batch #: 141111012
Project Name: 1411269

Analytical Results Report

Sample Number	141111012-001	Sampling Date	11/6/2014	Date/Time Received	11/11/2014 11:50 AM
Client Sample ID	1411269-001H / FB01	Sampling Time	10:45 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	11/14/2014	CRW	EPA 335.4	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0085; FL(NELAP): E871099

Tuesday, November 18, 2014

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Anatek Labs, Inc.

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

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

Batch #: 141111012
Project Name: 1411269

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	11/13/2014	11/14/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141111021-001	Cyanide	ND	0.990	mg/L	1	99.0	90-110	11/13/2014	11/14/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.982	mg/L	1	98.2	0.8	0-20	11/13/2014	11/14/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	11/13/2014	11/14/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, November 18, 2014

Page 1 of 1

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661543		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661544		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.5	85	115			
Calcium	48	1.0	50.00	0	97.0	85	115			
Chromium	0.47	0.0060	0.5000	0	94.2	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Manganese	0.46	0.0020	0.5000	0	92.7	85	115			
Potassium	48	1.0	50.00	0	95.3	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.0	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661545		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22450		RunNo: 22450							
Prep Date:	Analysis Date: 11/10/2014		SeqNo: 661545		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22450		RunNo: 22450							
Prep Date:	Analysis Date: 11/10/2014		SeqNo: 661546		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	99.3	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.7	85	115			
Calcium	49	1.0	50.00	0	98.0	85	115			
Chromium	0.46	0.0060	0.5000	0	92.9	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Manganese	0.46	0.0020	0.5000	0	91.0	85	115			
Potassium	48	1.0	50.00	0	95.6	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	49	1.0	50.00	0	98.2	85	115			
Vanadium	0.50	0.050	0.5000	0	100	85	115			

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662817		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662818		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	99.7	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.7	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Nickel	0.49	0.010	0.5000	0	98.0	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662819		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662820		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.3	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Nickel	0.48	0.010	0.5000	0	96.0	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16338	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	16338	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663340	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID	LCS-16338	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	16338	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663341	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Beryllium	0.53	0.0020	0.5000	0	106	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	97.9	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.5	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Manganese	0.47	0.0020	0.5000	0	94.6	85	115			
Nickel	0.48	0.010	0.5000	0	95.3	85	115			
Potassium	49	1.0	50.00	0	98.2	85	115			
Silver	0.11	0.0050	0.1000	0	107	85	115			
Sodium	51	1.0	50.00	0	101	85	115			
Vanadium	0.53	0.050	0.5000	0	105	85	115			
Zinc	0.50	0.010	0.5000	0	99.0	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	1411269-001GMS			SampType:	MS		TestCode:	EPA Method 200.7: Total Metals		
Client ID:	FB01			Batch ID:	16338		RunNo:	22496		
Prep Date:	11/11/2014			Analysis Date:	11/12/2014		SeqNo:	663630		
							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	99.0	70	130			
Beryllium	0.53	0.0020	0.5000	0	106	70	130			
Cadmium	0.50	0.0020	0.5000	0	100	70	130			
Calcium	52	1.0	50.00	0	104	70	130			
Chromium	0.49	0.0060	0.5000	0	98.3	70	130			
Cobalt	0.48	0.0060	0.5000	0	95.8	70	130			
Iron	0.49	0.020	0.5000	0	98.1	70	130			
Magnesium	52	1.0	50.00	0	103	70	130			
Manganese	0.47	0.0020	0.5000	0	95.0	70	130			
Nickel	0.48	0.010	0.5000	0	95.9	70	130			
Potassium	49	1.0	50.00	0.2515	97.5	70	130			
Silver	0.11	0.0050	0.1000	0	106	70	130			
Sodium	50	1.0	50.00	0	101	70	130			
Vanadium	0.53	0.050	0.5000	0	105	70	130			
Zinc	0.50	0.010	0.5000	0.004610	99.5	70	130			

Sample ID	1411269-001GMSD			SampType:	MSD		TestCode:	EPA Method 200.7: Total Metals		
Client ID:	FB01			Batch ID:	16338		RunNo:	22496		
Prep Date:	11/11/2014			Analysis Date:	11/12/2014		SeqNo:	663631		
							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	99.2	70	130	0.153	20	
Beryllium	0.53	0.0020	0.5000	0	105	70	130	0.966	20	
Cadmium	0.49	0.0020	0.5000	0	98.8	70	130	1.28	20	
Calcium	52	1.0	50.00	0	103	70	130	0.963	20	
Chromium	0.49	0.0060	0.5000	0	98.3	70	130	0.0753	20	
Cobalt	0.47	0.0060	0.5000	0	94.7	70	130	1.18	20	
Iron	0.49	0.020	0.5000	0	97.1	70	130	0.971	20	
Magnesium	51	1.0	50.00	0	102	70	130	1.69	20	
Manganese	0.47	0.0020	0.5000	0	94.9	70	130	0.0590	20	
Nickel	0.48	0.010	0.5000	0	96.2	70	130	0.279	20	
Potassium	48	1.0	50.00	0.2515	96.2	70	130	1.36	20	
Silver	0.11	0.0050	0.1000	0	106	70	130	0.141	20	
Sodium	50	1.0	50.00	0	99.2	70	130	1.73	20	
Vanadium	0.53	0.050	0.5000	0	105	70	130	0.110	20	
Zinc	0.50	0.010	0.5000	0.004610	99.8	70	130	0.219	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS			SampType:	LCS			TestCode:	EPA 200.8: Dissolved Metals		
Client ID:	LCSW			Batch ID:	R22774			RunNo:	22774		
Prep Date:				Analysis Date:	11/24/2014			SeqNo:	672122		
								Units:	mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Antimony	0.023	0.0010	0.02500	0	90.6	85	115				
Arsenic	0.023	0.0010	0.02500	0	92.5	85	115				
Lead	0.024	0.0010	0.02500	0	94.4	85	115				
Selenium	0.022	0.0010	0.02500	0	89.7	85	115				

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672123		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	97.3	85	115			
Lead	0.024	0.0010	0.02500	0	97.3	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID: R22774			RunNo: 22774					
Prep Date:		Analysis Date: 11/24/2014			SeqNo: 672124		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID: R22774			RunNo: 22774					
Prep Date:		Analysis Date: 11/24/2014			SeqNo: 672125		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LLLCS-16338		SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	BatchQC		Batch ID: 16338		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664408		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	105	85	115			
Arsenic	0.024	0.0010	0.02500	0	94.2	85	115			
Lead	0.025	0.0010	0.02500	0	100	85	115			
Selenium	0.023	0.0010	0.02500	0	92.5	85	115			

Sample ID	MB-16338		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	PBW		Batch ID: 16338		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664410		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16434		SampType:	MBLK		TestCode:	EPA Method 245.1: Mercury				
Client ID:	PBW		Batch ID:	16434		RunNo:	22633				
Prep Date:	11/18/2014		Analysis Date:	11/19/2014		SeqNo:	667581		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	ND	0.00020									

Sample ID	LCS-16434		SampType: LCS		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 16434		RunNo: 22633					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667582		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0052	0.00020	0.005000	0	103	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661019		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS	SampType: LCS			TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661020		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.2	67.5	109			
Nitrogen, Nitrate (As N)	2.3	0.10	2.500	0	93.3	84	109			
Sulfate	9.4	0.50	10.00	0	93.9	88.3	114			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661041		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R22427		RunNo: 22427					
Prep Date:			Analysis Date: 11/7/2014		SeqNo: 661042		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.2	81.8	112			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.0	67.5	109			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	84	109			
Sulfate	9.8	0.50	10.00	0	97.7	88.3	114			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16294	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW	Batch ID: 16294			RunNo: 22413					
Prep Date:	11/7/2014	Analysis Date: 11/10/2014			SeqNo: 661403		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.20								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.67		0.5000		134	75.2	161			

Sample ID	LCS-16294		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	LCSW		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/11/2014		SeqNo: 661404		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.1	0.20	2.500	0	125	65.8	162			
Surr: DNOP	0.33		0.2500		131	75.2	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662578		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		90.2	80	120			

Sample ID	2.5UG GRO LCS		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662580		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	96.3	80	120			
Surr: BFB	19		20.00		94.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R22448			RunNo: 22448					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661480		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R22448			RunNo: 22448					
Prep Date:	Analysis Date: 11/10/2014			SeqNo: 661480		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.4		10.00		84.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	8.9		10.00		88.8	70	130			
Surr: Toluene-d8	9.5		10.00		94.6	70	130			

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R22448			RunNo: 22448					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661648		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	21	1.0	20.00	0	105	80	120			
Chlorobenzene	19	1.0	20.00	0	92.9	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R22448	RunNo:	22448					
Prep Date:		Analysis Date:	11/10/2014	SeqNo:	661648	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	104	82.6	131			
Trichloroethene (TCE)	18	1.0	20.00	0	91.8	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		85.6	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.3	70	130			
Surr: Dibromofluoromethane	8.8		10.00		87.7	70	130			
Surr: Toluene-d8	9.4		10.00		93.6	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-1		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664664		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	Ics-1		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664665		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

09-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16340		SampType: MBLK		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663255		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	LCS-16340		SampType: LCS		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663256		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-16377	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666318	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
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								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 7 columns for results (PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical analytes like 2,4-Dinitrotoluene, Fluoranthene, and several surrogates.

Qualifiers:
* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit
Page 2 of 0

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 10 columns of results (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical analytes like Acenaphthene, 4-Chloro-3-methylphenol, etc.

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 10 columns of results (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical analytes like Acenaphthene, 4-Chloro-3-methylphenol, etc.

Qualifiers:
* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit
Page 3 of 0

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411269
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Sample ID	icsd-16377	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666369	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	81		100.0		81.3	47.6	122	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH greater than 2.

RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1411269

RcptNo: 1

Received by/date:

Logged By: Ashley Gallegos

11/7/2014 7:00:00 AM

Completed By: Ashley Gallegos

11/7/2014 8:58:38 AM

Reviewed By:

AS

11/07/14

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? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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: 3 7
Adjusted? NO
Checked by: 

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	1.3	Good	Yes			

General Chemistry Parameters for Groundwater Samples

Analyte	Analytical Method
Total Dissolved Solids	SM-2540C
Bicarbonate	SM-2320B
Chloride	EPA method 300.0
Sulfate	EPA method 300.0
Calcium	EPA method 6010/6020
Magnesium	EPA method 6010/6020
Sodium	EPA method 6010/6020
Potassium	EPA method 6010/6020
Manganese	SW-846 method 6010/6020
Nitrate/nitrite	EPA method 300.0
Ferric/ferrous Iron	SW-846 method 6010/6020 & SM 3500Fe2+

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 8000A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl Lead	SW-846 method 80700
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

December 10, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9 11-6-14

OrderNo.: 1411270

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/7/2014 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: 1411270

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411270-001A

Client Sample ID: GW DUP 01
Collection Date: 11/6/2014
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	13000	500		µg/L	500	11/10/2014 8:01:04 PM	R22448
Toluene	11000	500		µg/L	500	11/10/2014 8:01:04 PM	R22448
Ethylbenzene	2200	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Methyl tert-butyl ether (MTBE)	790	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,2,4-Trimethylbenzene	1700	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,3,5-Trimethylbenzene	400	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,2-Dichloroethane (EDC)	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,2-Dibromoethane (EDB)	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Naphthalene	340	100		µg/L	50	11/10/2014 8:29:09 PM	R22448
1-Methylnaphthalene	ND	200		µg/L	50	11/10/2014 8:29:09 PM	R22448
2-Methylnaphthalene	ND	200		µg/L	50	11/10/2014 8:29:09 PM	R22448
Acetone	ND	500		µg/L	50	11/10/2014 8:29:09 PM	R22448
Bromobenzene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Bromodichloromethane	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Bromoform	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Bromomethane	ND	150		µg/L	50	11/10/2014 8:29:09 PM	R22448
2-Butanone	ND	500		µg/L	50	11/10/2014 8:29:09 PM	R22448
Carbon disulfide	ND	500		µg/L	50	11/10/2014 8:29:09 PM	R22448
Carbon Tetrachloride	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Chlorobenzene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Chloroethane	ND	100		µg/L	50	11/10/2014 8:29:09 PM	R22448
Chloroform	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Chloromethane	ND	150		µg/L	50	11/10/2014 8:29:09 PM	R22448
2-Chlorotoluene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
4-Chlorotoluene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
cis-1,2-DCE	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
cis-1,3-Dichloropropene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,2-Dibromo-3-chloropropane	ND	100		µg/L	50	11/10/2014 8:29:09 PM	R22448
Dibromochloromethane	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Dibromomethane	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,2-Dichlorobenzene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,3-Dichlorobenzene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,4-Dichlorobenzene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Dichlorodifluoromethane	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,1-Dichloroethane	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,1-Dichloroethene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,2-Dichloropropane	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,3-Dichloropropane	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
2,2-Dichloropropane	ND	100		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,1-Dichloropropene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Hexachlorobutadiene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 1 of 24

Analytical ReportLab Order: **1411270**Date Reported: **12/10/2014****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411270-001A

Client Sample ID: GW DUP 01
Collection Date: 11/6/2014
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	500		µg/L	50	11/10/2014 8:29:09 PM	R22448
Isopropylbenzene	140	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
4-Isopropyltoluene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
4-Methyl-2-pentanone	ND	500		µg/L	50	11/10/2014 8:29:09 PM	R22448
Methylene Chloride	ND	150		µg/L	50	11/10/2014 8:29:09 PM	R22448
n-Butylbenzene	ND	150		µg/L	50	11/10/2014 8:29:09 PM	R22448
n-Propylbenzene	250	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
sec-Butylbenzene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Styrene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
tert-Butylbenzene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,1,1,2-Tetrachloroethane	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,1,2,2-Tetrachloroethane	ND	100		µg/L	50	11/10/2014 8:29:09 PM	R22448
Tetrachloroethene (PCE)	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
trans-1,2-DCE	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
trans-1,3-Dichloropropene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,2,3-Trichlorobenzene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,2,4-Trichlorobenzene	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,1,1-Trichloroethane	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,1,2-Trichloroethane	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Trichloroethene (TCE)	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Trichlorofluoromethane	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
1,2,3-Trichloropropane	ND	100		µg/L	50	11/10/2014 8:29:09 PM	R22448
Vinyl chloride	ND	50		µg/L	50	11/10/2014 8:29:09 PM	R22448
Xylenes, Total	9200	75		µg/L	50	11/10/2014 8:29:09 PM	R22448
Surr: 1,2-Dichloroethane-d4	86.8	70-130		%REC	50	11/10/2014 8:29:09 PM	R22448
Surr: 4-Bromofluorobenzene	84.1	70-130		%REC	50	11/10/2014 8:29:09 PM	R22448
Surr: Dibromofluoromethane	88.6	70-130		%REC	50	11/10/2014 8:29:09 PM	R22448
Surr: Toluene-d8	92.3	70-130		%REC	50	11/10/2014 8:29:09 PM	R22448

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411270

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411270-001B

Client Sample ID: GW DUP 01
Collection Date: 11/6/2014
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	77	5.0		mg/L	100	11/11/2014 7:10:53 PM	R22479
Surr: BFB	95.7	80-120		%REC	100	11/11/2014 7:10:53 PM	R22479

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1411270**Date Reported: **12/10/2014****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** GW DUP 01**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014**Lab ID:** 1411270-001C**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: JME
Diesel Range Organics (DRO)	6.0	0.20		mg/L	1	11/11/2014 3:45:44 AM	16294
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	11/11/2014 3:45:44 AM	16294
Surr: DNOP	130	75.2-161		%REC	1	11/11/2014 3:45:44 AM	16294

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 4 of 24

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411270

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411270-001D

Client Sample ID: GW DUP 01
Collection Date: 11/6/2014
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Acenaphthylene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Aniline	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Anthracene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Azobenzene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Benz(a)anthracene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Benzo(a)pyrene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Benzo(b)fluoranthene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Benzo(k)fluoranthene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Benzoic acid	ND	20		µg/L	1	11/17/2014 2:45:51 PM	16326
Benzyl alcohol	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Bis(2-ethylhexyl)phthalate	16	10		µg/L	1	11/17/2014 2:45:51 PM	16326
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Butyl benzyl phthalate	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Carbazole	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
4-Chloro-3-methylphenol	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
4-Chloroaniline	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
2-Chloronaphthalene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
2-Chlorophenol	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Chrysene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Di-n-butyl phthalate	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Di-n-octyl phthalate	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Dibenzofuran	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
1,2-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
1,3-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
1,4-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
3,3'-Dichlorobenzidine	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Diethyl phthalate	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Dimethyl phthalate	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
2,4-Dichlorophenol	ND	20		µg/L	1	11/17/2014 2:45:51 PM	16326
2,4-Dimethylphenol	12	10		µg/L	1	11/17/2014 2:45:51 PM	16326
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	11/17/2014 2:45:51 PM	16326
2,4-Dinitrophenol	ND	20		µg/L	1	11/17/2014 2:45:51 PM	16326
2,4-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
2,6-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411270

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411270-001D

Client Sample ID: GW DUP 01
Collection Date: 11/6/2014
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
Fluoranthene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Fluorene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Hexachlorobenzene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Hexachlorobutadiene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Hexachloroethane	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Isophorone	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
1-Methylnaphthalene	52	10		µg/L	1	11/17/2014 2:45:51 PM	16326
2-Methylnaphthalene	73	10		µg/L	1	11/17/2014 2:45:51 PM	16326
2-Methylphenol	58	10		µg/L	1	11/17/2014 2:45:51 PM	16326
3+4-Methylphenol	18	10		µg/L	1	11/17/2014 2:45:51 PM	16326
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
N-Nitrosodimethylamine	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Naphthalene	180	10		µg/L	1	11/17/2014 2:45:51 PM	16326
2-Nitroaniline	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
3-Nitroaniline	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
4-Nitroaniline	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Nitrobenzene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
2-Nitrophenol	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
4-Nitrophenol	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Pentachlorophenol	ND	20		µg/L	1	11/17/2014 2:45:51 PM	16326
Phenanthrene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Phenol	38	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Pyrene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Pyridine	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/17/2014 2:45:51 PM	16326
Surr: 2-Fluorophenol	29.8	17.6-104		%REC	1	11/17/2014 2:45:51 PM	16326
Surr: Phenol-d5	30.8	17.7-89.9		%REC	1	11/17/2014 2:45:51 PM	16326
Surr: 2,4,6-Tribromophenol	72.8	16.3-122		%REC	1	11/17/2014 2:45:51 PM	16326
Surr: Nitrobenzene-d5	68.2	45.3-117		%REC	1	11/17/2014 2:45:51 PM	16326
Surr: 2-Fluorobiphenyl	70.7	43-113		%REC	1	11/17/2014 2:45:51 PM	16326
Surr: 4-Terphenyl-d14	69.1	47.6-122		%REC	1	11/17/2014 2:45:51 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 6 of 24

Analytical ReportLab Order: **1411270**Date Reported: **12/10/2014****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411270-001E

Client Sample ID: GW DUP 01
Collection Date: 11/6/2014
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	280	10	*	mg/L	20	11/7/2014 7:31:37 PM	R22427
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/7/2014 7:19:12 PM	R22427
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	11/7/2014 7:19:12 PM	R22427
Sulfate	24	2.5		mg/L	5	11/7/2014 7:19:12 PM	R22427
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	1200	20		mg/L CaCO ₃	1	11/13/2014 5:22:51 PM	R22543
Carbonate (As CaCO ₃)	ND	2.0		mg/L CaCO ₃	1	11/13/2014 5:22:51 PM	R22543
Total Alkalinity (as CaCO ₃)	1200	20		mg/L CaCO ₃	1	11/13/2014 5:22:51 PM	R22543
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1730	40.0	*	mg/L	1	11/12/2014 1:18:00 PM	16340

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 7 of 24

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411270

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411270-001F

Client Sample ID: GW DUP 01
Collection Date: 11/6/2014
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	1.9	0.010		mg/L	5	11/11/2014 8:58:53 PM	R22482
Beryllium	ND	0.0020		mg/L	1	11/10/2014 5:36:04 PM	R22450
Cadmium	ND	0.0020		mg/L	1	11/10/2014 5:36:04 PM	R22450
Calcium	170	5.0		mg/L	5	11/10/2014 5:37:42 PM	R22450
Chromium	ND	0.0060		mg/L	1	11/10/2014 5:36:04 PM	R22450
Cobalt	ND	0.0060		mg/L	1	11/11/2014 8:57:17 PM	R22482
Iron	3.2	0.10	*	mg/L	5	11/11/2014 8:58:53 PM	R22482
Magnesium	52	1.0		mg/L	1	11/10/2014 5:36:04 PM	R22450
Manganese	4.4	0.010	*	mg/L	5	11/10/2014 5:37:42 PM	R22450
Nickel	0.015	0.010		mg/L	1	11/11/2014 8:57:17 PM	R22482
Potassium	4.9	1.0		mg/L	1	11/10/2014 5:36:04 PM	R22450
Silver	ND	0.0050		mg/L	1	11/10/2014 5:36:04 PM	R22450
Sodium	370	5.0		mg/L	5	11/10/2014 5:37:42 PM	R22450
Vanadium	ND	0.050		mg/L	1	11/10/2014 5:36:04 PM	R22450
Zinc	0.12	0.010		mg/L	1	11/11/2014 8:57:17 PM	R22482
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/24/2014 2:46:24 PM	R22774
Arsenic	ND	0.020		mg/L	20	11/24/2014 6:03:42 PM	R22774
Lead	0.0063	0.0010		mg/L	1	11/24/2014 2:46:24 PM	R22774
Selenium	ND	0.020		mg/L	20	11/24/2014 6:03:42 PM	R22774
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 11:58:31 AM	16435

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1411270**Date Reported: **12/10/2014****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411270-001G

Client Sample ID: GW DUP 01
Collection Date: 11/6/2014
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: JLF			
Barium	2.0	0.010	*	mg/L	5	11/12/2014 4:35:16 PM	16339
Beryllium	ND	0.0020		mg/L	1	11/12/2014 4:09:33 PM	16339
Cadmium	ND	0.0020		mg/L	1	11/12/2014 4:09:33 PM	16339
Calcium	190	5.0		mg/L	5	11/12/2014 4:35:16 PM	16339
Chromium	ND	0.0060		mg/L	1	11/12/2014 4:09:33 PM	16339
Cobalt	ND	0.0060		mg/L	1	11/12/2014 4:09:33 PM	16339
Iron	4.6	0.10	*	mg/L	5	11/12/2014 4:35:16 PM	16339
Magnesium	55	1.0		mg/L	1	11/12/2014 4:09:33 PM	16339
Manganese	4.9	0.010	*	mg/L	5	11/12/2014 4:35:16 PM	16339
Nickel	0.012	0.010		mg/L	1	11/12/2014 4:09:33 PM	16339
Potassium	5.5	1.0		mg/L	1	11/12/2014 4:09:33 PM	16339
Silver	ND	0.0050		mg/L	1	11/12/2014 4:09:33 PM	16339
Sodium	380	5.0		mg/L	5	11/12/2014 4:35:16 PM	16339
Vanadium	ND	0.050		mg/L	1	11/12/2014 4:09:33 PM	16339
Zinc	ND	0.010		mg/L	1	11/12/2014 4:09:33 PM	16339
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/13/2014 4:32:03 PM	16339
Arsenic	ND	0.010		mg/L	10	11/14/2014 1:28:11 PM	16339
Lead	0.0087	0.0010		mg/L	1	11/13/2014 4:32:03 PM	16339
Selenium	ND	0.020		mg/L	20	11/18/2014 5:27:40 PM	16339
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 12:00:19 PM	16435

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 9 of 24

Anatek Labs, Inc.

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

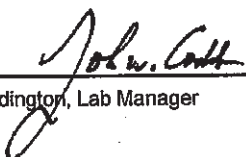
Batch #: 141111011
Project Name: 1411270

Analytical Results Report

Sample Number	141111011-001	Sampling Date	11/6/2014	Date/Time Received	11/11/2014 11:30 AM
Client Sample ID	1411270-001H / GW DUP 01	Sampling Time			
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	11/14/2014	CRW	EPA 335.4	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871089

Tuesday, November 18, 2014

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Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141111011
Project Name: 1411270

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	11/13/2014	11/14/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141111021-001	Cyanide	ND	0.990	mg/L	1	99.0	90-110	11/13/2014	11/14/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.982	mg/L	1	98.2	0.8	0-20	11/13/2014	11/14/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	11/13/2014	11/14/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, November 18, 2014

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661543		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661544		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.5	85	115			
Calcium	48	1.0	50.00	0	97.0	85	115			
Chromium	0.47	0.0060	0.5000	0	94.2	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Manganese	0.46	0.0020	0.5000	0	92.7	85	115			
Potassium	48	1.0	50.00	0	95.3	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.0	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661545		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R22450	RunNo:	22450					
Prep Date:		Analysis Date:	11/10/2014	SeqNo:	661545	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R22450	RunNo:	22450					
Prep Date:		Analysis Date:	11/10/2014	SeqNo:	661546	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	99.3	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.7	85	115			
Calcium	49	1.0	50.00	0	98.0	85	115			
Chromium	0.46	0.0060	0.5000	0	92.9	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Manganese	0.46	0.0020	0.5000	0	91.0	85	115			
Potassium	48	1.0	50.00	0	95.6	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	49	1.0	50.00	0	98.2	85	115			
Vanadium	0.50	0.050	0.5000	0	100	85	115			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R22482	RunNo:	22482					
Prep Date:		Analysis Date:	11/11/2014	SeqNo:	662817	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R22482	RunNo:	22482					
Prep Date:		Analysis Date:	11/11/2014	SeqNo:	662818	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	99.7	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.7	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Nickel	0.49	0.010	0.5000	0	98.0	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662819		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662820		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.3	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Nickel	0.48	0.010	0.5000	0	96.0	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16339		SampType: MBLK		TestCode: EPA Method 200.7: Total Metals					
Client ID:	PBW		Batch ID: 16339		RunNo: 22496					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663342		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID	LCS-16339		SampType: LCS		TestCode: EPA Method 200.7: Total Metals					
Client ID:	LCSW		Batch ID: 16339		RunNo: 22496					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663343		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	96.0	85	115			
Beryllium	0.52	0.0020	0.5000	0	103	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.4	85	115			
Calcium	51	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	95.2	85	115			
Cobalt	0.46	0.0060	0.5000	0	92.5	85	115			
Iron	0.48	0.020	0.5000	0	96.5	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Manganese	0.46	0.0020	0.5000	0	91.6	85	115			
Nickel	0.46	0.010	0.5000	0	92.5	85	115			
Potassium	48	1.0	50.00	0	95.8	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.5	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			
Zinc	0.48	0.010	0.5000	0	96.4	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS		SampType: LCS			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	LCSW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672122		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	90.6	85	115			
Arsenic	0.023	0.0010	0.02500	0	92.5	85	115			
Lead	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.022	0.0010	0.02500	0	89.7	85	115			

Sample ID	LCS		SampType: LCS			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	LCSW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672123		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	97.3	85	115			
Lead	0.024	0.0010	0.02500	0	97.3	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	PBW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672124		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	PBW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672125		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LLLCS-16339		SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	BatchQC		Batch ID: 16339		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664409		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	97.2	85	115			
Arsenic	0.022	0.0010	0.02500	0	88.1	85	115			
Lead	0.023	0.0010	0.02500	0	92.5	85	115			
Selenium	0.022	0.0010	0.02500	0	86.7	85	115			

Sample ID	MB-16339		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	PBW		Batch ID: 16339		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664411		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16435		SampType: MBLK		TestCode: EPA Method 245.1: Mercury					
Client ID:	PBW		Batch ID: 16435		RunNo: 22633					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667607		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-16435			SampType:	LCS		TestCode:	EPA Method 245.1: Mercury				
Client ID:	LCSW			Batch ID:	16435		RunNo:	22633				
Prep Date:	11/18/2014			Analysis Date:	11/19/2014		SeqNo:	667608			Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Mercury	0.0054	0.00020	0.005000	0	107	80	120					

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661019		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS	SampType: LCS			TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661020		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.2	67.5	109			
Nitrogen, Nitrate (As N)	2.3	0.10	2.500	0	93.3	84	109			
Sulfate	9.4	0.50	10.00	0	93.9	88.3	114			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661041		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R22427		RunNo: 22427					
Prep Date:			Analysis Date: 11/7/2014		SeqNo: 661042		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.2	81.8	112			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.0	67.5	109			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	84	109			
Sulfate	9.8	0.50	10.00	0	97.7	88.3	114			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16294	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW	Batch ID: 16294			RunNo: 22413					
Prep Date:	11/7/2014	Analysis Date: 11/10/2014			SeqNo: 661403		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.20								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.67		0.5000		134	75.2	161			

Sample ID	LCS-16294		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	LCSW		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/11/2014		SeqNo: 661404		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.1	0.20	2.500	0	125	65.8	162			
Surr: DNOP	0.33		0.2500		131	75.2	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662578		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		90.2	80	120			

Sample ID	2.5UG GRO LCS		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662580		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	96.3	80	120			
Surr: BFB	19		20.00		94.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R22448			RunNo: 22448					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661480		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R22448	RunNo:	22448					
Prep Date:		Analysis Date:	11/10/2014	SeqNo:	661480	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.4		10.00		84.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	8.9		10.00		88.8	70	130			
Surr: Toluene-d8	9.5		10.00		94.6	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R22448	RunNo:	22448					
Prep Date:		Analysis Date:	11/10/2014	SeqNo:	661648	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	21	1.0	20.00	0	105	80	120			
Chlorobenzene	19	1.0	20.00	0	92.9	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R22448			RunNo: 22448					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661648		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	104	82.6	131			
Trichloroethene (TCE)	18	1.0	20.00	0	91.8	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		85.6	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.3	70	130			
Surr: Dibromofluoromethane	8.8		10.00		87.7	70	130			
Surr: Toluene-d8	9.4		10.00		93.6	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-1		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664664		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	Ics-1		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664665		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16340		SampType: MBLK		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663255		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	LCS-16340		SampType: LCS		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663256		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-16377	SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID:	PBW	Batch ID: 16377		RunNo: 22600						
Prep Date:	11/13/2014	Analysis Date: 11/17/2014		SeqNo: 666318		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
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								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 6 columns for results (PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical analytes like 2,4-Dinitrotoluene, Fluorene, Hexachlorobenzene, etc., and surrogate standards.

