

AP - 111

LANDFARMS

2015

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, July 15, 2015 7:26 AM
To: Ed.Riege@wnr.com
Cc: Griswold, Jim, EMNRD
Subject: Gallup Refinery (AP-111) Grid 2121 Chloride Exceedance Excavation Report OCD Central Landfarm

Mr. Riege:

The New Mexico Oil Conservation Division (OCD) has reviewed the letter dated May 27, 2015 and attached information on the above subject and concurs with the refineries corrective actions.

Please submit the copies of the soil disposal manifests to verify that ~ 30 yds. of excavated soils were disposed at the Gandy Marley Landfill (NM-711-1-0019).

Thank you.

Carl J. Chavez, CHMM

New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Drive, Santa Fe, New Mexico 87505
O: (505) 476-3490

E-mail: CarlJ.Chavez@State.NM.US

Web: <http://www.emnrd.state.nm.us/ocd/>

“Why Not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward With the Rest of the Nation?” To see how, please go to: “Pollution Prevention & Waste Minimization” at

<http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental>



RECEIVED OCD

2015 JUN -2 P 3: 15

May 27, 2015

Mr. Carl J. Chavez
Environmental Engineer
New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Grid 2121 Chloride Exceedance Excavation Report
Central Oil Conservation Division Landfarm
Western Refining Company Southwest, Inc., Gallup Refinery
Gallup, New Mexico

Dear Mr. Chavez:

Western Refining Company Southwest, Inc. (Western) is submitting this correspondence to notify the Oil Conservation Division (OCD) that excavation and confirmation sampling of the Grid 2121 area in the Central OCD Landfarm (Landfarm) at Western's Gallup Refinery located in Gallup, New Mexico is complete. The work was done in accordance the "Chloride Exceedance Response Action Plan, Central Oil Conservation Division Landfarm, Western Refining Company Southwest, Inc., Gallup Refinery, Gallup, New Mexico" (Action Plan) dated March 20, 2015 and approved by OCD via email on March 25, 2015.

Background

Semiannual vadose zone sampling of the Landfarm is conducted in accordance with 19.15.36.15.E NMAC (Rule 36). Samples are collected from four randomly selected 6-foot-by-6-foot grids. The grids are selected prior to each sampling event using a random number generator. Rule 36 requires that semiannual vadose zone samples be analyzed for total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, and xylenes (BTEX); and, chloride. Per Rule 36, results are compared to either the practical quantitation limit (PQL) or background soil concentrations, whichever is higher. However, as agreed in an OCD email dated April 30, 2013, action levels for Western's Landfarm for chloride and TPH equal the OCD-approved Alternate Beneficial Reuse Screening Concentrations (ABRSCs) of 500 milligrams per kilogram (mg/kg) and 2,500 mg/kg, respectively.

The chloride concentration in the September 16, 2014 vadose sample collected from Grid 2121 (sample ID CentralOCD-04-091614) exceeded the above-referenced action level/ABRSC (500 mg/kg). In response to the exceedance, in accordance with Rule 36, and as approved in OCD's January 20, 2015 email, Western collected and analyzed an additional "four randomly selected, independent samples for TPH, BTEX, chlorides, and the constituents listed in Subsections A and B of 20.6.2.3103 NMAC" on February 5, 2015. These data were summarized in the March 2015 Action Plan. Additional action

level/ABRSC exceedances were not identified. Accordingly, Grid 2121 is the only location requiring further action based on the September 2014 and February 2015 vadose zone data.

Work Completed and Sampling Results

In accordance with March 2015 Action Plan, chloride-contaminated soil in the area of Grid 2121 was excavated on April 7, 2015. The location, dimensions, and orientation of the excavation are illustrated on Figure 1. A lithologic log of the excavation is provided as Attachment A, and photos of the excavation are included as Attachment B. The excavation was terminated at approximately 8.5 feet below ground surface and a confirmation sample was collected from the center of the floor of the excavation.

The confirmation sample was analyzed for chloride (EPA Method 300.0) by Hall Environmental Analysis Laboratory (Hall) of Albuquerque, New Mexico. Analytical data provided in Hall's May 8, 2015 laboratory report indicate that the chloride concentration of the confirmation soil sample is 160 mg/kg, which is below the chloride action level/ABRSC of 500 mg/kg. Chloride data from the September 2014 and April 2015 Grid 2121 soil samples are summarized in Table 1. A copy of the May 8, 2015 laboratory report and Trihydro's Tier II data validation are included as Attachments C and D, respectively. No data associated with the Grid 2121 confirmation sample were rejected as a result of the Tier II data validation.

Currently, the soil excavated from the Grid 2121 area remains stockpiled on plastic sheeting adjacent to the excavation. Based on the dimensions of the excavation, approximately 30 cubic yards of excavated soil will require off-Site disposal. Western will provide OCD with copies of the soil disposal manifests following offsite disposal. The soil is scheduled to be transported to Gandy Marley, Inc (NM-711-1-0019), a surface waste management facility located in Roswell, New Mexico in the next couple of weeks. The excavation, which currently remains open and barricaded, will be backfilled with clean fill after the excavated soil has been removed. If you have any questions or comments, please do not hesitate to call me at (505) 722-0217.

Sincerely,
Western Refining Company



Ed Riege
Environmental Manager

697-039-007

Attachments

cc: C. Johnson, Western Refining
G. Price, Trihydro Corporation
K. Van Horn, NMED

TABLE

**TABLE 1. GRID 2121 CHLORIDE EXCEEDANCE EXCAVATION DATA SUMMARY, CENTRAL OCD LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO**

Grid Location	Sample Type	Sample Depth	Sample Identification	Collection Date	Chlorides (mg/kg)
2121	Semiannual Vadose Zone sample	6 ft bgs	CentralOCD-04-091614	9/16/2014	870
	Confirmation sample collected from the bottom of the excavation	8.5 ft bgs	OCD-2121-04072015	4/7/2015	160
Screening Standards					
Baseline Concentration:					7.525
ABRSC/Central Landfarm Action Level:					500

Notes:

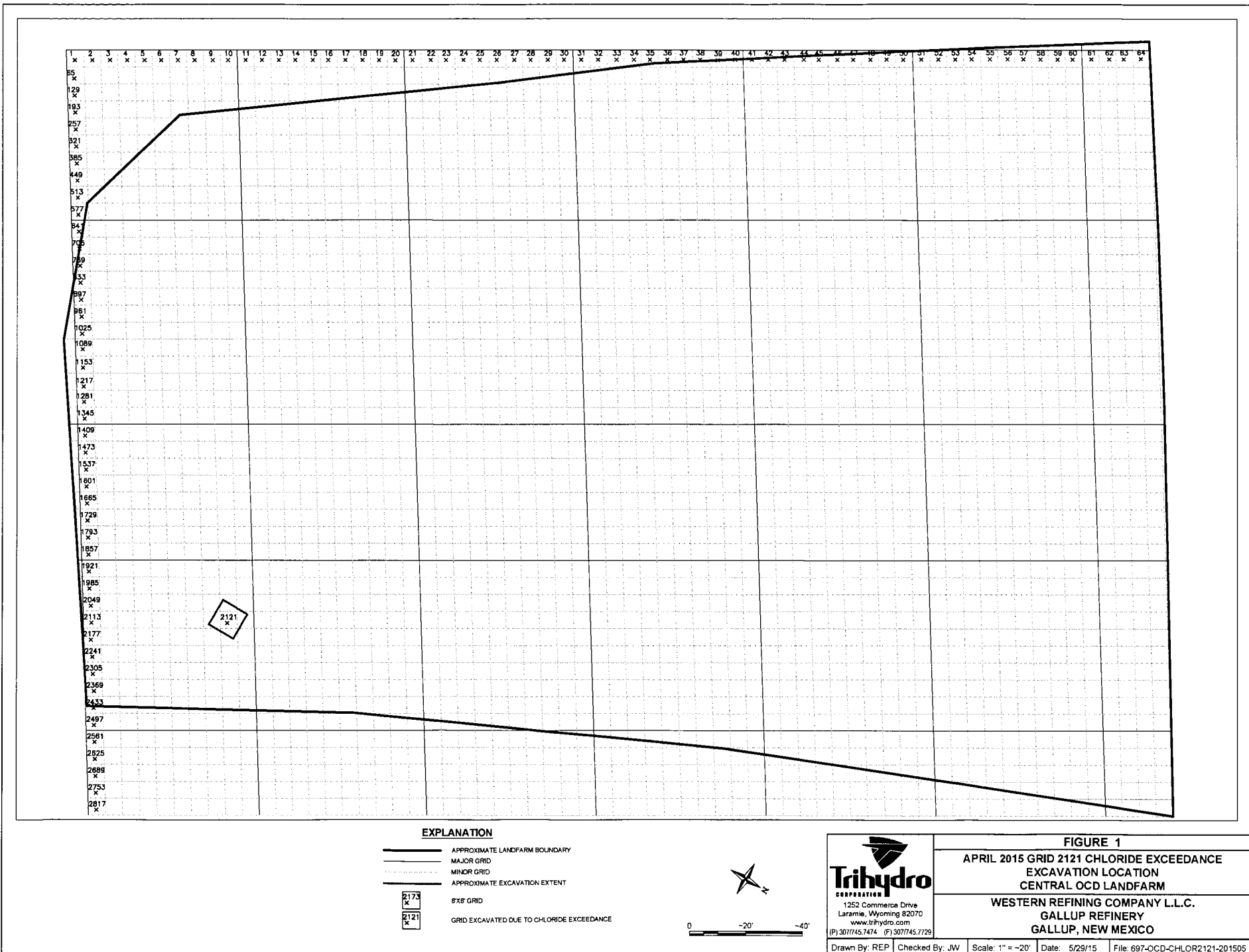
mg/kg = milligrams per kilogram

ft bgs = feet below ground surface

ABRSC = Alternate beneficial reuse screening concentration

Chlorides are analyzed by EPA method 300.0; TPH is analyzed by EPA method 418.1.

FIGURE



ATTACHMENT A
EXCAVATION LITHOLOGIC LOG

TRIHYDRO CORPORATION
FIELD BORING LOG

Sheet 5 of 5 Sheets

Project & Project Number: 697-039-00718		Date: <u>4-7-15</u>	
Project Location/Address: Gallup Refinery OCD Landfarms		Drilling Company: <u>WGR</u>	
Client: Western Refining		Driller: <u>Adrian Becerra</u>	
Weather: <u>Clear, Very Windy SW 25-40 mph</u>		Rig Type / Method: <u>Backhoe</u>	
Logged by: <u>Joe Brubaker</u>		Sample Method (circle one): Direct Push Split Spoon Shelby Tube Other:	
Logger's Signature: <u>[Signature]</u>		Surface Elevation: Casing Elevation: GE Elevation:	
		Equipment List:	

BORING ID: GRID 2121

Boring Location: Central OCD Landfarm

Interval (ft bgs)	Texture - Grain Size Major Minor	Color Major Modifier	Plasticity	Consistency	Moisture	Odor	PID <small>(Interval Reading)</small>	Additional Comments (Odor descriptor, sheen, nodules, structure, vegetation, etc.)	
0 +0 2	GVL - FMC Sand - FMC Silt Clay	Grvly Sandy Silty Clayey	Black Gray - LMD Bm - LMD Red - LMD Other	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	
2 +0 4	GVL - FMC Sand - FMC Silt Clay	Grvly Sandy Silty Clayey	Black Gray - LMD Bm - LMD Red - LMD Other	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	~ 3ft is where Native soil potentially at and indicated by hard digging
4 +0 6	GVL - FMC Sand - FMC Silt Clay	Grvly Sandy Silty Clayey	Black Gray - LMD Bm - LMD Red - LMD Other	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	
6 +0 8.5	GVL - FMC Sand - FMC Silt Clay	Grvly Sandy Silty Clayey	Black Gray - LMD Bm - LMD Red - LMD Other	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	Very Hard soil ~ 7ft. took sample @ 8.5 ft
	GVL - FMC Sand - FMC Silt Clay	Grvly Sandy Silty Clayey	Black Gray - LMD Bm - LMD Red - LMD Other	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	
	GVL - FMC Sand - FMC Silt Clay	Grvly Sandy Silty Clayey	Black Gray - LMD Bm - LMD Red - LMD Other	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	
	GVL - FMC Sand - FMC Silt Clay	Grvly Sandy Silty Clayey	Black Gray - LMD Bm - LMD Red - LMD Other	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	

Sample Collected: Yes

Number/Size of Containers: Two 4oz jars

Sample ID: OCD-2121-04072015

Analysis to be Performed: Chloride

Date: 4-7-15

Duplicate Collected: _____

Time: 1216

Notes: _____

Depth: 8.5 ft

ATTACHMENT B
PHOTO-DOCUMENTATION

**ELEVATED CHLORIDE CONCENTRATION EXCAVATION, GRID 2121, APRIL 2015
WESTERN GALLUP REFINERY
GALLUP, NEW MEXICO**

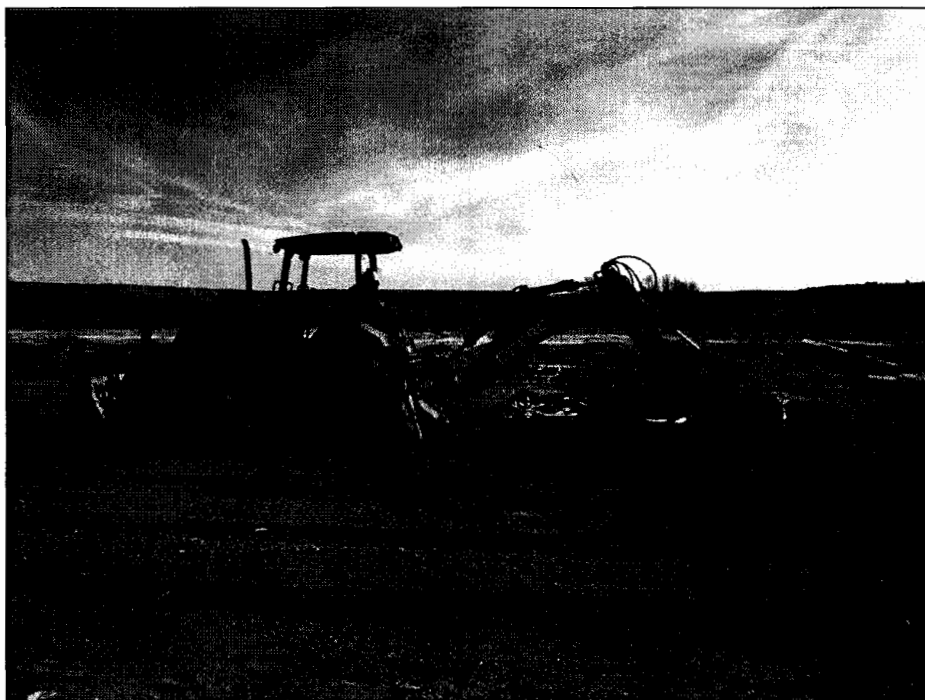


Photo 1. View to the E; beginning excavation of Grid 2121.



Photo 2. View to the SW; Grid 2121 excavation approximately 8 feet deep.

**ELEVATED CHLORIDE CONCENTRATION EXCAVATION, GRID 2121, APRIL 2015
WESTERN GALLUP REFINERY
GALLUP, NEW MEXICO**

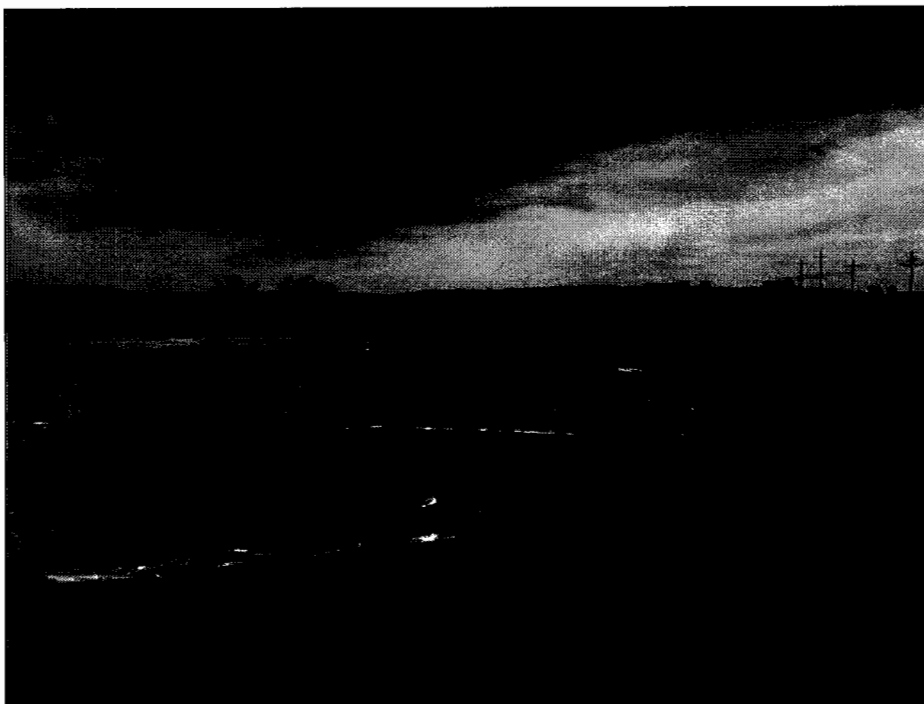


Photo 3. View to the E; barricaded excavation and stockpiled soil.



Photo 4: Looking into the completed Grid 2121 excavation.



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#: 1504287
Date: 5/8/2015

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Analytical Notes Regarding EPA Method 8270:

One of the surrogate compounds was not recoverable due to dilution and matrix interferences.

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-01-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 1:45:00 PM

Lab ID: 1504287-001

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	250	30		mg/Kg	20	4/17/2015 11:40:24 AM	18745
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.048		mg/Kg	1	4/9/2015 12:26:24 PM	18573
Toluene	ND	0.048		mg/Kg	1	4/9/2015 12:26:24 PM	18573
Ethylbenzene	ND	0.048		mg/Kg	1	4/9/2015 12:26:24 PM	18573
Xylenes, Total	ND	0.096		mg/Kg	1	4/9/2015 12:26:24 PM	18573
Surr: 1,2-Dichloroethane-d4	106	70-130		%REC	1	4/9/2015 12:26:24 PM	18573
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	4/9/2015 12:26:24 PM	18573
Surr: Dibromofluoromethane	108	70-130		%REC	1	4/9/2015 12:26:24 PM	18573
Surr: Toluene-d8	91.7	70-130		%REC	1	4/9/2015 12:26:24 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	4/14/2015 12:00:00 PM	18606

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

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

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** CentralOCD-02-04062015**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 4/6/2015 2:17:00 PM**Lab ID:** 1504287-002**Matrix:** SOIL**Received Date:** 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	160	30		mg/Kg	20	4/17/2015 12:05:13 PM	18745
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.048		mg/Kg	1	4/9/2015 12:55:21 PM	18573
Toluene	ND	0.048		mg/Kg	1	4/9/2015 12:55:21 PM	18573
Ethylbenzene	ND	0.048		mg/Kg	1	4/9/2015 12:55:21 PM	18573
Xylenes, Total	ND	0.096		mg/Kg	1	4/9/2015 12:55:21 PM	18573
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	4/9/2015 12:55:21 PM	18573
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	4/9/2015 12:55:21 PM	18573
Surr: Dibromofluoromethane	106	70-130		%REC	1	4/9/2015 12:55:21 PM	18573
Surr: Toluene-d8	89.6	70-130		%REC	1	4/9/2015 12:55:21 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	4/14/2015 12:00:00 PM	18606

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

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

Analytical ReportLab Order **1504287**Date Reported: **5/8/2015****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** CentralOCD-03-04062015 MS**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 4/6/2015 1:05:00 PM**Lab ID:** 1504287-003**Matrix:** SOIL**Received Date:** 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	330	30		mg/Kg	20	4/17/2015 1:19:40 PM	18745
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.047		mg/Kg	1	4/9/2015 1:24:07 PM	18573
Toluene	ND	0.047		mg/Kg	1	4/9/2015 1:24:07 PM	18573
Ethylbenzene	ND	0.047		mg/Kg	1	4/9/2015 1:24:07 PM	18573
Xylenes, Total	ND	0.095		mg/Kg	1	4/9/2015 1:24:07 PM	18573
Surr: 1,2-Dichloroethane-d4	106	70-130		%REC	1	4/9/2015 1:24:07 PM	18573
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	4/9/2015 1:24:07 PM	18573
Surr: Dibromofluoromethane	107	70-130		%REC	1	4/9/2015 1:24:07 PM	18573
Surr: Toluene-d8	93.6	70-130		%REC	1	4/9/2015 1:24:07 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	4/16/2015 12:00:00 PM	18606

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 1504287

Date Reported: 5/8/2015

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-04-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 2:45:00 PM