Qualifiers:
* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit
Page 2 of 0

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	Ics-16377		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSW		Batch ID: 16377			RunNo: 22600				
Prep Date:	11/13/2014		Analysis Date: 11/17/2014			SeqNo: 666368		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	66	10	100.0	0	66.2	47.9	114			
4-Chloro-3-methylphenol	160	10	200.0	0	82.4	51.7	122			
2-Chlorophenol	140	10	200.0	0	69.9	40.7	113			
1,4-Dichlorobenzene	44	10	100.0	0	44.3	39.6	99.9			
2,4-Dinitrotoluene	68	10	100.0	0	68.0	40.8	113			
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.3	51.2	111			
4-Nitrophenol	100	10	200.0	0	50.6	15.7	86.9			
Pentachlorophenol	130	20	200.0	0	67.5	21.6	104			
Phenol	90	10	200.0	0	44.8	28.6	71.7			
Pyrene	78	10	100.0	0	77.8	54.2	128			
1,2,4-Trichlorobenzene	50	10	100.0	0	50.0	40.9	101			
Surr: 2-Fluorophenol	94		200.0		47.0	17.6	104			
Surr: Phenol-d5	77		200.0		38.5	17.7	89.9			
Surr: 2,4,6-Tribromophenol	160		200.0		80.7	16.3	122			
Surr: Nitrobenzene-d5	69		100.0		69.3	45.3	117			
Surr: 2-Fluorobiphenyl	65		100.0		64.8	43	113			
Surr: 4-Terphenyl-d14	85		100.0		85.0	47.6	122			

Sample ID	Icsd-16377		SampType: LCSD			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSS02		Batch ID: 16377			RunNo: 22600				
Prep Date:	11/13/2014		Analysis Date: 11/17/2014			SeqNo: 666369		Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	67	10	100.0	0	67.5	47.9	114	1.98	27.2	
4-Chloro-3-methylphenol	160	10	200.0	0	81.4	51.7	122	1.26	25.9	
2-Chlorophenol	140	10	200.0	0	68.2	40.7	113	2.40	22.5	
1,4-Dichlorobenzene	49	10	100.0	0	49.0	39.6	99.9	10.2	24.6	
2,4-Dinitrotoluene	69	10	100.0	0	68.8	40.8	113	1.20	25.3	
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.3	51.2	111	0.0269	23.6	
4-Nitrophenol	130	10	200.0	0	63.4	15.7	86.9	22.5	34.7	
Pentachlorophenol	130	20	200.0	0	67.5	21.6	104	0.0148	32.8	
Phenol	100	10	200.0	0	52.0	28.6	71.7	14.9	25.5	
Pyrene	77	10	100.0	0	77.4	54.2	128	0.567	31.4	
1,2,4-Trichlorobenzene	54	10	100.0	0	53.7	40.9	101	7.13	25.9	
Surr: 2-Fluorophenol	110		200.0		53.4	17.6	104	0	0	
Surr: Phenol-d5	93		200.0		46.6	17.7	89.9	0	0	
Surr: 2,4,6-Tribromophenol	160		200.0		80.9	16.3	122	0	0	
Surr: Nitrobenzene-d5	70		100.0		70.1	45.3	117	0	0	
Surr: 2-Fluorobiphenyl	70		100.0		69.5	43	113	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411270

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	icsd-16377	SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles						
Client ID:	LCSS02	Batch ID: 16377		RunNo: 22600						
Prep Date:	11/13/2014	Analysis Date: 11/17/2014		SeqNo: 666369		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	81		100.0		81.3	47.6	122	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1411270

RcptNo: 1

Received by/date:

Logged By:

Ashley Gallegos

11/7/2014 7:00:00 AM

Completed By:

Ashley Gallegos

11/7/2014 9:01:10 AM

Reviewed By:

CS

11/07/14

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? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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 ☐

METALS ANALYSIS: Added 1 mL HNO_3 TO DOCK FOR ACCEPTABLE pH. HELD IN LOG IN FOR 24 HOURS AFTER PRESERVATION

of preserved bottles checked for pH: 3
(<2 or >12 unless noted)
Adjusted? YES
Checked by: [Signature]

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 8000
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyllead	SW-846 method 8070C
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

December 10, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9 11-6-14

OrderNo.: 1411271

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/7/2014 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: 1411271

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411271-001A

Client Sample ID: MW-74
Collection Date: 11/6/2014 9:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	15000	500		µg/L	500	11/11/2014 9:42:13 PM	R22481
Toluene	12000	500		µg/L	500	11/11/2014 9:42:13 PM	R22481
Ethylbenzene	2400	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Methyl tert-butyl ether (MTBE)	840	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,2,4-Trimethylbenzene	2000	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,3,5-Trimethylbenzene	470	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,2-Dichloroethane (EDC)	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,2-Dibromoethane (EDB)	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Naphthalene	420	100		µg/L	50	11/11/2014 10:10:06 PM	R22481
1-Methylnaphthalene	ND	200		µg/L	50	11/11/2014 10:10:06 PM	R22481
2-Methylnaphthalene	ND	200		µg/L	50	11/11/2014 10:10:06 PM	R22481
Acetone	ND	500		µg/L	50	11/11/2014 10:10:06 PM	R22481
Bromobenzene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Bromodichloromethane	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Bromoform	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Bromomethane	ND	150		µg/L	50	11/11/2014 10:10:06 PM	R22481
2-Butanone	ND	500		µg/L	50	11/11/2014 10:10:06 PM	R22481
Carbon disulfide	ND	500		µg/L	50	11/11/2014 10:10:06 PM	R22481
Carbon Tetrachloride	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Chlorobenzene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Chloroethane	ND	100		µg/L	50	11/11/2014 10:10:06 PM	R22481
Chloroform	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Chloromethane	ND	150		µg/L	50	11/11/2014 10:10:06 PM	R22481
2-Chlorotoluene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
4-Chlorotoluene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
cis-1,2-DCE	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
cis-1,3-Dichloropropene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,2-Dibromo-3-chloropropane	ND	100		µg/L	50	11/11/2014 10:10:06 PM	R22481
Dibromochloromethane	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Dibromomethane	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,2-Dichlorobenzene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,3-Dichlorobenzene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,4-Dichlorobenzene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Dichlorodifluoromethane	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,1-Dichloroethane	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,1-Dichloroethene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,2-Dichloropropane	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,3-Dichloropropane	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
2,2-Dichloropropane	ND	100		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,1-Dichloropropene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Hexachlorobutadiene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411271

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411271-001A

Client Sample ID: MW-74
Collection Date: 11/6/2014 9:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	500		µg/L	50	11/11/2014 10:10:06 PM	R22481
Isopropylbenzene	150	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
4-Isopropyltoluene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
4-Methyl-2-pentanone	ND	500		µg/L	50	11/11/2014 10:10:06 PM	R22481
Methylene Chloride	ND	150		µg/L	50	11/11/2014 10:10:06 PM	R22481
n-Butylbenzene	ND	150		µg/L	50	11/11/2014 10:10:06 PM	R22481
n-Propylbenzene	310	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
sec-Butylbenzene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Styrene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
tert-Butylbenzene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,1,1,2-Tetrachloroethane	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,1,2,2-Tetrachloroethane	ND	100		µg/L	50	11/11/2014 10:10:06 PM	R22481
Tetrachloroethene (PCE)	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
trans-1,2-DCE	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
trans-1,3-Dichloropropene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,2,3-Trichlorobenzene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,2,4-Trichlorobenzene	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,1,1-Trichloroethane	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,1,2-Trichloroethane	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Trichloroethene (TCE)	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Trichlorofluoromethane	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
1,2,3-Trichloropropane	ND	100		µg/L	50	11/11/2014 10:10:06 PM	R22481
Vinyl chloride	ND	50		µg/L	50	11/11/2014 10:10:06 PM	R22481
Xylenes, Total	9400	75		µg/L	50	11/11/2014 10:10:06 PM	R22481
Surr: 1,2-Dichloroethane-d4	84.1	70-130		%REC	50	11/11/2014 10:10:06 PM	R22481
Surr: 4-Bromofluorobenzene	89.0	70-130		%REC	50	11/11/2014 10:10:06 PM	R22481
Surr: Dibromofluoromethane	87.5	70-130		%REC	50	11/11/2014 10:10:06 PM	R22481
Surr: Toluene-d8	92.3	70-130		%REC	50	11/11/2014 10:10:06 PM	R22481

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411271

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411271-001B

Client Sample ID: MW-74
Collection Date: 11/6/2014 9:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	80	5.0		mg/L	100	11/11/2014 7:37:52 PM	R22479
Surr: BFB	95.6	80-120		%REC	100	11/11/2014 7:37:52 PM	R22479

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411271

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411271-001C

Client Sample ID: MW-74
Collection Date: 11/6/2014 9:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: JME
Diesel Range Organics (DRO)	6.5	0.20		mg/L	1	11/11/2014 4:15:37 AM	16294
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	11/11/2014 4:15:37 AM	16294
Surr: DNOP	157	75.2-161		%REC	1	11/11/2014 4:15:37 AM	16294

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411271

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411271-001D

Client Sample ID: MW-74
Collection Date: 11/6/2014 9:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
Acenaphthene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Acenaphthylene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Aniline	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Anthracene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Azobenzene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Benz(a)anthracene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Benzo(a)pyrene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Benzo(b)fluoranthene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Benzo(k)fluoranthene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Benzoic acid	ND	20		µg/L	1	11/17/2014 3:13:29 PM	16326
Benzyl alcohol	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Butyl benzyl phthalate	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Carbazole	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
4-Chloro-3-methylphenol	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
4-Chloroaniline	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
2-Chloronaphthalene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
2-Chlorophenol	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Chrysene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Di-n-butyl phthalate	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Di-n-octyl phthalate	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Dibenzofuran	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
1,2-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
1,3-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
1,4-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
3,3'-Dichlorobenzidine	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Diethyl phthalate	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Dimethyl phthalate	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
2,4-Dichlorophenol	ND	20		µg/L	1	11/17/2014 3:13:29 PM	16326
2,4-Dimethylphenol	13	10		µg/L	1	11/17/2014 3:13:29 PM	16326
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	11/17/2014 3:13:29 PM	16326
2,4-Dinitrophenol	ND	20		µg/L	1	11/17/2014 3:13:29 PM	16326
2,4-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
2,6-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 5 of 28

Analytical Report

Lab Order: 1411271

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411271-001D

Client Sample ID: MW-74
Collection Date: 11/6/2014 9:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES				Analyst: DAM			
Fluoranthene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Fluorene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Hexachlorobenzene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Hexachlorobutadiene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Hexachloroethane	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Isophorone	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
1-Methylnaphthalene	78	10		µg/L	1	11/17/2014 3:13:29 PM	16326
2-Methylnaphthalene	120	10		µg/L	1	11/17/2014 3:13:29 PM	16326
2-Methylphenol	78	10		µg/L	1	11/17/2014 3:13:29 PM	16326
3+4-Methylphenol	20	10		µg/L	1	11/17/2014 3:13:29 PM	16326
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
N-Nitrosodimethylamine	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Naphthalene	230	10		µg/L	1	11/17/2014 3:13:29 PM	16326
2-Nitroaniline	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
3-Nitroaniline	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
4-Nitroaniline	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Nitrobenzene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
2-Nitrophenol	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
4-Nitrophenol	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Pentachlorophenol	ND	20		µg/L	1	11/17/2014 3:13:29 PM	16326
Phenanthrene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Phenol	41	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Pyrene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Pyridine	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/17/2014 3:13:29 PM	16326
Surr: 2-Fluorophenol	24.5	17.6-104		%REC	1	11/17/2014 3:13:29 PM	16326
Surr: Phenol-d5	26.2	17.7-89.9		%REC	1	11/17/2014 3:13:29 PM	16326
Surr: 2,4,6-Tribromophenol	73.8	16.3-122		%REC	1	11/17/2014 3:13:29 PM	16326
Surr: Nitrobenzene-d5	73.7	45.3-117		%REC	1	11/17/2014 3:13:29 PM	16326
Surr: 2-Fluorobiphenyl	77.0	43-113		%REC	1	11/17/2014 3:13:29 PM	16326
Surr: 4-Terphenyl-d14	77.8	47.6-122		%REC	1	11/17/2014 3:13:29 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 6 of 28

Analytical ReportLab Order: **1411271**Date Reported: **12/10/2014****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** MW-74**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 9:30:00 AM**Lab ID:** 1411271-001E**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	270	10	*	mg/L	20	11/7/2014 7:56:26 PM	R22427
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/7/2014 7:44:01 PM	R22427
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	11/7/2014 7:44:01 PM	R22427
Sulfate	40	2.5		mg/L	5	11/7/2014 7:44:01 PM	R22427
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	1200	20		mg/L CaCO ₃	1	11/13/2014 6:02:39 PM	R22543
Carbonate (As CaCO ₃)	ND	2.0		mg/L CaCO ₃	1	11/13/2014 6:02:39 PM	R22543
Total Alkalinity (as CaCO ₃)	1200	20		mg/L CaCO ₃	1	11/13/2014 6:02:39 PM	R22543
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1730	40.0	*	mg/L	1	11/12/2014 1:18:00 PM	16340

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 7 of 28

Analytical Report

Lab Order: 1411271

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411271-001F

Client Sample ID: MW-74
Collection Date: 11/6/2014 9:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	1.9	0.010		mg/L	5	11/11/2014 9:02:21 PM	R22482
Beryllium	ND	0.0020		mg/L	1	11/10/2014 5:48:27 PM	R22450
Cadmium	ND	0.0020		mg/L	1	11/11/2014 9:00:46 PM	R22482
Calcium	170	5.0		mg/L	5	11/10/2014 5:50:03 PM	R22450
Chromium	ND	0.0060		mg/L	1	11/11/2014 9:00:46 PM	R22482
Cobalt	ND	0.0060		mg/L	1	11/11/2014 9:00:46 PM	R22482
Iron	3.1	0.10	*	mg/L	5	11/11/2014 9:02:21 PM	R22482
Magnesium	53	1.0		mg/L	1	11/10/2014 5:48:27 PM	R22450
Manganese	4.4	0.010	*	mg/L	5	11/10/2014 5:50:03 PM	R22450
Nickel	0.015	0.010		mg/L	1	11/11/2014 9:00:46 PM	R22482
Potassium	4.9	1.0		mg/L	1	11/10/2014 5:48:27 PM	R22450
Silver	ND	0.0050		mg/L	1	11/10/2014 5:48:27 PM	R22450
Sodium	370	5.0		mg/L	5	11/10/2014 5:50:03 PM	R22450
Vanadium	ND	0.050		mg/L	1	11/10/2014 5:48:27 PM	R22450
Zinc	0.050	0.010		mg/L	1	11/11/2014 9:00:46 PM	R22482
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/24/2014 3:18:42 PM	R22774
Arsenic	ND	0.020		mg/L	20	11/24/2014 6:06:47 PM	R22774
Lead	0.0070	0.0010		mg/L	1	11/24/2014 3:18:42 PM	R22774
Selenium	ND	0.020		mg/L	20	11/24/2014 6:06:47 PM	R22774
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 12:02:08 PM	16435

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 8 of 28

Analytical ReportLab Order: **1411271**Date Reported: **12/10/2014****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411271-001G

Client Sample ID: MW-74
Collection Date: 11/6/2014 9:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: JLF			
Barium	2.0	0.010	*	mg/L	5	11/12/2014 4:38:56 PM	16339
Beryllium	ND	0.0020		mg/L	1	11/12/2014 4:11:06 PM	16339
Cadmium	ND	0.0020		mg/L	1	11/12/2014 4:11:06 PM	16339
Calcium	190	5.0		mg/L	5	11/12/2014 4:38:56 PM	16339
Chromium	ND	0.0060		mg/L	1	11/12/2014 4:11:06 PM	16339
Cobalt	ND	0.0060		mg/L	1	11/12/2014 4:11:06 PM	16339
Iron	5.2	0.20	*	mg/L	10	11/12/2014 4:50:44 PM	16339
Magnesium	57	5.0		mg/L	5	11/12/2014 4:38:56 PM	16339
Manganese	5.0	0.020	*	mg/L	10	11/12/2014 4:50:44 PM	16339
Nickel	0.012	0.010		mg/L	1	11/12/2014 4:11:06 PM	16339
Potassium	5.6	1.0		mg/L	1	11/12/2014 4:11:06 PM	16339
Silver	ND	0.0050		mg/L	1	11/12/2014 4:11:06 PM	16339
Sodium	390	5.0		mg/L	5	11/12/2014 4:38:56 PM	16339
Vanadium	ND	0.050		mg/L	1	11/12/2014 4:11:06 PM	16339
Zinc	0.015	0.010		mg/L	1	11/12/2014 4:11:06 PM	16339
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/13/2014 4:48:09 PM	16339
Arsenic	ND	0.010		mg/L	10	11/14/2014 1:31:40 PM	16339
Lead	0.0098	0.0010		mg/L	1	11/13/2014 4:48:09 PM	16339
Selenium	ND	0.020		mg/L	20	11/18/2014 5:31:09 PM	16339
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 12:03:58 PM	16435

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411271

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411271-002A

Client Sample ID: TRIP BLANK
Collection Date:
Matrix: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Toluene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Ethylbenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Naphthalene	ND	2.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1-Methylnaphthalene	ND	4.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
2-Methylnaphthalene	ND	4.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Acetone	ND	10		µg/L	1	11/11/2014 11:05:47 PM	R22481
Bromobenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Bromodichloromethane	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Bromoform	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Bromomethane	ND	3.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
2-Butanone	ND	10		µg/L	1	11/11/2014 11:05:47 PM	R22481
Carbon disulfide	ND	10		µg/L	1	11/11/2014 11:05:47 PM	R22481
Carbon Tetrachloride	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Chlorobenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Chloroethane	ND	2.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Chloroform	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Chloromethane	ND	3.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
2-Chlorotoluene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
4-Chlorotoluene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
cis-1,2-DCE	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Dibromochloromethane	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Dibromomethane	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,1-Dichloroethane	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,1-Dichloroethene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,2-Dichloropropane	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,3-Dichloropropane	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
2,2-Dichloropropane	ND	2.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,1-Dichloropropene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Hexachlorobutadiene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411271

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411271-002A

Client Sample ID: TRIP BLANK
Collection Date:
Matrix: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	10		µg/L	1	11/11/2014 11:05:47 PM	R22481
Isopropylbenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
4-Isopropyltoluene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
4-Methyl-2-pentanone	ND	10		µg/L	1	11/11/2014 11:05:47 PM	R22481
Methylene Chloride	ND	3.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
n-Butylbenzene	ND	3.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
n-Propylbenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
sec-Butylbenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Styrene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
tert-Butylbenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
trans-1,2-DCE	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Trichlorofluoromethane	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Vinyl chloride	ND	1.0		µg/L	1	11/11/2014 11:05:47 PM	R22481
Xylenes, Total	ND	1.5		µg/L	1	11/11/2014 11:05:47 PM	R22481
Surr: 1,2-Dichloroethane-d4	87.1	70-130		%REC	1	11/11/2014 11:05:47 PM	R22481
Surr: 4-Bromofluorobenzene	80.9	70-130		%REC	1	11/11/2014 11:05:47 PM	R22481
Surr: Dibromofluoromethane	97.1	70-130		%REC	1	11/11/2014 11:05:47 PM	R22481
Surr: Toluene-d8	91.6	70-130		%REC	1	11/11/2014 11:05:47 PM	R22481

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Anatek Labs, Inc.

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

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

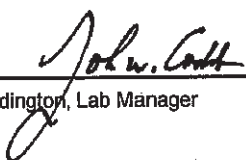
Batch #: 141111015
Project Name: 1411271

Analytical Results Report

Sample Number	141111015-001	Sampling Date	11/6/2014	Date/Time Received	11/11/2014 11:50 AM
Client Sample ID	1411271-001H / MW-74	Sampling Time	9:30 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	11/14/2014	CRW	EPA 335.4	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; CO-ID00013; FL(NELAP):E87893; ID-ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, November 18, 2014

Page 1 of 1

Anatek Labs, Inc.

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

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

Batch #: 141111015
Project Name: 1411271

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	11/13/2014	11/14/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141111021-001	Cyanide	ND	0.990	mg/L	1	99.0	90-110	11/13/2014	11/14/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.982	mg/L	1	98.2	0.8	0-20	11/13/2014	11/14/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	11/13/2014	11/14/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661543		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Calcium	ND	1.0								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661544		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Calcium	48	1.0	50.00	0	97.0	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Manganese	0.46	0.0020	0.5000	0	92.7	85	115			
Potassium	48	1.0	50.00	0	95.3	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.0	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661545		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Calcium	ND	1.0								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661546		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	99.3	85	115			
Calcium	49	1.0	50.00	0	98.0	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Manganese	0.46	0.0020	0.5000	0	91.0	85	115			
Potassium	48	1.0	50.00	0	95.6	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	49	1.0	50.00	0	98.2	85	115			
Vanadium	0.50	0.050	0.5000	0	100	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22482			RunNo: 22482					
Prep Date:		Analysis Date: 11/11/2014			SeqNo: 662817		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								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22482		RunNo: 22482					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662818		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	99.7	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.6	85	115			
Chromium	0.49	0.0060	0.5000	0	97.3	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.7	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Nickel	0.49	0.010	0.5000	0	98.0	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Sample ID	MB		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: R22482		RunNo: 22482					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662819		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662819		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								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R22482		RunNo: 22482							
Prep Date:	Analysis Date: 11/11/2014		SeqNo: 662820		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.3	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.3	85	115			
Chromium	0.48	0.0060	0.5000	0	95.7	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Nickel	0.48	0.010	0.5000	0	96.0	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16339	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	16339	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663342	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID	LCS-16339	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	16339	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663343	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	96.0	85	115			
Beryllium	0.52	0.0020	0.5000	0	103	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.4	85	115			
Calcium	51	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	95.2	85	115			
Cobalt	0.46	0.0060	0.5000	0	92.5	85	115			
Iron	0.48	0.020	0.5000	0	96.5	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Manganese	0.46	0.0020	0.5000	0	91.6	85	115			
Nickel	0.46	0.010	0.5000	0	92.5	85	115			
Potassium	48	1.0	50.00	0	95.8	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.5	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			
Zinc	0.48	0.010	0.5000	0	96.4	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	1411271-001GMS		SampType: MS			TestCode: EPA Method 200.7: Total Metals				
Client ID:	MW-74		Batch ID: 16339			RunNo: 22496				
Prep Date:	11/11/2014		Analysis Date: 11/12/2014			SeqNo: 663634		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.53	0.0020	0.5000	0.0005000	106	70	130			
Cadmium	0.49	0.0020	0.5000	0	98.6	70	130			
Chromium	0.48	0.0060	0.5000	0	96.9	70	130			
Cobalt	0.47	0.0060	0.5000	0.002980	92.8	70	130			
Nickel	0.47	0.010	0.5000	0.01187	92.0	70	130			
Potassium	56	1.0	50.00	5.626	100	70	130			
Silver	0.11	0.0050	0.1000	0	108	70	130			
Vanadium	0.53	0.050	0.5000	0.008550	105	70	130			
Zinc	0.49	0.010	0.5000	0.01510	94.9	70	130			

Sample ID	1411271-001GMSD		SampType: MSD			TestCode: EPA Method 200.7: Total Metals				
Client ID:	MW-74		Batch ID: 16339			RunNo: 22496				
Prep Date:	11/11/2014		Analysis Date: 11/12/2014			SeqNo: 663635		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.52	0.0020	0.5000	0.0005000	105	70	130	1.10	20	
Cadmium	0.49	0.0020	0.5000	0	98.6	70	130	0.0223	20	
Chromium	0.49	0.0060	0.5000	0	97.1	70	130	0.151	20	
Cobalt	0.47	0.0060	0.5000	0.002980	92.5	70	130	0.270	20	
Nickel	0.47	0.010	0.5000	0.01187	92.0	70	130	0.00212	20	
Potassium	56	1.0	50.00	5.626	101	70	130	1.16	20	
Silver	0.11	0.0050	0.1000	0	108	70	130	0.306	20	
Vanadium	0.53	0.050	0.5000	0.008550	105	70	130	0.0564	20	
Zinc	0.49	0.010	0.5000	0.01510	94.3	70	130	0.561	20	

Sample ID	1411271-001GMS		SampType: MS			TestCode: EPA Method 200.7: Total Metals				
Client ID:	MW-74		Batch ID: 16339			RunNo: 22496				
Prep Date:	11/11/2014		Analysis Date: 11/12/2014			SeqNo: 663652		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	2.5	0.010	0.5000	2.024	91.8	70	130			
Calcium	240	5.0	50.00	193.3	100	70	130			
Magnesium	110	5.0	50.00	56.68	101	70	130			
Sodium	440	5.0	50.00	392.4	85.9	70	130			

Sample ID	1411271-001GMSD		SampType: MSD			TestCode: EPA Method 200.7: Total Metals				
Client ID:	MW-74		Batch ID: 16339			RunNo: 22496				
Prep Date:	11/11/2014		Analysis Date: 11/12/2014			SeqNo: 663653		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 |
| 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 |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	1411271-001GMSD	SampType:	MSD	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	MW-74	Batch ID:	16339	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663653	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	2.5	0.010	0.5000	2.024	95.5	70	130	0.744	20	
Calcium	250	5.0	50.00	193.3	106	70	130	1.16	20	
Magnesium	110	5.0	50.00	56.68	104	70	130	1.51	20	
Sodium	440	5.0	50.00	392.4	102	70	130	1.78	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672122		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	90.6	85	115			
Arsenic	0.023	0.0010	0.02500	0	92.5	85	115			
Lead	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.022	0.0010	0.02500	0	89.7	85	115			

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672123		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	97.3	85	115			
Lead	0.024	0.0010	0.02500	0	97.3	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Sample ID	MB		SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672124		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB		SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW		Batch ID: R22774		RunNo: 22774					
Prep Date:			Analysis Date: 11/24/2014		SeqNo: 672125		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LLLCS-16339		SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	BatchQC		Batch ID: 16339		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664409		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	97.2	85	115			
Arsenic	0.022	0.0010	0.02500	0	88.1	85	115			
Lead	0.023	0.0010	0.02500	0	92.5	85	115			
Selenium	0.022	0.0010	0.02500	0	86.7	85	115			

Sample ID	MB-16339		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	PBW		Batch ID: 16339		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664411		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16435		SampType:	MBLK		TestCode:	EPA Method 245.1: Mercury				
Client ID:	PBW		Batch ID:	16435		RunNo:	22633				
Prep Date:	11/18/2014		Analysis Date:	11/19/2014		SeqNo:	667607		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	ND	0.00020									

Sample ID	LCS-16435		SampType: LCS		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 16435		RunNo: 22633					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667608		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	0	107	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661019		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS	SampType: LCS			TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661020		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.2	67.5	109			
Nitrogen, Nitrate (As N)	2.3	0.10	2.500	0	93.3	84	109			
Sulfate	9.4	0.50	10.00	0	93.9	88.3	114			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661041		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R22427		RunNo: 22427					
Prep Date:			Analysis Date: 11/7/2014		SeqNo: 661042		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.2	81.8	112			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.0	67.5	109			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	84	109			
Sulfate	9.8	0.50	10.00	0	97.7	88.3	114			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16294	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW	Batch ID: 16294			RunNo: 22413					
Prep Date:	11/7/2014	Analysis Date: 11/10/2014			SeqNo: 661403		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.20								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.67		0.5000		134	75.2	161			

Sample ID	LCS-16294		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	LCSW		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/11/2014		SeqNo: 661404		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.1	0.20	2.500	0	125	65.8	162			
Surr: DNOP	0.33		0.2500		131	75.2	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662578		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		90.2	80	120			

Sample ID	2.5UG GRO LCS		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662580		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	96.3	80	120			
Surr: BFB	19		20.00		94.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID b5	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R22481			RunNo: 22481						
Prep Date:	Analysis Date: 11/11/2014			SeqNo: 662755	Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID b5	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R22481			RunNo: 22481						
Prep Date:	Analysis Date: 11/11/2014			SeqNo: 662755		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.9	70	130			
Surr: 4-Bromofluorobenzene	7.8		10.00		77.6	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.0	70	130			
Surr: Toluene-d8	9.6		10.00		96.0	70	130			

Sample ID 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R22481			RunNo: 22481						
Prep Date:	Analysis Date: 11/11/2014			SeqNo: 662757		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	113	70	130			
Toluene	21	1.0	20.00	0	105	80	120			
Chlorobenzene	19	1.0	20.00	0	94.4	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R22481			RunNo: 22481					
Prep Date:	Analysis Date: 11/11/2014			SeqNo: 662757		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23	1.0	20.00	0	117	82.6	131			
Trichloroethene (TCE)	20	1.0	20.00	0	97.5	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.4	70	130			
Surr: 4-Bromofluorobenzene	8.1		10.00		80.6	70	130			
Surr: Dibromofluoromethane	9.1		10.00		90.6	70	130			
Surr: Toluene-d8	9.0		10.00		90.5	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-1		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664664		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	Ics-1		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R22543		RunNo: 22543					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664665		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16340		SampType: MBLK		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663255		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	LCS-16340		SampType: LCS		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663256		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Sample ID	1411271-001EMS		SampType: MS		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	MW-74		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663264		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	3760	40.0	2000	1726	102	80	120			

Sample ID	1411271-001EMSD		SampType:	MSD		TestCode:	SM2540C MOD: Total Dissolved Solids				
Client ID:	MW-74		Batch ID:	16340		RunNo:	22490				
Prep Date:	11/11/2014		Analysis Date:	11/12/2014		SeqNo:	663265		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Dissolved Solids	3770	40.0	2000	1726	102	80	120	0.106	5		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-16377	SampType:	MBLK	TestCode: EPA Method 8270C: Semivolatiles						
Client ID:	PBW	Batch ID:	16377	RunNo: 22600						
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo: 666318		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
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								

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH greater than 2.

RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-16377	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666318	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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	95		200.0		47.6	17.6	104			
Surr: Phenol-d5	96		200.0		48.2	17.7	89.9			
Surr: 2,4,6-Tribromophenol	75		200.0		37.5	16.3	122			
Surr: Nitrobenzene-d5	67		100.0		67.1	45.3	117			
Surr: 2-Fluorobiphenyl	61		100.0		61.2	43	113			
Surr: 4-Terphenyl-d14	73		100.0		72.5	47.6	122			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH greater than 2.

RL Reporting Detection Limit

Page 2 of 0

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Table with 11 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual. Rows include various chemical compounds like Acenaphthene, 4-Chloro-3-methylphenol, 2-Chlorophenol, etc., with their respective test results and limits.

Table with 11 columns: Analyte, Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual. Rows include various chemical compounds like Acenaphthene, 4-Chloro-3-methylphenol, 2-Chlorophenol, etc., with their respective test results and limits.

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411271
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Sample ID	Icsd-16377	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666369	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	81		100.0		81.3	47.6	122	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH greater than 2.

RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1411271

RcptNo: 1

Received by/date:

LM 11/07/14

Logged By:

Ashley Gallegos

11/7/2014 7:00:00 AM

AG

Completed By:

Ashley Gallegos

11/7/2014 9:11:16 AM

AG

Reviewed By:

CS

11/07/14

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?

Courier

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 ☐

2 METALS ANALYSIS: Added 1 mL HNO₃ TO -0064 FOR ACCEPTABLE pH. HEAD IN LOG IN FOR 24 HOURS AFTER PRESERVATION

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?

Yes ☒

No ☐

(Note discrepancies on chain of custody)

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?

Yes ☒

No ☐

(If no, notify customer for authorization.)

of preserved bottles checked for pH:

3

(≤2 or ≥12 unless noted)

Adjusted?

YES

Checked by:

AG

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	1.3	Good	Yes			

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 3000A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl lead	SW-846 method 8278C
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020

General Chemistry Parameters for Groundwater Samples

Analyte	Analytical Method
Total Dissolved Solids	SM-2540C
Bicarbonate	SM-2320B
Chloride	EPA method 300.0
Sulfate	EPA method 300.0
Calcium	EPA method 6010/6020
Magnesium	EPA method 6010/6020
Sodium	EPA method 6010/6020
Potassium	EPA method 6010/6020
Manganese	SW-846 method 6010/6020
Nitrate/nitrite	EPA method 300.0
Ferric/ferrous Iron	SW-846 method 6010/6020 & SM 3500Fe2+



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

December 10, 2014

Kelly Robinson

Western Refining Southwest, Inc.
#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9 11-6-14

OrderNo.: 1411272

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/7/2014 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

Analytical Report

Lab Order: 1411272

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411272-001A

Client Sample ID: MW-75
Collection Date: 11/6/2014 9:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	8300	500		µg/L	500	11/13/2014 3:26:13 PM	R22531
Toluene	100	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Ethylbenzene	370	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Methyl tert-butyl ether (MTBE)	57	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,2,4-Trimethylbenzene	220	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,3,5-Trimethylbenzene	53	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,2-Dichloroethane (EDC)	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,2-Dibromoethane (EDB)	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Naphthalene	180	100		µg/L	50	11/13/2014 12:56:07 PM	R22531
1-Methylnaphthalene	ND	200		µg/L	50	11/13/2014 12:56:07 PM	R22531
2-Methylnaphthalene	ND	200		µg/L	50	11/13/2014 12:56:07 PM	R22531
Acetone	ND	500		µg/L	50	11/13/2014 12:56:07 PM	R22531
Bromobenzene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Bromodichloromethane	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Bromoform	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Bromomethane	ND	150		µg/L	50	11/13/2014 12:56:07 PM	R22531
2-Butanone	ND	500		µg/L	50	11/13/2014 12:56:07 PM	R22531
Carbon disulfide	ND	500		µg/L	50	11/13/2014 12:56:07 PM	R22531
Carbon Tetrachloride	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Chlorobenzene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Chloroethane	ND	100		µg/L	50	11/13/2014 12:56:07 PM	R22531
Chloroform	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Chloromethane	ND	150		µg/L	50	11/13/2014 12:56:07 PM	R22531
2-Chlorotoluene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
4-Chlorotoluene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
cis-1,2-DCE	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
cis-1,3-Dichloropropene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,2-Dibromo-3-chloropropane	ND	100		µg/L	50	11/13/2014 12:56:07 PM	R22531
Dibromochloromethane	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Dibromomethane	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,2-Dichlorobenzene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,3-Dichlorobenzene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,4-Dichlorobenzene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Dichlorodifluoromethane	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,1-Dichloroethane	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,1-Dichloroethene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,2-Dichloropropane	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,3-Dichloropropane	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
2,2-Dichloropropane	ND	100		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,1-Dichloropropene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Hexachlorobutadiene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411272

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411272-001A

Client Sample ID: MW-75
Collection Date: 11/6/2014 9:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	500		µg/L	50	11/13/2014 12:56:07 PM	R22531
Isopropylbenzene	84	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
4-Isopropyltoluene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
4-Methyl-2-pentanone	ND	500		µg/L	50	11/13/2014 12:56:07 PM	R22531
Methylene Chloride	ND	150		µg/L	50	11/13/2014 12:56:07 PM	R22531
n-Butylbenzene	ND	150		µg/L	50	11/13/2014 12:56:07 PM	R22531
n-Propylbenzene	73	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
sec-Butylbenzene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Styrene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
tert-Butylbenzene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,1,1,2-Tetrachloroethane	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,1,2,2-Tetrachloroethane	ND	100		µg/L	50	11/13/2014 12:56:07 PM	R22531
Tetrachloroethene (PCE)	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
trans-1,2-DCE	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
trans-1,3-Dichloropropene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,2,3-Trichlorobenzene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,2,4-Trichlorobenzene	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,1,1-Trichloroethane	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,1,2-Trichloroethane	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Trichloroethene (TCE)	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Trichlorofluoromethane	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
1,2,3-Trichloropropane	ND	100		µg/L	50	11/13/2014 12:56:07 PM	R22531
Vinyl chloride	ND	50		µg/L	50	11/13/2014 12:56:07 PM	R22531
Xylenes, Total	970	75		µg/L	50	11/13/2014 12:56:07 PM	R22531
Surr: 1,2-Dichloroethane-d4	89.3	70-130		%REC	50	11/13/2014 12:56:07 PM	R22531
Surr: 4-Bromofluorobenzene	76.6	70-130		%REC	50	11/13/2014 12:56:07 PM	R22531
Surr: Dibromofluoromethane	89.6	70-130		%REC	50	11/13/2014 12:56:07 PM	R22531
Surr: Toluene-d8	88.5	70-130		%REC	50	11/13/2014 12:56:07 PM	R22531

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411272

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411272-001B

Client Sample ID: MW-75
Collection Date: 11/6/2014 9:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	19	2.5		mg/L	50	11/11/2014 9:54:15 PM	R22479
Surr: BFB	97.3	80-120		%REC	50	11/11/2014 9:54:15 PM	R22479

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411272

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411272-001C

Client Sample ID: MW-75
Collection Date: 11/6/2014 9:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: JME
Diesel Range Organics (DRO)	3.6	0.20		mg/L	1	11/11/2014 4:44:58 AM	16294
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	11/11/2014 4:44:58 AM	16294
Surr: DNOP	142	75.2-161		%REC	1	11/11/2014 4:44:58 AM	16294

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411272

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411272-001D

Client Sample ID: MW-75
Collection Date: 11/6/2014 9:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Acenaphthylene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Aniline	10	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Anthracene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Azobenzene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Benz(a)anthracene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Benzo(a)pyrene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Benzo(b)fluoranthene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Benzo(k)fluoranthene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Benzoic acid	ND	20		µg/L	1	11/17/2014 3:41:11 PM	16326
Benzyl alcohol	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Bis(2-ethylhexyl)phthalate	16	10		µg/L	1	11/17/2014 3:41:11 PM	16326
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Butyl benzyl phthalate	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Carbazole	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
4-Chloro-3-methylphenol	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
4-Chloroaniline	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
2-Chloronaphthalene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
2-Chlorophenol	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Chrysene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Di-n-butyl phthalate	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Di-n-octyl phthalate	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Dibenzofuran	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
1,2-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
1,3-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
1,4-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
3,3'-Dichlorobenzidine	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Diethyl phthalate	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Dimethyl phthalate	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
2,4-Dichlorophenol	ND	20		µg/L	1	11/17/2014 3:41:11 PM	16326
2,4-Dimethylphenol	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	11/17/2014 3:41:11 PM	16326
2,4-Dinitrophenol	ND	20		µg/L	1	11/17/2014 3:41:11 PM	16326
2,4-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
2,6-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411272

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** MW-75**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 9:00:00 AM**Lab ID:** 1411272-001D**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Fluoranthene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Fluorene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Hexachlorobenzene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Hexachlorobutadiene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Hexachloroethane	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Isophorone	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
1-Methylnaphthalene	49	10		µg/L	1	11/17/2014 3:41:11 PM	16326
2-Methylnaphthalene	70	10		µg/L	1	11/17/2014 3:41:11 PM	16326
2-Methylphenol	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
3+4-Methylphenol	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
N-Nitrosodimethylamine	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Naphthalene	78	10		µg/L	1	11/17/2014 3:41:11 PM	16326
2-Nitroaniline	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
3-Nitroaniline	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
4-Nitroaniline	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Nitrobenzene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
2-Nitrophenol	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
4-Nitrophenol	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Pentachlorophenol	ND	20		µg/L	1	11/17/2014 3:41:11 PM	16326
Phenanthrene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Phenol	57	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Pyrene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Pyridine	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/17/2014 3:41:11 PM	16326
Surr: 2-Fluorophenol	49.9	17.6-104		%REC	1	11/17/2014 3:41:11 PM	16326
Surr: Phenol-d5	46.0	17.7-89.9		%REC	1	11/17/2014 3:41:11 PM	16326
Surr: 2,4,6-Tribromophenol	63.5	16.3-122		%REC	1	11/17/2014 3:41:11 PM	16326
Surr: Nitrobenzene-d5	63.9	45.3-117		%REC	1	11/17/2014 3:41:11 PM	16326
Surr: 2-Fluorobiphenyl	61.4	43-113		%REC	1	11/17/2014 3:41:11 PM	16326
Surr: 4-Terphenyl-d14	58.0	47.6-122		%REC	1	11/17/2014 3:41:11 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1411272**Date Reported: **12/10/2014****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411272-001E

Client Sample ID: MW-75
Collection Date: 11/6/2014 9:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	280	10	*	mg/L	20	11/7/2014 8:46:03 PM	R22427
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/7/2014 8:33:39 PM	R22427
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	11/7/2014 8:33:39 PM	R22427
Sulfate	11	2.5		mg/L	5	11/7/2014 8:33:39 PM	R22427
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	1100	50		mg/L CaCO3	2.5	11/17/2014 12:13:12 PM	R22606
Carbonate (As CaCO3)	ND	5.0		mg/L CaCO3	2.5	11/17/2014 12:13:12 PM	R22606
Total Alkalinity (as CaCO3)	1100	50		mg/L CaCO3	2.5	11/17/2014 12:13:12 PM	R22606
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1680	200	*	mg/L	1	11/12/2014 1:18:00 PM	16340

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411272

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411272-001F

Client Sample ID: MW-75
Collection Date: 11/6/2014 9:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	1.6	0.010		mg/L	5	11/11/2014 9:06:06 PM	R22482
Beryllium	ND	0.0020		mg/L	1	11/10/2014 5:52:01 PM	R22450
Cadmium	ND	0.0020		mg/L	1	11/11/2014 9:04:14 PM	R22482
Calcium	99	1.0		mg/L	1	11/10/2014 5:52:01 PM	R22450
Chromium	ND	0.0060		mg/L	1	11/11/2014 9:04:14 PM	R22482
Cobalt	ND	0.0060		mg/L	1	11/11/2014 9:04:14 PM	R22482
Iron	4.9	0.10	*	mg/L	5	11/11/2014 9:06:06 PM	R22482
Magnesium	34	1.0		mg/L	1	11/10/2014 5:52:01 PM	R22450
Manganese	1.8	0.010	*	mg/L	5	11/10/2014 5:53:35 PM	R22450
Nickel	ND	0.010		mg/L	1	11/11/2014 9:04:14 PM	R22482
Potassium	3.4	1.0		mg/L	1	11/10/2014 5:52:01 PM	R22450
Silver	ND	0.0050		mg/L	1	11/10/2014 5:52:01 PM	R22450
Sodium	480	5.0		mg/L	5	11/10/2014 5:53:35 PM	R22450
Vanadium	ND	0.050		mg/L	1	11/10/2014 5:52:01 PM	R22450
Zinc	0.11	0.010		mg/L	1	11/11/2014 9:04:14 PM	R22482
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/24/2014 2:51:47 PM	R22774
Arsenic	0.020	0.020	*	mg/L	20	11/24/2014 6:09:53 PM	R22774
Lead	0.0020	0.0010		mg/L	1	11/24/2014 2:51:47 PM	R22774
Selenium	ND	0.020		mg/L	20	11/24/2014 6:09:53 PM	R22774
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 12:05:48 PM	16435

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411272

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411272-001G

Client Sample ID: MW-75
Collection Date: 11/6/2014 9:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: JLF			
Barium	2.9	0.010	*	mg/L	5	11/12/2014 4:52:45 PM	16339
Beryllium	ND	0.0020		mg/L	1	11/12/2014 4:23:06 PM	16339
Cadmium	ND	0.0020		mg/L	1	11/12/2014 4:23:06 PM	16339
Calcium	120	5.0		mg/L	5	11/12/2014 4:52:45 PM	16339
Chromium	0.031	0.0060		mg/L	1	11/12/2014 4:23:06 PM	16339
Cobalt	0.016	0.0060		mg/L	1	11/12/2014 4:23:06 PM	16339
Iron	38	1.0	*	mg/L	50	11/12/2014 4:54:30 PM	16339
Magnesium	42	1.0		mg/L	1	11/12/2014 4:23:06 PM	16339
Manganese	2.5	0.010	*	mg/L	5	11/12/2014 4:52:45 PM	16339
Nickel	0.023	0.010		mg/L	1	11/12/2014 4:23:06 PM	16339
Potassium	6.4	1.0		mg/L	1	11/12/2014 4:23:06 PM	16339
Silver	ND	0.0050		mg/L	1	11/12/2014 4:23:06 PM	16339
Sodium	530	50		mg/L	50	11/12/2014 4:54:30 PM	16339
Vanadium	ND	0.050		mg/L	1	11/12/2014 4:23:06 PM	16339
Zinc	0.090	0.010		mg/L	1	11/12/2014 4:23:06 PM	16339
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/13/2014 4:53:30 PM	16339
Arsenic	0.028	0.010	*	mg/L	10	11/14/2014 1:35:10 PM	16339
Lead	0.021	0.0010	*	mg/L	1	11/13/2014 4:53:30 PM	16339
Selenium	ND	0.020		mg/L	20	11/18/2014 5:34:38 PM	16339
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 12:07:39 PM	16435

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411272

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411272-002A

Client Sample ID: TRIP BLANK
Collection Date:
Matrix: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Toluene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Ethylbenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Naphthalene	ND	2.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1-Methylnaphthalene	ND	4.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
2-Methylnaphthalene	ND	4.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Acetone	ND	10		µg/L	1	11/13/2014 3:54:15 PM	R22531
Bromobenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Bromodichloromethane	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Bromoform	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Bromomethane	ND	3.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
2-Butanone	ND	10		µg/L	1	11/13/2014 3:54:15 PM	R22531
Carbon disulfide	ND	10		µg/L	1	11/13/2014 3:54:15 PM	R22531
Carbon Tetrachloride	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Chlorobenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Chloroethane	ND	2.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Chloroform	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Chloromethane	ND	3.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
2-Chlorotoluene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
4-Chlorotoluene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
cis-1,2-DCE	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Dibromochloromethane	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Dibromomethane	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,1-Dichloroethane	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,1-Dichloroethene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,2-Dichloropropane	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,3-Dichloropropane	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
2,2-Dichloropropane	ND	2.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,1-Dichloropropene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Hexachlorobutadiene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411272

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411272-002A

Client Sample ID: TRIP BLANK
Collection Date:
Matrix: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	10		µg/L	1	11/13/2014 3:54:15 PM	R22531
Isopropylbenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
4-Isopropyltoluene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
4-Methyl-2-pentanone	ND	10		µg/L	1	11/13/2014 3:54:15 PM	R22531
Methylene Chloride	ND	3.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
n-Butylbenzene	ND	3.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
n-Propylbenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
sec-Butylbenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Styrene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
tert-Butylbenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
trans-1,2-DCE	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Trichlorofluoromethane	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Vinyl chloride	ND	1.0		µg/L	1	11/13/2014 3:54:15 PM	R22531
Xylenes, Total	ND	1.5		µg/L	1	11/13/2014 3:54:15 PM	R22531
Surr: 1,2-Dichloroethane-d4	83.9	70-130		%REC	1	11/13/2014 3:54:15 PM	R22531
Surr: 4-Bromofluorobenzene	82.9	70-130		%REC	1	11/13/2014 3:54:15 PM	R22531
Surr: Dibromofluoromethane	95.7	70-130		%REC	1	11/13/2014 3:54:15 PM	R22531
Surr: Toluene-d8	89.5	70-130		%REC	1	11/13/2014 3:54:15 PM	R22531

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Anatek Labs, Inc.

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

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

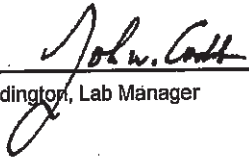
Batch #: 141111016
Project Name: 1411272

Analytical Results Report

Sample Number	141111016-001	Sampling Date	11/6/2014	Date/Time Received	11/11/2014 11:50 AM
Client Sample ID	1411272-001H / MW-75	Sampling Time	9:00 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	11/14/2014	CRW	EPA 335.4	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, November 18, 2014

Page 1 of 1

Anatek Labs, Inc.

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

Batch #: 141111016
Project Name: 1411272

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	11/13/2014	11/14/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141111021-001	Cyanide	ND	0.990	mg/L	1	99.0	90-110	11/13/2014	11/14/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.982	mg/L	1	98.2	0.8	0-20	11/13/2014	11/14/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	11/13/2014	11/14/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661543		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Calcium	ND	1.0								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661544		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Calcium	48	1.0	50.00	0	97.0	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Manganese	0.46	0.0020	0.5000	0	92.7	85	115			
Potassium	48	1.0	50.00	0	95.3	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.0	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661545		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Calcium	ND	1.0								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661546		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	99.3	85	115			
Calcium	49	1.0	50.00	0	98.0	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Manganese	0.46	0.0020	0.5000	0	91.0	85	115			
Potassium	48	1.0	50.00	0	95.6	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	49	1.0	50.00	0	98.2	85	115			
Vanadium	0.50	0.050	0.5000	0	100	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22482			RunNo: 22482					
Prep Date:		Analysis Date: 11/11/2014			SeqNo: 662817		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								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22482		RunNo: 22482					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662818		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	99.7	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.6	85	115			
Chromium	0.49	0.0060	0.5000	0	97.3	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.7	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Nickel	0.49	0.010	0.5000	0	98.0	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Sample ID	MB		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: R22482		RunNo: 22482					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662819		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 |
| 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 |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22482			RunNo: 22482					
Prep Date:		Analysis Date: 11/11/2014			SeqNo: 662819		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								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22482		RunNo: 22482					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662820		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.3	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.3	85	115			
Chromium	0.48	0.0060	0.5000	0	95.7	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Nickel	0.48	0.010	0.5000	0	96.0	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16339	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	16339	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663342	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID	LCS-16339	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	16339	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663343	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	96.0	85	115			
Beryllium	0.52	0.0020	0.5000	0	103	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.4	85	115			
Calcium	51	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	95.2	85	115			
Cobalt	0.46	0.0060	0.5000	0	92.5	85	115			
Iron	0.48	0.020	0.5000	0	96.5	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Manganese	0.46	0.0020	0.5000	0	91.6	85	115			
Nickel	0.46	0.010	0.5000	0	92.5	85	115			
Potassium	48	1.0	50.00	0	95.8	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.5	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			
Zinc	0.48	0.010	0.5000	0	96.4	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS		SampType: LCS			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	LCSW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672122		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	90.6	85	115			
Arsenic	0.023	0.0010	0.02500	0	92.5	85	115			
Lead	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.022	0.0010	0.02500	0	89.7	85	115			

Sample ID	LCS		SampType: LCS			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	LCSW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672123		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	97.3	85	115			
Lead	0.024	0.0010	0.02500	0	97.3	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	PBW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672124		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	PBW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672125		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LLLCS-16339		SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	BatchQC		Batch ID: 16339		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664409		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	97.2	85	115			
Arsenic	0.022	0.0010	0.02500	0	88.1	85	115			
Lead	0.023	0.0010	0.02500	0	92.5	85	115			
Selenium	0.022	0.0010	0.02500	0	86.7	85	115			

Sample ID	MB-16339		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	PBW		Batch ID: 16339		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664411		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16435		SampType: MBLK		TestCode: EPA Method 245.1: Mercury					
Client ID:	PBW		Batch ID: 16435		RunNo: 22633					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667607		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-16435			SampType:	LCS		TestCode:	EPA Method 245.1: Mercury				
Client ID:	LCSW			Batch ID:	16435		RunNo:	22633				
Prep Date:	11/18/2014			Analysis Date:	11/19/2014		SeqNo:	667608			Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Mercury	0.0054	0.00020	0.005000	0	107	80	120					

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R22427	RunNo:	22427					
Prep Date:		Analysis Date:	11/7/2014	SeqNo:	661019	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R22427	RunNo:	22427					
Prep Date:		Analysis Date:	11/7/2014	SeqNo:	661020	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.2	67.5	109			
Nitrogen, Nitrate (As N)	2.3	0.10	2.500	0	93.3	84	109			
Sulfate	9.4	0.50	10.00	0	93.9	88.3	114			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R22427	RunNo:	22427					
Prep Date:		Analysis Date:	11/7/2014	SeqNo:	661041	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R22427	RunNo:	22427					
Prep Date:		Analysis Date:	11/7/2014	SeqNo:	661042	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.2	81.8	112			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.0	67.5	109			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	84	109			
Sulfate	9.8	0.50	10.00	0	97.7	88.3	114			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16294	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW	Batch ID: 16294			RunNo: 22413					
Prep Date:	11/7/2014	Analysis Date: 11/10/2014			SeqNo: 661403		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.20								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.67		0.5000		134	75.2	161			

Sample ID	LCS-16294		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	LCSW		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/11/2014		SeqNo: 661404		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.1	0.20	2.500	0	125	65.8	162			
Surr: DNOP	0.33		0.2500		131	75.2	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662578		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		90.2	80	120			

Sample ID	2.5UG GRO LCS		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662580		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	96.3	80	120			
Surr: BFB	19		20.00		94.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R22531	RunNo:	22531					
Prep Date:		Analysis Date:	11/13/2014	SeqNo:	664345	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R22531	RunNo:	22531					
Prep Date:		Analysis Date:	11/13/2014	SeqNo:	664345	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.5		10.00		85.1	70	130			
Surr: 4-Bromofluorobenzene	8.7		10.00		86.6	70	130			
Surr: Dibromofluoromethane	9.1		10.00		91.0	70	130			
Surr: Toluene-d8	9.1		10.00		91.4	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R22531	RunNo:	22531					
Prep Date:		Analysis Date:	11/13/2014	SeqNo:	664347	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	117	70	130			
Toluene	22	1.0	20.00	0	110	80	120			
Chlorobenzene	19	1.0	20.00	0	95.6	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW		Batch ID: R22531		RunNo: 22531					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664347		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	111	82.6	131			
Trichloroethene (TCE)	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	8.2		10.00		82.0	70	130			
Surr: 4-Bromofluorobenzene	8.1		10.00		80.7	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.5	70	130			
Surr: Toluene-d8	9.1		10.00		90.7	70	130			

Sample ID	1411272-001ams		SampType: MS		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	MW-75		Batch ID: R22531		RunNo: 22531					
Prep Date:			Analysis Date: 11/13/2014		SeqNo: 664352		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	9500	50	1000	7869	161	70	130			ES
Toluene	1200	50	1000	102.8	108	70	130			
Chlorobenzene	910	50	1000	0	91.4	70	130			
1,1-Dichloroethene	1000	50	1000	0	102	70	130			
Trichloroethene (TCE)	1000	50	1000	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	440		500.0		87.2	70	130			
Surr: 4-Bromofluorobenzene	380		500.0		76.2	70	130			
Surr: Dibromofluoromethane	450		500.0		89.8	70	130			
Surr: Toluene-d8	450		500.0		89.5	70	130			

Sample ID	1411272-001amsd			SampType:	MSD		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	MW-75			Batch ID:	R22531		RunNo: 22531					
Prep Date:				Analysis Date:	11/13/2014		SeqNo:	664353		Units:	µg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	8700	50	1000	7869	83.3	70	130	8.51	20	E		
Toluene	1100	50	1000	102.8	104	70	130	2.87	20			
Chlorobenzene	910	50	1000	0	90.8	70	130	0.692	20			
1,1-Dichloroethene	990	50	1000	0	99.3	70	130	2.72	20			
Trichloroethene (TCE)	960	50	1000	0	96.3	70	130	4.22	20			
Surr: 1,2-Dichloroethane-d4	430		500.0		85.9	70	130	0	0			
Surr: 4-Bromofluorobenzene	360		500.0		72.2	70	130	0	0			
Surr: Dibromofluoromethane	440		500.0		87.7	70	130	0	0			
Surr: Toluene-d8	440		500.0		87.3	70	130	0	0			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-1 rr		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R22606		RunNo: 22606					
Prep Date:			Analysis Date: 11/17/2014		SeqNo: 666690		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	lcs-1 rr		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R22606		RunNo: 22606					
Prep Date:			Analysis Date: 11/17/2014		SeqNo: 666691		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80	20	80.00	0	99.6	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16340		SampType: MBLK		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663255		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	LCS-16340		SampType: LCS		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663256		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-16377	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666318	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
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								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-16377	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666318	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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	95		200.0		47.6	17.6	104			
Surr: Phenol-d5	96		200.0		48.2	17.7	89.9			
Surr: 2,4,6-Tribromophenol	75		200.0		37.5	16.3	122			
Surr: Nitrobenzene-d5	67		100.0		67.1	45.3	117			
Surr: 2-Fluorobiphenyl	61		100.0		61.2	43	113			
Surr: 4-Terphenyl-d14	73		100.0		72.5	47.6	122			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 10 columns for Analyte results (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical analytes like Acenaphthene, 4-Chloro-3-methylphenol, etc.

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 10 columns for Analyte results (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical analytes like Acenaphthene, 4-Chloro-3-methylphenol, etc.

Qualifiers:
* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit
Page 3 of 0

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411272
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Sample ID	icsd-16377	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666369	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	81		100.0		81.3	47.6	122	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH greater than 2.

RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1411272

RcptNo: 1

Received by/date:

Logged By: Ashley Gallegos

11/7/2014 7:00:00 AM

Completed By: Ashley Gallegos

11/7/2014 9:14:08 AM

Reviewed By:

CS

11/07/14

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? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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 ☒
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 ☐

FOR METALS ANALYSIS: ADDED 1mL HNO₃ TO -0016 FOR ACCEPTABLE pH. HELD IN LOGIN FOR 24 HOURS AFTER PRESERVATION.

of preserved bottles checked for pH: 3 1
(<2 or >12 unless noted)
Adjusted? YES
Checked by: [Signature]

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	1.3	Good	Yes			



www.hallenvironmental.com

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

Client: WESTERN REFINING SN, INC.		☒ Standard ☐ Rush				
Bloomfield Terminal		Project Name:				
Mailing Address: #50 CARD 4990		Group 9 11-6-14				
Bloomfield, NM 87413		Project #:				
Phone #: 505-632-4166						
email or Fax#: KELLY.ROBINSON@WNR.COM		Project Manager:				
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)		KELLY ROBINSON				
☐ NELAP ☐ Other		Sampler: MWT-8806				
☒ EDD (Type) EXCEL		On Ice: ☒ Yes ☐ No				
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
11-6-14	9:00	WATER	MW-75	40 ML VOA-5	HCL	-001
				1 LITER AMBER-2	NEAT	
				200 ML AMBER-1	NEAT	
				200 ML PLASTIC-1	HNO ₃	
				200 ML PLASTIC-1	H ₂ SO ₄	
				500 ML PLASTIC-1	HNO ₃	
				500 ML PLASTIC-1	NEAT	
				200 ML PLASTIC-1	NADH	
Date: 11-6-14		Relinquished by: Robert Krakow		Received by: Christina White		Date: 11/6/14
Time: 1445						Time: 1445
Date: 11/6/14		Relinquished by: Christine Waaler		Received by: [Signature]		Date: 11/07/14
Time: 1700						Time: 0700

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this

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.

General Chemistry Parameters for Groundwater Samples

Analyte	Analytical Method
Total Dissolved Solids	SM-2540C
Bicarbonate	SM-2320B
Chloride	EPA method 300.0
Sulfate	EPA method 300.0
Calcium	EPA method 6010/6020
Magnesium	EPA method 6010/6020
Sodium	EPA method 6010/6020
Potassium	EPA method 6010/6020
Manganese	SW-846 method 6010/6020
Nitrate/nitrite	EPA method 300.0
Ferric/ferrous Iron	SW-846 method 6010/6020 & SM 3500Fe2+

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 method 3000A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl lead	SW-846 method 8270C
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020



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

December 10, 2014

Kelly Robinson

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9 11-6-14

OrderNo.: 1411273

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/7/2014 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

Analytical Report

Lab Order: 1411273

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** MW-76**Project:** GROUP 9 11-6-14**Collection Date:** 11/6/2014 8:40:00 AM**Lab ID:** 1411273-001A**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	720	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Toluene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Ethylbenzene	210	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,2,4-Trimethylbenzene	250	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,3,5-Trimethylbenzene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,2-Dichloroethane (EDC)	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,2-Dibromoethane (EDB)	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Naphthalene	280	100		µg/L	50	11/12/2014 1:25:25 AM	R22481
1-Methylnaphthalene	ND	200		µg/L	50	11/12/2014 1:25:25 AM	R22481
2-Methylnaphthalene	200	200		µg/L	50	11/12/2014 1:25:25 AM	R22481
Acetone	ND	500		µg/L	50	11/12/2014 1:25:25 AM	R22481
Bromobenzene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Bromodichloromethane	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Bromoform	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Bromomethane	ND	150		µg/L	50	11/12/2014 1:25:25 AM	R22481
2-Butanone	ND	500		µg/L	50	11/12/2014 1:25:25 AM	R22481
Carbon disulfide	ND	500		µg/L	50	11/12/2014 1:25:25 AM	R22481
Carbon Tetrachloride	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Chlorobenzene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Chloroethane	ND	100		µg/L	50	11/12/2014 1:25:25 AM	R22481
Chloroform	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Chloromethane	ND	150		µg/L	50	11/12/2014 1:25:25 AM	R22481
2-Chlorotoluene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
4-Chlorotoluene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
cis-1,2-DCE	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
cis-1,3-Dichloropropene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,2-Dibromo-3-chloropropane	ND	100		µg/L	50	11/12/2014 1:25:25 AM	R22481
Dibromochloromethane	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Dibromomethane	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,2-Dichlorobenzene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,3-Dichlorobenzene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,4-Dichlorobenzene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Dichlorodifluoromethane	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,1-Dichloroethane	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,1-Dichloroethene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,2-Dichloropropane	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,3-Dichloropropane	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
2,2-Dichloropropane	ND	100		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,1-Dichloropropene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Hexachlorobutadiene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 1 of 24

Analytical Report

Lab Order: 1411273

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411273-001A

Client Sample ID: MW-76
Collection Date: 11/6/2014 8:40:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	500		µg/L	50	11/12/2014 1:25:25 AM	R22481
Isopropylbenzene	78	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
4-Isopropyltoluene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
4-Methyl-2-pentanone	ND	500		µg/L	50	11/12/2014 1:25:25 AM	R22481
Methylene Chloride	ND	150		µg/L	50	11/12/2014 1:25:25 AM	R22481
n-Butylbenzene	ND	150		µg/L	50	11/12/2014 1:25:25 AM	R22481
n-Propylbenzene	52	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
sec-Butylbenzene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Styrene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
tert-Butylbenzene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,1,1,2-Tetrachloroethane	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,1,2,2-Tetrachloroethane	ND	100		µg/L	50	11/12/2014 1:25:25 AM	R22481
Tetrachloroethene (PCE)	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
trans-1,2-DCE	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
trans-1,3-Dichloropropene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,2,3-Trichlorobenzene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,2,4-Trichlorobenzene	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,1,1-Trichloroethane	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,1,2-Trichloroethane	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Trichloroethene (TCE)	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Trichlorofluoromethane	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
1,2,3-Trichloropropane	ND	100		µg/L	50	11/12/2014 1:25:25 AM	R22481
Vinyl chloride	ND	50		µg/L	50	11/12/2014 1:25:25 AM	R22481
Xylenes, Total	ND	75		µg/L	50	11/12/2014 1:25:25 AM	R22481
Surr: 1,2-Dichloroethane-d4	83.4	70-130		%REC	50	11/12/2014 1:25:25 AM	R22481
Surr: 4-Bromofluorobenzene	77.7	70-130		%REC	50	11/12/2014 1:25:25 AM	R22481
Surr: Dibromofluoromethane	91.3	70-130		%REC	50	11/12/2014 1:25:25 AM	R22481
Surr: Toluene-d8	89.9	70-130		%REC	50	11/12/2014 1:25:25 AM	R22481

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411273

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411273-001B

Client Sample ID: MW-76
Collection Date: 11/6/2014 8:40:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	6.3	1.0		mg/L	20	11/12/2014 11:25:16 AM	R22501
Surr: BFB	109	80-120		%REC	20	11/12/2014 11:25:16 AM	R22501

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411273

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411273-001C

Client Sample ID: MW-76
Collection Date: 11/6/2014 8:40:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: JME
Diesel Range Organics (DRO)	9.1	0.20		mg/L	1	11/11/2014 5:14:03 AM	16294
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	11/11/2014 5:14:03 AM	16294
Surr: DNOP	135	75.2-161		%REC	1	11/11/2014 5:14:03 AM	16294

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411273

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411273-001D

Client Sample ID: MW-76
Collection Date: 11/6/2014 8:40:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Acenaphthylene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Aniline	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Anthracene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Azobenzene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Benz(a)anthracene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Benzo(a)pyrene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Benzo(b)fluoranthene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Benzo(k)fluoranthene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Benzoic acid	ND	20		µg/L	1	11/17/2014 4:08:46 PM	16326
Benzyl alcohol	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Bis(2-chloroethyl)ether	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Butyl benzyl phthalate	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Carbazole	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
4-Chloro-3-methylphenol	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
4-Chloroaniline	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
2-Chloronaphthalene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
2-Chlorophenol	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Chrysene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Di-n-butyl phthalate	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Di-n-octyl phthalate	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Dibenzofuran	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
1,2-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
1,3-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
1,4-Dichlorobenzene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
3,3'-Dichlorobenzidine	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Diethyl phthalate	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Dimethyl phthalate	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
2,4-Dichlorophenol	ND	20		µg/L	1	11/17/2014 4:08:46 PM	16326
2,4-Dimethylphenol	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	11/17/2014 4:08:46 PM	16326
2,4-Dinitrophenol	ND	20		µg/L	1	11/17/2014 4:08:46 PM	16326
2,4-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
2,6-Dinitrotoluene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1411273

Date Reported: 12/10/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411273-001D

Client Sample ID: MW-76
Collection Date: 11/6/2014 8:40:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Fluoranthene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Fluorene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Hexachlorobenzene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Hexachlorobutadiene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Hexachloroethane	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Isophorone	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
1-Methylnaphthalene	50	10		µg/L	1	11/17/2014 4:08:46 PM	16326
2-Methylnaphthalene	36	10		µg/L	1	11/17/2014 4:08:46 PM	16326
2-Methylphenol	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
3+4-Methylphenol	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
N-Nitrosodimethylamine	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Naphthalene	60	10		µg/L	1	11/17/2014 4:08:46 PM	16326
2-Nitroaniline	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
3-Nitroaniline	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
4-Nitroaniline	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Nitrobenzene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
2-Nitrophenol	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
4-Nitrophenol	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Pentachlorophenol	ND	20		µg/L	1	11/17/2014 4:08:46 PM	16326
Phenanthrene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Phenol	32	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Pyrene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Pyridine	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
2,4,6-Trichlorophenol	ND	10		µg/L	1	11/17/2014 4:08:46 PM	16326
Surr: 2-Fluorophenol	17.9	17.6-104		%REC	1	11/17/2014 4:08:46 PM	16326
Surr: Phenol-d5	25.0	17.7-89.9		%REC	1	11/17/2014 4:08:46 PM	16326
Surr: 2,4,6-Tribromophenol	13.5	16.3-122	S	%REC	1	11/17/2014 4:08:46 PM	16326
Surr: Nitrobenzene-d5	61.2	45.3-117		%REC	1	11/17/2014 4:08:46 PM	16326
Surr: 2-Fluorobiphenyl	57.9	43-113		%REC	1	11/17/2014 4:08:46 PM	16326
Surr: 4-Terphenyl-d14	62.0	47.6-122		%REC	1	11/17/2014 4:08:46 PM	16326