Lab ID: 1504287-004

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	220	30		mg/Kg	20	4/17/2015 1:44:29 PM	18745
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.047		mg/Kg	1	4/9/2015 2:50:46 PM	18573
Toluene	ND	0.047		mg/Kg	1	4/9/2015 2:50:46 PM	18573
Ethylbenzene	ND	0.047		mg/Kg	1	4/9/2015 2:50:46 PM	18573
Xylenes, Total	ND	0.093		mg/Kg	1	4/9/2015 2:50:46 PM	18573
Surr: 1,2-Dichloroethane-d4	97.0	70-130		%REC	1	4/9/2015 2:50:46 PM	18573
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	4/9/2015 2:50:46 PM	18573
Surr: Dibromofluoromethane	105	70-130		%REC	1	4/9/2015 2:50:46 PM	18573
Surr: Toluene-d8	95.2	70-130		%REC	1	4/9/2015 2:50:46 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	24	20		mg/Kg	1	4/14/2015 12:00:00 PM	18606

Refer to the QC Summary report and 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 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 Not In Range	
	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 1504287

Date Reported: 5/8/2015

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BD-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015

Lab ID: 1504287-005

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	350	30		mg/Kg	20	4/17/2015 2:09:19 PM	18745
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.050		mg/Kg	1	4/9/2015 3:19:41 PM	18573
Toluene	ND	0.050		mg/Kg	1	4/9/2015 3:19:41 PM	18573
Ethylbenzene	ND	0.050		mg/Kg	1	4/9/2015 3:19:41 PM	18573
Xylenes, Total	ND	0.099		mg/Kg	1	4/9/2015 3:19:41 PM	18573
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	4/9/2015 3:19:41 PM	18573
Surr: 4-Bromofluorobenzene	99.6	70-130		%REC	1	4/9/2015 3:19:41 PM	18573
Surr: Dibromofluoromethane	104	70-130		%REC	1	4/9/2015 3:19:41 PM	18573
Surr: Toluene-d8	92.4	70-130		%REC	1	4/9/2015 3:19:41 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	19		mg/Kg	1	4/14/2015 12:00:00 PM	18606

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 Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 12:30:00 PM

Lab ID: 1504287-006

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S							Analyst: SCC
Aroclor 1016	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1221	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1232	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1242	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1248	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1254	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1260	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Surr: Decachlorobiphenyl	68.0	37.5-161		%REC	1	4/25/2015 10:22:49 AM	18660
Surr: Tetrachloro-m-xylene	60.0	28.1-149		%REC	1	4/25/2015 10:22:49 AM	18660
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	350	95		mg/Kg	10	4/9/2015 4:08:24 PM	18574
Motor Oil Range Organics (MRO)	700	480		mg/Kg	10	4/9/2015 4:08:24 PM	18574
Surr: DNOP	128	63.5-128	S	%REC	10	4/9/2015 4:08:24 PM	18574
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/9/2015 11:56:05 AM	18573
Surr: BFB	87.7	80-120		%REC	1	4/9/2015 11:56:05 AM	18573
EPA METHOD 300.0: ANIONS							Analyst: LGT
Fluoride	10	6.0		mg/Kg	20	4/17/2015 2:34:07 PM	18745
Chloride	130	30		mg/Kg	20	4/17/2015 2:34:07 PM	18745
Nitrogen, Nitrate (As N)	2.7	0.30		mg/Kg	1	4/17/2015 2:21:43 PM	18745
Sulfate	1200	30		mg/Kg	20	4/17/2015 2:34:07 PM	18745
EPA METHOD 7471: MERCURY							Analyst: MED
Mercury	ND	0.16		mg/Kg	5	4/15/2015 2:53:36 PM	18690
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	ND	2.5		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Barium	350	0.20		mg/Kg	2	4/14/2015 9:56:11 AM	18669
Cadmium	ND	0.099		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Chromium	14	0.30		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Copper	9.3	0.30		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Iron	17000	99		mg/Kg	100	4/14/2015 10:08:07 AM	18669
Lead	35	0.25		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Manganese	410	0.20		mg/Kg	2	4/14/2015 9:56:11 AM	18669
Selenium	ND	2.5		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Silver	ND	0.25		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Uranium	ND	4.9		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Zinc	52	2.5		mg/Kg	1	4/18/2015 2:09:34 PM	18669

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 Not In Range
- RL Reporting Detection Limit

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 12:30:00 PM

Lab ID: 1504287-006

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Acenaphthylene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Aniline	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Anthracene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Azobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benz(a)anthracene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzo(a)pyrene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzo(b)fluoranthene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzo(g,h,i)perylene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzo(k)fluoranthene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzoic acid	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzyl alcohol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Bis(2-chloroethoxy)methane	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Bis(2-chloroethyl)ether	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Bis(2-chloroisopropyl)ether	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Bis(2-ethylhexyl)phthalate	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Bromophenyl phenyl ether	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Butyl benzyl phthalate	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Carbazole	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Chloro-3-methylphenol	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Chloroaniline	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Chloronaphthalene	ND	2.5		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Chlorophenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Chlorophenyl phenyl ether	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Chrysene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Di-n-butyl phthalate	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Di-n-octyl phthalate	ND	4.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Dibenz(a,h)anthracene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Dibenzofuran	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
1,2-Dichlorobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
1,3-Dichlorobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
1,4-Dichlorobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
3,3'-Dichlorobenzidine	ND	2.5		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Diethyl phthalate	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Dimethyl phthalate	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,4-Dichlorophenol	ND	4.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,4-Dimethylphenol	ND	3.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4,6-Dinitro-2-methylphenol	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,4-Dinitrophenol	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH Not In Range
	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 **1504287**Date Reported: **5/8/2015****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** CentralOCD-TZ-04062015**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 4/6/2015 12:30:00 PM**Lab ID:** 1504287-006**Matrix:** SOIL**Received Date:** 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2,4-Dinitrotoluene	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,6-Dinitrotoluene	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Fluoranthene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Fluorene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Hexachlorobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Hexachlorobutadiene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Hexachlorocyclopentadiene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Hexachloroethane	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Indeno(1,2,3-cd)pyrene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Isophorone	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
1-Methylnaphthalene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Methylnaphthalene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Methylphenol	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
3+4-Methylphenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
N-Nitrosodi-n-propylamine	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
N-Nitrosodiphenylamine	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Naphthalene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Nitroaniline	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
3-Nitroaniline	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Nitroaniline	ND	4.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Nitrobenzene	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Nitrophenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Nitrophenol	ND	2.5		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Pentachlorophenol	ND	4.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Phenanthrene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Phenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Pyrene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Pyridine	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
1,2,4-Trichlorobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,4,5-Trichlorophenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,4,6-Trichlorophenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Surr: 2-Fluorophenol	67.2	26.4-129		%REC	1	4/15/2015 11:00:23 PM	18661
Surr: Phenol-d5	75.1	34.8-118		%REC	1	4/15/2015 11:00:23 PM	18661
Surr: 2,4,6-Tribromophenol	76.8	26.8-128		%REC	1	4/15/2015 11:00:23 PM	18661
Surr: Nitrobenzene-d5	83.3	35.8-124		%REC	1	4/15/2015 11:00:23 PM	18661
Surr: 2-Fluorobiphenyl	86.9	24.5-139		%REC	1	4/15/2015 11:00:23 PM	18661
Surr: 4-Terphenyl-d14	0	29.4-129	S	%REC	1	4/15/2015 11:00:23 PM	18661

EPA METHOD 8260B: VOLATILESAnalyst: **cadg**

Benzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
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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 Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 12:30:00 PM

Lab ID: 1504287-006

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Toluene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Ethylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2,4-Trimethylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,3,5-Trimethylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2-Dichloroethane (EDC)	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2-Dibromoethane (EDB)	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Naphthalene	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1-Methylnaphthalene	ND	0.20		mg/Kg	1	4/9/2015 3:48:39 PM	18573
2-Methylnaphthalene	ND	0.20		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Acetone	ND	0.74		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Bromobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Bromodichloromethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Bromoform	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Bromomethane	ND	0.15		mg/Kg	1	4/9/2015 3:48:39 PM	18573
2-Butanone	ND	0.49		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Carbon disulfide	ND	0.49		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Carbon tetrachloride	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Chlorobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Chloroethane	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Chloroform	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Chloromethane	ND	0.15		mg/Kg	1	4/9/2015 3:48:39 PM	18573
2-Chlorotoluene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
4-Chlorotoluene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
cis-1,2-DCE	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
cis-1,3-Dichloropropene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2-Dibromo-3-chloropropane	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Dibromochloromethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Dibromomethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2-Dichlorobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,3-Dichlorobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,4-Dichlorobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Dichlorodifluoromethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1-Dichloroethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1-Dichloroethene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2-Dichloropropane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,3-Dichloropropane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
2,2-Dichloropropane	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1-Dichloropropene	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH Not In Range
	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 1504287

Date Reported: 5/8/2015

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 12:30:00 PM

Lab ID: 1504287-006

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Hexachlorobutadiene	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
2-Hexanone	ND	0.49		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Isopropylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
4-Isopropyltoluene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
4-Methyl-2-pentanone	ND	0.49		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Methylene chloride	ND	0.15		mg/Kg	1	4/9/2015 3:48:39 PM	18573
n-Butylbenzene	ND	0.15		mg/Kg	1	4/9/2015 3:48:39 PM	18573
n-Propylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
sec-Butylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Styrene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
tert-Butylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1,1,2-Tetrachloroethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1,2,2-Tetrachloroethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Tetrachloroethene (PCE)	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
trans-1,2-DCE	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
trans-1,3-Dichloropropene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2,3-Trichlorobenzene	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2,4-Trichlorobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1,1-Trichloroethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1,2-Trichloroethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Trichloroethene (TCE)	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Trichlorofluoromethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2,3-Trichloropropane	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Vinyl chloride	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Xylenes, Total	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Surr: Dibromofluoromethane	107	70-130		%REC	1	4/9/2015 3:48:39 PM	18573
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	4/9/2015 3:48:39 PM	18573
Surr: Toluene-d8	89.9	70-130		%REC	1	4/9/2015 3:48:39 PM	18573
Surr: 4-Bromofluorobenzene	96.6	70-130		%REC	1	4/9/2015 3:48:39 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	370	20		mg/Kg	1	4/14/2015 12:00:00 PM	18606

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

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

Analytical ReportLab Order **1504287**Date Reported: **5/8/2015****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** OCD-2121-04072015**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 4/7/2015 12:16:00 PM**Lab ID:** 1504287-007**Matrix:** SOIL**Received Date:** 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	160	30		mg/Kg	20	4/17/2015 3:23:47 PM	18745

Refer to the QC Summary report and 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 12 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 Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** EB-04062015**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 4/6/2015 1:30:00 PM**Lab ID:** 1504287-008**Matrix:** AQUEOUS**Received Date:** 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: KJH
Benzene	ND	1.0		µg/L	1	4/8/2015 1:32:26 PM	R25378
Toluene	ND	1.0		µg/L	1	4/8/2015 1:32:26 PM	R25378
Ethylbenzene	ND	1.0		µg/L	1	4/8/2015 1:32:26 PM	R25378
Xylenes, Total	ND	1.5		µg/L	1	4/8/2015 1:32:26 PM	R25378
Surr: 1,2-Dichloroethane-d4	98.9	70-130		%REC	1	4/8/2015 1:32:26 PM	R25378
Surr: 4-Bromofluorobenzene	103	70-130		%REC	1	4/8/2015 1:32:26 PM	R25378
Surr: Dibromofluoromethane	101	70-130		%REC	1	4/8/2015 1:32:26 PM	R25378
Surr: Toluene-d8	96.9	70-130		%REC	1	4/8/2015 1:32:26 PM	R25378

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

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

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** FB-04062015**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 4/6/2015 1:35:00 PM**Lab ID:** 1504287-009**Matrix:** AQUEOUS**Received Date:** 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: KJH
Benzene	ND	1.0		µg/L	1	4/8/2015 2:01:09 PM	R25378
Toluene	ND	1.0		µg/L	1	4/8/2015 2:01:09 PM	R25378
Ethylbenzene	ND	1.0		µg/L	1	4/8/2015 2:01:09 PM	R25378
Xylenes, Total	ND	1.5		µg/L	1	4/8/2015 2:01:09 PM	R25378
Surr: 1,2-Dichloroethane-d4	121	70-130		%REC	1	4/8/2015 2:01:09 PM	R25378
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	4/8/2015 2:01:09 PM	R25378
Surr: Dibromofluoromethane	119	70-130		%REC	1	4/8/2015 2:01:09 PM	R25378
Surr: Toluene-d8	102	70-130		%REC	1	4/8/2015 2:01:09 PM	R25378

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 1504287

Date Reported: 5/8/2015

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: OCD Central Landfarm Semiannual Sam

Collection Date:

Lab ID: 1504287-010

Matrix: TRIP BLANK

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: KJH
Benzene	ND	1.0		µg/L	1	4/8/2015 2:29:54 PM	R25378
Toluene	ND	1.0		µg/L	1	4/8/2015 2:29:54 PM	R25378
Ethylbenzene	ND	1.0		µg/L	1	4/8/2015 2:29:54 PM	R25378
Xylenes, Total	ND	1.5		µg/L	1	4/8/2015 2:29:54 PM	R25378
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	4/8/2015 2:29:54 PM	R25378
Surr: 4-Bromofluorobenzene	111	70-130		%REC	1	4/8/2015 2:29:54 PM	R25378
Surr: Dibromofluoromethane	105	70-130		%REC	1	4/8/2015 2:29:54 PM	R25378
Surr: Toluene-d8	96.6	70-130		%REC	1	4/8/2015 2:29:54 PM	R25378

Refer to the QC Summary report and 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 15 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 Not In Range	
	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 #: 150409032
Project Name: 1504287

Analytical Results Report

Sample Number	150409032-001	Sampling Date	4/6/2015	Date/Time Received	4/9/2015 11:15 AM
Client Sample ID	1504287-006D / CENTRALOCD-TZ-04062015			Sampling Time	12:30 PM
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	1.31	mg/Kg	0.295	4/15/2015	CRW	EPA 335.4	
%moisture	15.9	Percent		4/15/2015	CRW	%moisture	

Authorized Signature


John Coddington, Lab Manager

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

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

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; 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, April 21, 2015

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 #: 150409032
Project Name: 1504287

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.511	mg/kg	0.5	102.2	90-110	4/15/2015	4/15/2015

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
150409032-001	Cyanide	1.31	16.5	mg/kg	14.75	103.0	90-110	4/15/2015	4/15/2015

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	16.3	mg/kg	14.75	101.6	1.2	0-25	4/15/2015	4/15/2015

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	4/15/2015	4/15/2015

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1504287

Pace Project No.: 30145292

Sample: 1504287-006C CentralOCD- Lab ID: 30145292001 Collected: 04/06/15 12:30 Received: 04/10/15 10:45 Matrix: Solid
TZ-040

PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	1.059 ± 0.233 (0.160) C:NA T:NA	pCi/g	05/08/15 10:26	13982-63-3	
Radium-228	EPA 901.1	1.392 ± 0.289 (0.241) C:NA T:NA	pCi/g	05/08/15 10:26	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1504287

Pace Project No.: 30145292

QC Batch: RADC/24225

Analysis Method: EPA 901.1

QC Batch Method: EPA 901.1

Analysis Description: 901.1 Gamma Spec Ingrowth

Associated Lab Samples: 30145292001

METHOD BLANK: 884958

Matrix: Solid

Associated Lab Samples: 30145292001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.137 ± 0.089 (0.192) C:NA T:NA	pCi/g	05/08/15 09:52	
Radium-228	0.000 ± 0.044 (0.487) C:NA T:NA	pCi/g	05/08/15 09:52	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18745		SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	18745		RunNo:	25615				
Prep Date:	4/17/2015		Analysis Date:	4/17/2015		SeqNo:	758950		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Fluoride	ND	0.30									
Chloride	ND	1.5									
Nitrogen, Nitrate (As N)	ND	0.30									
Sulfate	ND	1.5									

Sample ID	LCS-18745		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 18745		RunNo: 25615					
Prep Date:	4/17/2015		Analysis Date: 4/17/2015		SeqNo: 758951		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	97.3	90	110			
Chloride	14	1.5	15.00	0	92.3	90	110			
Nitrogen, Nitrate (As N)	7.3	0.30	7.500	0	97.5	90	110			
Sulfate	28	1.5	30.00	0	94.7	90	110			

Sample ID	1504287-003AMS		SampType: MS		TestCode: EPA Method 300.0: Anions					
Client ID:	CentralOCD-03-0406		Batch ID: 18745		RunNo: 25615					
Prep Date:	4/17/2015		Analysis Date: 4/17/2015		SeqNo: 758962		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.4	0.30	1.500	2.186	14.0	13.6	100			
Nitrogen, Nitrate (As N)	17	0.30	7.500	8.487	114	85.3	110			S

Sample ID	1504287-003AMSD		SampType:	MSD		TestCode:	EPA Method 300.0: Anions				
Client ID:	CentralOCD-03-0406		Batch ID:	18745		RunNo:	25615				
Prep Date:	4/17/2015		Analysis Date:	4/17/2015		SeqNo:	758963		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Fluoride	2.4	0.30	1.500	2.186	14.7	13.6	100	0.438	20		
Nitrogen, Nitrate (As N)	17	0.30	7.500	8.487	118	85.3	110	1.45	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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18606		SampType:	MBLK		TestCode:	EPA Method 418.1: TPH			
Client ID:	PBS		Batch ID:	18606		RunNo:	25503			
Prep Date:	4/9/2015		Analysis Date:	4/14/2015		SeqNo:	755191		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-18606		SampType:	LCS		TestCode:	EPA Method 418.1: TPH			
Client ID:	LCSS		Batch ID:	18606		RunNo:	25503			
Prep Date:	4/9/2015		Analysis Date:	4/14/2015		SeqNo:	755192		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	93	20	100.0	0	92.7	86.7	126			

Sample ID	LCSD-18606		SampType:	LCSD		TestCode:	EPA Method 418.1: TPH			
Client ID:	LCSS02		Batch ID:	18606		RunNo:	25503			
Prep Date:	4/9/2015		Analysis Date:	4/14/2015		SeqNo:	755193		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	98	20	100.0	0	97.9	86.7	126	5.45	20	

Sample ID	1504287-003AMS		SampType:	MS		TestCode:	EPA Method 418.1: TPH			
Client ID:	CentralOCD-03-0406		Batch ID:	18606		RunNo:	25553			
Prep Date:	4/9/2015		Analysis Date:	4/16/2015		SeqNo:	756803		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	93	20	100.0	0	92.9	80	120			

Sample ID	1504287-003AMSD		SampType:	MSD		TestCode:	EPA Method 418.1: TPH			
Client ID:	CentralOCD-03-0406		Batch ID:	18606		RunNo:	25553			
Prep Date:	4/9/2015		Analysis Date:	4/16/2015		SeqNo:	756804		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	99	20	100.7	0	98.2	80	120	6.19	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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18574		SampType:	MBLK		TestCode:	EPA Method 8015D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	18574		RunNo:	25386				
Prep Date:	4/8/2015		Analysis Date:	4/9/2015		SeqNo:	751714		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	9.6		10.00		95.5	63.5	128				

Sample ID	LCS-18574		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 18574		RunNo: 25386					
Prep Date:	4/8/2015		Analysis Date: 4/9/2015		SeqNo: 751806		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.1	67.8	130			
Surr: DNOP	4.6		5.000		92.4	63.5	128			

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH Not In Range |
| 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#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18573	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	18573	RunNo:	25395					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	751932	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	850		1000		85.2	80	120			

Sample ID	LCS-18573	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	18573	RunNo:	25395					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	751933	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	102	64	130			
Surr: BFB	920		1000		91.9	80	120			

Sample ID	1504287-006AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	CentralOCD-TZ-040	Batch ID:	18573	RunNo:	25395					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	751936	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	4.9	24.63	0	96.1	47.9	144			
Surr: BFB	940		985.2		95.9	80	120			

Sample ID	1504287-006AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	CentralOCD-TZ-040	Batch ID:	18573	RunNo:	25395					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	751937	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.9	24.61	0	104	47.9	144	7.82	29.9	
Surr: BFB	960		984.3		97.6	80	120	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 Not In Range |
| 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#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18660		SampType:	MBLK		TestCode:	EPA Method 8082: PCB's				
Client ID:	PBS		Batch ID:	18660		RunNo:	25757				
Prep Date:	4/13/2015		Analysis Date:	4/24/2015		SeqNo:	763490		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Aroclor 1016	ND	0.020									
Aroclor 1221	ND	0.020									
Aroclor 1232	ND	0.020									
Aroclor 1242	ND	0.020									
Aroclor 1248	ND	0.020									
Aroclor 1254	ND	0.020									
Aroclor 1260	ND	0.020									
Surr: Decachlorobiphenyl	0.071		0.06250		114	37.5	161				
Surr: Tetrachloro-m-xylene	0.078		0.06250		124	28.1	149				