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1411273**Date Reported: **12/10/2014****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411273-001E

Client Sample ID: MW-76
Collection Date: 11/6/2014 8:40:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	360	10	*	mg/L	20	11/7/2014 9:10:52 PM	R22427
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/7/2014 8:58:28 PM	R22427
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	11/7/2014 8:58:28 PM	R22427
Sulfate	65	2.5		mg/L	5	11/7/2014 8:58:28 PM	R22427
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	1200	50		mg/L CaCO3	2.5	11/17/2014 12:31:40 PM	R22606
Carbonate (As CaCO3)	ND	5.0		mg/L CaCO3	2.5	11/17/2014 12:31:40 PM	R22606
Total Alkalinity (as CaCO3)	1200	50		mg/L CaCO3	2.5	11/17/2014 12:31:40 PM	R22606
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1980	100	*	mg/L	1	11/12/2014 1:18:00 PM	16340

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 7 of 24

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411273

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411273-001F

Client Sample ID: MW-76
Collection Date: 11/6/2014 8:40:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	1.9	0.010		mg/L	5	11/11/2014 9:09:44 PM	R22482
Beryllium	ND	0.0020		mg/L	1	11/10/2014 5:55:28 PM	R22450
Cadmium	ND	0.0020		mg/L	1	11/11/2014 9:07:45 PM	R22482
Calcium	100	1.0		mg/L	1	11/10/2014 5:55:28 PM	R22450
Chromium	ND	0.0060		mg/L	1	11/11/2014 9:07:45 PM	R22482
Cobalt	ND	0.0060		mg/L	1	11/11/2014 9:07:45 PM	R22482
Iron	3.2	0.10	*	mg/L	5	11/11/2014 9:09:44 PM	R22482
Magnesium	65	1.0		mg/L	1	11/10/2014 5:55:28 PM	R22450
Manganese	2.5	0.010	*	mg/L	5	11/10/2014 5:57:07 PM	R22450
Nickel	ND	0.010		mg/L	1	11/11/2014 9:07:45 PM	R22482
Potassium	4.5	1.0		mg/L	1	11/10/2014 5:55:28 PM	R22450
Silver	ND	0.0050		mg/L	1	11/10/2014 5:55:28 PM	R22450
Sodium	560	10		mg/L	10	11/12/2014 5:25:13 PM	R22496
Vanadium	ND	0.050		mg/L	1	11/10/2014 5:55:28 PM	R22450
Zinc	0.57	0.010		mg/L	1	11/11/2014 9:07:45 PM	R22482
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/24/2014 2:57:09 PM	R22774
Arsenic	ND	0.020		mg/L	20	11/24/2014 6:12:58 PM	R22774
Lead	ND	0.0010		mg/L	1	11/24/2014 2:57:09 PM	R22774
Selenium	ND	0.020		mg/L	20	11/24/2014 6:12:58 PM	R22774
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 12:13:12 PM	16435

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411273

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14
Lab ID: 1411273-001G

Client Sample ID: MW-76
Collection Date: 11/6/2014 8:40:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: JLF			
Barium	2.9	0.010	*	mg/L	5	11/12/2014 4:56:16 PM	16339
Beryllium	ND	0.0020		mg/L	1	11/12/2014 4:24:54 PM	16339
Cadmium	ND	0.0020		mg/L	1	11/12/2014 4:24:54 PM	16339
Calcium	120	5.0		mg/L	5	11/12/2014 4:56:16 PM	16339
Chromium	0.011	0.0060		mg/L	1	11/12/2014 4:24:54 PM	16339
Cobalt	0.013	0.0060		mg/L	1	11/12/2014 4:24:54 PM	16339
Iron	23	1.0	*	mg/L	50	11/12/2014 4:58:00 PM	16339
Magnesium	71	1.0		mg/L	1	11/12/2014 4:24:54 PM	16339
Manganese	3.2	0.010	*	mg/L	5	11/12/2014 4:56:16 PM	16339
Nickel	0.013	0.010		mg/L	1	11/12/2014 4:24:54 PM	16339
Potassium	6.9	1.0		mg/L	1	11/12/2014 4:24:54 PM	16339
Silver	ND	0.0050		mg/L	1	11/12/2014 4:24:54 PM	16339
Sodium	570	50		mg/L	50	11/12/2014 4:58:00 PM	16339
Vanadium	ND	0.050		mg/L	1	11/12/2014 4:24:54 PM	16339
Zinc	0.055	0.010		mg/L	1	11/12/2014 4:24:54 PM	16339
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	11/13/2014 4:58:51 PM	16339
Arsenic	0.016	0.010	*	mg/L	10	11/14/2014 1:38:39 PM	16339
Lead	0.013	0.0010		mg/L	1	11/13/2014 4:58:51 PM	16339
Selenium	ND	0.020		mg/L	20	11/18/2014 5:45:11 PM	16339
EPA METHOD 245.1: MERCURY				Analyst: JLF			
Mercury	ND	0.00020		mg/L	1	11/19/2014 12:15:03 PM	16435

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Anatek Labs, Inc.

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

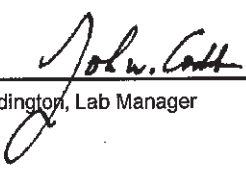
Batch #: 141111019
Project Name: 1411273

Analytical Results Report

Sample Number	141111019-001	Sampling Date	11/6/2014	Date/Time Received	11/11/2014 11:50 AM
Client Sample ID	1411273-001H / MW-76	Sampling Time	8:40 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	11/14/2014	CRW	EPA 335.4	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:CERT0095; FL(NELAP):E871099

Tuesday, November 18, 2014

Page 1 of 1

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141111019
Project Name: 1411273

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	11/13/2014	11/14/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141111021-001	Cyanide	ND	0.990	mg/L	1	99.0	90-110	11/13/2014	11/14/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.982	mg/L	1	98.2	0.8	0-20	11/13/2014	11/14/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	11/13/2014	11/14/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661543		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Calcium	ND	1.0								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Vanadium	ND	0.050								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661544		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Calcium	48	1.0	50.00	0	97.0	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Manganese	0.46	0.0020	0.5000	0	92.7	85	115			
Potassium	48	1.0	50.00	0	95.3	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22450			RunNo: 22450					
Prep Date:		Analysis Date: 11/10/2014			SeqNo: 661545		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Calcium	ND	1.0								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Vanadium	ND	0.050								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661546		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	99.3	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22450		RunNo: 22450					
Prep Date:			Analysis Date: 11/10/2014		SeqNo: 661546		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	98.0	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Manganese	0.46	0.0020	0.5000	0	91.0	85	115			
Potassium	48	1.0	50.00	0	95.6	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Vanadium	0.50	0.050	0.5000	0	100	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R22482			RunNo: 22482					
Prep Date:		Analysis Date: 11/11/2014			SeqNo: 662817		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								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R22482		RunNo: 22482					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662818		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	99.7	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.6	85	115			
Chromium	0.49	0.0060	0.5000	0	97.3	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.7	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Nickel	0.49	0.010	0.5000	0	98.0	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Sample ID	MB	SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals				
Client ID:	PBW	Batch ID:	R22482		RunNo:	22482				
Prep Date:		Analysis Date:	11/11/2014		SeqNo:	662819		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								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB		SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals			
Client ID:	PBW		Batch ID:	R22482		RunNo:	22482			
Prep Date:			Analysis Date:	11/11/2014		SeqNo:	662819	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID	LCS		SampType:	LCS		TestCode:	EPA Method 200.7: Dissolved Metals			
Client ID:	LCSW		Batch ID:	R22482		RunNo:	22482			
Prep Date:			Analysis Date:	11/11/2014		SeqNo:	662820	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.3	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.3	85	115			
Chromium	0.48	0.0060	0.5000	0	95.7	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Nickel	0.48	0.010	0.5000	0	96.0	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Sample ID	MB		SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals			
Client ID:	PBW		Batch ID:	R22496		RunNo:	22496			
Prep Date:			Analysis Date:	11/12/2014		SeqNo:	663366	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID	LCS		SampType:	LCS		TestCode:	EPA Method 200.7: Dissolved Metals			
Client ID:	LCSW		Batch ID:	R22496		RunNo:	22496			
Prep Date:			Analysis Date:	11/12/2014		SeqNo:	663367	Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	49	1.0	50.00	0	97.5	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16339	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	16339	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663342	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID	LCS-16339	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	16339	RunNo:	22496					
Prep Date:	11/11/2014	Analysis Date:	11/12/2014	SeqNo:	663343	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	96.0	85	115			
Beryllium	0.52	0.0020	0.5000	0	103	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.4	85	115			
Calcium	51	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	95.2	85	115			
Cobalt	0.46	0.0060	0.5000	0	92.5	85	115			
Iron	0.48	0.020	0.5000	0	96.5	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Manganese	0.46	0.0020	0.5000	0	91.6	85	115			
Nickel	0.46	0.010	0.5000	0	92.5	85	115			
Potassium	48	1.0	50.00	0	95.8	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.5	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			
Zinc	0.48	0.010	0.5000	0	96.4	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LCS		SampType: LCS			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	LCSW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672122		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	90.6	85	115			
Arsenic	0.023	0.0010	0.02500	0	92.5	85	115			
Lead	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.022	0.0010	0.02500	0	89.7	85	115			

Sample ID	LCS		SampType: LCS			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	LCSW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672123		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	97.3	85	115			
Lead	0.024	0.0010	0.02500	0	97.3	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	PBW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672124		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals				
Client ID:	PBW		Batch ID: R22774			RunNo: 22774				
Prep Date:			Analysis Date: 11/24/2014			SeqNo: 672125		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	LLLCS-16339		SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	BatchQC		Batch ID: 16339		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664409		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	97.2	85	115			
Arsenic	0.022	0.0010	0.02500	0	88.1	85	115			
Lead	0.023	0.0010	0.02500	0	92.5	85	115			
Selenium	0.022	0.0010	0.02500	0	86.7	85	115			

Sample ID	MB-16339		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	PBW		Batch ID: 16339		RunNo: 22532					
Prep Date:	11/11/2014		Analysis Date: 11/13/2014		SeqNo: 664411		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16435		SampType: MBLK		TestCode: EPA Method 245.1: Mercury					
Client ID:	PBW		Batch ID: 16435		RunNo: 22633					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667607		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-16435		SampType: LCS		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 16435		RunNo: 22633					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667608		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	0	107	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661019		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R22427		RunNo: 22427					
Prep Date:			Analysis Date: 11/7/2014		SeqNo: 661020		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.2	67.5	109			
Nitrogen, Nitrate (As N)	2.3	0.10	2.500	0	93.3	84	109			
Sulfate	9.4	0.50	10.00	0	93.9	88.3	114			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R22427			RunNo: 22427					
Prep Date:		Analysis Date: 11/7/2014			SeqNo: 661041		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R22427		RunNo: 22427					
Prep Date:			Analysis Date: 11/7/2014		SeqNo: 661042		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.2	81.8	112			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.0	67.5	109			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	84	109			
Sulfate	9.8	0.50	10.00	0	97.7	88.3	114			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16294	SampType: MBLK			TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW	Batch ID: 16294			RunNo: 22413					
Prep Date:	11/7/2014	Analysis Date: 11/10/2014			SeqNo: 661403		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.20								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.67		0.5000		134	75.2	161			

Sample ID	LCS-16294		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	LCSW		Batch ID: 16294		RunNo: 22413					
Prep Date:	11/7/2014		Analysis Date: 11/11/2014		SeqNo: 661404		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.1	0.20	2.500	0	125	65.8	162			
Surr: DNOP	0.33		0.2500		131	75.2	161			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW		Batch ID: R22479		RunNo: 22479					
Prep Date:			Analysis Date: 11/11/2014		SeqNo: 662578		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	18		20.00		90.2	80	120			

Sample ID	2.5UG GRO LCS	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID: R22479			RunNo: 22479					
Prep Date:		Analysis Date: 11/11/2014			SeqNo: 662580		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	19		20.00		94.7	80	120			

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	R22501	RunNo:	22501					
Prep Date:		Analysis Date:	11/12/2014	SeqNo:	663458	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		90.3	80	120			

Sample ID	2.5UG GRO LCS	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID: R22501			RunNo: 22501					
Prep Date:		Analysis Date: 11/12/2014			SeqNo: 663459		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	91.3	80	120			
Surr: BFB	19		20.00		92.7	80	120			

Sample ID	1411273-001BMS		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	MW-76		Batch ID: R22501		RunNo: 22501					
Prep Date:			Analysis Date: 11/12/2014		SeqNo: 663462		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	1.0	10.00	6.336	95.2	70.4	127			
Surr: BFB	460		400.0		115	80	120			

Sample ID	1411273-001BMSD		SampType:	MSD		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	MW-76		Batch ID:	R22501		RunNo:	22501				
Prep Date:			Analysis Date:	11/12/2014		SeqNo:	663463		Units:	mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	15	1.0	10.00	6.336	90.3	70.4	127	3.10	20		
Surr: BFB	460		400.0		114	80	120	0	0		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	b5	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R22481	RunNo:	22481					
Prep Date:		Analysis Date:	11/11/2014	SeqNo:	662755	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID b5	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R22481			RunNo: 22481						
Prep Date:	Analysis Date: 11/11/2014			SeqNo: 662755		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.9	70	130			
Surr: 4-Bromofluorobenzene	7.8		10.00		77.6	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.0	70	130			
Surr: Toluene-d8	9.6		10.00		96.0	70	130			

Sample ID 100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R22481			RunNo: 22481						
Prep Date:	Analysis Date: 11/11/2014			SeqNo: 662757		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	113	70	130			
Toluene	21	1.0	20.00	0	105	80	120			
Chlorobenzene	19	1.0	20.00	0	94.4	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R22481			RunNo: 22481					
Prep Date:	Analysis Date: 11/11/2014			SeqNo: 662757		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23	1.0	20.00	0	117	82.6	131			
Trichloroethene (TCE)	20	1.0	20.00	0	97.5	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.4	70	130			
Surr: 4-Bromofluorobenzene	8.1		10.00		80.6	70	130			
Surr: Dibromofluoromethane	9.1		10.00		90.6	70	130			
Surr: Toluene-d8	9.0		10.00		90.5	70	130			

Sample ID	5ml rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R22531			RunNo: 22531					
Prep Date:		Analysis Date: 11/13/2014			SeqNo: 664345		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	8.5		10.00		85.1	70	130			
Surr: 4-Bromofluorobenzene	8.7		10.00		86.6	70	130			
Surr: Dibromofluoromethane	9.1		10.00		91.0	70	130			
Surr: Toluene-d8	9.1		10.00		91.4	70	130			

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R22531			RunNo: 22531					
Prep Date:		Analysis Date: 11/13/2014			SeqNo: 664347		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	8.2		10.00		82.0	70	130			
Surr: 4-Bromofluorobenzene	8.1		10.00		80.7	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.5	70	130			
Surr: Toluene-d8	9.1		10.00		90.7	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-1 rr		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R22606		RunNo: 22606					
Prep Date:			Analysis Date: 11/17/2014		SeqNo: 666690		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	lcs-1 rr		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R22606		RunNo: 22606					
Prep Date:			Analysis Date: 11/17/2014		SeqNo: 666691		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80	20	80.00	0	99.6	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	MB-16340		SampType: MBLK		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663255		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	LCS-16340		SampType: LCS		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW		Batch ID: 16340		RunNo: 22490					
Prep Date:	11/11/2014		Analysis Date: 11/12/2014		SeqNo: 663256		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Table with 11 columns: Sample ID, Client ID, Prep Date, SampType, Batch ID, Analysis Date, TestCode, RunNo, SeqNo, Units, and 10 columns for Analyte results (Result, PQL, SPK value, SPK Ref Val, %REC, LowLimit, HighLimit, %RPD, RPDLimit, Qual). Rows include various chemical compounds like Acenaphthene, Anthracene, Benz(a)anthracene, etc.

Qualifiers:
* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit
Page 1 of 0

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	mb-16377	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666318	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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	95		200.0		47.6	17.6	104			
Surr: Phenol-d5	96		200.0		48.2	17.7	89.9			
Surr: 2,4,6-Tribromophenol	75		200.0		37.5	16.3	122			
Surr: Nitrobenzene-d5	67		100.0		67.1	45.3	117			
Surr: 2-Fluorobiphenyl	61		100.0		61.2	43	113			
Surr: 4-Terphenyl-d14	73		100.0		72.5	47.6	122			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH greater than 2.

RL Reporting Detection Limit

Page 2 of 0

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273

29-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 11-6-14

Sample ID	ics-16377	SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSW	Batch ID: 16377			RunNo: 22600					
Prep Date:	11/13/2014	Analysis Date: 11/17/2014			SeqNo: 666368		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	66	10	100.0	0	66.2	47.9	114			
4-Chloro-3-methylphenol	160	10	200.0	0	82.4	51.7	122			
2-Chlorophenol	140	10	200.0	0	69.9	40.7	113			
1,4-Dichlorobenzene	44	10	100.0	0	44.3	39.6	99.9			
2,4-Dinitrotoluene	68	10	100.0	0	68.0	40.8	113			
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.3	51.2	111			
4-Nitrophenol	100	10	200.0	0	50.6	15.7	86.9			
Pentachlorophenol	130	20	200.0	0	67.5	21.6	104			
Phenol	90	10	200.0	0	44.8	28.6	71.7			
Pyrene	78	10	100.0	0	77.8	54.2	128			
1,2,4-Trichlorobenzene	50	10	100.0	0	50.0	40.9	101			
Surr: 2-Fluorophenol	94		200.0		47.0	17.6	104			
Surr: Phenol-d5	77		200.0		38.5	17.7	89.9			
Surr: 2,4,6-Tribromophenol	160		200.0		80.7	16.3	122			
Surr: Nitrobenzene-d5	69		100.0		69.3	45.3	117			
Surr: 2-Fluorobiphenyl	65		100.0		64.8	43	113			
Surr: 4-Terphenyl-d14	85		100.0		85.0	47.6	122			

Sample ID	icsd-16377	SampType: LCSD			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID: 16377			RunNo: 22600					
Prep Date:	11/13/2014	Analysis Date: 11/17/2014			SeqNo: 666369		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	67	10	100.0	0	67.5	47.9	114	1.98	27.2	
4-Chloro-3-methylphenol	160	10	200.0	0	81.4	51.7	122	1.26	25.9	
2-Chlorophenol	140	10	200.0	0	68.2	40.7	113	2.40	22.5	
1,4-Dichlorobenzene	49	10	100.0	0	49.0	39.6	99.9	10.2	24.6	
2,4-Dinitrotoluene	69	10	100.0	0	68.8	40.8	113	1.20	25.3	
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.3	51.2	111	0.0269	23.6	
4-Nitrophenol	130	10	200.0	0	63.4	15.7	86.9	22.5	34.7	
Pentachlorophenol	130	20	200.0	0	67.5	21.6	104	0.0148	32.8	
Phenol	100	10	200.0	0	52.0	28.6	71.7	14.9	25.5	
Pyrene	77	10	100.0	0	77.4	54.2	128	0.567	31.4	
1,2,4-Trichlorobenzene	54	10	100.0	0	53.7	40.9	101	7.13	25.9	
Surr: 2-Fluorophenol	110		200.0		53.4	17.6	104	0	0	
Surr: Phenol-d5	93		200.0		46.6	17.7	89.9	0	0	
Surr: 2,4,6-Tribromophenol	160		200.0		80.9	16.3	122	0	0	
Surr: Nitrobenzene-d5	70		100.0		70.1	45.3	117	0	0	
Surr: 2-Fluorobiphenyl	70		100.0		69.5	43	113	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1411273
29-Jan-15

Client: Western Refining Southwest, Inc.
Project: GROUP 9 11-6-14

Sample ID	lcscd-16377	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID:	16377	RunNo:	22600					
Prep Date:	11/13/2014	Analysis Date:	11/17/2014	SeqNo:	666369	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	81		100.0		81.3	47.6	122	0	0	

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

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1411273

RcptNo: 1

Received by/date:

Logged By: Ashley Gallegos

11/7/2014 7:00:00 AM

Completed By: Ashley Gallegos

11/7/2014 9:16:23 AM

Reviewed By:

CS

11/07/14

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? Courier

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: 3
(<2 or >12 unless noted)
Adjusted? YES
Checked by: [Signature]

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	1.3	Good	Yes			

Metals and Cyanide for Soil and Groundwater Samples

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 6010/6020
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl lead	SW-846 method 6010/6020
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020

General Chemistry Parameters for Groundwater Samples

Analyte	Analytical Method
Total Dissolved Solids	SM-2540C
Bicarbonate	SM-2320B
Chloride	EPA method 300.0
Sulfate	EPA method 300.0
Calcium	EPA method 6010/6020
Magnesium	EPA method 6010/6020
Sodium	EPA method 6010/6020
Potassium	EPA method 6010/6020
Manganese	SW-846 method 6010/6020
Nitrate/nitrite	EPA method 300.0
Ferric/ferrous Iron	SW-846 method 6010/6020 & SM 3500Fe2+



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

December 10, 2014

Ashley Ager

Western Refining Southwest, Inc.

#50 CR 4990

Bloomfield, NM 87413

TEL: (970) 946-1093

FAX

RE: GBR Annual Sampling

OrderNo.: 1411545

Dear Ashley Ager:

Hall Environmental Analysis Laboratory received 9 sample(s) on 11/14/2014 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", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SHS-8

Project: GBR Annual Sampling

Collection Date: 11/12/2014 12:55:00 PM

Lab ID: 1411545-001

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGP
Fluoride	1.5	0.50		mg/L	5	11/14/2014 10:42:42 AM	R22558
Chloride	110	10		mg/L	20	11/14/2014 10:55:06 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/14/2014 10:42:42 AM	R22558
Bromide	0.71	0.50		mg/L	5	11/14/2014 10:42:42 AM	R22558
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	11/14/2014 10:42:42 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/14/2014 10:42:42 AM	R22558
Sulfate	350	10	*	mg/L	20	11/14/2014 10:55:06 AM	R22558
EPA METHOD 200.7: METALS							Analyst: JLF
Calcium	210	5.0		mg/L	5	11/20/2014 5:07:10 PM	16487
Iron	260	10	*	mg/L	500	11/21/2014 4:33:51 PM	16487
Magnesium	42	1.0		mg/L	1	11/20/2014 5:05:22 PM	16487
Manganese	5.0	0.010	*	mg/L	5	11/20/2014 5:07:10 PM	16487
Potassium	14	1.0		mg/L	1	11/20/2014 5:05:22 PM	16487
Sodium	430	5.0		mg/L	5	11/21/2014 4:32:01 PM	16487
SM2340B: HARDNESS							Analyst: JLF
Hardness (As CaCO3)	700	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Toluene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Ethylbenzene	2.8	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Naphthalene	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1-Methylnaphthalene	ND	8.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
2-Methylnaphthalene	ND	8.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Acetone	ND	20		µg/L	2	11/14/2014 11:49:53 PM	R22565
Bromobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Bromodichloromethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Bromoform	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Bromomethane	ND	6.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
2-Butanone	ND	20		µg/L	2	11/14/2014 11:49:53 PM	R22565
Carbon disulfide	ND	20		µg/L	2	11/14/2014 11:49:53 PM	R22565
Carbon Tetrachloride	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Chlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Chloroethane	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SHS-8

Project: GBR Annual Sampling

Collection Date: 11/12/2014 12:55:00 PM

Lab ID: 1411545-001

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst: KJH		
Chloroform	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Chloromethane	ND	6.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
2-Chlorotoluene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
4-Chlorotoluene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
cis-1,2-DCE	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Dibromochloromethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Dibromomethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2-Dichlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,3-Dichlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,4-Dichlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Dichlorodifluoromethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1-Dichloroethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1-Dichloroethene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2-Dichloropropane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,3-Dichloropropane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
2,2-Dichloropropane	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1-Dichloropropene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Hexachlorobutadiene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
2-Hexanone	ND	20		µg/L	2	11/14/2014 11:49:53 PM	R22565
Isopropylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
4-Isopropyltoluene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
4-Methyl-2-pentanone	ND	20		µg/L	2	11/14/2014 11:49:53 PM	R22565
Methylene Chloride	ND	6.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
n-Butylbenzene	ND	6.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
n-Propylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
sec-Butylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Styrene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
tert-Butylbenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
trans-1,2-DCE	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1,1-Trichloroethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,1,2-Trichloroethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565

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	Page 2 of 43
	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	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: SHS-8

Project: GBR Annual Sampling

Collection Date: 11/12/2014 12:55:00 PM

Lab ID: 1411545-001

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Trichloroethene (TCE)	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Trichlorofluoromethane	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
1,2,3-Trichloropropane	ND	4.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Vinyl chloride	ND	2.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Xylenes, Total	ND	3.0		µg/L	2	11/14/2014 11:49:53 PM	R22565
Surr: 1,2-Dichloroethane-d4	93.4	70-130		%REC	2	11/14/2014 11:49:53 PM	R22565
Surr: 4-Bromofluorobenzene	96.7	70-130		%REC	2	11/14/2014 11:49:53 PM	R22565
Surr: Dibromofluoromethane	93.6	70-130		%REC	2	11/14/2014 11:49:53 PM	R22565
Surr: Toluene-d8	97.9	70-130		%REC	2	11/14/2014 11:49:53 PM	R22565
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	1900	0.010		µmhos/cm	1	11/20/2014 1:20:04 PM	R22708
SM4500-H+B: PH							Analyst: JRR
pH	7.12	1.68	H	pH units	1	11/20/2014 1:20:04 PM	R22708
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	760	20		mg/L CaCO3	1	11/20/2014 1:20:04 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 1:20:04 PM	R22708
Total Alkalinity (as CaCO3)	760	20		mg/L CaCO3	1	11/20/2014 1:20:04 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1400	200	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-51

Project: GBR Annual Sampling

Collection Date: 11/12/2014 2:27:00 PM

Lab ID: 1411545-002

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGP
Fluoride	0.60	0.10		mg/L	1	11/14/2014 11:07:31 AM	R22558
Chloride	54	10		mg/L	20	11/14/2014 11:19:56 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/14/2014 11:07:31 AM	R22558
Bromide	0.24	0.10		mg/L	1	11/14/2014 11:07:31 AM	R22558
Nitrogen, Nitrate (As N)	8.0	0.10		mg/L	1	11/14/2014 11:07:31 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	11/14/2014 11:19:56 AM	R22558
Sulfate	1400	25	*	mg/L	50	11/26/2014 7:59:53 PM	R22848
EPA METHOD 200.7: METALS							Analyst: JLF
Calcium	380	5.0		mg/L	5	11/20/2014 5:10:42 PM	16464
Iron	16	1.0	*	mg/L	50	11/20/2014 5:12:31 PM	16464
Magnesium	32	1.0		mg/L	1	11/20/2014 12:45:15 PM	16464
Manganese	0.47	0.0020	*	mg/L	1	11/20/2014 5:09:02 PM	16464
Potassium	3.8	1.0		mg/L	1	11/20/2014 12:45:15 PM	16464
Sodium	290	5.0		mg/L	5	11/21/2014 4:35:53 PM	16464
SM2340B: HARDNESS							Analyst: JLF
Hardness (As CaCO3)	1100	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 12:19:39 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 12:19:39 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 12:19:39 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-51

Project: GBR Annual Sampling

Collection Date: 11/12/2014 2:27:00 PM

Lab ID: 1411545-002

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: KJH			
Chloroform	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 12:19:39 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 12:19:39 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565

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	Page 5 of 43
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-51

Project: GBR Annual Sampling

Collection Date: 11/12/2014 2:27:00 PM

Lab ID: 1411545-002

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Trichlorofluoromethane	3.5	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 12:19:39 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 12:19:39 AM	R22565
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%REC	1	11/15/2014 12:19:39 AM	R22565
Surr: 4-Bromofluorobenzene	99.6	70-130		%REC	1	11/15/2014 12:19:39 AM	R22565
Surr: Dibromofluoromethane	95.6	70-130		%REC	1	11/15/2014 12:19:39 AM	R22565
Surr: Toluene-d8	99.3	70-130		%REC	1	11/15/2014 12:19:39 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	2300	0.010		µmhos/cm	1	11/20/2014 1:49:28 PM	R22708
SM4500-H+B: PH							Analyst: JRR
pH	7.38	1.68	H	pH units	1	11/20/2014 1:49:28 PM	R22708
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 1:49:28 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 1:49:28 PM	R22708
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 1:49:28 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	2320	100	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-52

Project: GBR Annual Sampling

Collection Date: 11/12/2014 3:45:00 PM

Lab ID: 1411545-003

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGP
Fluoride	0.92	0.50		mg/L	5	11/14/2014 11:32:19 AM	R22558
Chloride	65	2.5		mg/L	5	11/14/2014 11:32:19 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/14/2014 11:32:19 AM	R22558
Bromide	ND	0.50		mg/L	5	11/14/2014 11:32:19 AM	R22558
Nitrogen, Nitrate (As N)	5.9	0.50		mg/L	5	11/14/2014 11:32:19 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/14/2014 11:32:19 AM	R22558
Sulfate	1700	25	*	mg/L	50	11/26/2014 8:12:17 PM	R22848
EPA METHOD 200.7: METALS							Analyst: JLF
Calcium	450	5.0		mg/L	5	11/20/2014 5:19:36 PM	16464
Iron	12	1.0	*	mg/L	50	11/20/2014 5:32:27 PM	16464
Magnesium	38	1.0		mg/L	1	11/20/2014 12:46:53 PM	16464
Manganese	0.25	0.0020	*	mg/L	1	11/20/2014 5:14:32 PM	16464
Potassium	4.1	1.0		mg/L	1	11/20/2014 12:46:53 PM	16464
Sodium	310	5.0		mg/L	5	11/24/2014 11:25:55 AM	16464
SM2340B: HARDNESS							Analyst: JLF
Hardness (As CaCO3)	1300	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 12:49:23 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 12:49:23 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 12:49:23 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-52

Project: GBR Annual Sampling

Collection Date: 11/12/2014 3:45:00 PM

Lab ID: 1411545-003

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Chloroform	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 12:49:23 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 12:49:23 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565

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	
	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	Page 8 of 43
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-52

Project: GBR Annual Sampling

Collection Date: 11/12/2014 3:45:00 PM

Lab ID: 1411545-003

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 12:49:23 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 12:49:23 AM	R22565
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%REC	1	11/15/2014 12:49:23 AM	R22565
Surr: 4-Bromofluorobenzene	99.2	70-130		%REC	1	11/15/2014 12:49:23 AM	R22565
Surr: Dibromofluoromethane	98.3	70-130		%REC	1	11/15/2014 12:49:23 AM	R22565
Surr: Toluene-d8	95.8	70-130		%REC	1	11/15/2014 12:49:23 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	2500	0.010		µmhos/cm	1	11/20/2014 2:01:31 PM	R22708
SM4500-H+B: PH							Analyst: JRR
pH	7.49	1.68	H	pH units	1	11/20/2014 2:01:31 PM	R22708
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 2:01:31 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 2:01:31 PM	R22708
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 2:01:31 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	2540	100	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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	Page 9 of 43
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-48

Project: GBR Annual Sampling

Collection Date: 11/13/2014 9:39:00 AM

Lab ID: 1411545-004

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGP
Fluoride	0.52	0.50		mg/L	5	11/14/2014 11:56:55 PM	R22558
Chloride	420	50	*	mg/L	100	11/26/2014 8:24:41 PM	R22848
Bromide	1.3	0.50		mg/L	5	11/14/2014 11:56:55 PM	R22558
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	11/15/2014 12:09:20 AM	R22558
Sulfate	2100	50	*	mg/L	100	11/26/2014 8:24:41 PM	R22848
Nitrate+Nitrite as N	5.7	1.0		mg/L	5	12/1/2014 10:29:51 PM	R22875
EPA METHOD 200.7: METALS							Analyst: JLF
Barium	0.40	0.0020		mg/L	1	11/20/2014 12:51:57 PM	16464
Beryllium	0.0036	0.0020		mg/L	1	11/20/2014 12:51:57 PM	16464
Cadmium	ND	0.0020		mg/L	1	11/20/2014 12:51:57 PM	16464
Calcium	630	10		mg/L	10	11/20/2014 5:36:31 PM	16464
Chromium	0.92	0.0060	*	mg/L	1	11/20/2014 12:51:57 PM	16464
Iron	52	2.0	*	mg/L	100	11/20/2014 5:38:16 PM	16464
Magnesium	63	1.0		mg/L	1	11/20/2014 12:51:57 PM	16464
Manganese	2.0	0.020	*	mg/L	10	11/20/2014 5:36:31 PM	16464
Nickel	0.20	0.010	*	mg/L	1	11/20/2014 12:51:57 PM	16464
Potassium	12	1.0		mg/L	1	11/20/2014 12:51:57 PM	16464
Silver	ND	0.0050		mg/L	1	11/20/2014 12:51:57 PM	16464
Sodium	730	10		mg/L	10	11/20/2014 5:36:31 PM	16464
Zinc	0.10	0.010		mg/L	1	11/20/2014 5:34:38 PM	16464
EPA 200.8: METALS							Analyst: DBD
Antimony	ND	0.0010		mg/L	1	11/26/2014 12:06:37 PM	16464
Arsenic	0.010	0.010	*	mg/L	10	11/20/2014 1:08:47 PM	16464
Lead	0.031	0.0010	*	mg/L	1	11/20/2014 11:51:52 AM	16464
Copper	0.064	0.010		mg/L	10	11/20/2014 1:08:47 PM	16464
Selenium	0.047	0.010		mg/L	10	11/20/2014 1:08:47 PM	16464
Thallium	ND	0.0010		mg/L	1	11/20/2014 11:51:52 AM	16464
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	11/25/2014 9:25:18 AM	16546
SM2340B: HARDNESS							Analyst: JLF
Hardness (As CaCO3)	1800	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Toluene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Ethylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-48

Project: GBR Annual Sampling

Collection Date: 11/13/2014 9:39:00 AM

Lab ID: 1411545-004

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Naphthalene	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1-Methylnaphthalene	ND	8.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
2-Methylnaphthalene	ND	8.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Acetone	ND	20		µg/L	2	11/15/2014 1:19:07 AM	R22565
Bromobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Bromodichloromethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Bromoform	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Bromomethane	ND	6.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
2-Butanone	ND	20		µg/L	2	11/15/2014 1:19:07 AM	R22565
Carbon disulfide	ND	20		µg/L	2	11/15/2014 1:19:07 AM	R22565
Carbon Tetrachloride	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Chlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Chloroethane	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Chloroform	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Chloromethane	ND	6.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
2-Chlorotoluene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
4-Chlorotoluene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
cis-1,2-DCE	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Dibromochloromethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Dibromomethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2-Dichlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,3-Dichlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,4-Dichlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Dichlorodifluoromethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1-Dichloroethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1-Dichloroethene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2-Dichloropropane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,3-Dichloropropane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
2,2-Dichloropropane	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1-Dichloropropene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Hexachlorobutadiene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
2-Hexanone	ND	20		µg/L	2	11/15/2014 1:19:07 AM	R22565
Isopropylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
4-Isopropyltoluene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-48

Project: GBR Annual Sampling

Collection Date: 11/13/2014 9:39:00 AM

Lab ID: 1411545-004

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
4-Methyl-2-pentanone	ND	20		µg/L	2	11/15/2014 1:19:07 AM	R22565
Methylene Chloride	ND	6.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
n-Butylbenzene	ND	6.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
n-Propylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
sec-Butylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Styrene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
tert-Butylbenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
trans-1,2-DCE	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1,1-Trichloroethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,1,2-Trichloroethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Trichloroethene (TCE)	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Trichlorofluoromethane	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
1,2,3-Trichloropropane	ND	4.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Vinyl chloride	ND	2.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Xylenes, Total	ND	3.0		µg/L	2	11/15/2014 1:19:07 AM	R22565
Surr: 1,2-Dichloroethane-d4	97.7	70-130		%REC	2	11/15/2014 1:19:07 AM	R22565
Surr: 4-Bromofluorobenzene	93.2	70-130		%REC	2	11/15/2014 1:19:07 AM	R22565
Surr: Dibromofluoromethane	100	70-130		%REC	2	11/15/2014 1:19:07 AM	R22565
Surr: Toluene-d8	101	70-130		%REC	2	11/15/2014 1:19:07 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	4100	0.010		µmhos/cm	1	11/20/2014 2:12:26 PM	R22708
SM4500-H+B: PH							Analyst: JRR
pH	7.33	1.68	H	pH units	1	11/20/2014 2:12:26 PM	R22708
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	290	20		mg/L CaCO3	1	11/20/2014 2:12:26 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 2:12:26 PM	R22708
Total Alkalinity (as CaCO3)	290	20		mg/L CaCO3	1	11/20/2014 2:12:26 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	4030	200	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-50

Project: GBR Annual Sampling

Collection Date: 11/13/2014 10:35:00 AM

Lab ID: 1411545-005

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGP
Fluoride	0.76	0.50		mg/L	5	11/15/2014 12:21:45 AM	R22558
Chloride	52	2.5		mg/L	5	11/15/2014 12:21:45 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/15/2014 12:21:45 AM	R22558
Bromide	ND	0.50		mg/L	5	11/15/2014 12:21:45 AM	R22558
Nitrogen, Nitrate (As N)	5.0	0.50		mg/L	5	11/15/2014 12:21:45 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/15/2014 12:21:45 AM	R22558
Sulfate	1700	25	*	mg/L	50	11/26/2014 8:37:05 PM	R22848
EPA METHOD 200.7: METALS							Analyst: JLF
Barium	0.047	0.0020		mg/L	1	11/20/2014 5:40:14 PM	16487
Beryllium	ND	0.0020		mg/L	1	11/20/2014 5:40:14 PM	16487
Cadmium	ND	0.0020		mg/L	1	11/20/2014 5:40:14 PM	16487
Calcium	450	5.0		mg/L	5	11/20/2014 5:44:01 PM	16487
Chromium	0.013	0.0060		mg/L	1	11/20/2014 5:40:14 PM	16487
Iron	3.6	0.10	*	mg/L	5	11/20/2014 5:44:01 PM	16487
Magnesium	34	1.0		mg/L	1	11/20/2014 5:40:14 PM	16487
Manganese	0.22	0.0020	*	mg/L	1	11/20/2014 5:40:14 PM	16487
Nickel	ND	0.010		mg/L	1	11/20/2014 5:40:14 PM	16487
Potassium	3.1	1.0		mg/L	1	11/20/2014 5:40:14 PM	16487
Silver	ND	0.0050		mg/L	1	11/20/2014 5:40:14 PM	16487
Sodium	360	5.0		mg/L	5	11/20/2014 5:44:01 PM	16487
Zinc	0.019	0.010		mg/L	1	11/20/2014 5:40:14 PM	16487
EPA 200.8: METALS							Analyst: DBD
Antimony	ND	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
Arsenic	0.0017	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
Lead	0.0028	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
Copper	0.0085	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
Selenium	0.011	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
Thallium	ND	0.0010		mg/L	1	11/26/2014 12:28:00 PM	16487
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	11/25/2014 9:27:09 AM	16546
SM2340B: HARDNESS							Analyst: JLF
Hardness (As CaCO3)	1300	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-50

Project: GBR Annual Sampling

Collection Date: 11/13/2014 10:35:00 AM

Lab ID: 1411545-005

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 1:48:58 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 1:48:58 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 1:48:58 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Chloroform	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 1:48:58 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-50

Project: GBR Annual Sampling

Collection Date: 11/13/2014 10:35:00 AM

Lab ID: 1411545-005

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 1:48:58 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 1:48:58 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 1:48:58 AM	R22565
Surr: 1,2-Dichloroethane-d4	91.9	70-130		%REC	1	11/15/2014 1:48:58 AM	R22565
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	11/15/2014 1:48:58 AM	R22565
Surr: Dibromofluoromethane	94.3	70-130		%REC	1	11/15/2014 1:48:58 AM	R22565
Surr: Toluene-d8	90.9	70-130		%REC	1	11/15/2014 1:48:58 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	2600	0.010		µmhos/cm	1	11/20/2014 2:26:47 PM	R22708
SM4500-H+B: PH							Analyst: JRR
pH	7.37	1.68	H	pH units	1	11/20/2014 2:26:47 PM	R22708
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	200	20		mg/L CaCO3	1	11/20/2014 2:26:47 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 2:26:47 PM	R22708
Total Alkalinity (as CaCO3)	200	20		mg/L CaCO3	1	11/20/2014 2:26:47 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	2800	100	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-32

Project: GBR Annual Sampling

Collection Date: 11/13/2014 11:55:00 AM

Lab ID: 1411545-006

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGP
Fluoride	0.83	0.10		mg/L	1	11/15/2014 1:11:23 AM	R22558
Chloride	380	10	*	mg/L	20	11/15/2014 1:23:48 AM	R22558
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	11/15/2014 1:23:48 AM	R22558
Bromide	1.0	0.10		mg/L	1	11/15/2014 1:11:23 AM	R22558
Nitrogen, Nitrate (As N)	1.9	0.10		mg/L	1	11/15/2014 1:11:23 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	11/15/2014 1:23:48 AM	R22558
Sulfate	1900	50	*	mg/L	100	11/26/2014 8:49:30 PM	R22848
EPA METHOD 200.7: METALS							Analyst: JLF
Barium	0.036	0.0020		mg/L	1	11/20/2014 5:46:06 PM	16487
Beryllium	ND	0.0020		mg/L	1	11/20/2014 5:46:06 PM	16487
Cadmium	ND	0.0020		mg/L	1	11/20/2014 5:46:06 PM	16487
Calcium	490	10		mg/L	10	11/21/2014 4:48:42 PM	16487
Chromium	1.4	0.030	*	mg/L	5	11/20/2014 5:47:52 PM	16487
Iron	5.9	0.20	*	mg/L	10	11/21/2014 4:48:42 PM	16487
Magnesium	56	1.0		mg/L	1	11/20/2014 5:46:06 PM	16487
Manganese	0.70	0.0020	*	mg/L	1	11/20/2014 5:46:06 PM	16487
Nickel	0.098	0.010		mg/L	1	11/20/2014 5:46:06 PM	16487
Potassium	4.2	1.0		mg/L	1	11/20/2014 5:46:06 PM	16487
Silver	ND	0.0050		mg/L	1	11/20/2014 5:46:06 PM	16487
Sodium	660	10		mg/L	10	11/24/2014 11:31:15 AM	16487
Zinc	0.027	0.010		mg/L	1	11/20/2014 5:46:06 PM	16487
EPA 200.8: METALS							Analyst: DBD
Antimony	ND	0.0010		mg/L	1	11/26/2014 12:33:22 PM	16487
Arsenic	ND	0.020		mg/L	20	12/3/2014 3:03:24 PM	16487
Lead	0.0025	0.0010		mg/L	1	11/26/2014 12:33:22 PM	16487
Copper	0.084	0.020		mg/L	20	12/3/2014 3:03:24 PM	16487
Selenium	0.023	0.020		mg/L	20	12/3/2014 3:03:24 PM	16487
Thallium	ND	0.0010		mg/L	1	11/26/2014 12:33:22 PM	16487
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	11/25/2014 9:28:54 AM	16546
SM2340B: HARDNESS							Analyst: JLF
Hardness (As CaCO3)	1400	6.6		mg/L	1	11/21/2014 2:23:00 PM	R22732
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-32

Project: GBR Annual Sampling

Collection Date: 11/13/2014 11:55:00 AM

Lab ID: 1411545-006

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 2:18:48 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 2:18:48 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 2:18:48 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Chloroform	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 2:18:48 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-32

Project: GBR Annual Sampling

Collection Date: 11/13/2014 11:55:00 AM

Lab ID: 1411545-006

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 2:18:48 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Tetrachloroethene (PCE)	1.3	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 2:18:48 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 2:18:48 AM	R22565
Surr: 1,2-Dichloroethane-d4	96.6	70-130		%REC	1	11/15/2014 2:18:48 AM	R22565
Surr: 4-Bromofluorobenzene	94.4	70-130		%REC	1	11/15/2014 2:18:48 AM	R22565
Surr: Dibromofluoromethane	100	70-130		%REC	1	11/15/2014 2:18:48 AM	R22565
Surr: Toluene-d8	91.9	70-130		%REC	1	11/15/2014 2:18:48 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	3700	0.010		µmhos/cm	1	11/20/2014 2:38:15 PM	R22708
SM4500-H+B: PH							Analyst: JRR
pH	7.33	1.68	H	pH units	1	11/20/2014 2:38:15 PM	R22708
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	300	20		mg/L CaCO3	1	11/20/2014 2:38:15 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 2:38:15 PM	R22708
Total Alkalinity (as CaCO3)	300	20		mg/L CaCO3	1	11/20/2014 2:38:15 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	3800	40.0	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-49

Project: GBR Annual Sampling

Collection Date: 11/13/2014 12:45:00 PM

Lab ID: 1411545-007

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGP
Fluoride	0.71	0.50		mg/L	5	11/15/2014 1:36:12 AM	R22558
Chloride	63	2.5		mg/L	5	11/15/2014 1:36:12 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	11/15/2014 1:36:12 AM	R22558
Bromide	ND	0.50		mg/L	5	11/15/2014 1:36:12 AM	R22558
Nitrogen, Nitrate (As N)	2.6	0.50		mg/L	5	11/15/2014 1:36:12 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/15/2014 1:36:12 AM	R22558
Sulfate	1400	25	*	mg/L	50	11/26/2014 9:01:55 PM	R22848
EPA METHOD 200.7: METALS							Analyst: JLF
Barium	0.70	0.0020		mg/L	1	11/20/2014 12:53:46 PM	16464
Beryllium	0.0027	0.0020		mg/L	1	11/20/2014 12:53:46 PM	16464
Cadmium	ND	0.0020		mg/L	1	11/20/2014 12:53:46 PM	16464
Calcium	410	10		mg/L	10	11/20/2014 5:58:42 PM	16464
Chromium	0.060	0.0060		mg/L	1	11/20/2014 12:53:46 PM	16464
Iron	41	2.0	*	mg/L	100	11/20/2014 6:00:26 PM	16464
Magnesium	36	1.0		mg/L	1	11/20/2014 12:53:46 PM	16464
Manganese	3.9	0.020	*	mg/L	10	11/20/2014 5:58:42 PM	16464
Nickel	0.086	0.010		mg/L	1	11/20/2014 12:53:46 PM	16464
Potassium	6.3	1.0		mg/L	1	11/20/2014 12:53:46 PM	16464
Silver	ND	0.0050		mg/L	1	11/20/2014 12:53:46 PM	16464
Sodium	270	10		mg/L	10	11/20/2014 5:58:42 PM	16464
Zinc	0.084	0.010		mg/L	1	11/20/2014 5:57:01 PM	16464
EPA 200.8: METALS							Analyst: DBD
Antimony	ND	0.0010		mg/L	1	11/26/2014 12:11:58 PM	16464
Arsenic	0.0069	0.0050		mg/L	5	11/20/2014 1:14:08 PM	16464
Lead	0.022	0.0050	*	mg/L	5	11/20/2014 1:14:08 PM	16464
Copper	0.041	0.0050		mg/L	5	11/20/2014 1:14:08 PM	16464
Selenium	ND	0.0050		mg/L	5	11/20/2014 1:14:08 PM	16464
Thallium	ND	0.0050		mg/L	5	11/20/2014 1:14:08 PM	16464
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	11/25/2014 9:30:40 AM	16546
SM2340B: HARDNESS							Analyst: JLF
Hardness (As CaCO3)	1200	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-49

Project: GBR Annual Sampling

Collection Date: 11/13/2014 12:45:00 PM

Lab ID: 1411545-007

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 3:48:13 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 3:48:13 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 3:48:13 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Chloroform	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 3:48:13 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-49

Project: GBR Annual Sampling

Collection Date: 11/13/2014 12:45:00 PM

Lab ID: 1411545-007

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 3:48:13 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 3:48:13 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 3:48:13 AM	R22565
Surr: 1,2-Dichloroethane-d4	97.6	70-130		%REC	1	11/15/2014 3:48:13 AM	R22565
Surr: 4-Bromofluorobenzene	103	70-130		%REC	1	11/15/2014 3:48:13 AM	R22565
Surr: Dibromofluoromethane	98.3	70-130		%REC	1	11/15/2014 3:48:13 AM	R22565
Surr: Toluene-d8	92.9	70-130		%REC	1	11/15/2014 3:48:13 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	2300	0.010		µmhos/cm	1	11/20/2014 2:52:52 PM	R22708
SM4500-H+B: PH							Analyst: JRR
pH	7.60	1.68	H	pH units	1	11/20/2014 2:52:52 PM	R22708
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 2:52:52 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 2:52:52 PM	R22708
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	11/20/2014 2:52:52 PM	R22708
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	2340	200	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-17

Project: GBR Annual Sampling

Collection Date: 11/13/2014 1:45:00 PM

Lab ID: 1411545-008

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGP
Fluoride	0.67	0.10		mg/L	1	11/15/2014 2:01:01 AM	R22558
Chloride	44	10		mg/L	20	11/15/2014 2:13:25 AM	R22558
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/15/2014 2:01:01 AM	R22558
Bromide	0.18	0.10		mg/L	1	11/15/2014 2:01:01 AM	R22558
Nitrogen, Nitrate (As N)	6.9	0.10		mg/L	1	11/15/2014 2:01:01 AM	R22558
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	11/15/2014 2:13:25 AM	R22558
Sulfate	1200	25	*	mg/L	50	11/26/2014 9:14:20 PM	R22848
EPA METHOD 200.7: METALS							Analyst: JLF
Calcium	350	10		mg/L	10	11/20/2014 6:04:03 PM	16464
Iron	3.7	0.20	*	mg/L	10	11/20/2014 6:04:03 PM	16464
Magnesium	28	1.0		mg/L	1	11/20/2014 12:55:32 PM	16464
Manganese	0.13	0.0020	*	mg/L	1	11/20/2014 6:02:29 PM	16464
Potassium	1.8	1.0		mg/L	1	11/20/2014 12:55:32 PM	16464
Sodium	250	10		mg/L	10	11/20/2014 6:04:03 PM	16464
SM2340B: HARDNESS							Analyst: JLF
Hardness (As CaCO3)	980	6.6		mg/L	1	11/20/2014 2:52:00 PM	R22687
EPA METHOD 8270C: PAHS							Analyst: DAM
Naphthalene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
1-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
2-Methylnaphthalene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Acenaphthylene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Acenaphthene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Fluorene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Phenanthrene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Anthracene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Fluoranthene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Pyrene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Benz(a)anthracene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Chrysene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Benzo(b)fluoranthene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Benzo(k)fluoranthene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Benzo(a)pyrene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Dibenz(a,h)anthracene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Benzo(g,h,i)perylene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Indeno(1,2,3-cd)pyrene	ND	0.50		µg/L	1	11/18/2014 3:26:17 PM	16428
Surr: N-hexadecane	73.2	29.9-83.2		%REC	1	11/18/2014 3:26:17 PM	16428
Surr: Benzo(e)pyrene	73.7	22.6-106		%REC	1	11/18/2014 3:26:17 PM	16428

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-17

Project: GBR Annual Sampling

Collection Date: 11/13/2014 1:45:00 PM

Lab ID: 1411545-008

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 4:17:58 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 4:17:58 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 4:17:58 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Chloroform	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-17

Project: GBR Annual Sampling

Collection Date: 11/13/2014 1:45:00 PM

Lab ID: 1411545-008

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 4:17:58 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 4:17:58 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 4:17:58 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 4:17:58 AM	R22565
Surr: 1,2-Dichloroethane-d4	99.3	70-130		%REC	1	11/15/2014 4:17:58 AM	R22565
Surr: 4-Bromofluorobenzene	93.9	70-130		%REC	1	11/15/2014 4:17:58 AM	R22565
Surr: Dibromofluoromethane	101	70-130		%REC	1	11/15/2014 4:17:58 AM	R22565
Surr: Toluene-d8	97.3	70-130		%REC	1	11/15/2014 4:17:58 AM	R22565
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR
Conductivity	2000	0.010		µmhos/cm	1	11/20/2014 3:04:06 PM	R22708
SM4500-H+B: PH							Analyst: JRR
pH	7.46	1.68	H	pH units	1	11/20/2014 3:04:06 PM	R22708
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	200	20		mg/L CaCO3	1	11/20/2014 3:04:06 PM	R22708
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	11/20/2014 3:04:06 PM	R22708
Total Alkalinity (as CaCO3)	200	20		mg/L CaCO3	1	11/20/2014 3:04:06 PM	R22708

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: GBR-17

Project: GBR Annual Sampling

Collection Date: 11/13/2014 1:45:00 PM

Lab ID: 1411545-008

Matrix: AQUEOUS

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1980	40.0	*	mg/L	1	11/19/2014 7:01:00 PM	16440

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	Page 25 of 43
	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	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: TRIP BLANK

Project: GBR Annual Sampling

Collection Date:

Lab ID: 1411545-009

Matrix: TRIP BLANK

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Toluene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Ethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Naphthalene	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
2-Methylnaphthalene	ND	4.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Acetone	ND	10		µg/L	1	11/15/2014 4:47:44 AM	R22565
Bromobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Bromodichloromethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Bromoform	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Bromomethane	ND	3.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
2-Butanone	ND	10		µg/L	1	11/15/2014 4:47:44 AM	R22565
Carbon disulfide	ND	10		µg/L	1	11/15/2014 4:47:44 AM	R22565
Carbon Tetrachloride	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Chlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Chloroethane	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Chloroform	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Chloromethane	ND	3.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
2-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
4-Chlorotoluene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
cis-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Dibromochloromethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Dibromomethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1-Dichloroethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1-Dichloroethene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,3-Dichloropropane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
2,2-Dichloropropane	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411545

Date Reported: 12/10/2014

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: TRIP BLANK

Project: GBR Annual Sampling

Collection Date:

Lab ID: 1411545-009

Matrix: TRIP BLANK

Received Date: 11/14/2014 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Hexachlorobutadiene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
2-Hexanone	ND	10		µg/L	1	11/15/2014 4:47:44 AM	R22565
Isopropylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
4-Isopropyltoluene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
4-Methyl-2-pentanone	ND	10		µg/L	1	11/15/2014 4:47:44 AM	R22565
Methylene Chloride	ND	3.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
n-Butylbenzene	ND	3.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
n-Propylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
sec-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Styrene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
tert-Butylbenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
trans-1,2-DCE	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Trichlorofluoromethane	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Vinyl chloride	ND	1.0		µg/L	1	11/15/2014 4:47:44 AM	R22565
Xylenes, Total	ND	1.5		µg/L	1	11/15/2014 4:47:44 AM	R22565
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	11/15/2014 4:47:44 AM	R22565
Surr: 4-Bromofluorobenzene	89.4	70-130		%REC	1	11/15/2014 4:47:44 AM	R22565
Surr: Dibromofluoromethane	104	70-130		%REC	1	11/15/2014 4:47:44 AM	R22565
Surr: Toluene-d8	89.9	70-130		%REC	1	11/15/2014 4:47:44 AM	R22565

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	MB-16464		SampType:	MBLK		TestCode:	EPA Method 200.7: Metals			
Client ID:	PBW		Batch ID:	16464		RunNo:	22658			
Prep Date:	11/19/2014		Analysis Date:	11/20/2014		SeqNo:	668338		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID	LCS-16464		SampType:	LCS		TestCode:	EPA Method 200.7: Metals			
Client ID:	LCSW		Batch ID:	16464		RunNo:	22658			
Prep Date:	11/19/2014		Analysis Date:	11/20/2014		SeqNo:	668339		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	96.6	85	115			
Beryllium	0.51	0.0020	0.5000	0	103	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.7	85	115			
Calcium	49	1.0	50.00	0	98.2	85	115			
Chromium	0.47	0.0060	0.5000	0	94.1	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Manganese	0.49	0.0020	0.5000	0	98.1	85	115			
Nickel	0.47	0.010	0.5000	0	94.1	85	115			
Potassium	49	1.0	50.00	0	98.2	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Sodium	49	1.0	50.00	0	98.3	85	115			
Zinc	0.49	0.010	0.5000	0	97.3	85	115			

Sample ID	1411545-003CMS		SampType:	MS		TestCode:	EPA Method 200.7: Metals			
Client ID:	GBR-52		Batch ID:	16464		RunNo:	22658			
Prep Date:	11/19/2014		Analysis Date:	11/20/2014		SeqNo:	668608		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	90	1.0	50.00	37.68	105	70	130			
Potassium	58	1.0	50.00	4.123	108	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	1411545-003CMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals					
Client ID:	GBR-52		Batch ID: 16464		RunNo: 22658					
Prep Date:	11/19/2014		Analysis Date: 11/20/2014		SeqNo: 668609		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	91	1.0	50.00	37.68	107	70	130	1.44	20	
Potassium	59	1.0	50.00	4.123	110	70	130	1.07	20	

Sample ID	1411545-003CMS		SampType: MS		TestCode: EPA Method 200.7: Metals					
Client ID:	GBR-52		Batch ID: 16464		RunNo: 22687					
Prep Date:	11/19/2014		Analysis Date: 11/20/2014		SeqNo: 669147		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.70	0.0020	0.5000	0.2469	90.1	70	130			

Sample ID	1411545-003CMSD			SampType:	MSD		TestCode:	EPA Method 200.7: Metals			
Client ID:	GBR-52			Batch ID:	16464		RunNo:	22687			
Prep Date:	11/19/2014			Analysis Date:	11/20/2014		SeqNo:	669148		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Manganese	0.70	0.0020	0.5000	0.2469	91.1	70	130	0.726	20		

Sample ID	MB-16487	SampType: MBLK			TestCode: EPA Method 200.7: Metals					
Client ID:	PBW	Batch ID: 16487			RunNo: 22687					
Prep Date:	11/20/2014	Analysis Date: 11/20/2014			SeqNo: 669240		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	LCS-16487		SampType: LCS		TestCode: EPA Method 200.7: Metals					
Client ID:	LCSW		Batch ID: 16487		RunNo: 22687					
Prep Date:	11/20/2014		Analysis Date: 11/20/2014		SeqNo: 669241		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.0	85	115			
Beryllium	0.52	0.0020	0.5000	0	105	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.0	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	96.8	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.48	0.0020	0.5000	0	95.7	85	115			
Nickel	0.48	0.010	0.5000	0	96.6	85	115			
Potassium	49	1.0	50.00	0	98.0	85	115			
Silver	0.11	0.0050	0.1000	0	108	85	115			
Sodium	50	1.0	50.00	0	101	85	115			
Zinc	0.48	0.010	0.5000	0	96.7	85	115			

Sample ID	1411545-003CMS		SampType: MS		TestCode: EPA Method 200.7: Metals					
Client ID:	GBR-52		Batch ID: 16464		RunNo: 22752					
Prep Date:	11/19/2014		Analysis Date: 11/24/2014		SeqNo: 671343		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	360	5.0	50.00	313.9	88.9	70	130			

Sample ID	1411545-003CMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals					
Client ID:	GBR-52		Batch ID: 16464		RunNo: 22752					
Prep Date:	11/19/2014		Analysis Date: 11/24/2014		SeqNo: 671344		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	360	5.0	50.00	313.9	87.1	70	130	0.249	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	LLLCS-16464		SampType: LCSLL		TestCode: EPA 200.8: Metals					
Client ID:	BatchQC		Batch ID: 16464		RunNo: 22664					
Prep Date:	11/19/2014		Analysis Date: 11/20/2014		SeqNo: 668479		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	97.7	85	115			
Lead	0.025	0.0010	0.02500	0	98.0	85	115			
Copper	0.024	0.0010	0.02500	0	96.9	85	115			
Selenium	0.024	0.0010	0.02500	0	95.4	85	115			
Thallium	0.025	0.0010	0.02500	0	98.4	85	115			

Sample ID	MB-16464	SampType: MBLK			TestCode: EPA 200.8: Metals					
Client ID:	PBW	Batch ID: 16464			RunNo: 22664					
Prep Date:	11/19/2014	Analysis Date: 11/20/2014			SeqNo: 668480		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Copper	ND	0.0010								
Selenium	ND	0.0010								
Thallium	ND	0.0010								

Sample ID	LLLCS-16464		SampType: LCSLL		TestCode: EPA 200.8: Metals					
Client ID:	BatchQC		Batch ID: 16464		RunNo: 22664					
Prep Date:	11/19/2014		Analysis Date: 11/20/2014		SeqNo: 668690		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	109	85	115			

Sample ID	MB-16464		SampType:	MBLK		TestCode:	EPA 200.8: Metals				
Client ID:	PBW		Batch ID:	16464		RunNo:	22664				
Prep Date:	11/19/2014		Analysis Date:	11/20/2014		SeqNo:	668691		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Antimony	ND	0.0010									

Sample ID	1411545-006CMSDL		SampType:	MSDLL		TestCode:	EPA 200.8: Metals				
Client ID:	GBR-32		Batch ID:	16487		RunNo:	22842				
Prep Date:	11/20/2014		Analysis Date:	11/26/2014		SeqNo:	674052		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Antimony	0.027	0.0010	0.02500	0.0004747	104	70	130	0.827	20		
Lead	0.029	0.0010	0.02500	0.002453	108	70	130	2.93	20		
Thallium	0.028	0.0010	0.02500	.00009472	112	70	130	2.46	20		

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	1411545-006CMSLL		SampType: MSLL		TestCode: EPA 200.8: Metals					
Client ID:	GBR-32		Batch ID: 16487		RunNo: 22842					
Prep Date:	11/20/2014		Analysis Date: 11/26/2014		SeqNo: 674053		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0.0004747	105	70	130			
Lead	0.029	0.0010	0.02500	0.002453	104	70	130			
Thallium	0.027	0.0010	0.02500	.00009472	109	70	130			

Sample ID	LLLCS-16487		SampType: LCSLL		TestCode: EPA 200.8: Metals					
Client ID:	BatchQC		Batch ID: 16487		RunNo: 22842					
Prep Date:	11/20/2014		Analysis Date: 11/26/2014		SeqNo: 674083		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.028	0.0010	0.02500	0	114	85	115			
Arsenic	0.026	0.0010	0.02500	0	103	85	115			
Lead	0.026	0.0010	0.02500	0	105	85	115			
Copper	0.026	0.0010	0.02500	0	103	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			
Thallium	0.026	0.0010	0.02500	0	106	85	115			

Sample ID	MB-16487	SampType: MBLK			TestCode: EPA 200.8: Metals					
Client ID:	PBW	Batch ID: 16487			RunNo: 22842					
Prep Date:	11/20/2014	Analysis Date: 11/26/2014			SeqNo: 674088		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Copper	ND	0.0010								
Selenium	ND	0.0010								
Thallium	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	MB-16546		SampType: MBLK		TestCode: EPA Method 245.1: Mercury					
Client ID:	PBW		Batch ID: 16546		RunNo: 22791					
Prep Date:	11/24/2014		Analysis Date: 11/25/2014		SeqNo: 672552		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.00020								

Sample ID	LCS-16546		SampType: LCS		TestCode: EPA Method 245.1: Mercury					
Client ID:	LCSW		Batch ID: 16546		RunNo: 22791					
Prep Date:	11/24/2014		Analysis Date: 11/25/2014		SeqNo: 672553		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	0	109	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R22558		RunNo: 22558							
Prep Date:	Analysis Date: 11/14/2014		SeqNo: 665153		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R22558		RunNo: 22558							
Prep Date:	Analysis Date: 11/14/2014		SeqNo: 665154		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	101	90	110			
Chloride	4.8	0.50	5.000	0	95.1	90	110			
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	99.4	90	110			
Bromide	2.3	0.10	2.500	0	94.0	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P)	4.9	0.50	5.000	0	97.9	90	110			
Sulfate	10	0.50	10.00	0	104	90	110			