Sample ID	LCS-18660		SampType: LCS		TestCode: EPA Method 8082: PCB's					
Client ID:	LCSS		Batch ID: 18660		RunNo: 25757					
Prep Date:	4/13/2015		Analysis Date: 4/24/2015		SeqNo: 763491		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.074	0.020	0.1250	0	59.2	26.2	127			
Aroclor 1260	0.099	0.020	0.1250	0	79.2	36.6	122			
Surr: Decachlorobiphenyl	0.059		0.06250		94.0	37.5	161			
Surr: Tetrachloro-m-xylene	0.065		0.06250		104	28.1	149			

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH Not In Range |
| 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#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-18573	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID:	18573	RunNo:	25409					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	752062	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-18573	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID:	18573	RunNo:	25409					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	752062	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	0.52		0.5000		105	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		103	70	130			
Surr: Toluene-d8	0.47		0.5000		93.5	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.8	70	130			

Sample ID	lcs-18573	SampType:	LCS	TestCode:	EPA Method 8260B: Volatiles					
Client ID:	LCSS	Batch ID:	18573	RunNo:	25409					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	752063	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.8	70	130			
Toluene	0.89	0.050	1.000	0	88.6	70	130			
Chlorobenzene	0.94	0.050	1.000	0	94.5	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	lcs-18573		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	LCSS		Batch ID:	18573		RunNo:	25409			
Prep Date:	4/8/2015		Analysis Date:	4/9/2015		SeqNo:	752063		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.1	0.050	1.000	0	113	60.6	134			
Trichloroethene (TCE)	0.89	0.050	1.000	0	89.0	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.46		0.5000		91.9	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-18573		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles Short List				
Client ID:	PBS		Batch ID:	18573		RunNo:	25409				
Prep Date:	4/8/2015		Analysis Date:	4/9/2015		SeqNo:	752065		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Methyl tert-butyl ether (MTBE)	ND	0.050									
Benzene	ND	0.050									
1,2-Dichloroethane (EDC)	ND	0.050									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
1,2-Dibromoethane (EDB)	ND	0.050									
1,2,4-Trimethylbenzene	ND	0.050									
1,3,5-Trimethylbenzene	ND	0.050									
Naphthalene	ND	0.10									
2-Methylnaphthalene	ND	0.20									
1-Methylnaphthalene	ND	0.20									
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		103	70	130				
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.8	70	130				
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130				
Surr: Toluene-d8	0.47		0.5000		93.5	70	130				

Sample ID	lcs-18573		SampType: LCS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS		Batch ID: 18573		RunNo: 25409					
Prep Date:	4/8/2015		Analysis Date: 4/9/2015		SeqNo: 752066		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.8	70	130			
Toluene	0.89	0.050	1.000	0	88.6	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.46		0.5000		91.9	70	130			

Sample ID	1504287-003ams		SampType: MS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	CentralOCD-03-0406		Batch ID: 18573		RunNo: 25409					
Prep Date:	4/8/2015		Analysis Date: 4/9/2015		SeqNo: 752070		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.048	0.9515	0	105	57.8	132			
Toluene	0.90	0.048	0.9515	0	94.4	54.8	139			
Surr: 1,2-Dichloroethane-d4	0.51		0.4757		106	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.4757		97.1	70	130			
Surr: Dibromofluoromethane	0.52		0.4757		109	70	130			
Surr: Toluene-d8	0.44		0.4757		92.5	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 Not In Range |
| 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#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	1504287-003amsd	SampType:	MSD	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	CentralOCD-03-0406	Batch ID:	18573	RunNo:	25409					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	752071	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.047	0.9497	0	110	57.8	132	3.98	20	
Toluene	0.89	0.047	0.9497	0	94.2	54.8	139	0.433	20	
Surr: 1,2-Dichloroethane-d4	0.52		0.4748		109	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.47		0.4748		98.4	70	130	0	0	
Surr: Dibromofluoromethane	0.54		0.4748		113	70	130	0	0	
Surr: Toluene-d8	0.43		0.4748		90.5	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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	R25378	RunNo:	25378					
Prep Date:		Analysis Date:	4/8/2015	SeqNo:	750966	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.7	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	11		10.00		109	70	130			

Sample ID	5mL-rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	R25378	RunNo:	25378					
Prep Date:		Analysis Date:	4/8/2015	SeqNo:	750970	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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.5	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	11		10.00		110	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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-18661		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBS		Batch ID: 18661		RunNo: 25544					
Prep Date:	4/13/2015		Analysis Date: 4/15/2015		SeqNo: 756564		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	0.40								
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	0.40								
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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-18661	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	18661	RunNo:	25544					
Prep Date:	4/13/2015	Analysis Date:	4/15/2015	SeqNo:	756564	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	0.40								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.40								
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	0.40								
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	0.40								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	2.4		3.330		70.7	26.4	129			
Surr: Phenol-d5	2.4		3.330		72.3	34.8	118			
Surr: 2,4,6-Tribromophenol	2.4		3.330		72.4	26.8	128			
Surr: Nitrobenzene-d5	1.2		1.670		70.8	35.8	124			
Surr: 2-Fluorobiphenyl	1.1		1.670		65.9	24.5	139			
Surr: 4-Terphenyl-d14	1.1		1.670		65.9	29.4	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 Not In Range |
| 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#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	lcs-18661		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 18661		RunNo: 25544					
Prep Date:	4/13/2015		Analysis Date: 4/15/2015		SeqNo: 756565		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.99	0.20	1.670	0	59.3	45.8	114			
4-Chloro-3-methylphenol	2.3	0.50	3.330	0	69.4	52.3	122			
2-Chlorophenol	2.1	0.20	3.330	0	62.1	49.9	115			
1,4-Dichlorobenzene	1.1	0.20	1.670	0	64.0	43.7	107			
2,4-Dinitrotoluene	0.84	0.50	1.670	0	50.5	36	106			
N-Nitrosodi-n-propylamine	1.0	0.20	1.670	0	61.6	39.5	110			
4-Nitrophenol	2.0	0.25	3.330	0	59.3	45.1	121			
Pentachlorophenol	1.7	0.40	3.330	0	50.6	23.7	111			
Phenol	2.2	0.20	3.330	0	65.5	52.7	119			
Pyrene	0.98	0.20	1.670	0	58.5	50.4	116			
1,2,4-Trichlorobenzene	1.1	0.20	1.670	0	64.2	40.1	114			
Surr: 2-Fluorophenol	2.1		3.330		62.4	26.4	129			
Surr: Phenol-d5	2.2		3.330		67.2	34.8	118			
Surr: 2,4,6-Tribromophenol	2.2		3.330		66.5	26.8	128			
Surr: Nitrobenzene-d5	1.1		1.670		64.0	35.8	124			
Surr: 2-Fluorobiphenyl	1.0		1.670		62.8	24.5	139			
Surr: 4-Terphenyl-d14	1.1		1.670		66.0	29.4	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18690		SampType:	MBLK		TestCode:	EPA Method 7471: Mercury				
Client ID:	PBS		Batch ID:	18690		RunNo:	25534				
Prep Date:	4/14/2015		Analysis Date:	4/15/2015		SeqNo:	756337		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	ND	0.033									

Sample ID	LCS-18690			SampType:	LCS		TestCode:	EPA Method 7471: Mercury			
Client ID:	LCSS			Batch ID:	18690		RunNo:	25534			
Prep Date:	4/14/2015			Analysis Date:	4/15/2015		SeqNo:	756338		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	97.8	80	120				

Sample ID	1504287-006BMS		SampType:	MS		TestCode:	EPA Method 7471: Mercury				
Client ID:	CentralOCD-TZ-040		Batch ID:	18690		RunNo:	25534				
Prep Date:	4/14/2015		Analysis Date:	4/15/2015		SeqNo:	756356		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.58	0.16	0.1591	0.1429	276	75	125			S	

Sample ID	1504287-006BMSD			SampType:	MSD		TestCode:	EPA Method 7471: Mercury			
Client ID:	CentralOCD-TZ-040			Batch ID:	18690		RunNo:	25534			
Prep Date:	4/14/2015		Analysis Date:	4/15/2015		SeqNo:	756357		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.61	0.16	0.1611	0.1429	290	75	125	4.77	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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18669		SampType: MBLK		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	PBS		Batch ID: 18669		RunNo: 25491					
Prep Date:	4/13/2015		Analysis Date: 4/14/2015		SeqNo: 754953		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Copper	ND	0.30								
Iron	ND	2.5								
Lead	ND	0.25								
Manganese	ND	0.10								
Selenium	ND	2.5								
Silver	ND	0.25								
Uranium	ND	5.0								

Sample ID	LCS-18669		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 18669		RunNo: 25491					
Prep Date:	4/13/2015		Analysis Date: 4/14/2015		SeqNo: 754954		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	26	2.5	25.00	0	106	80	120			
Barium	26	0.10	25.00	0	103	80	120			
Cadmium	26	0.10	25.00	0	104	80	120			
Chromium	26	0.30	25.00	0	104	80	120			
Copper	27	0.30	25.00	0	107	80	120			
Iron	27	2.5	25.00	0	108	80	120			
Lead	26	0.25	25.00	0	102	80	120			
Manganese	26	0.10	25.00	0	103	80	120			
Selenium	26	2.5	25.00	0	102	80	120			
Silver	5.6	0.25	5.000	0	112	80	120			
Uranium	26	5.0	25.00	0	105	80	120			

Sample ID	MB-18669		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals				
Client ID:	PBS		Batch ID:	18669		RunNo:	25596				
Prep Date:	4/13/2015		Analysis Date:	4/18/2015		SeqNo:	758372		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Zinc	ND	2.5									

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH Not In Range |
| 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#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	LCS-18669		SampType:	LCS		TestCode:	EPA Method 6010B: Soil Metals				
Client ID:	LCSS		Batch ID:	18669		RunNo:	25596				
Prep Date:	4/13/2015		Analysis Date:	4/18/2015		SeqNo:	758373		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Zinc	25	2.5	25.00	0	101	80	120				

Qualifiers:

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



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87116
TEL: 505-345-3775 FAX: 505-245-4167
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number 1504287 Rcp/No 1

Received by/date

Logged By: Lindsay Mangin 4/8/2015 7:05:00 AM

Completed By: Lindsay Mangin 4/8/2015 7:59:16 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? FedEx

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 5°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 ☐ # of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted?
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 ☐ 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.4	Good	Yes			

Chain-of-Custody Record

Client: Western Refining

Mailing Address:

Route 3 Box 7

Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-722-0210

CA/QC Package:

☒ Standard

☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP

☐ Other

☐ EDD (Type) Please provide EDD

Turn-Around Time:

☒ Standard

☐ Rush

Project Name:

OCD Central Landfarm Semiannual Sampling

Project #:

697-039-008

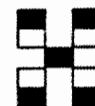
Project Manager:

Ed Riego

Sampler: Zac Bitzue

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.4



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	Vadose Zone List (see attached)	NMAC List (see attached)	Chloride by EPA 300.0	BTEX (8260)	Air Bubbles (Y or N)
4/6/2015	1345	soil	CentralOCD-01-04062015	4oz - 2	none	-001	X				
4/6/2015	1417	soil	CentralOCD-02-04062015	4oz - 2	none	-002	X				
4/6/2015	1305	soil	CentralOCD-03-04062015	4oz - 2	none	-003	X				
4/6/2015	1445	soil	CentralOCD-04-04062015	4oz - 2	none	-004	X				
4/6/2015	—	soil	BD-04062015	4oz - 2	none	-005	X				
4/6/2015	1312	soil	CentralOCD-05-04062015-MS	4oz - 2	none	-006	X				
4/6/2015	1316	soil	CentralOCD-06-04062015-MSD	4oz - 2	none	-007	X				
4/6/2015	1230	soil	CentralOCD-TZ-04062015	8oz - 3, 4oz - 1	none	-008	X	X			
4/7/2015	1216	soil	OCD-2121-04072015	4oz - 2	none	-009			X		
4/6/2015	1330	water	EB-04062015	VOA - 3	HCL	-010				X	
4/6/2015	1335	water	FB-04062015	VOA - 3	HCL	-011				X	
NA	NA	water	Trip Blank	VOA - 3	HCL	-012				X	

Date:	Time:	Relinquished by:	Received by:	Date:	Time:	Remarks: Please cc Grant Price (gprice@trihydro.com) with results. Call Grant @ 307-745-7474 w/ questions. <u>Verify that Reporting limits comply with those shown on the attached. PCBs need DL of 0.02 mg/kg.</u>
4-7-15	1430	355	[Signature]	4/7/15	1705	
Date:	Time:	Relinquished by:	Received by:	Date:	Time:	
			[Signature]			

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

NMAC LIST ANALYTES AND REPORTING LIMITS, CONSTITUENTS LISTED IN SUBSECTIONS A AND B OF 20.8.2.3103 NMAC, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.5000
*Radium-226	E901.1	pCi/g	1.3950
*Radium-228	E901.1	pCi/g	1.2500
*Radium-226+Radium-228	E901.1	pCi/g	2.6450
Arsenic	SW8010A	mg/kg	2.5000
Barium	SW8010A	mg/kg	1.0000
Cadmium	SW8010A	mg/kg	0.1000
Chromium	SW8010A	mg/kg	0.3000
Copper	SW8010A	mg/kg	0.8000
Iron	SW8010A	mg/kg	500.0000
Lead	SW8010A	mg/kg	0.2500
Manganese	SW8010A	mg/kg	1.0000
Selenium	SW8010A	mg/kg	2.5000
Silver	SW8010A	mg/kg	0.2500
Uranium	SW8010A	mg/kg	5.0000
Zinc	SW8010A	mg/kg	2.5000
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg	0.0200
Aroclor 1221	SW8082	mg/kg	0.0200
Aroclor 1232	SW8082	mg/kg	0.0200
Aroclor 1242	SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1,1-Dichloroethane	SW8260B	mg/kg	0.0970
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethane	SW8260B	mg/kg	0.0480
Carbon tetrachloride	SW8260B	mg/kg	0.0970
Chloroform	SW8260B	mg/kg	0.0480
Dibromomethane	SW8260B	mg/kg	0.1000
Methylene chloride	SW8260B	mg/kg	0.1500
Tetrachloroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4-Dichlorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg	0.3000
2,4-Dinitrophenol	SW8270C	mg/kg	0.4000
2-Chlorophenol	SW8270C	mg/kg	0.2000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol	SW8270C	mg/kg	0.1000
3+4-Methylphenol	SW8270C	mg/kg	0.1000
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachlorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	0.2000
Acenaphthene	SW8270C	mg/kg	0.2000
Acenaphthylene	SW8270C	mg/kg	0.2000
Anthracene	SW8270C	mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg	0.2000
Benzo(a)pyrene	SW8270C	mg/kg	0.2000
Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	mg/kg	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(a,h)anthracene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Indeno(1,2,3-c,d)pyrene	SW8270C	mg/kg	0.2000
Naphthalene	SW8270C	mg/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyanide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gasoline Range Organics (GRO)	SW8015	mg/kg	1.0

**VADOSE ZONE ANALYTES AND REPORTING LIMITS, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO**

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Chloride	E300	mg/kg	30
Benzene	SW8260B	mg/kg	0.050
Ethylbenzene	SW8260B	mg/kg	0.050
Toluene	SW8260B	mg/kg	0.050
Xylenes, Total	SW8260B	mg/kg	0.100
Petroleum Hydrocarbons, TR	E418.1	mg/kg	20

ATTACHMENT D
TIER II DATA VALIDATION



Tier II Data Validation Report Summary

Client: Western Refining Southwest, Inc.	Laboratory: Hall Environmental Analysis Laboratory
Project Name: Semiannual OCD Landfarm Soil Sampling	Sample Matrix: Soil, Water
Project Number: 697-039-007 Task 0005	Sample Start Date: 04/06/2015
Date Validated: 05/18/2015	Sample End Date: 04/07/2015
Parameters Included: <ul style="list-style-type: none">▪ Volatile Organic Compounds (VOC) by Test Methods for Evaluating Solid Waste (SW-846) Method 8260B▪ Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) by SW-846 Method 8015D▪ Total Petroleum Hydrocarbons (TPH) by Environmental Protection Agency (EPA) Method 418.1▪ Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C▪ Total Metals by SW-846 Method 6010B▪ Total Mercury by SW-846 Method 7471▪ Anions by EPA Method 300.0▪ Polychlorinated Biphenyls (PCB) by SW-846 Method 8082▪ Total Cyanide by EPA Method 335.4▪ Radium-226 and Radium-228 by EPA Method 901.1	
Laboratory Project ID: 1504287	
Data Validator: James Gianakon, Environmental Chemist	
Reviewer: Charles Ballek, Senior Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, Anatek Labs, Inc. in Moscow, Idaho, and Pace Analytical Labs in Greensburg, Pennsylvania, evaluating samples from the Western Refining Southwest, Inc. site, located in Gallup, New Mexico.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from:

- Field duplicate pairs
- Matrix spike (MS) and matrix spike duplicate (MSD) pairs
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs

Laboratory accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- LCS/LCSD samples
- Organic system monitoring compounds (surrogates)

Field accuracy was established by collecting and analyzing the following samples to monitor for possible ambient or cross contamination during sampling and transportation.

- Trip blanks
- Field blanks
- Equipment blanks





Tier II Data Validation Report Summary

Method compliance was established by reviewing sample integrity, holding times, detection limits, surrogate recoveries, laboratory blanks, initial and continuing calibrations (where applicable), and the LCS/LCSD percent recoveries against method-specific requirements.

Completeness was evaluated by determining the overall ratio of the number of samples and analyses planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other laboratory and field documents associated with this analytical data set.



Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
CentralOCD-01-04062015	1504287-001
CentralOCD-02-04062015	1504287-002
CentralOCD-03-04062015	1504287-003
CentralOCD-04-04062015	1504287-004
BD-04062015	1504287-005
CentralOCD-TZ-04062015	1504287-006 / 150409032-001 / 30145292001
OCD-2121-04072015	1504287-007
EB-04062015	1504287-008
FB-04062015	1504287-009
Trip Blank	1504287-010



Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (○) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

- ⊗ Data Completeness
- ✓ CoC Documentation (Item 3)
- ✓ Holding Times and Preservation (Items 6 and 7)
- Initial and Continuing Calibrations (Item 9)
- ✓ Laboratory Blanks (Item 10)
- ⊗ MS/MSD (Item 12)
- ✓ LCS/LCSD (Item 14)
- ⊗ System Monitoring Compounds (i.e., Surrogates) (Item 16)
- ✓ Field, Equipment, and Trip Blanks (Item 17)
- ✓ Field Duplicates (Item 19)
- Laboratory Duplicates (Item 21)

Guidance References

Chemical data validation was conducted in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for the analyses listed below, or by the appropriate method if not covered in the National Functional Guidelines.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Superfund Organic Methods Data Review, document number EPA-540-R-014-002, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Organic Data Review, document number EPA 540/R-99/008, October 1999.
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Data Review, document number EPA-540-R-013-001, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number EPA 540-R-04-004, October 2004.
- Radiochemistry data were evaluated following criteria defined in USEPA Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP), document number EPA 402-B-04-001A, July 2004.
- Review of field duplicates was conducted according to the USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.
- Trihydro Data Validation Variance Documentation, March 2015.





Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Validation Criteria Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes.

Text identified in **bold font** in the Validation Criteria Checklist indicates that further action and/or qualification of the data were required. Data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data qualifiers used during this validation are included in the following table.

<u>Qualifier</u>	<u>Definition</u>
J-	The result is an estimated concentration, but may be biased low
R	Rejected, data not usable

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 198 data points excluding blank samples. 23 data points were rejected. The data completeness measure for this data package is calculated to be 88.38% and is not acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	No
Comments: The laboratory noted the following non-conformances as related to this data set. <u>Method 8270C</u> : One of the surrogate compounds was not recoverable due to dilution and matrix interferences.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags in the laboratory report. S – Spike Recovery outside accepted recovery limits.	
3. Were sample CoC forms and procedures complete?	Yes
Comments: The CoC record from the field to the laboratory was complete and custody was maintained as evidenced by the field and laboratory personnel signatures, dates, and times of receipt. Samples CentralOCD-01-04062015, CentralOCD-02-04062015, CentralOCD-03-04062015, and CentralOCD-04-04062015 represent new sample locations, despite the name (OCD-XX) having been used in previous sampling events. Sample CentralOCD-2121-04072015 corresponds to the location of sample CentralOCD-04-091614.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The reporting limits for the data set were reviewed and appeared to be acceptable. The following dilutions were applied to the project samples. <u>Method 8015B</u> : A dilution factor of 10 times was applied for the DRO analysis of sample CentralOCD-TZ-04062015. <u>Method 300.0</u> : A dilution factor of 20 times was applied for the analyses of anions for selected samples. <u>Method 6010B</u> : A dilution factor of 2 times was applied for the analysis of barium and manganese in sample CentralOCD-TZ-04062015 and a dilution factor of 100 times was applied for the analysis of iron in sample CentralOCD-TZ-04062015. <u>Method 7471</u> : A dilution factor of 5 times was applied for the analysis of mercury in sample CentralOCD-TZ-04062015.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC? Were any analytes reported by more than one method?	Yes
Comments: The reported analytical methods and constituents were found to be in compliance with the CoC.	
6. Were samples received in good condition within method-specified requirements?	Yes
Comments: The samples were received in good condition, with the cooler temperature within the recommended temperature range of 4.0°C ± 2.0°C at a temperature of 3.4°C as noted on the Sample Log-In Check List. The shipping containers were sealed and custody seals were present and intact on the shipping containers.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	Yes
Comments: Samples were extracted/digested and analyzed within the method specified holding times.	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil.	Yes
Comments: The results were reported in concentration units of milligrams per kilogram (mg/kg) and picocuries per gram (pCi/g) which were acceptable for the sample matrices and the analyses requested. Analytical results for the soil samples were reported on an as-received, wet weight basis, except the cyanide, radium-266, and radium-228 results were reported on a dry weight basis. The analytical results for the field, equipment, and trip blank samples were reported in units of micrograms per liter which were appropriate.	



VALIDATION CRITERIA CHECKLIST

9. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits? N/A

Comments: Initial and continuing calibration data were not included as part of this data set. However, the data were assumed to be acceptable as the laboratory did not note that any calibration verification results were outside the acceptable limits.

10. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.

11. Were laboratory blank samples reported to be free of target analyte contamination? Yes

Comments: The laboratory blank samples were reported to be free of target analyte contamination. The activity for radium-226 in the method blank for Method 901.1 was reported below the associated minimum detectable concentration (MDC). This result was evaluated as ND and was not used to qualify associated data.

12. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Method	Analyte (s)	Batch	MS Sample Source
300.0	Anions	18745	CentralOCD-03-04062015
8260B	VOCs	18573	CentralOCD-03-04062015
8260B	VOCs	R25378	Not Prepared
8270C	SVOCs	18661	Not Prepared
418.1	TPH	18606	CentralOCD-03-04062015
8015D	DRO	18574	Not Prepared
8015D	GRO	18573	CentralOCD-TZ-04062015
8082	PCBs	18660	Not Prepared
7471	Mercury	18690	CentralOCD-TZ-04062015
6010B	Total Metals	18669	Not Prepared
335.4	Cyanide	150409032	CentralOCD-TZ-04062015
901.1	Radium	RADC/24225	Not Prepared/Not Required

Not Prepared – Matrix spikes were not prepared for this batch.

13. For MS/MSDs prepared from project samples, were percent recoveries and RPDs within data validation or laboratory quality control (QC) limits? No

Comments: MS/MSD percent recoveries and MS/MSD RPDs were within data validation and laboratory QC limits, with the following exceptions.

The recoveries of nitrogen, nitrate in the MS/MSD for Method 300.0 batch 18745 were outside of the laboratory control limits of 85.3-110% at 114% and 118%, respectively. Nitrogen, nitrate was detected in the associated sample CentralOCD-TZ-04062015 and the result was assigned a J+ qualifier due to evidence of high bias.

The recoveries of mercury in the MS/MSD for Method 7471 were outside of the data validation limits of 75-125% at 276% and 290%, respectively. Mercury was not detected in the associated sample and qualification of data was not required.



VALIDATION CRITERIA CHECKLIST	
14. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method?	Yes
Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples analyzed.	
15. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits?	Yes
Comments: The LCS/LCSD percent recoveries and LCS/LCSD RPDs were within laboratory QC limits.	
16. Were surrogate recoveries within laboratory QC limits?	No
Comments: Surrogate recoveries were within laboratory QC limits with the following exceptions. The recovery of the Method 8270C surrogate 4-terphenyl-d₁₄ in sample CentralOCD-TZ-04062015 was outside of the laboratory acceptance limits of 29.4-129% at 0%. Associated non-detections were assigned R qualifiers due to extreme low bias. The Method 8015D (DRO) surrogate DNOP was recovered outside the acceptance range of 63.5-128% at 128% for sample Central OCD-TZ-04062015. The associated analytes, DRO and motor oil range organics (MRO) were detected in the sample and the results were assigned J+ qualifiers due to evidence of potential high bias.	
17. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	Yes
Comments: The number of trip blank, field blank, and equipment blank samples collected was equal to at least 10% of the total samples. One trip blank sample, Trip Blank, one field blank sample, FB-04062015, and one equipment blank sample, EB-04062015, were collected as a part of this data set.	
18. Were the trip blank, field blank, and/or equipment blank samples reported to be free of target analyte contamination?	Yes
Comments: The trip blank, field blank, and equipment blank samples were reported to be free of target analyte contamination.	
19. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	Yes
Comments: The number of field duplicate samples collected was equal to at least 10% of the total number of samples. The sample BD-04062015 was collected as a duplicate for CentralOCD-03-04062015.	
20. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	Yes
Comments: As detailed in the Field Duplicate Summary Tables below, the field duplicate RPD values for detected analytes were within QC limits. The remaining target analytes were not detected in the sample or the duplicate.	
21. For laboratory duplicates prepared from project samples, were RPDs within laboratory QC limits?	N/A
Comments: Laboratory duplicate samples were not prepared as a part of this data set.	



FIELD DUPLICATE SUMMARY

Client Sample ID: CentralOCD-03-04062015 Field Duplicate Sample ID: BD-04062015				
Method	Analyte	Laboratory Result (mg/kg)	Duplicate Result (mg/kg)	Relative Percent Difference (RPD)
300.0	Chloride	330	350	5.9%
Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.				

DATA QUALIFICATION SUMMARY

Abbreviation	Reason
HR-SUR	The surrogate percent recovery was greater than the upper acceptable limit indicating a possible high bias.
LR-SUR	The surrogate percent recovery was less than the lower acceptable limit indicating a possible low bias.
HR-MS	The MS and/or MSD percent recovery was greater than the upper acceptable limit indicating possible matrix interference.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
3,3-Dichlorobenzidine	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2.5	mg/kg	R	LR-SUR
4-Bromophenyl-phenylether	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
4-Nitroaniline	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	4	mg/kg	R	LR-SUR
Anthracene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Azobenzene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(a)anthracene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(a)pyrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(b)fluoranthene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(g,h,i)perylene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(k)fluoranthene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Bis(2-ethylhexyl)phthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	5	mg/kg	R	LR-SUR
Butylbenzylphthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Carbazole	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Chrysene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Dibenzo(a,h)anthracene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Di-n-butylphthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	5	mg/kg	R	LR-SUR
Di-n-octylphthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	4	mg/kg	R	LR-SUR
Fluoranthene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Hexachlorobenzene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Indeno(1,2,3-cd)pyrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Motor Oil	SW8015	CentralOCD-TZ-04062015	1504287-006A	700	480	mg/kg	J+	HR-SUR



Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Nitrogen, Nitrate & Nitrite, Dissolved	E300	CentralOCD-TZ-04062015	1504287-006B	2.7	0.3	mg/kg	J+	HR-MS
N-Nitrosodiphenylamine	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Phenanthrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Pyrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
TPH DRO	SW8015	CentralOCD-TZ-04062015	1504287-006A	350	95	mg/kg	J+	HR-SUR

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	LCS-18669		SampType:	LCS		TestCode:	EPA Method 6010B: Soil Metals				
Client ID:	LCSS		Batch ID:	18669		RunNo:	25596				
Prep Date:	4/13/2015		Analysis Date:	4/18/2015		SeqNo:	758373		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Zinc	25	2.5	25.00	0	101	80	120				

Qualifiers:

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



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-243-4167
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup

Work Order Number: 1504287

RcptNo 1

Received by/date:

Logged By: Lindsay Mangin

4/8/2015 7:05:00 AM

Completed By: Lindsay Mangin

4/8/2015 7:59:16 AM

Reviewed By:

Chain of Custody

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

Yes ☐ No ☐ Not Present ☒
Yes ☒ No ☐ Not Present ☐
FedEx

Log In

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

Yes ☒ No ☐ NA ☐
Yes ☒ No ☐ NA ☐
Yes ☒ No ☐
Yes ☒ No ☐
Yes ☒ No ☐ NA ☐
Yes ☐ No ☒ NA ☐
Yes ☒ No ☐ No VOA Vials ☐
Yes ☐ No ☒
Yes ☒ No ☐
Yes ☒ No ☐
Yes ☒ No ☐
Yes ☒ No ☐
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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.4	Good	Yes			

Chain-of-Custody Record

Client: Western Refining

Mailing Address: Route 3 Box 7

Gallup, NM 87301

Phone #: 505-722-3833

Email or Fax#: 505-722-0210

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type) Please provide EDD

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

OCD Central Landfarm Semiannual Sampling

Project #:

697-039-008

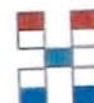
Project Manager:

Ed Riege

Sampler: Zac Bitsue

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.4



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	Vadose Zone List (see attached)	NMAC List (see attached)	Chloride by EPA 300.0	BTEX (8260)	Air Bubbles (Y or N)
4/6/2015	1345	soil	CentralOCD-01-04062015	4oz - 2	none	-001	X				
4/6/2015	1417	soil	CentralOCD-02-04062015	4oz - 2	none	-002	X				
4/6/2015	1305	soil	CentralOCD-03-04062015	4oz - 2	none	-003	X				
4/6/2015	1445	soil	CentralOCD-04-04062015	4oz - 2	none	-004	X				
4/6/2015		soil	BD-04062015	4oz - 2	none	-005	X				
4/6/2015	1312	soil	CentralOCD-05-04062015-MS	4oz - 2	none	-006	X				
4/6/2015	1316	soil	CentralOCD-06-04062015-MSD	4oz - 2	none	-007	X				
4/6/2015	1230	soil	CentralOCD-TZ-04062015	8oz - 3, 4oz - 1	none	-008	X	X			
4/7/2015	1216	soil	OCD-2121-04072015	4oz - 2	none	-009			X		
4/6/2015	1330	water	EB-04062015	VOA - 3	HCL	-010			X		
4/6/2015	1335	water	FB-04062015	VOA - 3	HCL	-011			X		
NA	NA	water	Trip Blank	VOA - 3	HCL						

Date: 4-7-15 Time: 1430 Relinquished by: [Signature]

Date: Time: Relinquished by:

Received by: [Signature]

Received by:

Date: Time:

Date: Time:

Remarks: Please cc Grant Price (gprice@trihydro.com) with results. Call Grant @ 307-745-7474 w/ questions. Verify that Reporting limits comply with those shown on the attached. PCBs need DL of 0.02 mg/kg.

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 labeled on the analytical report.

NMAC LIST ANALYTES AND REPORTING LIMITS, CONSTITUENTS LISTED IN SUBSECTIONS A AND B OF 20.6.2.3103 NMAC, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.5000
*Radium-226	E901.1	pCi/g	1.3950
*Radium-228	E901.1	pCi/g	1.2500
*Radium-226+Radium-228	E901.1	pCi/g	2.6450
Arsenic	SW8010A	mg/kg	2.5000
Barium	SW8010A	mg/kg	1.0000
Cadmium	SW8010A	mg/kg	0.1000
Chromium	SW8010A	mg/kg	0.3000
Copper	SW8010A	mg/kg	0.6000
Iron	SW8010A	mg/kg	500.0000
Lead	SW8010A	mg/kg	0.2500
Manganese	SW8010A	mg/kg	1.0000
Selenium	SW8010A	mg/kg	2.5000
Silver	SW8010A	mg/kg	0.2500
Uranium	SW8010A	mg/kg	5.0000
Zinc	SW8010A	mg/kg	2.5000
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg	0.0200
Aroclor 1221	SW8082	mg/kg	0.0200
Aroclor 1232	SW8082	mg/kg	0.0200
Aroclor 1242	SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1,1-Dichloroethane	SW8260B	mg/kg	0.0970
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethane	SW8260B	mg/kg	0.0480
Carbon tetrachloride	SW8260B	mg/kg	0.0970
Chloroform	SW8260B	mg/kg	0.0480
Dibromomethane	SW8260B	mg/kg	0.1000
Methylene chloride	SW8260B	mg/kg	0.1500
Tetrachloroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4-Dichlorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg	0.3000
2,4-Dinitrophenol	SW8270C	mg/kg	0.4000
2-Chlorophenol	SW8270C	mg/kg	0.2000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol	SW8270C	mg/kg	0.1000
3,4-Methylphenol	SW8270C	mg/kg	0.1000
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachlorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	0.2000
Acenaphthene	SW8270C	mg/kg	0.2000
Acenaphthylene	SW8270C	mg/kg	0.2000
Anthracene	SW8270C	mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg	0.2000
Benzo(a)pyrene	SW8270C	mg/kg	0.2000
Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	mg/kg	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(a,h)anthracene	SW8270C	mg/kg	0.2000
Fluoranthene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Indeno(1,2,3-c,d)pyrene	SW8270C	mg/kg	0.2000
Naphthalene	SW8270C	mg/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyanide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gasoline Range Organics (GRO)	SW8015	mg/kg	1.0

VADOSE ZONE ANALYTES AND REPORTING LIMITS, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Chloride	E300	mg/kg	30
Benzene	SW8260B	mg/kg	0.050
Ethylbenzene	SW8260B	mg/kg	0.050
Toluene	SW8260B	mg/kg	0.050
Xylenes, Total	SW8260B	mg/kg	0.100
Petroleum Hydrocarbons, TR	E418.1	mg/kg	20

ATTACHMENT D
TIER II DATA VALIDATION



Tier II Data Validation Report Summary

Client: Western Refining Southwest, Inc.	Laboratory: Hall Environmental Analysis Laboratory
Project Name: Semiannual OCD Landfarm Soil Sampling	Sample Matrix: Soil, Water
Project Number: 697-039-007 Task 0005	Sample Start Date: 04/06/2015
Date Validated: 05/18/2015	Sample End Date: 04/07/2015
Parameters Included: <ul style="list-style-type: none">▪ Volatile Organic Compounds (VOC) by Test Methods for Evaluating Solid Waste (SW-846) Method 8260B▪ Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) by SW-846 Method 8015D▪ Total Petroleum Hydrocarbons (TPH) by Environmental Protection Agency (EPA) Method 418.1▪ Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C▪ Total Metals by SW-846 Method 6010B▪ Total Mercury by SW-846 Method 7471▪ Anions by EPA Method 300.0▪ Polychlorinated Biphenyls (PCB) by SW-846 Method 8082▪ Total Cyanide by EPA Method 335.4▪ Radium-226 and Radium-228 by EPA Method 901.1	
Laboratory Project ID: 1504287	
Data Validator: James Gianakon, Environmental Chemist	
Reviewer: Charles Ballek, Senior Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, Anatek Labs, Inc. in Moscow, Idaho, and Pace Analytical Labs in Greensburg, Pennsylvania, evaluating samples from the Western Refining Southwest, Inc. site, located in Gallup, New Mexico.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from:

- Field duplicate pairs
- Matrix spike (MS) and matrix spike duplicate (MSD) pairs
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs

Laboratory accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- LCS/LCSD samples
- Organic system monitoring compounds (surrogates)

Field accuracy was established by collecting and analyzing the following samples to monitor for possible ambient or cross contamination during sampling and transportation.

- Trip blanks
- Field blanks
- Equipment blanks





Tier II Data Validation Report Summary

Method compliance was established by reviewing sample integrity, holding times, detection limits, surrogate recoveries, laboratory blanks, initial and continuing calibrations (where applicable), and the LCS/LCSD percent recoveries against method-specific requirements.

Completeness was evaluated by determining the overall ratio of the number of samples and analyses planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other laboratory and field documents associated with this analytical data set.



Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
CentralOCD-01-04062015	1504287-001
CentralOCD-02-04062015	1504287-002
CentralOCD-03-04062015	1504287-003
CentralOCD-04-04062015	1504287-004
BD-04062015	1504287-005
CentralOCD-TZ-04062015	1504287-006 / 150409032-001 / 30145292001
OCD-2121-04072015	1504287-007
EB-04062015	1504287-008
FB-04062015	1504287-009
Trip Blank	1504287-010



Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (○) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

- ⊗ Data Completeness
- ✓ CoC Documentation (Item 3)
- ✓ Holding Times and Preservation (Items 6 and 7)
- Initial and Continuing Calibrations (Item 9)
- ✓ Laboratory Blanks (Item 10)
- ⊗ MS/MSD (Item 12)
- ✓ LCS/LCSD (Item 14)
- ⊗ System Monitoring Compounds (i.e., Surrogates) (Item 16)
- ✓ Field, Equipment, and Trip Blanks (Item 17)
- ✓ Field Duplicates (Item 19)
- Laboratory Duplicates (Item 21)

Guidance References

Chemical data validation was conducted in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for the analyses listed below, or by the appropriate method if not covered in the National Functional Guidelines.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Superfund Organic Methods Data Review, document number EPA-540-R-014-002, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Organic Data Review, document number EPA 540/R-99/008, October 1999.
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Data Review, document number EPA-540-R-013-001, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number EPA 540-R-04-004, October 2004.
- Radiochemistry data were evaluated following criteria defined in USEPA Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP), document number EPA 402-B-04-001A, July 2004.
- Review of field duplicates was conducted according to the USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.
- Trihydro Data Validation Variance Documentation, March 2015.





Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Validation Criteria Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes.

Text identified in **bold font** in the Validation Criteria Checklist indicates that further action and/or qualification of the data were required. Data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data qualifiers used during this validation are included in the following table.

<u>Qualifier</u>	<u>Definition</u>
J-	The result is an estimated concentration, but may be biased low
R	Rejected, data not usable

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 198 data points excluding blank samples. 23 data points were rejected. The data completeness measure for this data package is calculated to be 88.38% and is not acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	No
Comments: The laboratory noted the following non-conformances as related to this data set. <u>Method 8270C</u> : One of the surrogate compounds was not recoverable due to dilution and matrix interferences.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags in the laboratory report. S – Spike Recovery outside accepted recovery limits.	
3. Were sample CoC forms and procedures complete?	Yes
Comments: The CoC record from the field to the laboratory was complete and custody was maintained as evidenced by the field and laboratory personnel signatures, dates, and times of receipt. Samples CentralOCD-01-04062015, CentralOCD-02-04062015, CentralOCD-03-04062015, and CentralOCD-04-04062015 represent new sample locations, despite the name (OCD-XX) having been used in previous sampling events. Sample CentralOCD-2121-04072015 corresponds to the location of sample CentralOCD-04-091614.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The reporting limits for the data set were reviewed and appeared to be acceptable. The following dilutions were applied to the project samples. <u>Method 8015B</u> : A dilution factor of 10 times was applied for the DRO analysis of sample CentralOCD-TZ-04062015. <u>Method 300.0</u> : A dilution factor of 20 times was applied for the analyses of anions for selected samples. <u>Method 6010B</u> : A dilution factor of 2 times was applied for the analysis of barium and manganese in sample CentralOCD-TZ-04062015 and a dilution factor of 100 times was applied for the analysis of iron in sample CentralOCD-TZ-04062015. <u>Method 7471</u> : A dilution factor of 5 times was applied for the analysis of mercury in sample CentralOCD-TZ-04062015.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC? Were any analytes reported by more than one method?	Yes
Comments: The reported analytical methods and constituents were found to be in compliance with the CoC.	
6. Were samples received in good condition within method-specified requirements?	Yes
Comments: The samples were received in good condition, with the cooler temperature within the recommended temperature range of 4.0°C ± 2.0°C at a temperature of 3.4°C as noted on the Sample Log-In Check List. The shipping containers were sealed and custody seals were present and intact on the shipping containers.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	Yes
Comments: Samples were extracted/digested and analyzed within the method specified holding times.	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil.	Yes
Comments: The results were reported in concentration units of milligrams per kilogram (mg/kg) and picocuries per gram (pCi/g) which were acceptable for the sample matrices and the analyses requested. Analytical results for the soil samples were reported on an as-received, wet weight basis, except the cyanide, radium-266, and radium-228 results were reported on a dry weight basis. The analytical results for the field, equipment, and trip blank samples were reported in units of micrograms per liter which were appropriate.	

VALIDATION CRITERIA CHECKLIST

9. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits? N/A

Comments: Initial and continuing calibration data were not included as part of this data set. However, the data were assumed to be acceptable as the laboratory did not note that any calibration verification results were outside the acceptable limits.

10. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.

11. Were laboratory blank samples reported to be free of target analyte contamination? Yes

Comments: The laboratory blank samples were reported to be free of target analyte contamination. The activity for radium-226 in the method blank for Method 901.1 was reported below the associated minimum detectable concentration (MDC). This result was evaluated as ND and was not used to qualify associated data.

12. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Method	Analyte (s)	Batch	MS Sample Source
300.0	Anions	18745	CentralOCD-03-04062015
8260B	VOCs	18573	CentralOCD-03-04062015
8260B	VOCs	R25378	Not Prepared
8270C	SVOCs	18661	Not Prepared
418.1	TPH	18606	CentralOCD-03-04062015
8015D	DRO	18574	Not Prepared
8015D	GRO	18573	CentralOCD-TZ-04062015
8082	PCBs	18660	Not Prepared
7471	Mercury	18690	CentralOCD-TZ-04062015
6010B	Total Metals	18669	Not Prepared
335.4	Cyanide	150409032	CentralOCD-TZ-04062015
901.1	Radium	RADC/24225	Not Prepared/Not Required

Not Prepared – Matrix spikes were not prepared for this batch.