Sample ID 1411545-003BMS	SampType: MS		TestCode: EPA Method 300.0: Anions							
Client ID: GBR-52	Batch ID: R22558		RunNo: 22558							
Prep Date:	Analysis Date: 11/14/2014		SeqNo: 665160		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	3.2	0.50	2.500	0.9210	92.5	66.1	113			
Chloride	88	2.5	25.00	65.11	92.6	81.8	112			
Nitrogen, Nitrite (As N)	4.7	0.50	5.000	0	94.5	66.4	111			
Bromide	12	0.50	12.50	0.4265	91.1	82.5	103			
Nitrogen, Nitrate (As N)	18	0.50	12.50	5.870	98.2	84	109			
Phosphorus, Orthophosphate (As P)	22	2.5	25.00	0	86.1	69	109			

Sample ID 1411545-003BMSD	SampType: MSD		TestCode: EPA Method 300.0: Anions							
Client ID: GBR-52	Batch ID: R22558		RunNo: 22558							
Prep Date:	Analysis Date: 11/14/2014		SeqNo: 665161		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	3.3	0.50	2.500	0.9210	93.9	66.1	113	1.05	20	
Chloride	87	2.5	25.00	65.11	88.3	81.8	112	1.22	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	1411545-003BMSD		SampType:	MSD		TestCode:	EPA Method 300.0: Anions				
Client ID:	GBR-52		Batch ID:	R22558		RunNo:	22558				
Prep Date:			Analysis Date:	11/14/2014		SeqNo:	665161		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Nitrogen, Nitrite (As N)	4.7	0.50	5.000	0	93.6	66.4	111	0.946	20		
Bromide	12	0.50	12.50	0.4265	89.8	82.5	103	1.40	20		
Nitrogen, Nitrate (As N)	18	0.50	12.50	5.870	96.4	84	109	1.27	20		
Phosphorus, Orthophosphate (As P)	21	2.5	25.00	0	85.9	69	109	0.263	20		

Sample ID	MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions						
Client ID:	PBW	Batch ID: R22558		RunNo: 22558						
Prep Date:		Analysis Date: 11/14/2014		SeqNo: 665207		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID	LCS			SampType:	LCS						TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSW			Batch ID:	R22558			RunNo:	22558							
Prep Date:				Analysis Date:	11/14/2014			SeqNo:	665208		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	103	90	110									
Chloride	4.7	0.50	5.000	0	93.9	90	110									
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	97.3	90	110									
Bromide	2.3	0.10	2.500	0	91.0	90	110									
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	90	110									
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	95.0	90	110									
Sulfate	9.4	0.50	10.00	0	93.8	90	110									

Sample ID	MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions						
Client ID:	PBW	Batch ID: R22848		RunNo: 22848						
Prep Date:		Analysis Date: 11/26/2014		SeqNo: 674415		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R22848		RunNo: 22848					
Prep Date:			Analysis Date: 11/26/2014		SeqNo: 674416		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.8	90	110			
Sulfate	10	0.50	10.00	0	102	90	110			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R22875			RunNo: 22875					
Prep Date:		Analysis Date: 12/1/2014			SeqNo: 675391		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: R22875		RunNo: 22875					
Prep Date:			Analysis Date: 12/1/2014		SeqNo: 675392		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	101	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID b3	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R22565			RunNo: 22565						
Prep Date:	Analysis Date: 11/14/2014			SeqNo: 665381		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID b3	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R22565			RunNo: 22565						
Prep Date:	Analysis Date: 11/14/2014			SeqNo: 665381		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.3	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.5		10.00		94.6	70	130			

Sample ID 100ng lcs2	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R22565			RunNo: 22565						
Prep Date:	Analysis Date: 11/14/2014			SeqNo: 665383		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	20	1.0	20.00	0	102	80	120			
Chlorobenzene	20	1.0	20.00	0	98.2	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID 100ng lcs2	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch ID: R22565			RunNo: 22565						
Prep Date:	Analysis Date: 11/14/2014			SeqNo: 665383		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	110	82.6	131			
Trichloroethene (TCE)	15	1.0	20.00	0	75.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.3	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		90.6	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.7	70	130			
Surr: Toluene-d8	9.9		10.00		98.6	70	130			

Sample ID 1411545-006a ms	SampType: MS			TestCode: EPA Method 8260B: VOLATILES						
Client ID: GBR-32	Batch ID: R22565			RunNo: 22621						
Prep Date:	Analysis Date: 11/18/2014			SeqNo: 667165		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	113	70	130			
Toluene	22	1.0	20.00	0	111	70	130			
Chlorobenzene	21	1.0	20.00	0	106	70	130			
1,1-Dichloroethene	25	1.0	20.00	0	126	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0.5080	108	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.7	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.0	70	130			
Surr: Toluene-d8	9.7		10.00		96.5	70	130			

Sample ID 1411545-006a msd	SampType: MSD			TestCode: EPA Method 8260B: VOLATILES						
Client ID: GBR-32	Batch ID: R22565			RunNo: 22621						
Prep Date:	Analysis Date: 11/18/2014			SeqNo: 667166		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130	6.00	20	
Toluene	24	1.0	20.00	0	118	70	130	5.85	20	
Chlorobenzene	21	1.0	20.00	0	107	70	130	0.711	20	
1,1-Dichloroethene	23	1.0	20.00	0	117	70	130	6.80	20	
Trichloroethene (TCE)	17	1.0	20.00	0.5080	82.6	70	130	25.9	20	R
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130	0	0	
Surr: Dibromofluoromethane	9.1		10.00		91.5	70	130	0	0	
Surr: Toluene-d8	10		10.00		100	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH greater than 2.
 RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	mb-16428		SampType:	MBLK		TestCode:	EPA Method 8270C: PAHs			
Client ID:	PBW		Batch ID:	16428		RunNo:	22616			
Prep Date:	11/18/2014		Analysis Date:	11/18/2014		SeqNo:	666994	Units:	µg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.50								
1-Methylnaphthalene	ND	0.50								
2-Methylnaphthalene	ND	0.50								
Acenaphthylene	ND	0.50								
Acenaphthene	ND	0.50								
Fluorene	ND	0.50								
Phenanthrene	ND	0.50								
Anthracene	ND	0.50								
Fluoranthene	ND	0.50								
Pyrene	ND	0.50								
Benz(a)anthracene	ND	0.50								
Chrysene	ND	0.50								
Benzo(b)fluoranthene	ND	0.50								
Benzo(k)fluoranthene	ND	0.50								
Benzo(a)pyrene	ND	0.50								
Dibenz(a,h)anthracene	ND	0.50								
Benzo(g,h,i)perylene	ND	0.50								
Indeno(1,2,3-cd)pyrene	ND	0.50								
Surr: N-hexadecane	62		87.60		70.6	29.9	83.2			
Surr: Benzo(e)pyrene	15		20.00		73.6	22.6	106			

Sample ID	lcs-16428		SampType:	LCS		TestCode:	EPA Method 8270C: PAHs			
Client ID:	LCSW		Batch ID:	16428		RunNo:	22616			
Prep Date:	11/18/2014		Analysis Date:	11/18/2014		SeqNo:	666995	Units:	µg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	12	0.50	20.00	0	59.1	37.5	104			
1-Methylnaphthalene	12	0.50	20.00	0	61.0	39.4	108			
2-Methylnaphthalene	12	0.50	20.00	0	58.5	40.5	98.2			
Acenaphthylene	12	0.50	20.00	0	60.2	43.6	103			
Acenaphthene	12	0.50	20.00	0	61.3	42.1	104			
Fluorene	12	0.50	20.00	0	61.5	45.7	105			
Phenanthrene	12	0.50	20.00	0	58.8	52.6	104			
Anthracene	12	0.50	20.00	0	59.8	52.8	104			
Fluoranthene	13	0.50	20.00	0	66.8	53.4	109			
Pyrene	12	0.50	20.00	0	62.3	44.9	108			
Benz(a)anthracene	13	0.50	20.00	0	63.2	45.1	110			
Chrysene	8.2	0.50	20.00	0	41.2	40.1	131			
Benzo(b)fluoranthene	13	0.50	20.00	0	62.8	49.9	105			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	lcs-16428		SampType: LCS		TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSW		Batch ID: 16428		RunNo: 22616					
Prep Date:	11/18/2014		Analysis Date: 11/18/2014		SeqNo: 666995		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	13	0.50	20.00	0	65.3	49.4	103			
Benzo(a)pyrene	13	0.50	20.00	0	62.7	49	100			
Dibenz(a,h)anthracene	13	0.50	20.00	0	63.7	52.9	115			
Benzo(g,h,i)perylene	12	0.50	20.00	0	59.4	43.6	107			
Indeno(1,2,3-cd)pyrene	12	0.50	20.00	0	59.0	47.6	102			
Surr: N-hexadecane	68		87.60		78.2	29.9	83.2			
Surr: Benzo(e)pyrene	16		20.00		82.0	22.6	106			

Sample ID	lcsd-16428		SampType: LCSD		TestCode: EPA Method 8270C: PAHs					
Client ID:	LCSS02		Batch ID: 16428		RunNo: 22616					
Prep Date:	11/18/2014		Analysis Date: 11/18/2014		SeqNo: 666996		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	12	0.50	20.00	0	58.9	37.5	104	0.339	20	
1-Methylnaphthalene	12	0.50	20.00	0	59.3	39.4	108	2.83	26.8	
2-Methylnaphthalene	12	0.50	20.00	0	60.4	40.5	98.2	3.20	23.8	
Acenaphthylene	12	0.50	20.00	0	58.1	43.6	103	3.55	28.6	
Acenaphthene	12	0.50	20.00	0	60.3	42.1	104	1.64	27	
Fluorene	12	0.50	20.00	0	60.3	45.7	105	1.97	25.7	
Phenanthrene	13	0.50	20.00	0	63.7	52.6	104	8.00	20	
Anthracene	13	0.50	20.00	0	64.8	52.8	104	8.03	21.2	
Fluoranthene	13	0.50	20.00	0	65.8	53.4	109	1.51	21.8	
Pyrene	13	0.50	20.00	0	64.4	44.9	108	3.31	31.1	
Benz(a)anthracene	13	0.50	20.00	0	62.6	45.1	110	0.954	26.6	
Chrysene	8.6	0.50	20.00	0	43.2	40.1	131	4.74	21.2	
Benzo(b)fluoranthene	13	0.50	20.00	0	65.9	49.9	105	4.82	20	
Benzo(k)fluoranthene	14	0.50	20.00	0	72.0	49.4	103	9.82	21	
Benzo(a)pyrene	13	0.50	20.00	0	66.2	49	100	5.43	24.8	
Dibenz(a,h)anthracene	13	0.50	20.00	0	65.0	52.9	115	2.02	26	
Benzo(g,h,i)perylene	13	0.50	20.00	0	63.2	43.6	107	6.20	20	
Indeno(1,2,3-cd)pyrene	13	0.50	20.00	0	63.2	47.6	102	6.87	20	
Surr: N-hexadecane	59		87.60		67.1	29.9	83.2	0	0	
Surr: Benzo(e)pyrene	14		20.00		67.5	22.6	106	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH greater than 2.
 RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	mb-1		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R22708		RunNo: 22708					
Prep Date:			Analysis Date: 11/20/2014		SeqNo: 669700		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	lcs-1		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R22708		RunNo: 22708					
Prep Date:			Analysis Date: 11/20/2014		SeqNo: 669701		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	99.2	90	110			

Sample ID	mb-2		SampType: MBLK		TestCode: SM2320B: Alkalinity					
Client ID:	PBW		Batch ID: R22708		RunNo: 22708					
Prep Date:			Analysis Date: 11/20/2014		SeqNo: 669724		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	lcs-2		SampType: LCS		TestCode: SM2320B: Alkalinity					
Client ID:	LCSW		Batch ID: R22708		RunNo: 22708					
Prep Date:			Analysis Date: 11/20/2014		SeqNo: 669725		Units: mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81	20	80.00	0	101	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411545

10-Dec-14

Client: Western Refining Southwest, Inc.

Project: GBR Annual Sampling

Sample ID	MB-16440		SampType: MBLK		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW		Batch ID: 16440		RunNo: 22645					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667787		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	LCS-16440		SampType: LCS		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW		Batch ID: 16440		RunNo: 22645					
Prep Date:	11/18/2014		Analysis Date: 11/19/2014		SeqNo: 667788		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	995	20.0	1000	0	99.5	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Southw

Work Order Number: 1411545

RcptNo: 1

Received by/date

Logged By: Ashley Gallegos

11/14/2014 7:10:00 AM

Completed By: Ashley Gallegos

11/14/2014 9:33:46 AM

Reviewed By: IO

11/14/2014

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? Courier

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? Yes ☒ No ☐
(Note discrepancies on chain of custody)
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? Yes ☒ No ☐
(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

Adjusted?

Checked by:

METALS ANALYSIS: ADDED 1mL HNO₃ TO -001C -008C FOR ACCEPTABLE pH. HELD IN LOG IN FOR 24 HOURS AFTER PRESERVATION. 11/14/14 @ 10:45

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	1.5	Good	Yes			

www.hallenvironmental.com

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

(b) C

Any sub-contracted data will be clearly notated on the analytical report. This serves as notice of this possibility. Any sub-contracted laboratories. Any sub-contracted data will be clearly notated on the analytical report.

TABLE 1

**2012 SAMPLING SCHEDULE
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING**

Sample ID	ANNUALLY (Jan)
System Influent	VOC
	GWC
System Effluent	VOC
	GWC
	METALS
	PAH
GRW-3	VOC
	GWC
	PAH
GRW-6	VOC
	GWC
	PAH
GBR-17	VOC
	GWC
	PAH
GBR-24D	VOC
	GWC
	PAH
GBR-30	VOC
	GWC
	PAH
GBR-31	VOC
	GWC
	PAH
GBR-32	VOC
	GWC
	METALS
GBR-48	VOC
	GWC
	METALS
GBR-49	VOC
	GWC
	METALS
GBR-50	VOC
	GWC
	METALS
GBR-51	VOC
	GWC
GBR-52	VOC
	GWC
SHS-8	VOC
	GWC

Notes:

VOC
method 8260

PAH
method 8270

GWC

pH

EC

TDS

alkalinity

hardness

anions

bromide

chloride

sulfate

fluoride

nitrate/nitrite

phosphorus

cations

calcium

iron

magnesium

manganese

potassium

sodium

Metals

barium

beryllium

cadmium

chromium

copper

lead

nickel

silver

zinc

antimony

arsenic

selenium

thallium

mercury

1/1e

15.20





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

January 19, 2015

Kelly Robinson

Western Refining Southwest, Inc.
#50 CR 4990

Bloomfield, NM 87413

TEL: (505) 632-4166

FAX (505) 632-3911

RE: GROUP 9 Wells 12-16-14

OrderNo.: 1412839

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/17/2014 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', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-001A

Client Sample ID: MW-72
Collection Date: 12/16/2014 7:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	5900	500		µg/L	500	12/18/2014 11:27:22 PM	R23245
Toluene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Ethylbenzene	870	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,2,4-Trimethylbenzene	430	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,3,5-Trimethylbenzene	130	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,2-Dichloroethane (EDC)	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,2-Dibromoethane (EDB)	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Naphthalene	190	100		µg/L	50	12/18/2014 9:37:22 PM	R23245
1-Methylnaphthalene	ND	200		µg/L	50	12/18/2014 9:37:22 PM	R23245
2-Methylnaphthalene	ND	200		µg/L	50	12/18/2014 9:37:22 PM	R23245
Acetone	ND	500		µg/L	50	12/18/2014 9:37:22 PM	R23245
Bromobenzene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Bromodichloromethane	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Bromoform	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Bromomethane	ND	150		µg/L	50	12/18/2014 9:37:22 PM	R23245
2-Butanone	ND	500		µg/L	50	12/18/2014 9:37:22 PM	R23245
Carbon disulfide	ND	500		µg/L	50	12/18/2014 9:37:22 PM	R23245
Carbon Tetrachloride	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Chlorobenzene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Chloroethane	ND	100		µg/L	50	12/18/2014 9:37:22 PM	R23245
Chloroform	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Chloromethane	ND	150		µg/L	50	12/18/2014 9:37:22 PM	R23245
2-Chlorotoluene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
4-Chlorotoluene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
cis-1,2-DCE	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
cis-1,3-Dichloropropene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,2-Dibromo-3-chloropropane	ND	100		µg/L	50	12/18/2014 9:37:22 PM	R23245
Dibromochloromethane	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Dibromomethane	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,2-Dichlorobenzene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,3-Dichlorobenzene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,4-Dichlorobenzene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Dichlorodifluoromethane	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,1-Dichloroethane	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,1-Dichloroethene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,2-Dichloropropane	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,3-Dichloropropane	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
2,2-Dichloropropane	ND	100		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,1-Dichloropropene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Hexachlorobutadiene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-001A

Client Sample ID: MW-72
Collection Date: 12/16/2014 7:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	500		µg/L	50	12/18/2014 9:37:22 PM	R23245
Isopropylbenzene	95	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
4-Isopropyltoluene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
4-Methyl-2-pentanone	ND	500		µg/L	50	12/18/2014 9:37:22 PM	R23245
Methylene Chloride	ND	150		µg/L	50	12/18/2014 9:37:22 PM	R23245
n-Butylbenzene	ND	150		µg/L	50	12/18/2014 9:37:22 PM	R23245
n-Propylbenzene	150	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
sec-Butylbenzene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Styrene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
tert-Butylbenzene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,1,1,2-Tetrachloroethane	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,1,2,2-Tetrachloroethane	ND	100		µg/L	50	12/18/2014 9:37:22 PM	R23245
Tetrachloroethene (PCE)	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
trans-1,2-DCE	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
trans-1,3-Dichloropropene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,2,3-Trichlorobenzene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,2,4-Trichlorobenzene	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,1,1-Trichloroethane	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,1,2-Trichloroethane	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Trichloroethene (TCE)	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Trichlorofluoromethane	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
1,2,3-Trichloropropane	ND	100		µg/L	50	12/18/2014 9:37:22 PM	R23245
Vinyl chloride	ND	50		µg/L	50	12/18/2014 9:37:22 PM	R23245
Xylenes, Total	1300	75		µg/L	50	12/18/2014 9:37:22 PM	R23245
Surr: 1,2-Dichloroethane-d4	83.5	70-130		%REC	50	12/18/2014 9:37:22 PM	R23245
Surr: 4-Bromofluorobenzene	86.5	70-130		%REC	50	12/18/2014 9:37:22 PM	R23245
Surr: Dibromofluoromethane	96.4	70-130		%REC	50	12/18/2014 9:37:22 PM	R23245
Surr: Toluene-d8	92.6	70-130		%REC	50	12/18/2014 9:37:22 PM	R23245

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-001B

Client Sample ID: MW-72
Collection Date: 12/16/2014 7:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	23	2.5		mg/L	50	12/17/2014 4:53:09 PM	R23205
Surr: BFB	108	80-120		%REC	50	12/17/2014 4:53:09 PM	R23205

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 3 of 62

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-001C

Client Sample ID: MW-72
Collection Date: 12/16/2014 7:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: BCN
Diesel Range Organics (DRO)	2.8	0.20		mg/L	1	12/18/2014 9:12:24 PM	16887
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	12/18/2014 9:12:24 PM	16887
Surr: DNOP	90.9	75.2-161		%REC	1	12/18/2014 9:12:24 PM	16887

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-001D

Client Sample ID: MW-72
Collection Date: 12/16/2014 7:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC		
Acenaphthene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Acenaphthylene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Aniline	28	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Anthracene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Azobenzene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Benz(a)anthracene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Benzo(a)pyrene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Benzo(b)fluoranthene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Benzo(g,h,i)perylene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Benzo(k)fluoranthene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Benzoic acid	ND	20		µg/L	1	12/23/2014 10:21:33 AM	16967
Benzyl alcohol	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Bis(2-chloroethyl)ether	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
4-Bromophenyl phenyl ether	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Butyl benzyl phthalate	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Carbazole	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
4-Chloro-3-methylphenol	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
4-Chloroaniline	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
2-Chloronaphthalene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
2-Chlorophenol	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Chrysene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Di-n-butyl phthalate	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Di-n-octyl phthalate	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Dibenz(a,h)anthracene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Dibenzofuran	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
1,2-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
1,3-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
1,4-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
3,3'-Dichlorobenzidine	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Diethyl phthalate	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Dimethyl phthalate	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
2,4-Dichlorophenol	ND	20		µg/L	1	12/23/2014 10:21:33 AM	16967
2,4-Dimethylphenol	23	10		µg/L	1	12/23/2014 10:21:33 AM	16967
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	12/23/2014 10:21:33 AM	16967
2,4-Dinitrophenol	ND	20		µg/L	1	12/23/2014 10:21:33 AM	16967
2,4-Dinitrotoluene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
2,6-Dinitrotoluene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: MW-72

Project: GROUP 9 Wells 12-16-14

Collection Date: 12/16/2014 7:45:00 AM

Lab ID: 1412839-001D

Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC		
Fluoranthene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Fluorene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Hexachlorobenzene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Hexachlorobutadiene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Hexachlorocyclopentadiene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Hexachloroethane	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Isophorone	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
1-Methylnaphthalene	46	10		µg/L	1	12/23/2014 10:21:33 AM	16967
2-Methylnaphthalene	69	10		µg/L	1	12/23/2014 10:21:33 AM	16967
2-Methylphenol	12	10		µg/L	1	12/23/2014 10:21:33 AM	16967
3+4-Methylphenol	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
N-Nitrosodimethylamine	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
N-Nitrosodiphenylamine	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Naphthalene	130	10		µg/L	1	12/23/2014 10:21:33 AM	16967
2-Nitroaniline	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
3-Nitroaniline	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
4-Nitroaniline	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Nitrobenzene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
2-Nitrophenol	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
4-Nitrophenol	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Pentachlorophenol	ND	20		µg/L	1	12/23/2014 10:21:33 AM	16967
Phenanthrene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Phenol	27	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Pyrene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Pyridine	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
1,2,4-Trichlorobenzene	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
2,4,5-Trichlorophenol	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
2,4,6-Trichlorophenol	ND	10		µg/L	1	12/23/2014 10:21:33 AM	16967
Surr: 2-Fluorophenol	57.6	17.6-104		%REC	1	12/23/2014 10:21:33 AM	16967
Surr: Phenol-d5	48.2	17.7-89.9		%REC	1	12/23/2014 10:21:33 AM	16967
Surr: 2,4,6-Tribromophenol	79.8	16.3-122		%REC	1	12/23/2014 10:21:33 AM	16967
Surr: Nitrobenzene-d5	80.4	45.3-117		%REC	1	12/23/2014 10:21:33 AM	16967
Surr: 2-Fluorobiphenyl	80.6	43-113		%REC	1	12/23/2014 10:21:33 AM	16967
Surr: 4-Terphenyl-d14	58.7	47.6-122		%REC	1	12/23/2014 10:21:33 AM	16967

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 6 of 62

Analytical ReportLab Order: **1412839**Date Reported: **1/19/2015****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** MW-72**Project:** GROUP 9 Wells 12-16-14**Collection Date:** 12/16/2014 7:45:00 AM**Lab ID:** 1412839-001E**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: lgp
Chloride	230	10		mg/L	20	12/17/2014 4:24:17 PM	R23216
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/17/2014 4:11:53 PM	R23216
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	12/17/2014 4:11:53 PM	R23216
Sulfate	90	2.5		mg/L	5	12/17/2014 4:11:53 PM	R23216
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	1000	20		mg/L CaCO3	1	12/17/2014 6:42:08 PM	R23220
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	12/17/2014 6:42:08 PM	R23220
Total Alkalinity (as CaCO3)	1000	20		mg/L CaCO3	1	12/17/2014 6:42:08 PM	R23220
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1820	200	*	mg/L	1	12/21/2014 4:24:00 PM	16924

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 7 of 62

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-001F

Client Sample ID: MW-72
Collection Date: 12/16/2014 7:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	1.1	0.010		mg/L	5	12/17/2014 4:48:26 PM	R23206
Beryllium	ND	0.0020		mg/L	1	12/17/2014 4:46:46 PM	R23206
Cadmium	ND	0.0020		mg/L	1	12/17/2014 4:46:46 PM	R23206
Calcium	140	5.0		mg/L	5	12/17/2014 4:48:26 PM	R23206
Chromium	ND	0.0060		mg/L	1	12/17/2014 4:46:46 PM	R23206
Cobalt	ND	0.0060		mg/L	1	12/17/2014 4:46:46 PM	R23206
Iron	8.8	0.20	*	mg/L	10	12/23/2014 1:24:03 PM	R23329
Magnesium	56	1.0		mg/L	1	12/17/2014 4:46:46 PM	R23206
Manganese	2.9	0.010	*	mg/L	5	12/17/2014 4:48:26 PM	R23206
Nickel	ND	0.010		mg/L	1	12/17/2014 4:46:46 PM	R23206
Potassium	5.3	1.0		mg/L	1	12/17/2014 4:46:46 PM	R23206
Silver	ND	0.0050		mg/L	1	12/17/2014 4:46:46 PM	R23206
Sodium	380	5.0		mg/L	5	12/17/2014 4:48:26 PM	R23206
Vanadium	ND	0.050		mg/L	1	12/17/2014 4:46:46 PM	R23206
Zinc	0.014	0.010		mg/L	1	12/17/2014 4:46:46 PM	R23206
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	1/2/2015 10:49:06 AM	R23456
Arsenic	ND	0.010		mg/L	10	1/7/2015 6:34:24 PM	R23526
Lead	0.0013	0.0010		mg/L	1	1/2/2015 10:49:06 AM	R23456
Selenium	ND	0.010		mg/L	1	1/2/2015 10:49:06 AM	R23456
EPA METHOD 245.1: MERCURY				Analyst: MMD			
Mercury	ND	0.00020		mg/L	1	12/23/2014 2:13:11 PM	16959

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-001G

Client Sample ID: MW-72
Collection Date: 12/16/2014 7:45:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: ELS			
Barium	1.6	0.010		mg/L	5	12/27/2014 4:48:04 PM	16991
Beryllium	0.0033	0.0020		mg/L	1	12/27/2014 4:46:19 PM	16991
Cadmium	ND	0.0020		mg/L	1	12/27/2014 4:46:19 PM	16991
Calcium	150	5.0		mg/L	5	12/27/2014 4:48:04 PM	16991
Chromium	0.027	0.0060		mg/L	1	12/27/2014 4:46:19 PM	16991
Cobalt	0.021	0.0060		mg/L	1	12/27/2014 4:46:19 PM	16991
Iron	50	2.0	*	mg/L	100	12/27/2014 7:00:34 PM	16991
Magnesium	64	1.0		mg/L	1	12/27/2014 4:46:19 PM	16991
Manganese	3.2	0.010	*	mg/L	5	12/27/2014 4:48:04 PM	16991
Nickel	0.037	0.010		mg/L	1	12/27/2014 4:46:19 PM	16991
Potassium	10	1.0		mg/L	1	12/27/2014 4:46:19 PM	16991
Silver	ND	0.0050		mg/L	1	12/27/2014 4:46:19 PM	16991
Sodium	370	5.0		mg/L	5	12/27/2014 4:48:04 PM	16991
Vanadium	0.063	0.050		mg/L	1	12/27/2014 4:46:19 PM	16991
Zinc	0.12	0.010		mg/L	1	12/27/2014 4:46:19 PM	16991
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	12/29/2014 12:30:45 PM	16991
Arsenic	0.015	0.010	*	mg/L	10	12/29/2014 3:51:49 PM	16991
Lead	0.034	0.0010	*	mg/L	1	12/29/2014 12:30:45 PM	16991
Selenium	ND	0.10		mg/L	10	12/29/2014 3:51:49 PM	16991
EPA METHOD 245.1: MERCURY				Analyst: MMD			
Mercury	ND	0.00020		mg/L	1	12/23/2014 1:33:29 PM	16958

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1412839**Date Reported: **1/19/2015****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** MW-73**Project:** GROUP 9 Wells 12-16-14**Collection Date:** 12/16/2014 8:00:00 AM**Lab ID:** 1412839-002A**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	3600	200		µg/L	200	12/18/2014 11:54:54 PM	R23245
Toluene	140	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Ethylbenzene	370	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Methyl tert-butyl ether (MTBE)	100	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,2,4-Trimethylbenzene	570	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,3,5-Trimethylbenzene	190	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,2-Dichloroethane (EDC)	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,2-Dibromoethane (EDB)	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Naphthalene	220	40		µg/L	20	12/19/2014 12:22:20 AM	R23245
1-Methylnaphthalene	ND	80		µg/L	20	12/19/2014 12:22:20 AM	R23245
2-Methylnaphthalene	110	80		µg/L	20	12/19/2014 12:22:20 AM	R23245
Acetone	ND	200		µg/L	20	12/19/2014 12:22:20 AM	R23245
Bromobenzene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Bromodichloromethane	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Bromoform	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Bromomethane	ND	60		µg/L	20	12/19/2014 12:22:20 AM	R23245
2-Butanone	ND	200		µg/L	20	12/19/2014 12:22:20 AM	R23245
Carbon disulfide	ND	200		µg/L	20	12/19/2014 12:22:20 AM	R23245
Carbon Tetrachloride	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Chlorobenzene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Chloroethane	ND	40		µg/L	20	12/19/2014 12:22:20 AM	R23245
Chloroform	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Chloromethane	ND	60		µg/L	20	12/19/2014 12:22:20 AM	R23245
2-Chlorotoluene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
4-Chlorotoluene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
cis-1,2-DCE	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
cis-1,3-Dichloropropene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,2-Dibromo-3-chloropropane	ND	40		µg/L	20	12/19/2014 12:22:20 AM	R23245
Dibromochloromethane	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Dibromomethane	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,2-Dichlorobenzene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,3-Dichlorobenzene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,4-Dichlorobenzene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Dichlorodifluoromethane	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,1-Dichloroethane	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,1-Dichloroethene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,2-Dichloropropane	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,3-Dichloropropane	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
2,2-Dichloropropane	ND	40		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,1-Dichloropropene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Hexachlorobutadiene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1412839**Date Reported: **1/19/2015****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-002A

Client Sample ID: MW-73
Collection Date: 12/16/2014 8:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	200		µg/L	20	12/19/2014 12:22:20 AM	R23245
Isopropylbenzene	30	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
4-Isopropyltoluene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
4-Methyl-2-pentanone	ND	200		µg/L	20	12/19/2014 12:22:20 AM	R23245
Methylene Chloride	ND	60		µg/L	20	12/19/2014 12:22:20 AM	R23245
n-Butylbenzene	ND	60		µg/L	20	12/19/2014 12:22:20 AM	R23245
n-Propylbenzene	24	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
sec-Butylbenzene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Styrene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
tert-Butylbenzene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,1,1,2-Tetrachloroethane	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,1,2,2-Tetrachloroethane	ND	40		µg/L	20	12/19/2014 12:22:20 AM	R23245
Tetrachloroethene (PCE)	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
trans-1,2-DCE	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
trans-1,3-Dichloropropene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,2,3-Trichlorobenzene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,2,4-Trichlorobenzene	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,1,1-Trichloroethane	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,1,2-Trichloroethane	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Trichloroethene (TCE)	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Trichlorofluoromethane	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
1,2,3-Trichloropropane	ND	40		µg/L	20	12/19/2014 12:22:20 AM	R23245
Vinyl chloride	ND	20		µg/L	20	12/19/2014 12:22:20 AM	R23245
Xylenes, Total	2600	30		µg/L	20	12/19/2014 12:22:20 AM	R23245
Surr: 1,2-Dichloroethane-d4	82.4	70-130		%REC	20	12/19/2014 12:22:20 AM	R23245
Surr: 4-Bromofluorobenzene	83.8	70-130		%REC	20	12/19/2014 12:22:20 AM	R23245
Surr: Dibromofluoromethane	101	70-130		%REC	20	12/19/2014 12:22:20 AM	R23245
Surr: Toluene-d8	98.5	70-130		%REC	20	12/19/2014 12:22:20 AM	R23245

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-002B

Client Sample ID: MW-73
Collection Date: 12/16/2014 8:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	20	0.50		mg/L	10	12/17/2014 6:15:13 PM	R23205
Surr: BFB	117	80-120		%REC	10	12/17/2014 6:15:13 PM	R23205

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-002C

Client Sample ID: MW-73
Collection Date: 12/16/2014 8:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: BCN
Diesel Range Organics (DRO)	1.8	0.20		mg/L	1	12/18/2014 10:42:05 PM	16887
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	12/18/2014 10:42:05 PM	16887
Surr: DNOP	92.8	75.2-161		%REC	1	12/18/2014 10:42:05 PM	16887

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-002D

Client Sample ID: MW-73
Collection Date: 12/16/2014 8:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC		
Acenaphthene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Acenaphthylene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Aniline	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Anthracene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Azobenzene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Benz(a)anthracene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Benzo(a)pyrene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Benzo(b)fluoranthene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Benzo(g,h,i)perylene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Benzo(k)fluoranthene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Benzoic acid	ND	20		µg/L	1	12/23/2014 11:44:58 AM	16967
Benzyl alcohol	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Bis(2-chloroethyl)ether	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
4-Bromophenyl phenyl ether	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Butyl benzyl phthalate	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Carbazole	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
4-Chloro-3-methylphenol	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
4-Chloroaniline	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
2-Chloronaphthalene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
2-Chlorophenol	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Chrysene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Di-n-butyl phthalate	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Di-n-octyl phthalate	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Dibenz(a,h)anthracene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Dibenzofuran	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
1,2-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
1,3-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
1,4-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
3,3'-Dichlorobenzidine	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Diethyl phthalate	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Dimethyl phthalate	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
2,4-Dichlorophenol	ND	20		µg/L	1	12/23/2014 11:44:58 AM	16967
2,4-Dimethylphenol	15	10		µg/L	1	12/23/2014 11:44:58 AM	16967
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	12/23/2014 11:44:58 AM	16967
2,4-Dinitrophenol	ND	20		µg/L	1	12/23/2014 11:44:58 AM	16967
2,4-Dinitrotoluene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
2,6-Dinitrotoluene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-002D

Client Sample ID: MW-73
Collection Date: 12/16/2014 8:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES				Analyst: JDC			
Fluoranthene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Fluorene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Hexachlorobenzene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Hexachlorobutadiene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Hexachlorocyclopentadiene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Hexachloroethane	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Isophorone	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
1-Methylnaphthalene	56	10		µg/L	1	12/23/2014 11:44:58 AM	16967
2-Methylnaphthalene	77	10		µg/L	1	12/23/2014 11:44:58 AM	16967
2-Methylphenol	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
3+4-Methylphenol	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
N-Nitrosodimethylamine	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
N-Nitrosodiphenylamine	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Naphthalene	140	10		µg/L	1	12/23/2014 11:44:58 AM	16967
2-Nitroaniline	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
3-Nitroaniline	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
4-Nitroaniline	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Nitrobenzene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
2-Nitrophenol	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
4-Nitrophenol	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Pentachlorophenol	ND	20		µg/L	1	12/23/2014 11:44:58 AM	16967
Phenanthrene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Phenol	61	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Pyrene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Pyridine	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
1,2,4-Trichlorobenzene	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
2,4,5-Trichlorophenol	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
2,4,6-Trichlorophenol	ND	10		µg/L	1	12/23/2014 11:44:58 AM	16967
Surr: 2-Fluorophenol	44.1	17.6-104		%REC	1	12/23/2014 11:44:58 AM	16967
Surr: Phenol-d5	46.0	17.7-89.9		%REC	1	12/23/2014 11:44:58 AM	16967
Surr: 2,4,6-Tribromophenol	80.0	16.3-122		%REC	1	12/23/2014 11:44:58 AM	16967
Surr: Nitrobenzene-d5	75.9	45.3-117		%REC	1	12/23/2014 11:44:58 AM	16967
Surr: 2-Fluorobiphenyl	79.2	43-113		%REC	1	12/23/2014 11:44:58 AM	16967
Surr: 4-Terphenyl-d14	55.0	47.6-122		%REC	1	12/23/2014 11:44:58 AM	16967

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 15 of 62

Analytical ReportLab Order: **1412839**Date Reported: **1/19/2015****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** MW-73**Project:** GROUP 9 Wells 12-16-14**Collection Date:** 12/16/2014 8:00:00 AM**Lab ID:** 1412839-002E**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: lgp
Chloride	180	10		mg/L	20	12/17/2014 4:49:07 PM	R23216
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/17/2014 4:36:42 PM	R23216
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	12/17/2014 4:36:42 PM	R23216
Sulfate	230	2.5		mg/L	5	12/17/2014 4:36:42 PM	R23216
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	1000	20		mg/L CaCO ₃	1	12/17/2014 7:18:35 PM	R23220
Carbonate (As CaCO ₃)	ND	2.0		mg/L CaCO ₃	1	12/17/2014 7:18:35 PM	R23220
Total Alkalinity (as CaCO ₃)	1000	20		mg/L CaCO ₃	1	12/17/2014 7:18:35 PM	R23220
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1760	100	*	mg/L	1	12/21/2014 4:24:00 PM	16924

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-002F

Client Sample ID: MW-73
Collection Date: 12/16/2014 8:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	0.47	0.0020		mg/L	1	12/17/2014 4:52:10 PM	R23206
Beryllium	ND	0.0020		mg/L	1	12/17/2014 4:52:10 PM	R23206
Cadmium	ND	0.0020		mg/L	1	12/17/2014 4:52:10 PM	R23206
Calcium	130	5.0		mg/L	5	12/17/2014 4:54:07 PM	R23206
Chromium	ND	0.0060		mg/L	1	12/17/2014 4:52:10 PM	R23206
Cobalt	ND	0.0060		mg/L	1	12/17/2014 4:52:10 PM	R23206
Iron	1.2	0.10	*	mg/L	5	12/17/2014 4:54:07 PM	R23206
Magnesium	45	1.0		mg/L	1	12/17/2014 4:52:10 PM	R23206
Manganese	2.3	0.010	*	mg/L	5	12/17/2014 4:54:07 PM	R23206
Nickel	ND	0.010		mg/L	1	12/17/2014 4:52:10 PM	R23206
Potassium	5.5	1.0		mg/L	1	12/17/2014 4:52:10 PM	R23206
Silver	ND	0.0050		mg/L	1	12/17/2014 4:52:10 PM	R23206
Sodium	420	5.0		mg/L	5	12/17/2014 4:54:07 PM	R23206
Vanadium	ND	0.050		mg/L	1	12/17/2014 4:52:10 PM	R23206
Zinc	0.011	0.010		mg/L	1	12/17/2014 4:52:10 PM	R23206
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	1/2/2015 11:05:27 AM	R23456
Arsenic	ND	0.010		mg/L	10	1/7/2015 6:37:34 PM	R23526
Lead	0.0030	0.0010		mg/L	1	1/2/2015 11:05:27 AM	R23456
Selenium	ND	0.010		mg/L	10	1/7/2015 6:37:34 PM	R23526
EPA METHOD 245.1: MERCURY				Analyst: MMD			
Mercury	ND	0.00020		mg/L	1	12/23/2014 2:14:58 PM	16959

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-002G

Client Sample ID: MW-73
Collection Date: 12/16/2014 8:00:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS							Analyst: ELS
Barium	0.55	0.0020		mg/L	1	12/27/2014 4:49:49 PM	16991
Beryllium	ND	0.0020		mg/L	1	12/27/2014 4:49:49 PM	16991
Cadmium	ND	0.0020		mg/L	1	12/27/2014 4:49:49 PM	16991
Calcium	150	5.0		mg/L	5	12/27/2014 4:58:15 PM	16991
Chromium	ND	0.0060		mg/L	1	12/27/2014 4:49:49 PM	16991
Cobalt	ND	0.0060		mg/L	1	12/27/2014 4:49:49 PM	16991
Iron	10	0.40	*	mg/L	20	12/27/2014 7:02:23 PM	16991
Magnesium	49	1.0		mg/L	1	12/27/2014 4:49:49 PM	16991
Manganese	2.4	0.010	*	mg/L	5	12/27/2014 4:58:15 PM	16991
Nickel	ND	0.010		mg/L	1	12/27/2014 4:49:49 PM	16991
Potassium	6.9	1.0		mg/L	1	12/27/2014 4:49:49 PM	16991
Silver	ND	0.0050		mg/L	1	12/27/2014 4:49:49 PM	16991
Sodium	430	5.0		mg/L	5	12/27/2014 4:58:15 PM	16991
Vanadium	ND	0.050		mg/L	1	12/27/2014 4:49:49 PM	16991
Zinc	0.022	0.010		mg/L	1	12/27/2014 4:49:49 PM	16991
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Antimony	ND	0.0010		mg/L	1	12/29/2014 12:36:05 PM	16991
Arsenic	0.011	0.010	*	mg/L	10	12/29/2014 3:55:20 PM	16991
Lead	0.011	0.0010		mg/L	1	12/29/2014 12:36:05 PM	16991
Selenium	ND	0.10		mg/L	10	12/29/2014 3:55:20 PM	16991
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	12/23/2014 1:35:14 PM	16958

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-003A

Client Sample ID: MW-75
Collection Date: 12/16/2014 8:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	7000	500		µg/L	500	12/19/2014 1:17:16 AM	R23245
Toluene	210	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Ethylbenzene	580	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Methyl tert-butyl ether (MTBE)	53	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,2,4-Trimethylbenzene	310	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,3,5-Trimethylbenzene	81	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,2-Dichloroethane (EDC)	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,2-Dibromoethane (EDB)	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Naphthalene	170	100		µg/L	50	12/19/2014 1:44:44 AM	R23245
1-Methylnaphthalene	ND	200		µg/L	50	12/19/2014 1:44:44 AM	R23245
2-Methylnaphthalene	ND	200		µg/L	50	12/19/2014 1:44:44 AM	R23245
Acetone	ND	500		µg/L	50	12/19/2014 1:44:44 AM	R23245
Bromobenzene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Bromodichloromethane	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Bromoform	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Bromomethane	ND	150		µg/L	50	12/19/2014 1:44:44 AM	R23245
2-Butanone	ND	500		µg/L	50	12/19/2014 1:44:44 AM	R23245
Carbon disulfide	ND	500		µg/L	50	12/19/2014 1:44:44 AM	R23245
Carbon Tetrachloride	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Chlorobenzene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Chloroethane	ND	100		µg/L	50	12/19/2014 1:44:44 AM	R23245
Chloroform	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Chloromethane	ND	150		µg/L	50	12/19/2014 1:44:44 AM	R23245
2-Chlorotoluene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
4-Chlorotoluene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
cis-1,2-DCE	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
cis-1,3-Dichloropropene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,2-Dibromo-3-chloropropane	ND	100		µg/L	50	12/19/2014 1:44:44 AM	R23245
Dibromochloromethane	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Dibromomethane	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,2-Dichlorobenzene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,3-Dichlorobenzene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,4-Dichlorobenzene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Dichlorodifluoromethane	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,1-Dichloroethane	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,1-Dichloroethene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,2-Dichloropropane	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,3-Dichloropropane	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
2,2-Dichloropropane	ND	100		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,1-Dichloropropene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Hexachlorobutadiene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-003A

Client Sample ID: MW-75
Collection Date: 12/16/2014 8:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	500		µg/L	50	12/19/2014 1:44:44 AM	R23245
Isopropylbenzene	69	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
4-Isopropyltoluene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
4-Methyl-2-pentanone	ND	500		µg/L	50	12/19/2014 1:44:44 AM	R23245
Methylene Chloride	ND	150		µg/L	50	12/19/2014 1:44:44 AM	R23245
n-Butylbenzene	ND	150		µg/L	50	12/19/2014 1:44:44 AM	R23245
n-Propylbenzene	100	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
sec-Butylbenzene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Styrene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
tert-Butylbenzene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,1,1,2-Tetrachloroethane	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,1,2,2-Tetrachloroethane	ND	100		µg/L	50	12/19/2014 1:44:44 AM	R23245
Tetrachloroethene (PCE)	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
trans-1,2-DCE	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
trans-1,3-Dichloropropene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,2,3-Trichlorobenzene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,2,4-Trichlorobenzene	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,1,1-Trichloroethane	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,1,2-Trichloroethane	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Trichloroethene (TCE)	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Trichlorofluoromethane	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
1,2,3-Trichloropropane	ND	100		µg/L	50	12/19/2014 1:44:44 AM	R23245
Vinyl chloride	ND	50		µg/L	50	12/19/2014 1:44:44 AM	R23245
Xylenes, Total	1900	75		µg/L	50	12/19/2014 1:44:44 AM	R23245
Surr: 1,2-Dichloroethane-d4	82.7	70-130		%REC	50	12/19/2014 1:44:44 AM	R23245
Surr: 4-Bromofluorobenzene	90.7	70-130		%REC	50	12/19/2014 1:44:44 AM	R23245
Surr: Dibromofluoromethane	99.2	70-130		%REC	50	12/19/2014 1:44:44 AM	R23245
Surr: Toluene-d8	92.4	70-130		%REC	50	12/19/2014 1:44:44 AM	R23245

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-003B

Client Sample ID: MW-75
Collection Date: 12/16/2014 8:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	22	2.5		mg/L	50	12/17/2014 6:42:36 PM	R23205
Surr: BFB	107	80-120		%REC	50	12/17/2014 6:42:36 PM	R23205

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-003C

Client Sample ID: MW-75
Collection Date: 12/16/2014 8:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: BCN
Diesel Range Organics (DRO)	2.9	0.20		mg/L	1	12/18/2014 11:11:19 PM	16887
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	12/18/2014 11:11:19 PM	16887
Surr: DNOP	112	75.2-161		%REC	1	12/18/2014 11:11:19 PM	16887

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-003D

Client Sample ID: MW-75
Collection Date: 12/16/2014 8:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC		
Acenaphthene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Acenaphthylene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Aniline	20	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Anthracene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Azobenzene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Benz(a)anthracene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Benzo(a)pyrene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Benzo(b)fluoranthene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Benzo(g,h,i)perylene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Benzo(k)fluoranthene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Benzoic acid	ND	20		µg/L	1	12/23/2014 12:12:49 PM	16967
Benzyl alcohol	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Bis(2-chloroethyl)ether	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
4-Bromophenyl phenyl ether	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Butyl benzyl phthalate	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Carbazole	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
4-Chloro-3-methylphenol	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
4-Chloroaniline	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
2-Chloronaphthalene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
2-Chlorophenol	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Chrysene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Di-n-butyl phthalate	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Di-n-octyl phthalate	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Dibenz(a,h)anthracene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Dibenzofuran	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
1,2-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
1,3-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
1,4-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
3,3'-Dichlorobenzidine	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Diethyl phthalate	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Dimethyl phthalate	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
2,4-Dichlorophenol	ND	20		µg/L	1	12/23/2014 12:12:49 PM	16967
2,4-Dimethylphenol	16	10		µg/L	1	12/23/2014 12:12:49 PM	16967
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	12/23/2014 12:12:49 PM	16967
2,4-Dinitrophenol	ND	20		µg/L	1	12/23/2014 12:12:49 PM	16967
2,4-Dinitrotoluene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
2,6-Dinitrotoluene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1412839**Date Reported: **1/19/2015****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** MW-75**Project:** GROUP 9 Wells 12-16-14**Collection Date:** 12/16/2014 8:30:00 AM**Lab ID:** 1412839-003D**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC	
Fluoranthene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Fluorene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Hexachlorobenzene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Hexachlorobutadiene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Hexachlorocyclopentadiene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Hexachloroethane	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Isophorone	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
1-Methylnaphthalene	57	10		µg/L	1	12/23/2014 12:12:49 PM	16967
2-Methylnaphthalene	80	10		µg/L	1	12/23/2014 12:12:49 PM	16967
2-Methylphenol	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
3+4-Methylphenol	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
N-Nitrosodimethylamine	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
N-Nitrosodiphenylamine	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Naphthalene	88	10		µg/L	1	12/23/2014 12:12:49 PM	16967
2-Nitroaniline	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
3-Nitroaniline	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
4-Nitroaniline	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Nitrobenzene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
2-Nitrophenol	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
4-Nitrophenol	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Pentachlorophenol	ND	20		µg/L	1	12/23/2014 12:12:49 PM	16967
Phenanthrene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Phenol	74	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Pyrene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Pyridine	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
1,2,4-Trichlorobenzene	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
2,4,5-Trichlorophenol	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
2,4,6-Trichlorophenol	ND	10		µg/L	1	12/23/2014 12:12:49 PM	16967
Surr: 2-Fluorophenol	53.4	17.6-104		%REC	1	12/23/2014 12:12:49 PM	16967
Surr: Phenol-d5	53.1	17.7-89.9		%REC	1	12/23/2014 12:12:49 PM	16967
Surr: 2,4,6-Tribromophenol	77.5	16.3-122		%REC	1	12/23/2014 12:12:49 PM	16967
Surr: Nitrobenzene-d5	65.5	45.3-117		%REC	1	12/23/2014 12:12:49 PM	16967
Surr: 2-Fluorobiphenyl	64.4	43-113		%REC	1	12/23/2014 12:12:49 PM	16967
Surr: 4-Terphenyl-d14	45.0	47.6-122	S	%REC	1	12/23/2014 12:12:49 PM	16967

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1412839**Date Reported: **1/19/2015****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-003E

Client Sample ID: MW-75
Collection Date: 12/16/2014 8:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: lgp
Chloride	290	10	*	mg/L	20	12/17/2014 5:13:56 PM	R23216
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/17/2014 5:01:31 PM	R23216
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	12/17/2014 5:01:31 PM	R23216
Sulfate	64	2.5		mg/L	5	12/17/2014 5:01:31 PM	R23216
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	1200	20		mg/L CaCO3	1	12/17/2014 7:55:02 PM	R23220
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	12/17/2014 7:55:02 PM	R23220
Total Alkalinity (as CaCO3)	1200	20		mg/L CaCO3	1	12/17/2014 7:55:02 PM	R23220
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1780	100	*	mg/L	1	12/21/2014 4:24:00 PM	16924

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-003F

Client Sample ID: MW-75
Collection Date: 12/16/2014 8:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	1.5	0.010		mg/L	5	12/17/2014 4:57:45 PM	R23206
Beryllium	ND	0.0020		mg/L	1	12/17/2014 4:56:04 PM	R23206
Cadmium	ND	0.0020		mg/L	1	12/17/2014 4:56:04 PM	R23206
Calcium	100	5.0		mg/L	5	12/17/2014 4:57:45 PM	R23206
Chromium	ND	0.0060		mg/L	1	12/17/2014 4:56:04 PM	R23206
Cobalt	ND	0.0060		mg/L	1	12/17/2014 4:56:04 PM	R23206
Iron	6.1	0.20	*	mg/L	10	12/30/2014 4:47:04 PM	R23430
Magnesium	34	1.0		mg/L	1	12/17/2014 4:56:04 PM	R23206
Manganese	2.1	0.010	*	mg/L	5	12/17/2014 4:57:45 PM	R23206
Nickel	ND	0.010		mg/L	1	12/17/2014 4:56:04 PM	R23206
Potassium	3.5	1.0		mg/L	1	12/17/2014 4:56:04 PM	R23206
Silver	ND	0.0050		mg/L	1	12/17/2014 4:56:04 PM	R23206
Sodium	510	10		mg/L	10	12/17/2014 6:18:42 PM	R23206
Vanadium	ND	0.050		mg/L	1	12/17/2014 4:56:04 PM	R23206
Zinc	ND	0.010		mg/L	1	12/17/2014 4:56:04 PM	R23206
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0050		mg/L	5	1/2/2015 11:10:51 AM	R23456
Arsenic	0.014	0.010	*	mg/L	10	1/7/2015 6:40:43 PM	R23526
Lead	ND	0.0050		mg/L	5	1/2/2015 11:10:51 AM	R23456
Selenium	ND	0.050		mg/L	5	1/2/2015 11:10:51 AM	R23456
EPA METHOD 245.1: MERCURY				Analyst: MMD			
Mercury	ND	0.00020		mg/L	1	12/23/2014 2:16:45 PM	16959

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-003G

Client Sample ID: MW-75
Collection Date: 12/16/2014 8:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: ELS			
Barium	2.9	0.010	*	mg/L	5	12/27/2014 5:01:38 PM	16991
Beryllium	0.0022	0.0020		mg/L	1	12/27/2014 4:59:58 PM	16991
Cadmium	ND	0.0020		mg/L	1	12/27/2014 4:59:58 PM	16991
Calcium	120	5.0		mg/L	5	12/27/2014 5:01:38 PM	16991
Chromium	0.044	0.0060		mg/L	1	12/27/2014 4:59:58 PM	16991
Cobalt	0.021	0.0060		mg/L	1	12/27/2014 4:59:58 PM	16991
Iron	50	2.0	*	mg/L	100	12/27/2014 7:05:52 PM	16991
Magnesium	46	1.0		mg/L	1	12/27/2014 4:59:58 PM	16991
Manganese	2.6	0.010	*	mg/L	5	12/27/2014 5:01:38 PM	16991
Nickel	0.029	0.010		mg/L	1	12/27/2014 4:59:58 PM	16991
Potassium	7.7	1.0		mg/L	1	12/27/2014 4:59:58 PM	16991
Silver	ND	0.0050		mg/L	1	12/27/2014 4:59:58 PM	16991
Sodium	540	10		mg/L	10	12/27/2014 7:04:07 PM	16991
Vanadium	0.066	0.050		mg/L	1	12/27/2014 4:59:58 PM	16991
Zinc	0.13	0.010		mg/L	1	12/27/2014 4:59:58 PM	16991
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	12/29/2014 12:41:25 PM	16991
Arsenic	0.026	0.010	*	mg/L	10	12/29/2014 3:58:50 PM	16991
Lead	0.028	0.0010	*	mg/L	1	12/29/2014 12:41:25 PM	16991
Selenium	ND	0.10		mg/L	10	12/29/2014 3:58:50 PM	16991
EPA METHOD 245.1: MERCURY				Analyst: MMD			
Mercury	ND	0.00020		mg/L	1	12/23/2014 1:36:59 PM	16958

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-004A

Client Sample ID: MW-76
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	1900	100		µg/L	100	12/19/2014 2:39:39 AM	R23245
Toluene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Ethylbenzene	420	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Methyl tert-butyl ether (MTBE)	45	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,2,4-Trimethylbenzene	240	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,3,5-Trimethylbenzene	34	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Naphthalene	250	20		µg/L	10	12/19/2014 3:07:13 AM	R23245
1-Methylnaphthalene	120	40		µg/L	10	12/19/2014 3:07:13 AM	R23245
2-Methylnaphthalene	200	40		µg/L	10	12/19/2014 3:07:13 AM	R23245
Acetone	ND	100		µg/L	10	12/19/2014 3:07:13 AM	R23245
Bromobenzene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Bromodichloromethane	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Bromoform	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Bromomethane	ND	30		µg/L	10	12/19/2014 3:07:13 AM	R23245
2-Butanone	ND	100		µg/L	10	12/19/2014 3:07:13 AM	R23245
Carbon disulfide	ND	100		µg/L	10	12/19/2014 3:07:13 AM	R23245
Carbon Tetrachloride	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Chlorobenzene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Chloroethane	ND	20		µg/L	10	12/19/2014 3:07:13 AM	R23245
Chloroform	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Chloromethane	ND	30		µg/L	10	12/19/2014 3:07:13 AM	R23245
2-Chlorotoluene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
4-Chlorotoluene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
cis-1,2-DCE	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
cis-1,3-Dichloropropene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	12/19/2014 3:07:13 AM	R23245
Dibromochloromethane	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Dibromomethane	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,2-Dichlorobenzene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,3-Dichlorobenzene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,4-Dichlorobenzene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Dichlorodifluoromethane	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,1-Dichloroethane	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,1-Dichloroethene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,2-Dichloropropane	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,3-Dichloropropane	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
2,2-Dichloropropane	ND	20		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,1-Dichloropropene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Hexachlorobutadiene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1412839**Date Reported: **1/19/2015****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-004A

Client Sample ID: MW-76
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	100		µg/L	10	12/19/2014 3:07:13 AM	R23245
Isopropylbenzene	65	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
4-Isopropyltoluene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
4-Methyl-2-pentanone	ND	100		µg/L	10	12/19/2014 3:07:13 AM	R23245
Methylene Chloride	ND	30		µg/L	10	12/19/2014 3:07:13 AM	R23245
n-Butylbenzene	ND	30		µg/L	10	12/19/2014 3:07:13 AM	R23245
n-Propylbenzene	64	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
sec-Butylbenzene	10	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Styrene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
tert-Butylbenzene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	12/19/2014 3:07:13 AM	R23245
Tetrachloroethene (PCE)	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
trans-1,2-DCE	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
trans-1,3-Dichloropropene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,2,3-Trichlorobenzene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,2,4-Trichlorobenzene	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,1,1-Trichloroethane	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,1,2-Trichloroethane	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Trichloroethene (TCE)	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Trichlorofluoromethane	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
1,2,3-Trichloropropane	ND	20		µg/L	10	12/19/2014 3:07:13 AM	R23245
Vinyl chloride	ND	10		µg/L	10	12/19/2014 3:07:13 AM	R23245
Xylenes, Total	41	15		µg/L	10	12/19/2014 3:07:13 AM	R23245
Surr: 1,2-Dichloroethane-d4	82.8	70-130		%REC	10	12/19/2014 3:07:13 AM	R23245
Surr: 4-Bromofluorobenzene	86.8	70-130		%REC	10	12/19/2014 3:07:13 AM	R23245
Surr: Dibromofluoromethane	99.6	70-130		%REC	10	12/19/2014 3:07:13 AM	R23245
Surr: Toluene-d8	96.7	70-130		%REC	10	12/19/2014 3:07:13 AM	R23245

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
				Page 29 of 62

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-004B

Client Sample ID: MW-76
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	13	0.50		mg/L	10	12/17/2014 7:10:01 PM	R23205
Surr: BFB	153	80-120	S	%REC	10	12/17/2014 7:10:01 PM	R23205

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-004C

Client Sample ID: MW-76
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: BCN
Diesel Range Organics (DRO)	7.0	0.20		mg/L	1	12/18/2014 11:40:53 PM	16887
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	12/18/2014 11:40:53 PM	16887
Surr: DNOP	101	75.2-161		%REC	1	12/18/2014 11:40:53 PM	16887

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-004D

Client Sample ID: MW-76
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC	
Acenaphthene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Acenaphthylene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Aniline	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Anthracene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Azobenzene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Benz(a)anthracene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Benzo(a)pyrene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Benzo(b)fluoranthene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Benzo(g,h,i)perylene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Benzo(k)fluoranthene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Benzoic acid	ND	20		µg/L	1	12/23/2014 12:40:57 PM	16967
Benzyl alcohol	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Bis(2-chloroethyl)ether	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
4-Bromophenyl phenyl ether	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Butyl benzyl phthalate	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Carbazole	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
4-Chloro-3-methylphenol	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
4-Chloroaniline	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
2-Chloronaphthalene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
2-Chlorophenol	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Chrysene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Di-n-butyl phthalate	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Di-n-octyl phthalate	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Dibenz(a,h)anthracene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Dibenzofuran	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
1,2-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
1,3-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
1,4-Dichlorobenzene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
3,3'-Dichlorobenzidine	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Diethyl phthalate	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Dimethyl phthalate	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
2,4-Dichlorophenol	ND	20		µg/L	1	12/23/2014 12:40:57 PM	16967
2,4-Dimethylphenol	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	12/23/2014 12:40:57 PM	16967
2,4-Dinitrophenol	ND	20		µg/L	1	12/23/2014 12:40:57 PM	16967
2,4-Dinitrotoluene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
2,6-Dinitrotoluene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-004D

Client Sample ID: MW-76
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES					Analyst: JDC		
Fluoranthene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Fluorene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Hexachlorobenzene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Hexachlorobutadiene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Hexachlorocyclopentadiene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Hexachloroethane	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Isophorone	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
1-Methylnaphthalene	110	10		µg/L	1	12/23/2014 12:40:57 PM	16967
2-Methylnaphthalene	130	10		µg/L	1	12/23/2014 12:40:57 PM	16967
2-Methylphenol	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
3+4-Methylphenol	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
N-Nitrosodimethylamine	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
N-Nitrosodiphenylamine	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Naphthalene	160	10		µg/L	1	12/23/2014 12:40:57 PM	16967
2-Nitroaniline	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
3-Nitroaniline	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
4-Nitroaniline	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Nitrobenzene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
2-Nitrophenol	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
4-Nitrophenol	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Pentachlorophenol	ND	20		µg/L	1	12/23/2014 12:40:57 PM	16967
Phenanthrene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Phenol	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Pyrene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Pyridine	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
1,2,4-Trichlorobenzene	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
2,4,5-Trichlorophenol	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
2,4,6-Trichlorophenol	ND	10		µg/L	1	12/23/2014 12:40:57 PM	16967
Surr: 2-Fluorophenol	66.0	17.6-104		%REC	1	12/23/2014 12:40:57 PM	16967
Surr: Phenol-d5	56.1	17.7-89.9		%REC	1	12/23/2014 12:40:57 PM	16967
Surr: 2,4,6-Tribromophenol	84.4	16.3-122		%REC	1	12/23/2014 12:40:57 PM	16967
Surr: Nitrobenzene-d5	77.3	45.3-117		%REC	1	12/23/2014 12:40:57 PM	16967
Surr: 2-Fluorobiphenyl	62.3	43-113		%REC	1	12/23/2014 12:40:57 PM	16967
Surr: 4-Terphenyl-d14	38.6	47.6-122	S	%REC	1	12/23/2014 12:40:57 PM	16967

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1412839****Hall Environmental Analysis Laboratory, Inc.**Date Reported: **1/19/2015**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-004E

Client Sample ID: MW-76
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: lgp
Chloride	330	10	*	mg/L	20	12/17/2014 5:38:45 PM	R23216
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/17/2014 5:26:20 PM	R23216
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	12/17/2014 5:26:20 PM	R23216
Sulfate	55	2.5		mg/L	5	12/17/2014 5:26:20 PM	R23216
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO ₃)	1200	50		mg/L CaCO ₃	2.5	12/19/2014 11:47:58 AM	R23288
Carbonate (As CaCO ₃)	ND	5.0		mg/L CaCO ₃	2.5	12/19/2014 11:47:58 AM	R23288
Total Alkalinity (as CaCO ₃)	1200	50		mg/L CaCO ₃	2.5	12/19/2014 11:47:58 AM	R23288
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1970	100	*	mg/L	1	12/21/2014 4:24:00 PM	16924

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-004F

Client Sample ID: MW-76
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	2.1	0.010	*	mg/L	5	12/17/2014 5:01:15 PM	R23206
Beryllium	ND	0.0020		mg/L	1	12/17/2014 4:59:33 PM	R23206
Cadmium	ND	0.0020		mg/L	1	12/17/2014 4:59:33 PM	R23206
Calcium	100	5.0		mg/L	5	12/17/2014 5:01:15 PM	R23206
Chromium	ND	0.0060		mg/L	1	12/17/2014 4:59:33 PM	R23206
Cobalt	ND	0.0060		mg/L	1	12/17/2014 4:59:33 PM	R23206
Iron	9.0	0.40	*	mg/L	20	12/23/2014 1:25:59 PM	R23329
Magnesium	66	1.0		mg/L	1	12/17/2014 4:59:33 PM	R23206
Manganese	2.4	0.010	*	mg/L	5	12/17/2014 5:01:15 PM	R23206
Nickel	ND	0.010		mg/L	1	12/17/2014 4:59:33 PM	R23206
Potassium	4.5	1.0		mg/L	1	12/17/2014 4:59:33 PM	R23206
Silver	ND	0.0050		mg/L	1	12/17/2014 4:59:33 PM	R23206
Sodium	540	10		mg/L	10	12/17/2014 6:29:23 PM	R23206
Vanadium	ND	0.050		mg/L	1	12/17/2014 4:59:33 PM	R23206
Zinc	0.024	0.010		mg/L	1	12/17/2014 4:59:33 PM	R23206
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0050		mg/L	5	1/2/2015 11:16:15 AM	R23456
Arsenic	ND	0.010		mg/L	10	1/7/2015 6:43:53 PM	R23526
Lead	ND	0.0050		mg/L	5	1/2/2015 11:16:15 AM	R23456
Selenium	ND	0.050		mg/L	5	1/2/2015 11:16:15 AM	R23456
EPA METHOD 245.1: MERCURY				Analyst: MMD			
Mercury	ND	0.00020		mg/L	1	12/23/2014 2:18:31 PM	16959