13. For MS/MSDs prepared from project samples, were percent recoveries and RPDs within data validation or laboratory quality control (QC) limits? No

Comments: MS/MSD percent recoveries and MS/MSD RPDs were within data validation and laboratory QC limits, with the following exceptions.

The recoveries of nitrogen, nitrate in the MS/MSD for Method 300.0 batch 18745 were outside of the laboratory control limits of 85.3-110% at 114% and 118%, respectively. Nitrogen, nitrate was detected in the associated sample CentralOCD-TZ-04062015 and the result was assigned a J+ qualifier due to evidence of high bias.

The recoveries of mercury in the MS/MSD for Method 7471 were outside of the data validation limits of 75-125% at 276% and 290%, respectively. Mercury was not detected in the associated sample and qualification of data was not required.



VALIDATION CRITERIA CHECKLIST	
14. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method?	Yes
Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples analyzed.	
15. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits?	Yes
Comments: The LCS/LCSD percent recoveries and LCS/LCSD RPDs were within laboratory QC limits.	
16. Were surrogate recoveries within laboratory QC limits?	No
Comments: Surrogate recoveries were within laboratory QC limits with the following exceptions. The recovery of the Method 8270C surrogate 4-terphenyl-d₁₄ in sample CentralOCD-TZ-04062015 was outside of the laboratory acceptance limits of 29.4-129% at 0%. Associated non-detections were assigned R qualifiers due to extreme low bias. The Method 8015D (DRO) surrogate DNOP was recovered outside the acceptance range of 63.5-128% at 128% for sample Central OCD-TZ-04062015. The associated analytes, DRO and motor oil range organics (MRO) were detected in the sample and the results were assigned J+ qualifiers due to evidence of potential high bias.	
17. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	Yes
Comments: The number of trip blank, field blank, and equipment blank samples collected was equal to at least 10% of the total samples. One trip blank sample, Trip Blank, one field blank sample, FB-04062015, and one equipment blank sample, EB-04062015, were collected as a part of this data set.	
18. Were the trip blank, field blank, and/or equipment blank samples reported to be free of target analyte contamination?	Yes
Comments: The trip blank, field blank, and equipment blank samples were reported to be free of target analyte contamination.	
19. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	Yes
Comments: The number of field duplicate samples collected was equal to at least 10% of the total number of samples. The sample BD-04062015 was collected as a duplicate for CentralOCD-03-04062015.	
20. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	Yes
Comments: As detailed in the Field Duplicate Summary Tables below, the field duplicate RPD values for detected analytes were within QC limits. The remaining target analytes were not detected in the sample or the duplicate.	
21. For laboratory duplicates prepared from project samples, were RPDs within laboratory QC limits?	N/A
Comments: Laboratory duplicate samples were not prepared as a part of this data set.	



FIELD DUPLICATE SUMMARY

Client Sample ID: CentralOCD-03-04062015				
Field Duplicate Sample ID: BD-04062015				
Method	Analyte	Laboratory Result (mg/kg)	Duplicate Result (mg/kg)	Relative Percent Difference (RPD)
300.0	Chloride	330	350	5.9%
Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.				



DATA QUALIFICATION SUMMARY

Abbreviation	Reason
HR-SUR	The surrogate percent recovery was greater than the upper acceptable limit indicating a possible high bias.
LR-SUR	The surrogate percent recovery was less than the lower acceptable limit indicating a possible low bias.
HR-MS	The MS and/or MSD percent recovery was greater than the upper acceptable limit indicating possible matrix interference.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
3,3-Dichlorobenzidine	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2.5	mg/kg	R	LR-SUR
4-Bromophenyl-phenylether	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
4-Nitroaniline	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	4	mg/kg	R	LR-SUR
Anthracene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Azobenzene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(a)anthracene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(a)pyrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(b)fluoranthene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(g,h,i)perylene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(k)fluoranthene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Bis(2-ethylhexyl)phthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	5	mg/kg	R	LR-SUR
Butylbenzylphthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Carbazole	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Chrysene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Dibenzo(a,h)anthracene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Di-n-butylphthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	5	mg/kg	R	LR-SUR
Di-n-octylphthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	4	mg/kg	R	LR-SUR
Fluoranthene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Hexachlorobenzene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Indeno(1,2,3-cd)pyrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Motor Oil	SW8015	CentralOCD-TZ-04062015	1504287-006A	700	480	mg/kg	J+	HR-SUR



Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Nitrogen, Nitrate & Nitrite, Dissolved	E300	CentralOCD-TZ-04062015	1504287-006B	2.7	0.3	mg/kg	J+	HR-MS
N-Nitrosodiphenylamine	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Phenanthrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Pyrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
TPH DRO	SW8015	CentralOCD-TZ-04062015	1504287-006A	350	95	mg/kg	J+	HR-SUR

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18745	SampType: MBLK		TestCode: EPA Method 300.0: Anions						
Client ID:	PBS	Batch ID: 18745		RunNo: 25615						
Prep Date:	4/17/2015	Analysis Date: 4/17/2015		SeqNo: 758950		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID	LCS-18745		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 18745		RunNo: 25615					
Prep Date:	4/17/2015		Analysis Date: 4/17/2015		SeqNo: 758951		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	97.3	90	110			
Chloride	14	1.5	15.00	0	92.3	90	110			
Nitrogen, Nitrate (As N)	7.3	0.30	7.500	0	97.5	90	110			
Sulfate	28	1.5	30.00	0	94.7	90	110			

Sample ID	1504287-003AMS		SampType: MS		TestCode: EPA Method 300.0: Anions					
Client ID:	CentralOCD-03-0406		Batch ID: 18745		RunNo: 25615					
Prep Date:	4/17/2015		Analysis Date: 4/17/2015		SeqNo: 758962		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.4	0.30	1.500	2.186	14.0	13.6	100			
Nitrogen, Nitrate (As N)	17	0.30	7.500	8.487	114	85.3	110			S

Sample ID	1504287-003AMSD		SampType: MSD		TestCode: EPA Method 300.0: Anions					
Client ID:	CentralOCD-03-0406		Batch ID: 18745		RunNo: 25615					
Prep Date:	4/17/2015		Analysis Date: 4/17/2015		SeqNo: 758963		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.4	0.30	1.500	2.186	14.7	13.6	100	0.438	20	
Nitrogen, Nitrate (As N)	17	0.30	7.500	8.487	118	85.3	110	1.45	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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18606	SampType	MBLK	TestCode	EPA Method 418.1: TPH					
Client ID	PBS	Batch ID	18606	RunNo	25503					
Prep Date	4/9/2015	Analysis Date	4/14/2015	SeqNo	755191	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-18606	SampType	LCS	TestCode	EPA Method 418.1: TPH					
Client ID	LCSS	Batch ID	18606	RunNo	25503					
Prep Date	4/9/2015	Analysis Date	4/14/2015	SeqNo	755192	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	93	20	100.0	0	92.7	86.7	126			

Sample ID	LCSD-18606	SampType	LCSD	TestCode	EPA Method 418.1: TPH					
Client ID	LCSS02	Batch ID	18606	RunNo	25503					
Prep Date	4/9/2015	Analysis Date	4/14/2015	SeqNo	755193	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	98	20	100.0	0	97.9	86.7	126	5.45	20	

Sample ID	1504287-003AMS	SampType	MS	TestCode	EPA Method 418.1: TPH					
Client ID	CentralOCD-03-0406	Batch ID	18606	RunNo	25553					
Prep Date	4/9/2015	Analysis Date	4/16/2015	SeqNo	756803	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	93	20	100.0	0	92.9	80	120			

Sample ID	1504287-003AMSD	SampType	MSD	TestCode	EPA Method 418.1: TPH					
Client ID	CentralOCD-03-0406	Batch ID	18606	RunNo	25553					
Prep Date	4/9/2015	Analysis Date	4/16/2015	SeqNo	756804	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	99	20	100.7	0	98.2	80	120	6.19	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18574	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	18574	RunNo:	25386					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	751714	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	9.6		10.00		95.5	63.5	128			

Sample ID	LCS-18574	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	18574	RunNo:	25386					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	751806	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	49	10	50.00	0	97.1	67.8	130			
Surr: DNOP	4.6		5.000		92.4	63.5	128			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18573	SampType	MBLK	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	PBS	Batch ID	18573	RunNo	25395					
Prep Date	4/8/2015	Analysis Date	4/9/2015	SeqNo	751932	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	ND	5.0			85.2	80	120			
Surr: BFB	850		1000							

Sample ID	LCS-18573	SampType	LCS	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	LCSS	Batch ID	18573	RunNo	25395					
Prep Date	4/8/2015	Analysis Date	4/9/2015	SeqNo	751933	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	102	64	130			
Surr: BFB	920		1000		91.9	80	120			

Sample ID	1504287-006AMS	SampType	MS	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	CentralOCD-TZ-040	Batch ID	18573	RunNo	25395					
Prep Date	4/8/2015	Analysis Date	4/9/2015	SeqNo	751936	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	24	4.9	24.63	0	96.1	47.9	144			
Surr: BFB	940		985.2		95.9	80	120			

Sample ID	1504287-006AMSD	SampType	MSD	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	CentralOCD-TZ-040	Batch ID	18573	RunNo	25395					
Prep Date	4/8/2015	Analysis Date	4/9/2015	SeqNo	751937	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	26	4.9	24.61	0	104	47.9	144	7.82	29.9	
Surr: BFB	960		984.3		97.6	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID: MB-18660	SampType: MBLK	TestCode: EPA Method 8082: PCB's								
Client ID: PBS	Batch ID: 18660	RunNo: 25757								
Prep Date: 4/13/2015	Analysis Date: 4/24/2015	SeqNo: 763490 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.071		0.06250		114	37.5	161			
Surr: Tetrachloro-m-xylene	0.078		0.06250		124	28.1	149			

Sample ID: LCS-18660	SampType: LCS	TestCode: EPA Method 8082: PCB's								
Client ID: LCSS	Batch ID: 18660	RunNo: 25757								
Prep Date: 4/13/2015	Analysis Date: 4/24/2015	SeqNo: 763491 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.074	0.020	0.1250	0	59.2	26.2	127			
Aroclor 1260	0.099	0.020	0.1250	0	79.2	36.6	122			
Surr: Decachlorobiphenyl	0.059		0.06250		94.0	37.5	161			
Surr: Tetrachloro-m-xylene	0.065		0.06250		104	28.1	149			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-18573	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles						
Client ID:	PBS	Batch ID: 18573		RunNo: 25409						
Prep Date:	4/8/2015	Analysis Date: 4/9/2015		SeqNo: 752062			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. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH Not In Range |
| 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#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

OCD Central Landfarm Semiannual Sampling										
Sample ID: mb-18573		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles						
Client ID: PBS		Batch ID: 18573		RunNo: 25409						
Prep Date: 4/8/2015		Analysis Date: 4/9/2015		SeqNo: 752062		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	0.52		0.5000		105	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		103	70	130			
Surr: Toluene-d8	0.47		0.5000		93.5	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.8	70	130			

Surr: 4-Bromofluorobenzene		0.50	0.5000	99.8	70	130				
Sample ID	lcs-18573	SampType: LCS		TestCode: EPA Method 8260B: Volatiles						
Client ID:	LCSS	Batch ID: 18573		RunNo: 25409						
Prep Date:	4/8/2015	Analysis Date: 4/9/2015		SeqNo: 752063		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.8	70	130			
Toluene	0.89	0.050	1.000	0	88.6	70	130			
Chlorobenzene	0.94	0.050	1.000	0	94.5	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

OCD Central Landfarm Semiannual Sampling										
Project:										
Sample ID	Ics-18573	SampType: LCS			TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS	Batch ID: 18573			RunNo: 25409					
Prep Date:	4/8/2015	Analysis Date: 4/9/2015			SeqNo: 752063		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.1	0.050	1.000	0	113	60.6	134			
Trichloroethene (TCE)	0.89	0.050	1.000	0	89.0	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.46		0.5000		91.9	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Project: OGD Central Landfill Semiannuul Sampling

Sample ID	mb-18573	SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles Short List				
Client ID:	PBS	Batch ID:	18573		RunNo:	25409				
Prep Date:	4/8/2015	Analysis Date:	4/9/2015		SeqNo:	752065		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.050								
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
1,2-Dibromoethane (EDB)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
Naphthalene	ND	0.10								
2-Methylnaphthalene	ND	0.20								
1-Methylnaphthalene	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.8	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.47		0.5000		93.5	70	130			

Surr: Toluene-d8		0.47	0.5000							
Sample ID	lcs-18573		SampType: LCS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS		Batch ID: 18573		RunNo: 25409					
Prep Date:	4/8/2015		Analysis Date: 4/9/2015		SeqNo: 752066		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.8	70	130			
Toluene	0.89	0.050	1.000	0	88.6	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.46		0.5000		91.9	70	130			

Surr: Toluene-d8		0.46	0.5000	Surr: Toluene-d8						
Sample ID	1504287-003ams	SampType: MS		TestCode: EPA Method 8260B: Volatiles Short List						
Client ID:	CentralOCD-03-0406	Batch ID: 18573		RunNo: 25409						
Prep Date:	4/8/2015	Analysis Date: 4/9/2015		SeqNo: 752070			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.048	0.9515	0	105	57.8	132			
Toluene	0.90	0.048	0.9515	0	94.4	54.8	139			
Surr: 1,2-Dichloroethane-d4	0.51		0.4757		106	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.4757		97.1	70	130			
Surr: Dibromofluoromethane	0.52		0.4757		109	70	130			
Surr: Toluene-d8	0.44		0.4757		92.5	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	1504287-003amsd	SampType: MSD	TestCode: EPA Method 8260B: Volatiles Short List							
Client ID:	CentralOCD-03-0406	Batch ID: 18573	RunNo: 25409							
Prep Date:	4/8/2015	Analysis Date: 4/9/2015	SeqNo: 752071 Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.047	0.9497	0	110	57.8	132	3.98	20	
Toluene	0.89	0.047	0.9497	0	94.2	54.8	139	0.433	20	
Surr: 1,2-Dichloroethane-d4	0.52		0.4748		109	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.47		0.4748		98.4	70	130	0	0	
Surr: Dibromofluoromethane	0.54		0.4748		113	70	130	0	0	
Surr: Toluene-d8	0.43		0.4748		90.5	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	100ng lcs	SampType	LCS	TestCode	EPA Method 8260: Volatiles Short List					
Client ID	LCSW	Batch ID	R25378	RunNo	25378					
Prep Date:		Analysis Date	4/8/2015	SeqNo	750966	Units	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.7	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	11		10.00		109	70	130			

Sample ID	5mL-rb	SampType	MBLK	TestCode	EPA Method 8260: Volatiles Short List					
Client ID	PBW	Batch ID	R25378	RunNo	25378					
Prep Date:		Analysis Date	4/8/2015	SeqNo	750970	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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.5	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	11		10.00		110	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-18661	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	18661	RunNo:	25544					
Prep Date:	4/13/2015	Analysis Date:	4/15/2015	SeqNo:	756564	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	0.40								
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	0.40								
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 Not In Range

RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

OCD Central Landfarm Semiannual Sampling										
Project:										
Sample ID: mb-18661		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBS		Batch ID: 18661		RunNo: 25544						
Prep Date: 4/13/2015		Analysis Date: 4/15/2015		SeqNo: 756564			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	0.40								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.40								
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	0.40								
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	0.40								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	2.4		3.330		70.7	26.4	129			
Surr: Phenol-d5	2.4		3.330		72.3	34.8	118			
Surr: 2,4,6-Tribromophenol	2.4		3.330		72.4	26.8	128			
Surr: Nitrobenzene-d5	1.2		1.670		70.8	35.8	124			
Surr: 2-Fluorobiphenyl	1.1		1.670		65.9	24.5	139			
Surr: 4-Terphenyl-d14	1.1		1.670		65.9	29.4	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Project: OGD Central Landfill Remedial Investigation

Sample ID	Ics-18661	SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS	Batch ID: 18661			RunNo: 25544					
Prep Date:	4/13/2015	Analysis Date: 4/15/2015			SeqNo: 756565		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.99	0.20	1.670	0	59.3	45.8	114			
4-Chloro-3-methylphenol	2.3	0.50	3.330	0	69.4	52.3	122			
2-Chlorophenol	2.1	0.20	3.330	0	62.1	49.9	115			
1,4-Dichlorobenzene	1.1	0.20	1.670	0	64.0	43.7	107			
2,4-Dinitrotoluene	0.84	0.50	1.670	0	50.5	36	106			
N-Nitrosodi-n-propylamine	1.0	0.20	1.670	0	61.6	39.5	110			
4-Nitrophenol	2.0	0.25	3.330	0	59.3	45.1	121			
Pentachlorophenol	1.7	0.40	3.330	0	50.6	23.7	111			
Phenol	2.2	0.20	3.330	0	65.5	52.7	119			
Pyrene	0.98	0.20	1.670	0	58.5	50.4	116			
1,2,4-Trichlorobenzene	1.1	0.20	1.670	0	64.2	40.1	114			
Surr: 2-Fluorophenol	2.1		3.330		62.4	26.4	129			
Surr: Phenol-d5	2.2		3.330		67.2	34.8	118			
Surr: 2,4,6-Tribromophenol	2.2		3.330		66.5	26.8	128			
Surr: Nitrobenzene-d5	1.1		1.670		64.0	35.8	124			
Surr: 2-Fluorobiphenyl	1.0		1.670		62.8	24.5	139			
Surr: 4-Terphenyl-d14	1.1		1.670		66.0	29.4	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18690	SampType	MBLK	TestCode	EPA Method 7471: Mercury					
Client ID	PBS	Batch ID	18690	RunNo	25534					
Prep Date	4/14/2015	Analysis Date	4/15/2015	SeqNo	756337	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	LCS-18690	SampType	LCS	TestCode	EPA Method 7471: Mercury					
Client ID	LCSS	Batch ID	18690	RunNo	25534					
Prep Date	4/14/2015	Analysis Date	4/15/2015	SeqNo	756338	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	97.8	80	120			

Sample ID	1504287-006BMS	SampType	MS	TestCode	EPA Method 7471: Mercury					
Client ID	CentralOCD-TZ-040	Batch ID	18690	RunNo	25534					
Prep Date	4/14/2015	Analysis Date	4/15/2015	SeqNo	756356	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.58	0.16	0.1591	0.1429	276	75	125			S

Sample ID	1504287-006BMSD	SampType	MSD	TestCode	EPA Method 7471: Mercury					
Client ID	CentralOCD-TZ-040	Batch ID	18690	RunNo	25534					
Prep Date	4/14/2015	Analysis Date	4/15/2015	SeqNo	756357	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.61	0.16	0.1611	0.1429	290	75	125	4.77	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287
08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID: MB-18669	SampType: MBLK	TestCode: EPA Method 6010B: Soil Metals								
Client ID: PBS	Batch ID: 18669	RunNo: 25491								
Prep Date: 4/13/2015	Analysis Date: 4/14/2015	SeqNo: 754953 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Copper	ND	0.30								
Iron	ND	2.5								
Lead	ND	0.25								
Manganese	ND	0.10								
Selenium	ND	2.5								
Silver	ND	0.25								
Uranium	ND	5.0								

Sample ID: LCS-18669	SampType: LCS	TestCode: EPA Method 6010B: Soil Metals								
Client ID: LCSS	Batch ID: 18669	RunNo: 25491								
Prep Date: 4/13/2015	Analysis Date: 4/14/2015	SeqNo: 754954 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	26	2.5	25.00	0	106	80	120			
Barium	26	0.10	25.00	0	103	80	120			
Cadmium	26	0.10	25.00	0	104	80	120			
Chromium	26	0.30	25.00	0	104	80	120			
Copper	27	0.30	25.00	0	107	80	120			
Iron	27	2.5	25.00	0	108	80	120			
Lead	26	0.25	25.00	0	102	80	120			
Manganese	26	0.10	25.00	0	103	80	120			
Selenium	26	2.5	25.00	0	102	80	120			
Silver	5.6	0.25	5.000	0	112	80	120			
Uranium	26	5.0	25.00	0	105	80	120			

Sample ID: MB-18669	SampType: MBLK	TestCode: EPA Method 6010B: Soil Metals								
Client ID: PBS	Batch ID: 18669	RunNo: 25596								
Prep Date: 4/13/2015	Analysis Date: 4/18/2015	SeqNo: 758372 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	2.5								

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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	LCS-18669		SampType:	LCS		TestCode:	EPA Method 6010B: Soil Metals				
Client ID:	LCSS		Batch ID:	18669		RunNo:	25596				
Prep Date:	4/13/2015		Analysis Date:	4/18/2015		SeqNo:	758373		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Zinc	25	2.5	25.00	0	101	80	120				

Qualifiers:

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



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-243-4167
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup

Work Order Number: 1504287

RcptNo 1

Received by/date:

Logged By: Lindsay Mangin

4/8/2015 7:05:00 AM

Completed By: Lindsay Mangin

4/8/2015 7:59:16 AM

Reviewed By:

Chain of Custody

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

Yes ☐ No ☐ Not Present ☒
Yes ☒ No ☐ Not Present ☐
FedEx

Log In

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

Yes ☒ No ☐ NA ☐
Yes ☒ No ☐ NA ☐
Yes ☒ No ☐
Yes ☒ No ☐
Yes ☒ No ☐ NA ☐
Yes ☐ No ☒ NA ☐
Yes ☐ No ☒
Yes ☒ No ☐ No VOA Vials ☐
Yes ☐ No ☒
Yes ☒ No ☐
Yes ☒ No ☐ Adjusted? ☐
Yes ☒ No ☐
Yes ☒ No ☐ Checked by:

of preserved
bottles checked
for pH:
(<2 or >12 unless noted)

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	3.4	Good	Yes			

Chain-of-Custody Record

Client: Western Refining

Mailing Address: Route 3 Box 7

Gallup, NM 87301

Phone #: 505-722-3833

Email or Fax#: 505-722-0210

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type) Please provide EDD

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

OCD Central Landfarm Semiannual Sampling

Project #:

697-039-008

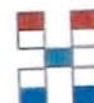
Project Manager:

Ed Riege

Sampler: Zac Bitsue

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.4



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	Vadose Zone List (see attached)	NMAC List (see attached)	Chloride by EPA 300.0	BTEX (8260)	Air Bubbles (Y or N)
4/6/2015	1345	soil	CentralOCD-01-04062015	4oz - 2	none	-001	X				
4/6/2015	1417	soil	CentralOCD-02-04062015	4oz - 2	none	-002	X				
4/6/2015	1305	soil	CentralOCD-03-04062015	4oz - 2	none	-003	X				
4/6/2015	1445	soil	CentralOCD-04-04062015	4oz - 2	none	-004	X				
4/6/2015		soil	BD-04062015	4oz - 2	none	-005	X				
4/6/2015	1312	soil	CentralOCD-05-04062015-MS	4oz - 2	none	-006	X				
4/6/2015	1316	soil	CentralOCD-06-04062015-MSD	4oz - 2	none	-007	X				
4/6/2015	1230	soil	CentralOCD-TZ-04062015	8oz - 3, 4oz - 1	none	-008	X	X			
4/7/2015	1216	soil	OCD-2121-04072015	4oz - 2	none	-009			X		
4/6/2015	1330	water	EB-04062015	VOA - 3	HCL	-010			X		
4/6/2015	1335	water	FB-04062015	VOA - 3	HCL	-011			X		
NA	NA	water	Trip Blank	VOA - 3	HCL						

Date: 4-7-15 Time: 1430 Relinquished by: [Signature]

Date: Time: Relinquished by:

Received by: [Signature]

Received by:

Date: Time:

Date: Time:

Remarks: Please cc Grant Price (gprice@trihydro.com) with results. Call Grant @ 307-745-7474 w/ questions. Verify that Reporting limits comply with those shown on the attached. PCBs need DL of 0.02 mg/kg.