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-004G

Client Sample ID: MW-76
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS				Analyst: ELS			
Barium	2.2	0.010	*	mg/L	5	12/27/2014 5:04:59 PM	16991
Beryllium	ND	0.0020		mg/L	1	12/27/2014 5:03:22 PM	16991
Cadmium	ND	0.0020		mg/L	1	12/27/2014 5:03:22 PM	16991
Calcium	150	5.0		mg/L	5	12/27/2014 5:04:59 PM	16991
Chromium	ND	0.0060		mg/L	1	12/27/2014 5:03:22 PM	16991
Cobalt	ND	0.0060		mg/L	1	12/27/2014 5:03:22 PM	16991
Iron	13	0.40	*	mg/L	20	12/27/2014 7:07:36 PM	16991
Magnesium	80	1.0		mg/L	1	12/27/2014 5:03:22 PM	16991
Manganese	2.7	0.010	*	mg/L	5	12/27/2014 5:04:59 PM	16991
Nickel	ND	0.010		mg/L	1	12/27/2014 5:03:22 PM	16991
Potassium	6.0	1.0		mg/L	1	12/27/2014 5:03:22 PM	16991
Silver	ND	0.0050		mg/L	1	12/27/2014 5:03:22 PM	16991
Sodium	640	20		mg/L	20	12/27/2014 7:07:36 PM	16991
Vanadium	ND	0.050		mg/L	1	12/27/2014 5:03:22 PM	16991
Zinc	0.017	0.010		mg/L	1	12/27/2014 5:03:22 PM	16991
200.8 ICPMS METALS:TOTAL				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	12/29/2014 12:46:47 PM	16991
Arsenic	ND	0.020		mg/L	20	1/5/2015 4:28:38 PM	16991
Lead	0.0042	0.0010		mg/L	1	12/29/2014 12:46:47 PM	16991
Selenium	ND	0.020		mg/L	20	1/5/2015 4:28:38 PM	16991
EPA METHOD 245.1: MERCURY				Analyst: MMD			
Mercury	ND	0.00020		mg/L	1	12/23/2014 1:42:34 PM	16958

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-005A

Client Sample ID: MW-76D
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Benzene	1900	100		µg/L	100	12/19/2014 4:01:57 AM	R23245
Toluene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Ethylbenzene	410	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Methyl tert-butyl ether (MTBE)	43	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,2,4-Trimethylbenzene	240	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,3,5-Trimethylbenzene	32	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Naphthalene	250	20		µg/L	10	12/19/2014 4:29:30 AM	R23245
1-Methylnaphthalene	120	40		µg/L	10	12/19/2014 4:29:30 AM	R23245
2-Methylnaphthalene	200	40		µg/L	10	12/19/2014 4:29:30 AM	R23245
Acetone	ND	100		µg/L	10	12/19/2014 4:29:30 AM	R23245
Bromobenzene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Bromodichloromethane	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Bromoform	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Bromomethane	ND	30		µg/L	10	12/19/2014 4:29:30 AM	R23245
2-Butanone	ND	100		µg/L	10	12/19/2014 4:29:30 AM	R23245
Carbon disulfide	ND	100		µg/L	10	12/19/2014 4:29:30 AM	R23245
Carbon Tetrachloride	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Chlorobenzene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Chloroethane	ND	20		µg/L	10	12/19/2014 4:29:30 AM	R23245
Chloroform	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Chloromethane	ND	30		µg/L	10	12/19/2014 4:29:30 AM	R23245
2-Chlorotoluene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
4-Chlorotoluene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
cis-1,2-DCE	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
cis-1,3-Dichloropropene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	12/19/2014 4:29:30 AM	R23245
Dibromochloromethane	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Dibromomethane	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,2-Dichlorobenzene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,3-Dichlorobenzene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,4-Dichlorobenzene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Dichlorodifluoromethane	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,1-Dichloroethane	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,1-Dichloroethene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,2-Dichloropropane	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,3-Dichloropropane	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
2,2-Dichloropropane	ND	20		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,1-Dichloropropene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Hexachlorobutadiene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1412839**Date Reported: **1/19/2015****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-005A

Client Sample ID: MW-76D
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
2-Hexanone	ND	100		µg/L	10	12/19/2014 4:29:30 AM	R23245
Isopropylbenzene	62	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
4-Isopropyltoluene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
4-Methyl-2-pentanone	ND	100		µg/L	10	12/19/2014 4:29:30 AM	R23245
Methylene Chloride	ND	30		µg/L	10	12/19/2014 4:29:30 AM	R23245
n-Butylbenzene	ND	30		µg/L	10	12/19/2014 4:29:30 AM	R23245
n-Propylbenzene	60	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
sec-Butylbenzene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Styrene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
tert-Butylbenzene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,1,2,2-Tetrachloroethane	ND	20		µg/L	10	12/19/2014 4:29:30 AM	R23245
Tetrachloroethene (PCE)	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
trans-1,2-DCE	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
trans-1,3-Dichloropropene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,2,3-Trichlorobenzene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,2,4-Trichlorobenzene	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,1,1-Trichloroethane	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,1,2-Trichloroethane	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Trichloroethene (TCE)	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Trichlorofluoromethane	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
1,2,3-Trichloropropane	ND	20		µg/L	10	12/19/2014 4:29:30 AM	R23245
Vinyl chloride	ND	10		µg/L	10	12/19/2014 4:29:30 AM	R23245
Xylenes, Total	43	15		µg/L	10	12/19/2014 4:29:30 AM	R23245
Surr: 1,2-Dichloroethane-d4	77.7	70-130		%REC	10	12/19/2014 4:29:30 AM	R23245
Surr: 4-Bromofluorobenzene	85.4	70-130		%REC	10	12/19/2014 4:29:30 AM	R23245
Surr: Dibromofluoromethane	92.1	70-130		%REC	10	12/19/2014 4:29:30 AM	R23245
Surr: Toluene-d8	95.6	70-130		%REC	10	12/19/2014 4:29:30 AM	R23245

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-005B

Client Sample ID: MW-76D
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	11	0.50		mg/L	10	12/17/2014 7:37:32 PM	R23205
Surr: BFB	146	80-120	S	%REC	10	12/17/2014 7:37:32 PM	R23205

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-005C

Client Sample ID: MW-76D
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE							Analyst: BCN
Diesel Range Organics (DRO)	2.2	0.20		mg/L	1	12/19/2014 12:10:32 AM	16887
Motor Oil Range Organics (MRO)	ND	2.5		mg/L	1	12/19/2014 12:10:32 AM	16887
Surr: DNOP	88.8	75.2-161		%REC	1	12/19/2014 12:10:32 AM	16887

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-005D

Client Sample ID: MW-76D
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES				Analyst: JDC			
Acenaphthene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Acenaphthylene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Aniline	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Anthracene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Azobenzene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Benz(a)anthracene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Benzo(a)pyrene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Benzo(b)fluoranthene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Benzo(g,h,i)perylene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Benzo(k)fluoranthene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Benzoic acid	ND	22		µg/L	1	12/23/2014 5:24:13 PM	16967
Benzyl alcohol	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Bis(2-chloroethoxy)methane	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Bis(2-chloroethyl)ether	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Bis(2-chloroisopropyl)ether	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Bis(2-ethylhexyl)phthalate	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
4-Bromophenyl phenyl ether	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Butyl benzyl phthalate	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Carbazole	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
4-Chloro-3-methylphenol	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
4-Chloroaniline	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
2-Chloronaphthalene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
2-Chlorophenol	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
4-Chlorophenyl phenyl ether	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Chrysene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Di-n-butyl phthalate	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Di-n-octyl phthalate	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Dibenz(a,h)anthracene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Dibenzofuran	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
1,2-Dichlorobenzene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
1,3-Dichlorobenzene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
1,4-Dichlorobenzene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
3,3'-Dichlorobenzidine	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Diethyl phthalate	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Dimethyl phthalate	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
2,4-Dichlorophenol	ND	22		µg/L	1	12/23/2014 5:24:13 PM	16967
2,4-Dimethylphenol	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
4,6-Dinitro-2-methylphenol	ND	22		µg/L	1	12/23/2014 5:24:13 PM	16967
2,4-Dinitrophenol	ND	22		µg/L	1	12/23/2014 5:24:13 PM	16967
2,4-Dinitrotoluene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
2,6-Dinitrotoluene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Inc.**Client Sample ID:** MW-76D**Project:** GROUP 9 Wells 12-16-14**Collection Date:** 12/16/2014 7:30:00 AM**Lab ID:** 1412839-005D**Matrix:** Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES				Analyst: JDC			
Fluoranthene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Fluorene	11	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Hexachlorobenzene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Hexachlorobutadiene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Hexachlorocyclopentadiene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Hexachloroethane	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Indeno(1,2,3-cd)pyrene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Isophorone	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
1-Methylnaphthalene	100	11		µg/L	1	12/23/2014 5:24:13 PM	16967
2-Methylnaphthalene	110	11		µg/L	1	12/23/2014 5:24:13 PM	16967
2-Methylphenol	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
3+4-Methylphenol	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
N-Nitrosodi-n-propylamine	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
N-Nitrosodimethylamine	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
N-Nitrosodiphenylamine	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Naphthalene	170	11		µg/L	1	12/23/2014 5:24:13 PM	16967
2-Nitroaniline	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
3-Nitroaniline	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
4-Nitroaniline	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Nitrobenzene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
2-Nitrophenol	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
4-Nitrophenol	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Pentachlorophenol	ND	22		µg/L	1	12/23/2014 5:24:13 PM	16967
Phenanthrene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Phenol	34	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Pyrene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Pyridine	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
1,2,4-Trichlorobenzene	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
2,4,5-Trichlorophenol	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
2,4,6-Trichlorophenol	ND	11		µg/L	1	12/23/2014 5:24:13 PM	16967
Surr: 2-Fluorophenol	83.1	17.6-104		%REC	1	12/23/2014 5:24:13 PM	16967
Surr: Phenol-d5	68.2	17.7-89.9		%REC	1	12/23/2014 5:24:13 PM	16967
Surr: 2,4,6-Tribromophenol	79.1	16.3-122		%REC	1	12/23/2014 5:24:13 PM	16967
Surr: Nitrobenzene-d5	90.7	45.3-117		%REC	1	12/23/2014 5:24:13 PM	16967
Surr: 2-Fluorobiphenyl	103	43-113		%REC	1	12/23/2014 5:24:13 PM	16967
Surr: 4-Terphenyl-d14	72.0	47.6-122		%REC	1	12/23/2014 5:24:13 PM	16967

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical ReportLab Order: **1412839**Date Reported: **1/19/2015****Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-005E

Client Sample ID: MW-76D
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: lgp
Chloride	330	10	*	mg/L	20	12/17/2014 6:28:24 PM	R23216
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	12/17/2014 6:15:59 PM	R23216
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	12/17/2014 6:15:59 PM	R23216
Sulfate	59	2.5		mg/L	5	12/17/2014 6:15:59 PM	R23216
SM2320B: ALKALINITY							Analyst: JRR
Bicarbonate (As CaCO3)	1200	50		mg/L CaCO3	2.5	12/19/2014 12:07:54 PM	R23288
Carbonate (As CaCO3)	ND	5.0		mg/L CaCO3	2.5	12/19/2014 12:07:54 PM	R23288
Total Alkalinity (as CaCO3)	1200	50		mg/L CaCO3	2.5	12/19/2014 12:07:54 PM	R23288
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1960	100	*	mg/L	1	12/21/2014 4:24:00 PM	16924

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-005F

Client Sample ID: MW-76D
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS				Analyst: JLF			
Barium	2.7	0.010	*	mg/L	5	12/17/2014 5:11:06 PM	R23206
Beryllium	ND	0.0020		mg/L	1	12/17/2014 5:09:16 PM	R23206
Cadmium	ND	0.0020		mg/L	1	12/17/2014 5:09:16 PM	R23206
Calcium	98	1.0		mg/L	1	12/17/2014 5:09:16 PM	R23206
Chromium	ND	0.0060		mg/L	1	12/17/2014 5:09:16 PM	R23206
Cobalt	ND	0.0060		mg/L	1	12/17/2014 5:09:16 PM	R23206
Iron	8.9	0.20	*	mg/L	10	12/30/2014 4:49:00 PM	R23430
Magnesium	64	1.0		mg/L	1	12/17/2014 5:09:16 PM	R23206
Manganese	2.5	0.010	*	mg/L	5	12/17/2014 5:11:06 PM	R23206
Nickel	ND	0.010		mg/L	1	12/17/2014 5:09:16 PM	R23206
Potassium	4.6	1.0		mg/L	1	12/17/2014 5:09:16 PM	R23206
Silver	ND	0.0050		mg/L	1	12/17/2014 5:09:16 PM	R23206
Sodium	520	10		mg/L	10	12/17/2014 6:31:16 PM	R23206
Vanadium	ND	0.050		mg/L	1	12/17/2014 5:09:16 PM	R23206
Zinc	ND	0.010		mg/L	1	12/17/2014 5:09:16 PM	R23206
EPA 200.8: DISSOLVED METALS				Analyst: DBD			
Antimony	ND	0.0010		mg/L	1	1/2/2015 11:21:40 AM	R23456
Arsenic	ND	0.010		mg/L	10	1/7/2015 6:47:02 PM	R23526
Lead	ND	0.0010		mg/L	1	1/2/2015 11:21:40 AM	R23456
Selenium	ND	0.010		mg/L	1	1/2/2015 11:21:40 AM	R23456
EPA METHOD 245.1: MERCURY				Analyst: MMD			
Mercury	ND	0.00020		mg/L	1	12/23/2014 2:20:19 PM	16959

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1412839

Date Reported: 1/19/2015

CLIENT: Western Refining Southwest, Inc.
Project: GROUP 9 Wells 12-16-14
Lab ID: 1412839-005G

Client Sample ID: MW-76D
Collection Date: 12/16/2014 7:30:00 AM
Matrix: Aqueous

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS							Analyst: ELS
Barium	2.9	0.010	*	mg/L	5	12/27/2014 5:08:19 PM	16991
Beryllium	ND	0.0020		mg/L	1	12/27/2014 5:06:42 PM	16991
Cadmium	ND	0.0020		mg/L	1	12/27/2014 5:06:42 PM	16991
Calcium	100	5.0		mg/L	5	12/27/2014 5:08:19 PM	16991
Chromium	ND	0.0060		mg/L	1	12/27/2014 5:06:42 PM	16991
Cobalt	ND	0.0060		mg/L	1	12/27/2014 5:06:42 PM	16991
Iron	12	0.40	*	mg/L	20	12/27/2014 7:09:30 PM	16991
Magnesium	69	1.0		mg/L	1	12/27/2014 5:06:42 PM	16991
Manganese	2.5	0.010	*	mg/L	5	12/27/2014 5:08:19 PM	16991
Nickel	ND	0.010		mg/L	1	12/27/2014 5:06:42 PM	16991
Potassium	5.7	1.0		mg/L	1	12/27/2014 5:06:42 PM	16991
Silver	ND	0.0050		mg/L	1	12/27/2014 5:06:42 PM	16991
Sodium	570	20		mg/L	20	12/27/2014 7:09:30 PM	16991
Vanadium	ND	0.050		mg/L	1	12/27/2014 5:06:42 PM	16991
Zinc	0.024	0.010		mg/L	1	12/27/2014 5:06:42 PM	16991
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Antimony	ND	0.0010		mg/L	1	12/29/2014 12:52:07 PM	16991
Arsenic	ND	0.020		mg/L	20	1/5/2015 4:33:58 PM	16991
Lead	0.0051	0.0010		mg/L	1	12/29/2014 12:52:07 PM	16991
Selenium	ND	0.020		mg/L	20	1/5/2015 4:33:58 PM	16991
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	12/23/2014 1:44:21 PM	16958

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Anatek Labs, Inc.

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

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

Batch #: 141218025
Project Name: 1412839

Analytical Results Report

Sample Number	141218025-001	Sampling Date	12/16/2014	Date/Time Received	12/18/2014 11:30 AM
Client Sample ID	1412839-001H / MW-72	Sampling Time	7:45 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/23/2014	CRW	EPA 335.4	

Sample Number	141218025-002	Sampling Date	12/16/2014	Date/Time Received	12/18/2014 11:30 AM
Client Sample ID	1412839-002H / MW-73	Sampling Time	8:00 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/23/2014	CRW	EPA 335.4	

Sample Number	141218025-003	Sampling Date	12/16/2014	Date/Time Received	12/18/2014 11:30 AM
Client Sample ID	1412839-003H / MW-75	Sampling Time	8:30 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/23/2014	CRW	EPA 335.4	

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

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

Batch #: 141218025
Project Name: 1412839

Analytical Results Report

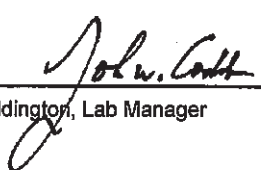
Sample Number	141218025-004	Sampling Date	12/16/2014	Date/Time Received	12/18/2014 11:30 AM
Client Sample ID	1412839-004H / MW-76	Sampling Time	7:30 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/29/2014	CRW	EPA 335.4	

Sample Number	141218025-005	Sampling Date	12/16/2014	Date/Time Received	12/18/2014 11:30 AM
Client Sample ID	1412839-005H / MW-76D	Sampling Time	7:30 AM		
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/29/2014	CRW	EPA 335.4	

Authorized Signature


John Coddington, Lab Manager

CL EPA's Maximum Contaminant Level
D Not Detected
QL Practical Quantitation Limit

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Monday, January 12, 2015

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Anatek Labs, Inc.

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

Batch #: 141218025
Project Name: 1412839

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.504	mg/L	0.5	100.8	90-110	12/29/2014	12/29/2014
Cyanide	0.508	mg/L	0.5	101.6	90-110	12/23/2014	12/23/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
141218024-001	Cyanide	ND	0.498	mg/L	0.5	99.6	90-110	12/29/2014	12/29/2014
141216019-003	Cyanide	ND	0.519	mg/L	0.5	103.8	90-110	12/23/2014	12/23/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.496	mg/L	0.5	99.2	0.4	0-20	12/29/2014	12/29/2014
Cyanide	0.513	mg/L	0.5	102.6	1.2	0-20	12/23/2014	12/23/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	12/29/2014	12/29/2014
Cyanide	ND	mg/L	0.01	12/23/2014	12/23/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:CerID0095; FL(NELAP): E871099

Monday, January 12, 2015

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R23206	RunNo:	23206					
Prep Date:		Analysis Date:	12/17/2014	SeqNo:	685445	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R23206	RunNo:	23206					
Prep Date:		Analysis Date:	12/17/2014	SeqNo:	685447	Units:	mg/L			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID:	PBW	Batch ID: R23329			RunNo: 23329						
Prep Date:		Analysis Date: 12/23/2014			SeqNo: 689350		Units: mg/L				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		ND	0.020								

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID:	PBW	Batch ID: R23329			RunNo: 23329						
Prep Date:		Analysis Date: 12/23/2014			SeqNo: 689352		Units: mg/L				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		ND	0.020								

Sample ID	MB	SampType:	MBLK		TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R23430		RunNo:	23430					
Prep Date:		Analysis Date:	12/30/2014		SeqNo:	692352		Units:	mg/L		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		ND	0.020								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	MB-16991		SampType:	MBLK		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	PBW		Batch ID:	16991		RunNo:	23370			
Prep Date:	12/24/2014		Analysis Date:	12/27/2014		SeqNo:	690546		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R23456	RunNo:	23456					
Prep Date:		Analysis Date:	1/2/2015	SeqNo:	693232	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R23456	RunNo:	23456					
Prep Date:		Analysis Date:	1/2/2015	SeqNo:	693233	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0010								

Sample ID	MB	SampType:	MBLK	TestCode:	EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID:	R23526	RunNo:	23526					
Prep Date:		Analysis Date:	1/7/2015	SeqNo:	695153	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								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	MB-16991		SampType:	MBLK		TestCode:	200.8 ICPMS Metals:Total			
Client ID:	PBW		Batch ID:	16991		RunNo:	23391			
Prep Date:	12/24/2014		Analysis Date:	12/29/2014		SeqNo:	691147		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	MB-16958	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury					
Client ID:	PBW	Batch ID:	16958	RunNo:	23326					
Prep Date:	12/22/2014	Analysis Date:	12/23/2014	SeqNo:	689248	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	MB-16959	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury					
Client ID:	PBW	Batch ID:	16959	RunNo:	23326					
Prep Date:	12/22/2014	Analysis Date:	12/23/2014	SeqNo:	689275	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R23216	RunNo:	23216					
Prep Date:		Analysis Date:	12/17/2014	SeqNo:	685871	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R23216	RunNo:	23216					
Prep Date:		Analysis Date:	12/18/2014	SeqNo:	685921	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	MB-16887		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW		Batch ID: 16887		RunNo: 23210					
Prep Date:	12/17/2014		Analysis Date: 12/18/2014		SeqNo: 686957		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.20								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.55		0.5000		110	75.2	161			

Sample ID	1412839-001CMS		SampType: MS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	MW-72		Batch ID: 16887		RunNo: 23210					
Prep Date:	12/17/2014		Analysis Date: 12/18/2014		SeqNo: 686999		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	7.1	0.20	2.500	2.821	170	82.6	172			
Surr: DNOP	0.33		0.2500		132	75.2	161			

Sample ID	1412839-001CMSD		SampType: MSD		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	MW-72		Batch ID: 16887		RunNo: 23210					
Prep Date:	12/17/2014		Analysis Date: 12/18/2014		SeqNo: 687000		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	7.5	0.20	2.500	2.821	189	82.6	172	6.52	33.9	S
Surr: DNOP	0.33		0.2500		132	75.2	161	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	5ML RB		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBW		Batch ID: R23205		RunNo: 23205					
Prep Date:			Analysis Date: 12/17/2014		SeqNo: 685373		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		93.4	80	120			

Sample ID	1412839-001BMS		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	MW-72		Batch ID: R23205		RunNo: 23205					
Prep Date:			Analysis Date: 12/17/2014		SeqNo: 685380		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	46	2.5	25.00	22.75	91.8	70.4	127			
Surr: BFB	1100		1000		110	80	120			

Sample ID	1412839-001BMSD		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	MW-72		Batch ID: R23205		RunNo: 23205					
Prep Date:			Analysis Date: 12/17/2014		SeqNo: 685382		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	46	2.5	25.00	22.75	91.6	70.4	127	0.109	20	
Surr: BFB	1100		1000		113	80	120	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R23245	RunNo:	23245					
Prep Date:		Analysis Date:	12/18/2014	SeqNo:	686896	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	5ml rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R23245	RunNo:	23245					
Prep Date:		Analysis Date:	12/18/2014	SeqNo:	686896	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.9		10.00		88.7	70	130			
Surr: 4-Bromofluorobenzene	8.8		10.00		87.8	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.5	70	130			
Surr: Toluene-d8	9.2		10.00		92.3	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	mb-16967		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBW		Batch ID: 16967		RunNo: 23332					
Prep Date:	12/23/2014		Analysis Date: 12/23/2014		SeqNo: 689530		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
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								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.**Project:** GROUP 9 Wells 12-16-14

Sample ID	mb-16967		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBW		Batch ID: 16967		RunNo: 23332					
Prep Date:	12/23/2014		Analysis Date: 12/23/2014		SeqNo: 689530		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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	170		200.0		83.8	17.6	104			
Surr: Phenol-d5	150		200.0		75.6	17.7	89.9			
Surr: 2,4,6-Tribromophenol	150		200.0		74.0	16.3	122			
Surr: Nitrobenzene-d5	85		100.0		85.0	45.3	117			
Surr: 2-Fluorobiphenyl	87		100.0		87.5	43	113			
Surr: 4-Terphenyl-d14	75		100.0		75.4	47.6	122			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	1412839-001Dms		SampType: MS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	MW-72		Batch ID: 16967		RunNo: 23332					
Prep Date:	12/23/2014		Analysis Date: 12/23/2014		SeqNo: 689546		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	87	10	100.0	0	86.8	46.4	121			
4-Chloro-3-methylphenol	180	10	200.0	0	88.1	45.3	135			
2-Chlorophenol	170	10	200.0	0	83.0	28.7	129			
1,4-Dichlorobenzene	72	10	100.0	0	72.3	42.6	104			
2,4-Dinitrotoluene	76	10	100.0	0	76.4	28.9	126			
N-Nitrosodi-n-propylamine	88	10	100.0	0	88.0	49.2	117			
4-Nitrophenol	95	10	200.0	0	47.6	18.1	97.2			
Pentachlorophenol	160	20	200.0	8.600	75.1	24.8	127			
Phenol	160	10	200.0	27.46	67.6	17.9	93.6			
Pyrene	89	10	100.0	0	88.6	29.6	142			
1,2,4-Trichlorobenzene	77	10	100.0	0	77.4	39.5	109			
Surr: 2-Fluorophenol	110		200.0		57.3	17.6	104			
Surr: Phenol-d5	120		200.0		57.6	17.7	89.9			
Surr: 2,4,6-Tribromophenol	190		200.0		93.0	16.3	122			
Surr: Nitrobenzene-d5	83		100.0		82.6	45.3	117			
Surr: 2-Fluorobiphenyl	87		100.0		86.6	43	113			
Surr: 4-Terphenyl-d14	62		100.0		62.0	47.6	122			

Sample ID	1412839-001Dmsd	SampType: MSD			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	MW-72	Batch ID: 16967			RunNo: 23332					
Prep Date:	12/23/2014	Analysis Date: 12/23/2014			SeqNo: 689547		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	96	10	100.0	0	95.8	46.4	121	9.88	31.3	
4-Chloro-3-methylphenol	190	10	200.0	0	97.5	45.3	135	10.1	29	
2-Chlorophenol	190	10	200.0	0	95.3	28.7	129	13.8	28.4	
1,4-Dichlorobenzene	80	10	100.0	0	80.4	42.6	104	10.7	28.2	
2,4-Dinitrotoluene	77	10	100.0	0	76.8	28.9	126	0.601	22.9	
N-Nitrosodi-n-propylamine	100	10	100.0	0	101	49.2	117	13.8	28.8	
4-Nitrophenol	110	10	200.0	0	53.6	18.1	97.2	11.8	41.5	
Pentachlorophenol	170	20	200.0	8.600	82.9	24.8	127	9.38	45.1	
Phenol	190	10	200.0	27.46	80.0	17.9	93.6	14.2	33.9	
Pyrene	93	10	100.0	0	92.6	29.6	142	4.44	33.6	
1,2,4-Trichlorobenzene	82	10	100.0	0	81.8	39.5	109	5.48	28.2	
Surr: 2-Fluorophenol	130		200.0		66.4	17.6	104	0	0	
Surr: Phenol-d5	120		200.0		61.8	17.7	89.9	0	0	
Surr: 2,4,6-Tribromophenol	190		200.0		95.9	16.3	122	0	0	
Surr: Nitrobenzene-d5	92		100.0		91.9	45.3	117	0	0	
Surr: 2-Fluorobiphenyl	94		100.0		93.6	43	113	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	1412839-001Dmsd	SampType:	MSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	MW-72	Batch ID:	16967	RunNo:	23332					
Prep Date:	12/23/2014	Analysis Date:	12/23/2014	SeqNo:	689547	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	68		100.0		68.3	47.6	122	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	mb-1	SampType:	MBLK	TestCode:	SM2320B: Alkalinity					
Client ID:	PBW	Batch ID:	R23220	RunNo:	23220					
Prep Date:		Analysis Date:	12/17/2014	SeqNo:	686003	Units:	mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	mb-1	SampType:	MBLK	TestCode:	SM2320B: Alkalinity					
Client ID:	PBW	Batch ID:	R23288	RunNo:	23288					
Prep Date:		Analysis Date:	12/19/2014	SeqNo:	688393	Units:	mg/L CaCO3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1412839

19-Jan-15

Client: Western Refining Southwest, Inc.

Project: GROUP 9 Wells 12-16-14

Sample ID	MB-16924		SampType: MBLK		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW		Batch ID: 16924		RunNo: 23276					
Prep Date:	12/19/2014		Analysis Date: 12/21/2014		SeqNo: 687788		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	1412839-002EMS		SampType: MS		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	MW-73		Batch ID: 16924		RunNo: 23276					
Prep Date:	12/19/2014		Analysis Date: 12/21/2014		SeqNo: 687802		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	6780	100	5000	1765	100	80	120			

Sample ID	1412839-002EMSD		SampType: MSD		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	MW-73		Batch ID: 16924		RunNo: 23276					
Prep Date:	12/19/2014		Analysis Date: 12/21/2014		SeqNo: 687803		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	6780	100	5000	1765	100	80	120	0.0738	5	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: **Western Refining Southw**

Work Order Number: **1412839**

RcptNo: 1

Received by/date

Am

12/17/14

Logged By:

Ashley Gallegos

12/17/2014 7:20:00 AM

Ag

Completed By:

Ashley Gallegos

12/17/2014 10:58:25 AM

Ag

Reviewed By:

AS 12/17/14

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?

Courier

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 ☐

*METALS ANALYSIS: ADDED 1 ML HNO3 TO -0016, -0036, -0046, -0056 FOR ACCEPTABLE PH. HELD
LOG IN FOR 24 HOUR AFTER PRESERVATION.*

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?

Yes ☒

No ☐

(Note discrepancies on chain of custody)

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?

Yes ☒

No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

*15
(2 or 12 unless noted)*

Adjusted?

YES

Checked by:

JA

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	3.5	Good	Yes			



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

[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.



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



www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Western Refining		☒ Standard ☐ Rush				
		Project Name: Group 9 wells				
Mailing Address: #50 CR 4990 Bloomfield, NM 87413		Date: 12-16-14				
Phone #: 505-632-4135						
email or Fax#:						
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)						
Accreditation ☐ NELAP ☐ Other _____						
☒ EDD (Type) Excel						
Date	Time	Matrix	Sample Request ID	Container Type and #	Perservative Type	HEAL No.
12-16-14	8:30	H ₂ O	MW-75	5-10A	HCl	1412839
				2-1-liter	amber	-003
				1-500ml	amber	
				1-125ml	HNO ₃	
				1-125ml	H ₂ SO ₄	
				1-500ml	HNO ₃	
				1-500ml	/	
				1-500ml	NaOH	
Date: Time:		Relinquished by:		Received by:		Date: Time
12-16-14 1434		Robert Krakow		Charlotte		12/16/14 1434
Date: Time:		Relinquished by:		Received by:		Date: Time
12/16/14 1900		Ant Walls		(Signature)		12/17/14 0720

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this policy.

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www.hallenvironmental.com

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

VITALITY-ENVIRONMENTAL RECORD		☒ Standard Project Name:	☐ Rush			
Client: Western Refining		Group 9 wells 12-16-14				
Mailing Address: #50 CR4990 Bloomfield, NM 87413		Project #:				
Phone #: 505-632-4135						
email or Fax#:		Project Manager:				
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)		Sampler: Bob & Matt				
Accreditation ☐ NELAP ☐ Other _____		On Ice: ☒ Yes ☐ No				
Date	Time	Matrix	Sample Request ID	Container Type and #	PRESERVATIVE Type	HEAL No.
12-16-14	7:30	H ₂ O	MW-76	5-VOA	HCl	-004
				2-1-liter amber		
				1-500ml amber		
				1-125ml HNO ₃		
				1-125ml H ₂ SO ₄		
				1-500ml HNO ₃		
				1-500ml /		
				1-500ml NaOH		
Date: 12-16-14 Time: 1434		Relinquished by: Robert Grabow		Received by: Monte Lambert		Date: 12/16/14 Time: 1434
Date: 12/16/14 Time: 1930		Relinquished by: Mont Water		Received by: [Signature]		Date: 12/17/14 Time: 0720

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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.

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Chromium VI	SW-846 Method 3060A
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Tetraethyl lead	SW-846 method 8270C
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020

In addition, groundwater samples will also be analyzed for the following general chemistry parameters.

Analyte	Analytical Method
Total Dissolved Solids	SM-2540C
Bicarbonate	SM-2320B
Chloride	EPA method 300.0
Sulfate	EPA method 300.0
Calcium	EPA method 6010/6020
Magnesium	EPA method 6010/6020
Sodium	EPA method 6010/6020
Potassium	EPA method 6010/6020
Manganese	SW-846 method 6010/6020
Nitrate/nitrite	EPA method 300.0
Ferric/ferrous Iron	SW-846 method 6010/6020 & SM 3500Fe2+

As discussed in section 5.3.3, field measurements will be obtained for pH, specific conductance, dissolved oxygen concentrations, oxidation-reduction potential, and temperature.