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 labeled on the analytical report.

NMAC LIST ANALYTES AND REPORTING LIMITS, CONSTITUENTS LISTED IN SUBSECTIONS A AND B OF 20.6.2.3103 NMAC, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.5000
*Radium-226	E901.1	pCi/g	1.3950
*Radium-228	E901.1	pCi/g	1.2500
*Radium-226+Radium-228	E901.1	pCi/g	2.6450
Arsenic	SW8010A	mg/kg	2.5000
Barium	SW8010A	mg/kg	1.0000
Cadmium	SW8010A	mg/kg	0.1000
Chromium	SW8010A	mg/kg	0.3000
Copper	SW8010A	mg/kg	0.6000
Iron	SW8010A	mg/kg	500.0000
Lead	SW8010A	mg/kg	0.2500
Manganese	SW8010A	mg/kg	1.0000
Selenium	SW8010A	mg/kg	2.5000
Silver	SW8010A	mg/kg	0.2500
Uranium	SW8010A	mg/kg	5.0000
Zinc	SW8010A	mg/kg	2.5000
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg	0.0200
Aroclor 1221	SW8082	mg/kg	0.0200
Aroclor 1232	SW8082	mg/kg	0.0200
Aroclor 1242	SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1,1-Dichloroethane	SW8260B	mg/kg	0.0970
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethane	SW8260B	mg/kg	0.0480
1,2-Dichloroethene	SW8260B	mg/kg	0.0970
Carbon tetrachloride	SW8260B	mg/kg	0.0480
Chloroform	SW8260B	mg/kg	0.1000
Dibromomethane	SW8260B	mg/kg	0.1500
Methylene chloride	SW8260B	mg/kg	0.0480
Tetrachloroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.2000
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4-Dichlorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg	0.3000
2,4-Dinitrophenol	SW8270C	mg/kg	0.4000
2-Chlorophenol	SW8270C	mg/kg	0.2000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol	SW8270C	mg/kg	0.1000
3,4-Methylphenol	SW8270C	mg/kg	0.1000
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachlorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	0.2000
Acenaphthene	SW8270C	mg/kg	0.2000
Acenaphthylene	SW8270C	mg/kg	0.2000
Anthracene	SW8270C	mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg	0.2000
Benzo(a)pyrene	SW8270C	mg/kg	0.2000
Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	mg/kg	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(a,h)anthracene	SW8270C	mg/kg	0.2000
Fluoranthene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Indeno(1,2,3-c,d)pyrene	SW8270C	mg/kg	0.2000
Naphthalene	SW8270C	mg/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyanide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gasoline Range Organics (GRO)	SW8015	mg/kg	1.0

VADOSE ZONE ANALYTES AND REPORTING LIMITS, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Chloride	E300	mg/kg	30
Benzene	SW8260B	mg/kg	0.050
Ethylbenzene	SW8260B	mg/kg	0.050
Toluene	SW8260B	mg/kg	0.050
Xylenes, Total	SW8260B	mg/kg	0.100
Petroleum Hydrocarbons, TR	E418.1	mg/kg	20

ATTACHMENT D
TIER II DATA VALIDATION



Tier II Data Validation Report Summary

Client: Western Refining Southwest, Inc.	Laboratory: Hall Environmental Analysis Laboratory
Project Name: Semiannual OCD Landfarm Soil Sampling	Sample Matrix: Soil, Water
Project Number: 697-039-007 Task 0005	Sample Start Date: 04/06/2015
Date Validated: 05/18/2015	Sample End Date: 04/07/2015
Parameters Included: <ul style="list-style-type: none">▪ Volatile Organic Compounds (VOC) by Test Methods for Evaluating Solid Waste (SW-846) Method 8260B▪ Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) by SW-846 Method 8015D▪ Total Petroleum Hydrocarbons (TPH) by Environmental Protection Agency (EPA) Method 418.1▪ Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C▪ Total Metals by SW-846 Method 6010B▪ Total Mercury by SW-846 Method 7471▪ Anions by EPA Method 300.0▪ Polychlorinated Biphenyls (PCB) by SW-846 Method 8082▪ Total Cyanide by EPA Method 335.4▪ Radium-226 and Radium-228 by EPA Method 901.1	
Laboratory Project ID: 1504287	
Data Validator: James Gianakon, Environmental Chemist	
Reviewer: Charles Ballek, Senior Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, Anatek Labs, Inc. in Moscow, Idaho, and Pace Analytical Labs in Greensburg, Pennsylvania, evaluating samples from the Western Refining Southwest, Inc. site, located in Gallup, New Mexico.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from:

- Field duplicate pairs
- Matrix spike (MS) and matrix spike duplicate (MSD) pairs
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs

Laboratory accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- LCS/LCSD samples
- Organic system monitoring compounds (surrogates)

Field accuracy was established by collecting and analyzing the following samples to monitor for possible ambient or cross contamination during sampling and transportation.

- Trip blanks
- Field blanks
- Equipment blanks





Tier II Data Validation Report Summary

Method compliance was established by reviewing sample integrity, holding times, detection limits, surrogate recoveries, laboratory blanks, initial and continuing calibrations (where applicable), and the LCS/LCSD percent recoveries against method-specific requirements.

Completeness was evaluated by determining the overall ratio of the number of samples and analyses planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other laboratory and field documents associated with this analytical data set.



Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
CentralOCD-01-04062015	1504287-001
CentralOCD-02-04062015	1504287-002
CentralOCD-03-04062015	1504287-003
CentralOCD-04-04062015	1504287-004
BD-04062015	1504287-005
CentralOCD-TZ-04062015	1504287-006 / 150409032-001 / 30145292001
OCD-2121-04072015	1504287-007
EB-04062015	1504287-008
FB-04062015	1504287-009
Trip Blank	1504287-010



Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (○) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

- ⊗ Data Completeness
- ✓ CoC Documentation (Item 3)
- ✓ Holding Times and Preservation (Items 6 and 7)
- Initial and Continuing Calibrations (Item 9)
- ✓ Laboratory Blanks (Item 10)
- ⊗ MS/MSD (Item 12)
- ✓ LCS/LCSD (Item 14)
- ⊗ System Monitoring Compounds (i.e., Surrogates) (Item 16)
- ✓ Field, Equipment, and Trip Blanks (Item 17)
- ✓ Field Duplicates (Item 19)
- Laboratory Duplicates (Item 21)

Guidance References

Chemical data validation was conducted in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for the analyses listed below, or by the appropriate method if not covered in the National Functional Guidelines.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Superfund Organic Methods Data Review, document number EPA-540-R-014-002, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Organic Data Review, document number EPA 540/R-99/008, October 1999.
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Data Review, document number EPA-540-R-013-001, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number EPA 540-R-04-004, October 2004.
- Radiochemistry data were evaluated following criteria defined in USEPA Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP), document number EPA 402-B-04-001A, July 2004.
- Review of field duplicates was conducted according to the USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.
- Trihydro Data Validation Variance Documentation, March 2015.





Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Validation Criteria Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes.

Text identified in **bold font** in the Validation Criteria Checklist indicates that further action and/or qualification of the data were required. Data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data qualifiers used during this validation are included in the following table.

<u>Qualifier</u>	<u>Definition</u>
J-	The result is an estimated concentration, but may be biased low
R	Rejected, data not usable

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 198 data points excluding blank samples. 23 data points were rejected. The data completeness measure for this data package is calculated to be 88.38% and is not acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	No
Comments: The laboratory noted the following non-conformances as related to this data set. <u>Method 8270C</u> : One of the surrogate compounds was not recoverable due to dilution and matrix interferences.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags in the laboratory report. S – Spike Recovery outside accepted recovery limits.	
3. Were sample CoC forms and procedures complete?	Yes
Comments: The CoC record from the field to the laboratory was complete and custody was maintained as evidenced by the field and laboratory personnel signatures, dates, and times of receipt. Samples CentralOCD-01-04062015, CentralOCD-02-04062015, CentralOCD-03-04062015, and CentralOCD-04-04062015 represent new sample locations, despite the name (OCD-XX) having been used in previous sampling events. Sample CentralOCD-2121-04072015 corresponds to the location of sample CentralOCD-04-091614.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The reporting limits for the data set were reviewed and appeared to be acceptable. The following dilutions were applied to the project samples. <u>Method 8015B</u> : A dilution factor of 10 times was applied for the DRO analysis of sample CentralOCD-TZ-04062015. <u>Method 300.0</u> : A dilution factor of 20 times was applied for the analyses of anions for selected samples. <u>Method 6010B</u> : A dilution factor of 2 times was applied for the analysis of barium and manganese in sample CentralOCD-TZ-04062015 and a dilution factor of 100 times was applied for the analysis of iron in sample CentralOCD-TZ-04062015. <u>Method 7471</u> : A dilution factor of 5 times was applied for the analysis of mercury in sample CentralOCD-TZ-04062015.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC? Were any analytes reported by more than one method?	Yes
Comments: The reported analytical methods and constituents were found to be in compliance with the CoC.	
6. Were samples received in good condition within method-specified requirements?	Yes
Comments: The samples were received in good condition, with the cooler temperature within the recommended temperature range of 4.0°C ± 2.0°C at a temperature of 3.4°C as noted on the Sample Log-In Check List. The shipping containers were sealed and custody seals were present and intact on the shipping containers.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	Yes
Comments: Samples were extracted/digested and analyzed within the method specified holding times.	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil.	Yes
Comments: The results were reported in concentration units of milligrams per kilogram (mg/kg) and picocuries per gram (pCi/g) which were acceptable for the sample matrices and the analyses requested. Analytical results for the soil samples were reported on an as-received, wet weight basis, except the cyanide, radium-266, and radium-228 results were reported on a dry weight basis. The analytical results for the field, equipment, and trip blank samples were reported in units of micrograms per liter which were appropriate.	

VALIDATION CRITERIA CHECKLIST

9. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits? N/A

Comments: Initial and continuing calibration data were not included as part of this data set. However, the data were assumed to be acceptable as the laboratory did not note that any calibration verification results were outside the acceptable limits.

10. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.

11. Were laboratory blank samples reported to be free of target analyte contamination? Yes
- Comments: The laboratory blank samples were reported to be free of target analyte contamination. The activity for radium-226 in the method blank for Method 901.1 was reported below the associated minimum detectable concentration (MDC). This result was evaluated as ND and was not used to qualify associated data.

12. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes
- Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Method	Analyte (s)	Batch	MS Sample Source
300.0	Anions	18745	CentralOCD-03-04062015
8260B	VOCs	18573	CentralOCD-03-04062015
8260B	VOCs	R25378	Not Prepared
8270C	SVOCs	18661	Not Prepared
418.1	TPH	18606	CentralOCD-03-04062015
8015D	DRO	18574	Not Prepared
8015D	GRO	18573	CentralOCD-TZ-04062015
8082	PCBs	18660	Not Prepared
7471	Mercury	18690	CentralOCD-TZ-04062015
6010B	Total Metals	18669	Not Prepared
335.4	Cyanide	150409032	CentralOCD-TZ-04062015
901.1	Radium	RADC/24225	Not Prepared/Not Required

Not Prepared – Matrix spikes were not prepared for this batch.

13. For MS/MSDs prepared from project samples, were percent recoveries and RPDs within data validation or laboratory quality control (QC) limits? No

Comments: MS/MSD percent recoveries and MS/MSD RPDs were within data validation and laboratory QC limits, with the following exceptions.

The recoveries of nitrogen, nitrate in the MS/MSD for Method 300.0 batch 18745 were outside of the laboratory control limits of 85.3-110% at 114% and 118%, respectively. Nitrogen, nitrate was detected in the associated sample CentralOCD-TZ-04062015 and the result was assigned a J+ qualifier due to evidence of high bias.

The recoveries of mercury in the MS/MSD for Method 7471 were outside of the data validation limits of 75-125% at 276% and 290%, respectively. Mercury was not detected in the associated sample and qualification of data was not required.



VALIDATION CRITERIA CHECKLIST	
14. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method?	Yes
Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples analyzed.	
15. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits?	Yes
Comments: The LCS/LCSD percent recoveries and LCS/LCSD RPDs were within laboratory QC limits.	
16. Were surrogate recoveries within laboratory QC limits?	No
Comments: Surrogate recoveries were within laboratory QC limits with the following exceptions. The recovery of the Method 8270C surrogate 4-terphenyl-d₁₄ in sample CentralOCD-TZ-04062015 was outside of the laboratory acceptance limits of 29.4-129% at 0%. Associated non-detections were assigned R qualifiers due to extreme low bias. The Method 8015D (DRO) surrogate DNOP was recovered outside the acceptance range of 63.5-128% at 128% for sample Central OCD-TZ-04062015. The associated analytes, DRO and motor oil range organics (MRO) were detected in the sample and the results were assigned J+ qualifiers due to evidence of potential high bias.	
17. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	Yes
Comments: The number of trip blank, field blank, and equipment blank samples collected was equal to at least 10% of the total samples. One trip blank sample, Trip Blank, one field blank sample, FB-04062015, and one equipment blank sample, EB-04062015, were collected as a part of this data set.	
18. Were the trip blank, field blank, and/or equipment blank samples reported to be free of target analyte contamination?	Yes
Comments: The trip blank, field blank, and equipment blank samples were reported to be free of target analyte contamination.	
19. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	Yes
Comments: The number of field duplicate samples collected was equal to at least 10% of the total number of samples. The sample BD-04062015 was collected as a duplicate for CentralOCD-03-04062015.	
20. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	Yes
Comments: As detailed in the Field Duplicate Summary Tables below, the field duplicate RPD values for detected analytes were within QC limits. The remaining target analytes were not detected in the sample or the duplicate.	
21. For laboratory duplicates prepared from project samples, were RPDs within laboratory QC limits?	N/A
Comments: Laboratory duplicate samples were not prepared as a part of this data set.	



FIELD DUPLICATE SUMMARY

Client Sample ID: CentralOCD-03-04062015				
Field Duplicate Sample ID: BD-04062015				
Method	Analyte	Laboratory Result (mg/kg)	Duplicate Result (mg/kg)	Relative Percent Difference (RPD)
300.0	Chloride	330	350	5.9%
Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.				



DATA QUALIFICATION SUMMARY

Abbreviation	Reason
HR-SUR	The surrogate percent recovery was greater than the upper acceptable limit indicating a possible high bias.
LR-SUR	The surrogate percent recovery was less than the lower acceptable limit indicating a possible low bias.
HR-MS	The MS and/or MSD percent recovery was greater than the upper acceptable limit indicating possible matrix interference.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
3,3-Dichlorobenzidine	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2.5	mg/kg	R	LR-SUR
4-Bromophenyl-phenylether	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
4-Nitroaniline	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	4	mg/kg	R	LR-SUR
Anthracene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Azobenzene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(a)anthracene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(a)pyrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(b)fluoranthene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(g,h,i)perylene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Benzo(k)fluoranthene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Bis(2-ethylhexyl)phthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	5	mg/kg	R	LR-SUR
Butylbenzylphthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Carbazole	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Chrysene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Dibenzo(a,h)anthracene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Di-n-butylphthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	5	mg/kg	R	LR-SUR
Di-n-octylphthalate	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	4	mg/kg	R	LR-SUR
Fluoranthene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Hexachlorobenzene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Indeno(1,2,3-cd)pyrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Motor Oil	SW8015	CentralOCD-TZ-04062015	1504287-006A	700	480	mg/kg	J+	HR-SUR



Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Nitrogen, Nitrate & Nitrite, Dissolved	E300	CentralOCD-TZ-04062015	1504287-006B	2.7	0.3	mg/kg	J+	HR-MS
N-Nitrosodiphenylamine	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Phenanthrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
Pyrene	SW8270C	CentralOCD-TZ-04062015	1504287-006b	ND	2	mg/kg	R	LR-SUR
TPH DRO	SW8015	CentralOCD-TZ-04062015	1504287-006A	350	95	mg/kg	J+	HR-SUR

Chavez, Carl J, EMNRD

From: Riege, Ed <Ed.Riege@wnr.com>
Sent: Friday, May 29, 2015 11:15 AM
To: Chavez, Carl J, EMNRD
Cc: VanHorn, Kristen, NMENV
Subject: FW: OCD Landfarm Report
Attachments: 201505291055.pdf

Carl,
The hard copy is in the mail. The QA/QC will be in second email.

Thanks,

Ed

Ed Riege MPH
Environmental Manager

Western Refining
Gallup Refinery
92 Giant Crossing Road
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

May 27, 2015

Mr. Carl J. Chavez
Environmental Engineer
New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Grid 2121 Chloride Exceedance Excavation Report
Central Oil Conservation Division Landfarm
Western Refining Company Southwest, Inc., Gallup Refinery
Gallup, New Mexico

Dear Mr. Chavez:

Western Refining Company Southwest, Inc. (Western) is submitting this correspondence to notify the Oil Conservation Division (OCD) that excavation and confirmation sampling of the Grid 2121 area in the Central OCD Landfarm (Landfarm) at Western's Gallup Refinery located in Gallup, New Mexico is complete. The work was done in accordance the "Chloride Exceedance Response Action Plan, Central Oil Conservation Division Landfarm, Western Refining Company Southwest, Inc., Gallup Refinery, Gallup, New Mexico" (Action Plan) dated March 20, 2015 and approved by OCD via email on March 25, 2015.

Background

Semiannual vadose zone sampling of the Landfarm is conducted in accordance with 19.15.36.15.E NMAC (Rule 36). Samples are collected from four randomly selected 6-foot-by-6-foot grids. The grids are selected prior to each sampling event using a random number generator. Rule 36 requires that semiannual vadose zone samples be analyzed for total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, and xylenes (BTEX); and, chloride. Per Rule 36, results are compared to either the practical quantitation limit (PQL) or background soil concentrations, whichever is higher. However, as agreed in an OCD email dated April 30, 2013, action levels for Western's Landfarm for chloride and TPH equal the OCD-approved Alternate Beneficial Reuse Screening Concentrations (ABRSCs) of 500 milligrams per kilogram (mg/kg) and 2,500 mg/kg, respectively.

The chloride concentration in the September 16, 2014 vadose sample collected from Grid 2121 (sample ID CentralOCD-04-091614) exceeded the above-referenced action level/ABRSC (500 mg/kg). In response to the exceedance, in accordance with Rule 36, and as approved in OCD's January 20, 2015 email, Western collected and analyzed an additional "four randomly selected, independent samples for TPH, BTEX, chlorides, and the constituents listed in Subsections A and B of 20.6.2.3103 NMAC" on February 5, 2015. These data were summarized in the March 2015 Action Plan. Additional action

level/ABRSC exceedances were not identified. Accordingly, Grid 2121 is the only location requiring further action based on the September 2014 and February 2015 vadose zone data.

Work Completed and Sampling Results

In accordance with March 2015 Action Plan, chloride-contaminated soil in the area of Grid 2121 was excavated on April 7, 2015. The location, dimensions, and orientation of the excavation are illustrated on Figure 1. A lithologic log of the excavation is provided as Attachment A, and photos of the excavation are included as Attachment B. The excavation was terminated at approximately 8.5 feet below ground surface and a confirmation sample was collected from the center of the floor of the excavation.

The confirmation sample was analyzed for chloride (EPA Method 300.0) by Hall Environmental Analysis Laboratory (Hall) of Albuquerque, New Mexico. Analytical data provided in Hall's May 8, 2015 laboratory report indicate that the chloride concentration of the confirmation soil sample is 160 mg/kg, which is below the chloride action level/ABRSC of 500 mg/kg. Chloride data from the September 2014 and April 2015 Grid 2121 soil samples are summarized in Table 1. A copy of the May 8, 2015 laboratory report and Trihydro's Tier II data validation are included as Attachments C and D, respectively. No data associated with the Grid 2121 confirmation sample were rejected as a result of the Tier II data validation.

Currently, the soil excavated from the Grid 2121 area remains stockpiled on plastic sheeting adjacent to the excavation. Based on the dimensions of the excavation, approximately 30 cubic yards of excavated soil will require off-Site disposal. Western will provide OCD with copies of the soil disposal manifests following offsite disposal. The soil is scheduled to be transported to Gandy Marley, Inc (NM-711-1-0019), a surface waste management facility located in Roswell, New Mexico in the next couple of weeks. The excavation, which currently remains open and barricaded, will be backfilled with clean fill after the excavated soil has been removed. If you have any questions or comments, please do not hesitate to call me at (505) 722-0217.

Sincerely,
Western Refining Company



Ed Riege
Environmental Manager

697-039-007

Attachments

cc: C. Johnson, Western Refining
G. Price, Trihydro Corporation
K. Van Horn, NMED

TABLE

**TABLE 1. GRID 2121 CHLORIDE EXCEEDANCE EXCAVATION DATA SUMMARY, CENTRAL OCD LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO**

Grid Location	Sample Type	Sample Depth	Sample Identification	Collection Date	Chlorides (mg/kg)
2121	Semiannual Vadose Zone sample	6 ft bgs	CentralOCD-04-091614	9/16/2014	870
	Confirmation sample collected from the bottom of the excavation	8.5 ft bgs	OCD-2121-04072015	4/7/2015	160
Screening Standards					
Baseline Concentration:					7.525
ABRSC/Central Landfarm Action Level:					500

Notes:

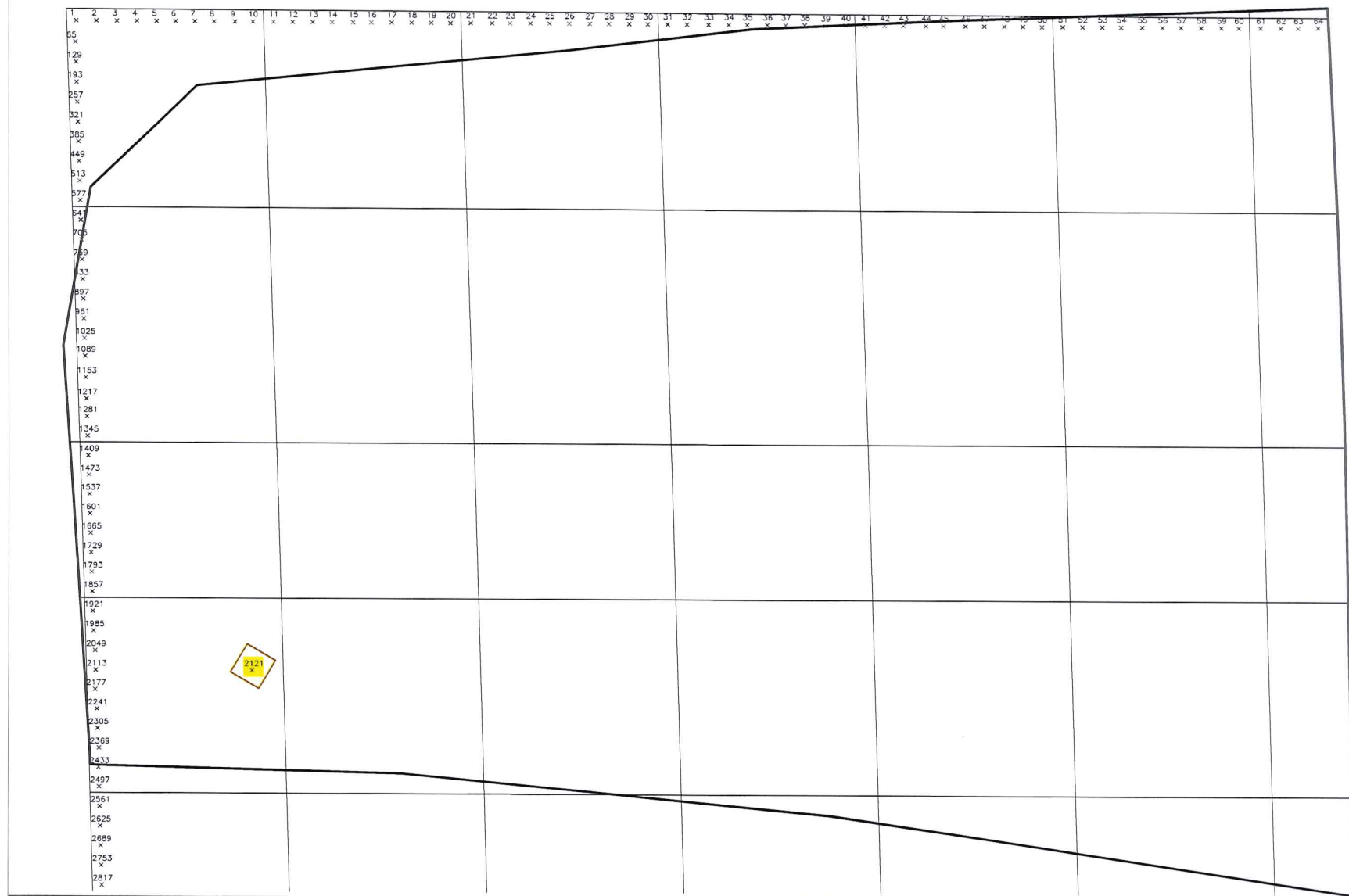
mg/kg = milligrams per kilogram

ft bgs = feet below ground surface







ABRSC = Alternate beneficial reuse screening concentration

Chlorides are analyzed by EPA method 300.0; TPH is analyzed by EPA method 418.1.

FIGURE



EXPLANATION

-  APPROXIMATE LANDFARM BOUNDARY
-  MAJOR GRID
-  MINOR GRID
-  APPROXIMATE EXCAVATION EXTENT
-  6'x6' GRID
-  GRID EXCAVATED DUE TO CHLORIDE EXCEEDANCE



0 -20' -40'

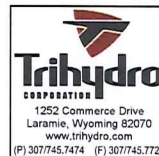


FIGURE 1

APRIL 2015 GRID 2121 CHLORIDE EXCEEDANCE
EXCAVATION LOCATION
CENTRAL OCD LANDFARM

WESTERN REFINING COMPANY L.L.C.
GALLUP REFINERY
GALLUP, NEW MEXICO

Drawn By: REP Checked By: JW Scale: 1" = ~20' Date: 5/29/15 File: 697-OCD-CHLOR2121-201505

ATTACHMENT A
EXCAVATION LITHOLOGIC LOG

TRIHYDRO CORPORATION
FIELD BORING LOG

Sheet 5 of 5 Sheets

Project & Project Number: 697-039-007/8		Date: <u>4-7-15</u>	
Project Location/Address: Gallup Refinery OCD Landfarms		Drilling Company: <u>WGR</u>	
Client: Western Refining		Driller: <u>Adrian Becerra</u>	
Weather: <u>Clear, Very Windy SW 25-40 mph</u>		Rig Type / Method: <u>Backhoe</u>	
Logged by: <u>Zac Brubaker</u>		Sample Method (circle one): Direct Push Spill Spoon Shelby Tube Other:	
Logger's Signature: <u>[Signature]</u>		Surface Elevation: Casing Elevation: GE Elevation:	
Equipment List:			

BORING ID: GRID 2121

Boring Location: Central OCD Landfarm

Interval (ft bgs)	Texture - Grain Size Major Minor	Color Major Modifier	Plasticity	Consistency	Moisture	Odor	PID LiteraReading	Additional Comments (Odor descriptor, sheen, nodules, structure, vegetation, etc.)	
0 +0 2	GVL - F M C Sand - F M C Silt Clay	Grvly Sandy Silty Clayey	Black Gray - L M D Bm - L M D Red - L M D Other %	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	
2 +0 4	GVL - F M C Sand - F M C Silt Clay	Grvly Sandy Silty Clayey	Black Gray - L M D Bm - L M D Red - L M D Other %	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	~ 3ft is where Native soil potentially at and indicated by hard diggs
4 +0 6	GVL - F M C Sand - F M C Silt Clay	Grvly Sandy Silty Clayey	Black Gray - L M D Bm - L M D Red - L M D Other %	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	
6 +0 8.5	GVL - F M C Sand - F M C Silt Clay	Grvly Sandy Silty Clayey	Black Gray - L M D Bm - L M D Red - L M D Other %	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	Very Hard soil ~ 7ft. took sample @ 8.5 ft
	GVL - F M C Sand - F M C Silt Clay	Grvly Sandy Silty Clayey	Black Gray - L M D Bm - L M D Red - L M D Other %	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	
	GVL - F M C Sand - F M C Silt Clay	Grvly Sandy Silty Clayey	Black Gray - L M D Bm - L M D Red - L M D Other %	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	
	GVL - F M C Sand - F M C Silt Clay	Grvly Sandy Silty Clayey	Black Gray - L M D Bm - L M D Red - L M D Other %	Red Brown Gray Green Rust Yellow Other %	High Moderate Low Non	Very Soft Soft Firm Hard Very Hard	Dry Moist Saturated -	Strong Moderate Slight None Noted	

Sample Collected: Yes

Number/Size of Containers: Two 4oz jars

Sample ID: OCD-2121-04072015

Analysis to be Performed: Chloride

Date: 4-7-15

Duplicate Collected

Time: 1216

Notes:

Depth: 8.5ft

ATTACHMENT B
PHOTO-DOCUMENTATION

**ELEVATED CHLORIDE CONCENTRATION EXCAVATION, GRID 2121, APRIL 2015
WESTERN GALLUP REFINERY
GALLUP, NEW MEXICO**



Photo 1. View to the E; beginning excavation of Grid 2121.



Photo 2. View to the SW; Grid 2121 excavation approximately 8 feet deep.

ELEVATED CHLORIDE CONCENTRATION EXCAVATION, GRID 2121, APRIL 2015
WESTERN GALLUP REFINERY
GALLUP, NEW MEXICO



Photo 3. View to the E; barricaded excavation and stockpiled soil.



Photo 4: Looking into the completed Grid 2121 excavation.

ATTACHMENT C
LABORATORY ANALYTICAL REPORT



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

May 08, 2015

Ed Riege

Western Refining Southwest, Gallup

92 Giant Crossing Road

Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: OCD Central Landfarm Semiannual Sampling

OrderNo.: 1504287

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 10 sample(s) on 4/8/2015 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

Case Narrative

WO#: 1504287
Date: 5/8/2015

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Analytical Notes Regarding EPA Method 8270:

One of the surrogate compounds was not recoverable due to dilution and matrix interferences.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1504287-001
Matrix: SOIL
Client Sample ID: CentralOCD-01-04062015
Collection Date: 4/6/2015 1:45:00 PM
Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	250	30		mg/Kg	20	4/17/2015 11:40:24 AM	18745
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.048		mg/Kg	1	4/9/2015 12:26:24 PM	18573
Toluene	ND	0.048		mg/Kg	1	4/9/2015 12:26:24 PM	18573
Ethylbenzene	ND	0.048		mg/Kg	1	4/9/2015 12:26:24 PM	18573
Xylenes, Total	ND	0.096		mg/Kg	1	4/9/2015 12:26:24 PM	18573
Surr: 1,2-Dichloroethane-d4	106	70-130		%REC	1	4/9/2015 12:26:24 PM	18573
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	4/9/2015 12:26:24 PM	18573
Surr: Dibromofluoromethane	108	70-130		%REC	1	4/9/2015 12:26:24 PM	18573
Surr: Toluene-d8	91.7	70-130		%REC	1	4/9/2015 12:26:24 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	4/14/2015 12:00:00 PM	18606

Refer to the QC Summary report and 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 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 Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1504287-002 **Matrix:** SOIL
Client Sample ID: CentralOCD-02-04062015
Collection Date: 4/6/2015 2:17:00 PM
Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	160	30		mg/Kg	20	4/17/2015 12:05:13 PM	18745
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.048		mg/Kg	1	4/9/2015 12:55:21 PM	18573
Toluene	ND	0.048		mg/Kg	1	4/9/2015 12:55:21 PM	18573
Ethylbenzene	ND	0.048		mg/Kg	1	4/9/2015 12:55:21 PM	18573
Xylenes, Total	ND	0.096		mg/Kg	1	4/9/2015 12:55:21 PM	18573
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	4/9/2015 12:55:21 PM	18573
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	4/9/2015 12:55:21 PM	18573
Surr: Dibromofluoromethane	106	70-130		%REC	1	4/9/2015 12:55:21 PM	18573
Surr: Toluene-d8	89.6	70-130		%REC	1	4/9/2015 12:55:21 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	4/14/2015 12:00:00 PM	18606

Refer to the QC Summary report and 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 Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-03-04062015 MS

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 1:05:00 PM

Lab ID: 1504287-003

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	330	30		mg/Kg	20	4/17/2015 1:19:40 PM	18745
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.047		mg/Kg	1	4/9/2015 1:24:07 PM	18573
Toluene	ND	0.047		mg/Kg	1	4/9/2015 1:24:07 PM	18573
Ethylbenzene	ND	0.047		mg/Kg	1	4/9/2015 1:24:07 PM	18573
Xylenes, Total	ND	0.095		mg/Kg	1	4/9/2015 1:24:07 PM	18573
Surr: 1,2-Dichloroethane-d4	106	70-130		%REC	1	4/9/2015 1:24:07 PM	18573
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	4/9/2015 1:24:07 PM	18573
Surr: Dibromofluoromethane	107	70-130		%REC	1	4/9/2015 1:24:07 PM	18573
Surr: Toluene-d8	93.6	70-130		%REC	1	4/9/2015 1:24:07 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	4/16/2015 12:00:00 PM	18606

Refer to the QC Summary report and 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 Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1504287-004 **Matrix:** SOIL

Client Sample ID: CentralOCD-04-04062015
Collection Date: 4/6/2015 2:45:00 PM
Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	220	30		mg/Kg	20	4/17/2015 1:44:29 PM	18745
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.047		mg/Kg	1	4/9/2015 2:50:46 PM	18573
Toluene	ND	0.047		mg/Kg	1	4/9/2015 2:50:46 PM	18573
Ethylbenzene	ND	0.047		mg/Kg	1	4/9/2015 2:50:46 PM	18573
Xylenes, Total	ND	0.093		mg/Kg	1	4/9/2015 2:50:46 PM	18573
Surr: 1,2-Dichloroethane-d4	97.0	70-130		%REC	1	4/9/2015 2:50:46 PM	18573
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	4/9/2015 2:50:46 PM	18573
Surr: Dibromofluoromethane	105	70-130		%REC	1	4/9/2015 2:50:46 PM	18573
Surr: Toluene-d8	95.2	70-130		%REC	1	4/9/2015 2:50:46 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	24	20		mg/Kg	1	4/14/2015 12:00:00 PM	18606

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 Not In Range
- RL Reporting Detection Limit

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BD-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015

Lab ID: 1504287-005

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	350	30		mg/Kg	20	4/17/2015 2:09:19 PM	18745
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.050		mg/Kg	1	4/9/2015 3:19:41 PM	18573
Toluene	ND	0.050		mg/Kg	1	4/9/2015 3:19:41 PM	18573
Ethylbenzene	ND	0.050		mg/Kg	1	4/9/2015 3:19:41 PM	18573
Xylenes, Total	ND	0.099		mg/Kg	1	4/9/2015 3:19:41 PM	18573
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	4/9/2015 3:19:41 PM	18573
Surr: 4-Bromofluorobenzene	99.6	70-130		%REC	1	4/9/2015 3:19:41 PM	18573
Surr: Dibromofluoromethane	104	70-130		%REC	1	4/9/2015 3:19:41 PM	18573
Surr: Toluene-d8	92.4	70-130		%REC	1	4/9/2015 3:19:41 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	19		mg/Kg	1	4/14/2015 12:00:00 PM	18606

Refer to the QC Summary report and 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 Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 12:30:00 PM

Lab ID: 1504287-006

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S							Analyst: SCC
Aroclor 1016	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1221	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1232	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1242	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1248	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1254	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Aroclor 1260	ND	0.20		mg/Kg	1	4/25/2015 10:22:49 AM	18660
Surr: Decachlorobiphenyl	68.0	37.5-161		%REC	1	4/25/2015 10:22:49 AM	18660
Surr: Tetrachloro-m-xylene	60.0	28.1-149		%REC	1	4/25/2015 10:22:49 AM	18660
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	350	95		mg/Kg	10	4/9/2015 4:08:24 PM	18574
Motor Oil Range Organics (MRO)	700	480		mg/Kg	10	4/9/2015 4:08:24 PM	18574
Surr: DNOP	128	63.5-128	S	%REC	10	4/9/2015 4:08:24 PM	18574
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/9/2015 11:56:05 AM	18573
Surr: BFB	87.7	80-120		%REC	1	4/9/2015 11:56:05 AM	18573
EPA METHOD 300.0: ANIONS							Analyst: LGT
Fluoride	10	6.0		mg/Kg	20	4/17/2015 2:34:07 PM	18745
Chloride	130	30		mg/Kg	20	4/17/2015 2:34:07 PM	18745
Nitrogen, Nitrate (As N)	2.7	0.30		mg/Kg	1	4/17/2015 2:21:43 PM	18745
Sulfate	1200	30		mg/Kg	20	4/17/2015 2:34:07 PM	18745
EPA METHOD 7471: MERCURY							Analyst: MED
Mercury	ND	0.16		mg/Kg	5	4/15/2015 2:53:36 PM	18690
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	ND	2.5		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Barium	350	0.20		mg/Kg	2	4/14/2015 9:56:11 AM	18669
Cadmium	ND	0.099		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Chromium	14	0.30		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Copper	9.3	0.30		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Iron	17000	99		mg/Kg	100	4/14/2015 10:08:07 AM	18669
Lead	35	0.25		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Manganese	410	0.20		mg/Kg	2	4/14/2015 9:56:11 AM	18669
Selenium	ND	2.5		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Silver	ND	0.25		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Uranium	ND	4.9		mg/Kg	1	4/14/2015 9:54:36 AM	18669
Zinc	52	2.5		mg/Kg	1	4/18/2015 2:09:34 PM	18669

Refer to the QC Summary report and 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 Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 12:30:00 PM

Lab ID: 1504287-006

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Acenaphthylene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Aniline	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Anthracene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Azobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benz(a)anthracene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzo(a)pyrene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzo(b)fluoranthene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzo(g,h,i)perylene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzo(k)fluoranthene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzoic acid	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Benzyl alcohol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Bis(2-chloroethoxy)methane	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Bis(2-chloroethyl)ether	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Bis(2-chloroisopropyl)ether	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Bis(2-ethylhexyl)phthalate	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Bromophenyl phenyl ether	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Butyl benzyl phthalate	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Carbazole	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Chloro-3-methylphenol	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Chloroaniline	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Chloronaphthalene	ND	2.5		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Chlorophenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Chlorophenyl phenyl ether	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Chrysene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Di-n-butyl phthalate	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Di-n-octyl phthalate	ND	4.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Dibenz(a,h)anthracene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Dibenzofuran	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
1,2-Dichlorobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
1,3-Dichlorobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
1,4-Dichlorobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
3,3'-Dichlorobenzidine	ND	2.5		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Diethyl phthalate	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Dimethyl phthalate	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,4-Dichlorophenol	ND	4.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,4-Dimethylphenol	ND	3.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4,6-Dinitro-2-methylphenol	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,4-Dinitrophenol	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661

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

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

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 12:30:00 PM

Lab ID: 1504287-006

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2,4-Dinitrotoluene	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,6-Dinitrotoluene	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Fluoranthene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Fluorene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Hexachlorobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Hexachlorobutadiene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Hexachlorocyclopentadiene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Hexachloroethane	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Indeno(1,2,3-cd)pyrene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Isophorone	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
1-Methylnaphthalene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Methylnaphthalene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Methylphenol	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
3+4-Methylphenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
N-Nitrosodi-n-propylamine	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
N-Nitrosodiphenylamine	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Naphthalene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Nitroaniline	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
3-Nitroaniline	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Nitroaniline	ND	4.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Nitrobenzene	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2-Nitrophenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
4-Nitrophenol	ND	2.5		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Pentachlorophenol	ND	4.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Phenanthrene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Phenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Pyrene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Pyridine	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
1,2,4-Trichlorobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,4,5-Trichlorophenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
2,4,6-Trichlorophenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	18661
Surr: 2-Fluorophenol	67.2	26.4-129		%REC	1	4/15/2015 11:00:23 PM	18661
Surr: Phenol-d5	75.1	34.8-118		%REC	1	4/15/2015 11:00:23 PM	18661
Surr: 2,4,6-Tribromophenol	76.8	26.8-128		%REC	1	4/15/2015 11:00:23 PM	18661
Surr: Nitrobenzene-d5	83.3	35.8-124		%REC	1	4/15/2015 11:00:23 PM	18661
Surr: 2-Fluorobiphenyl	86.9	24.5-139		%REC	1	4/15/2015 11:00:23 PM	18661
Surr: 4-Terphenyl-d14	0	29.4-129	S	%REC	1	4/15/2015 11:00:23 PM	18661

EPA METHOD 8260B: VOLATILESAnalyst: **cadg**

Benzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
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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 Not In Range
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 12:30:00 PM

Lab ID: 1504287-006

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Toluene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Ethylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2,4-Trimethylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,3,5-Trimethylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2-Dichloroethane (EDC)	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2-Dibromoethane (EDB)	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Naphthalene	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1-Methylnaphthalene	ND	0.20		mg/Kg	1	4/9/2015 3:48:39 PM	18573
2-Methylnaphthalene	ND	0.20		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Acetone	ND	0.74		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Bromobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Bromodichloromethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Bromoform	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Bromomethane	ND	0.15		mg/Kg	1	4/9/2015 3:48:39 PM	18573
2-Butanone	ND	0.49		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Carbon disulfide	ND	0.49		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Carbon tetrachloride	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Chlorobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Chloroethane	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Chloroform	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Chloromethane	ND	0.15		mg/Kg	1	4/9/2015 3:48:39 PM	18573
2-Chlorotoluene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
4-Chlorotoluene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
cis-1,2-DCE	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
cis-1,3-Dichloropropene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2-Dibromo-3-chloropropane	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Dibromochloromethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Dibromomethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2-Dichlorobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,3-Dichlorobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,4-Dichlorobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Dichlorodifluoromethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1-Dichloroethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1-Dichloroethene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2-Dichloropropane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,3-Dichloropropane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
2,2-Dichloropropane	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1-Dichloropropene	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573

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 Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 12:30:00 PM

Lab ID: 1504287-006

Matrix: SOIL

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Hexachlorobutadiene	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
2-Hexanone	ND	0.49		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Isopropylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
4-Isopropyltoluene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
4-Methyl-2-pentanone	ND	0.49		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Methylene chloride	ND	0.15		mg/Kg	1	4/9/2015 3:48:39 PM	18573
n-Butylbenzene	ND	0.15		mg/Kg	1	4/9/2015 3:48:39 PM	18573
n-Propylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
sec-Butylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Styrene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
tert-Butylbenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1,1,2-Tetrachloroethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1,2,2-Tetrachloroethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Tetrachloroethene (PCE)	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
trans-1,2-DCE	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
trans-1,3-Dichloropropene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2,3-Trichlorobenzene	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2,4-Trichlorobenzene	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1,1-Trichloroethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,1,2-Trichloroethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Trichloroethene (TCE)	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Trichlorofluoromethane	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
1,2,3-Trichloropropane	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Vinyl chloride	ND	0.049		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Xylenes, Total	ND	0.099		mg/Kg	1	4/9/2015 3:48:39 PM	18573
Surr: Dibromofluoromethane	107	70-130		%REC	1	4/9/2015 3:48:39 PM	18573
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	4/9/2015 3:48:39 PM	18573
Surr: Toluene-d8	89.9	70-130		%REC	1	4/9/2015 3:48:39 PM	18573
Surr: 4-Bromofluorobenzene	96.6	70-130		%REC	1	4/9/2015 3:48:39 PM	18573
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	370	20		mg/Kg	1	4/14/2015 12:00:00 PM	18606

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

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

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** OCD-2121-04072015**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 4/7/2015 12:16:00 PM**Lab ID:** 1504287-007**Matrix:** SOIL**Received Date:** 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	160	30		mg/Kg	20	4/17/2015 3:23:47 PM	18745

Refer to the QC Summary report and 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 12 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 Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1504287-008
Matrix: AQUEOUS
Client Sample ID: EB-04062015
Collection Date: 4/6/2015 1:30:00 PM
Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: KJH
Benzene	ND	1.0		µg/L	1	4/8/2015 1:32:26 PM	R25378
Toluene	ND	1.0		µg/L	1	4/8/2015 1:32:26 PM	R25378
Ethylbenzene	ND	1.0		µg/L	1	4/8/2015 1:32:26 PM	R25378
Xylenes, Total	ND	1.5		µg/L	1	4/8/2015 1:32:26 PM	R25378
Surr: 1,2-Dichloroethane-d4	98.9	70-130		%REC	1	4/8/2015 1:32:26 PM	R25378
Surr: 4-Bromofluorobenzene	103	70-130		%REC	1	4/8/2015 1:32:26 PM	R25378
Surr: Dibromofluoromethane	101	70-130		%REC	1	4/8/2015 1:32:26 PM	R25378
Surr: Toluene-d8	96.9	70-130		%REC	1	4/8/2015 1:32:26 PM	R25378

Refer to the QC Summary report and 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 13 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 Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB-04062015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 4/6/2015 1:35:00 PM

Lab ID: 1504287-009

Matrix: AQUEOUS

Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: KJH
Benzene	ND	1.0		µg/L	1	4/8/2015 2:01:09 PM	R25378
Toluene	ND	1.0		µg/L	1	4/8/2015 2:01:09 PM	R25378
Ethylbenzene	ND	1.0		µg/L	1	4/8/2015 2:01:09 PM	R25378
Xylenes, Total	ND	1.5		µg/L	1	4/8/2015 2:01:09 PM	R25378
Surr: 1,2-Dichloroethane-d4	121	70-130		%REC	1	4/8/2015 2:01:09 PM	R25378
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	4/8/2015 2:01:09 PM	R25378
Surr: Dibromofluoromethane	119	70-130		%REC	1	4/8/2015 2:01:09 PM	R25378
Surr: Toluene-d8	102	70-130		%REC	1	4/8/2015 2:01:09 PM	R25378

Refer to the QC Summary report and 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 14 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 Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1504287-010
Matrix: TRIP BLANK
Client Sample ID: Trip Blank
Collection Date:
Received Date: 4/8/2015 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: KJH
Benzene	ND	1.0		µg/L	1	4/8/2015 2:29:54 PM	R25378
Toluene	ND	1.0		µg/L	1	4/8/2015 2:29:54 PM	R25378
Ethylbenzene	ND	1.0		µg/L	1	4/8/2015 2:29:54 PM	R25378
Xylenes, Total	ND	1.5		µg/L	1	4/8/2015 2:29:54 PM	R25378
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	4/8/2015 2:29:54 PM	R25378
Surr: 4-Bromofluorobenzene	111	70-130		%REC	1	4/8/2015 2:29:54 PM	R25378
Surr: Dibromofluoromethane	105	70-130		%REC	1	4/8/2015 2:29:54 PM	R25378
Surr: Toluene-d8	96.6	70-130		%REC	1	4/8/2015 2:29:54 PM	R25378

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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

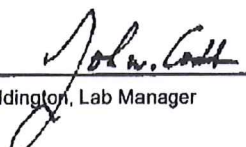
Batch #: 150409032
Project Name: 1504287

Analytical Results Report

Sample Number 150409032-001 **Sampling Date** 4/6/2015 **Date/Time Received** 4/9/2015 11:15 AM
Client Sample ID 1504287-006D / CENTRALOCD-TZ-04062015 **Sampling Time** 12:30 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	1.31	mg/Kg	0.295	4/15/2015	CRW	EPA 335.4	
%moisture	15.9	Percent		4/15/2015	CRW	%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.

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 **Batch #:** 150409032
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1504287
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	0.511	mg/kg	0.5	102.2	90-110	4/15/2015	4/15/2015

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
150409032-001	Cyanide	1.31	16.5	mg/kg	14.75	103.0	90-110	4/15/2015	4/15/2015

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	16.3	mg/kg	14.75	101.6	1.2	0-25	4/15/2015	4/15/2015

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	4/15/2015	4/15/2015

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:CE00028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:CE00095; FL(NELAP): E871099

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1504287
Pace Project No.: 30145292

Sample: 1504287-006C CentralOCD- Lab ID: 30145292001 Collected: 04/06/15 12:30 Received: 04/10/15 10:45 Matrix: Solid
TZ-040

PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	1.059 ± 0.233 (0.160) C:NA T:NA	pCi/g	05/08/15 10:26	13982-63-3	
Radium-228	EPA 901.1	1.392 ± 0.289 (0.241) C:NA T:NA	pCi/g	05/08/15 10:26	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1504287
Pace Project No.: 30145292

QC Batch:	RADC/24225	Analysis Method:	EPA 901.1
QC Batch Method:	EPA 901.1	Analysis Description:	901.1 Gamma Spec Ingrowth
Associated Lab Samples:	30145292001		

METHOD BLANK:	884958	Matrix:	Solid
---------------	--------	---------	-------

Associated Lab Samples: 30145292001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.137 ± 0.089 (0.192) C:NA T:NA	pCi/g	05/08/15 09:52	
Radium-228	0.000 ± 0.044 (0.487) C:NA T:NA	pCi/g	05/08/15 09:52	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18745		SampType:	MBLK		TestCode:	EPA Method 300.0: Anions			
Client ID:	PBS		Batch ID:	18745		RunNo:	25615			
Prep Date:	4/17/2015		Analysis Date:	4/17/2015		SeqNo:	758950		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID	LCS-18745		SampType:	LCS		TestCode:	EPA Method 300.0: Anions			
Client ID:	LCSS		Batch ID:	18745		RunNo:	25615			
Prep Date:	4/17/2015		Analysis Date:	4/17/2015		SeqNo:	758951		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	97.3	90	110			
Chloride	14	1.5	15.00	0	92.3	90	110			
Nitrogen, Nitrate (As N)	7.3	0.30	7.500	0	97.5	90	110			
Sulfate	28	1.5	30.00	0	94.7	90	110			

Sample ID	1504287-003AMS		SampType:	MS		TestCode:	EPA Method 300.0: Anions			
Client ID:	CentralOCD-03-0406		Batch ID:	18745		RunNo:	25615			
Prep Date:	4/17/2015		Analysis Date:	4/17/2015		SeqNo:	758962		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.4	0.30	1.500	2.186	14.0	13.6	100			
Nitrogen, Nitrate (As N)	17	0.30	7.500	8.487	114	85.3	110			S

Sample ID	1504287-003AMSD		SampType:	MSD		TestCode:	EPA Method 300.0: Anions			
Client ID:	CentralOCD-03-0406		Batch ID:	18745		RunNo:	25615			
Prep Date:	4/17/2015		Analysis Date:	4/17/2015		SeqNo:	758963		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.4	0.30	1.500	2.186	14.7	13.6	100	0.438	20	
Nitrogen, Nitrate (As N)	17	0.30	7.500	8.487	118	85.3	110	1.45	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 Not In Range |
| 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#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18606	SampType:	MBLK	TestCode:	EPA Method 418.1: TPH					
Client ID:	PBS	Batch ID:	18606	RunNo:	25503					
Prep Date:	4/9/2015	Analysis Date:	4/14/2015	SeqNo:	755191	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-18606	SampType:	LCS	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS	Batch ID:	18606	RunNo:	25503					
Prep Date:	4/9/2015	Analysis Date:	4/14/2015	SeqNo:	755192	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	93	20	100.0	0	92.7	86.7	126			

Sample ID	LCSD-18606	SampType:	LCSD	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS02	Batch ID:	18606	RunNo:	25503					
Prep Date:	4/9/2015	Analysis Date:	4/14/2015	SeqNo:	755193	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	98	20	100.0	0	97.9	86.7	126	5.45	20	

Sample ID	1504287-003AMS	SampType:	MS	TestCode:	EPA Method 418.1: TPH					
Client ID:	CentralOCD-03-0406	Batch ID:	18606	RunNo:	25553					
Prep Date:	4/9/2015	Analysis Date:	4/16/2015	SeqNo:	756803	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	93	20	100.0	0	92.9	80	120			

Sample ID	1504287-003AMSD	SampType:	MSD	TestCode:	EPA Method 418.1: TPH					
Client ID:	CentralOCD-03-0406	Batch ID:	18606	RunNo:	25553					
Prep Date:	4/9/2015	Analysis Date:	4/16/2015	SeqNo:	756804	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	99	20	100.7	0	98.2	80	120	6.19	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-18574	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	18574	RunNo:	25386					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	751714	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	9.6		10.00		95.5	63.5	128			

Sample ID	LCS-18574	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	18574	RunNo:	25386					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	751806	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	49	10	50.00	0	97.1	67.8	130			
Surr: DNOP	4.6		5.000		92.4	63.5	128			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Project: OCD Central Landfarm Semiannual Sampling										
Sample ID	MB-18573		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 18573		RunNo: 25395					
Prep Date:	4/8/2015		Analysis Date: 4/9/2015		SeqNo: 751932		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	850		1000		85.2	80	120			

Surf: BFB

Sample ID	LCS-18573	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	18573	RunNo:	25395					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	751933	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
			25.00	0	102	64	130			

Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	64	130			
Surr: BFB	920		1000		91.9	80	120			

Surr: BFB		J20								
Sample ID	1504287-006AMS	SampType:	MS	TestCode: EPA Method 8015D: Gasoline Range						
Client ID:	CentralOCD-TZ-040	Batch ID:	18573	RunNo: 25395						
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo: 751936			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
					96.1	47.9	144			

Gasoline Range Organics (GRO)	24	4.9	24.63	0	96.1	47.9	144			
Surr: BFB	940		985.2		95.9	80	120			

Surr: BFB	940	953.2	953.2	953.2						
Sample ID	1504287-006AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range							
Client ID:	CentralOCD-TZ-040	Batch ID: 18573	RunNo: 25395							
Prep Date:	4/8/2015	Analysis Date: 4/9/2015	SeqNo: 751937		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
			24.61	0	104	47.9	144	7.82	29.9	

Gasoline Range Organics (GRO)	26	4.9	24.61	0	104	47.9	144	7.82	29.9	
Surr: BFB	960		984.3		97.6	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-18660	SampType: MBLK		TestCode: EPA Method 8082: PCB's							
Client ID: PBS	Batch ID: 18660		RunNo: 25757							
Prep Date: 4/13/2015	Analysis Date: 4/24/2015		SeqNo: 763490				Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.071		0.06250		114	37.5	161			
Surr: Tetrachloro-m-xylene	0.078		0.06250		124	28.1	149			

Sample ID LCS-18660	SampType: LCS		TestCode: EPA Method 8082: PCB's							
Client ID: LCSS	Batch ID: 18660		RunNo: 25757							
Prep Date: 4/13/2015	Analysis Date: 4/24/2015		SeqNo: 763491				Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.074	0.020	0.1250	0	59.2	26.2	127			
Aroclor 1260	0.099	0.020	0.1250	0	79.2	36.6	122			
Surr: Decachlorobiphenyl	0.059		0.06250		94.0	37.5	161			
Surr: Tetrachloro-m-xylene	0.065		0.06250		104	28.1	149			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287
08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-18573	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles					
Client ID:	PBS	Batch ID:	18573	RunNo:	25409					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	752062	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. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH Not In Range |
| 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#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

OCD Central Landfarm Semiannual Sampling										
Sample ID mb-18573		SampType: MBLK			TestCode: EPA Method 8260B: Volatiles					
Client ID: PBS		Batch ID: 18573			RunNo: 25409					
Prep Date: 4/8/2015		Analysis Date: 4/9/2015			SeqNo: 752062		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										
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		103	70	130			
Surr: Toluene-d8	0.47		0.5000		93.5	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.8	70	130			

Surr: 4-Bromofluorobenzene		0.50	0.5000	99.8	70	130				
Sample ID	lcs-18573	SampType: LCS		TestCode: EPA Method 8260B: Volatiles						
Client ID:	LCSS	Batch ID: 18573		RunNo: 25409						
Prep Date:	4/8/2015	Analysis Date: 4/9/2015		SeqNo: 752063		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.8	70	130			
Toluene	0.89	0.050	1.000	0	88.6	70	130			
Chlorobenzene	0.94	0.050	1.000	0	94.5	70	130			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287
08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

OCD Central Landfarm Semiannual Sampling										
Project:										
Sample ID	Ics-18573	SampType: LCS			TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS	Batch ID: 18573			RunNo: 25409					
Prep Date:	4/8/2015	Analysis Date: 4/9/2015			SeqNo: 752063		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.1	0.050	1.000	0	113	60.6	134			
Trichloroethene (TCE)	0.89	0.050	1.000	0	89.0	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.46		0.5000		91.9	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	70	130			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-18573		SampType:	MBLK		TestCode: EPA Method 8260B: Volatiles Short List				
Client ID:	PBS		Batch ID:	18573		RunNo: 25409				
Prep Date:	4/8/2015		Analysis Date:	4/9/2015		SeqNo:	752065		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.050								
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
1,2-Dibromoethane (EDB)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
Naphthalene	ND	0.10								
2-Methylnaphthalene	ND	0.20								
1-Methylnaphthalene	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.8	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.47		0.5000		93.5	70	130			

Sample ID	lcs-18573		SampType:	LCS		TestCode: EPA Method 8260B: Volatiles Short List				
Client ID:	LCSS		Batch ID:	18573		RunNo: 25409				
Prep Date:	4/8/2015		Analysis Date:	4/9/2015		SeqNo:	752066		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.8	70	130			
Toluene	0.89	0.050	1.000	0	88.6	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		103	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.46		0.5000		91.9	70	130			

Sample ID	1504287-003ams		SampType:	MS		TestCode: EPA Method 8260B: Volatiles Short List				
Client ID:	CentralOCD-03-0406		Batch ID:	18573		RunNo: 25409				
Prep Date:	4/8/2015		Analysis Date:	4/9/2015		SeqNo:	752070		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.048	0.9515	0	105	57.8	132			
Toluene	0.90	0.048	0.9515	0	94.4	54.8	139			
Surr: 1,2-Dichloroethane-d4	0.51		0.4757		106	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.4757		97.1	70	130			
Surr: Dibromofluoromethane	0.52		0.4757		109	70	130			
Surr: Toluene-d8	0.44		0.4757		92.5	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	1504287-003amsd	SampType:	MSD	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	CentralOCD-03-0406	Batch ID:	18573	RunNo:	25409					
Prep Date:	4/8/2015	Analysis Date:	4/9/2015	SeqNo:	752071	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.047	0.9497	0	110	57.8	132	3.98	20	
Toluene	0.89	0.047	0.9497	0	94.2	54.8	139	0.433	20	
Surr: 1,2-Dichloroethane-d4	0.52		0.4748		109	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.47		0.4748		98.4	70	130	0	0	
Surr: Dibromofluoromethane	0.54		0.4748		113	70	130	0	0	
Surr: Toluene-d8	0.43		0.4748		90.5	70	130	0	0	

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287
08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID 100ng lcs		SampType: LCS		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: LCSW		Batch ID: R25378		RunNo: 25378							
Prep Date:		Analysis Date: 4/8/2015		SeqNo: 750966				Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	19	1.0	20.00	0	95.7	70	130				
Toluene	20	1.0	20.00	0	101	70	130				
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.0	70	130				
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130				
Surr: Dibromofluoromethane	10		10.00		102	70	130				
Surr: Toluene-d8	11		10.00		109	70	130				

Sample ID 5mL-rb		SampType: MBLK		TestCode: EPA Method 8260: Volatiles Short List							
Client ID: PBW		Batch ID: R25378		RunNo: 25378							
Prep Date:		Analysis Date: 4/8/2015		SeqNo: 750970				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									
Xylenes, Total	ND	1.5									
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130				
Surr: 4-Bromofluorobenzene	9.6		10.00		95.5	70	130				
Surr: Dibromofluoromethane	11		10.00		111	70	130				
Surr: Toluene-d8	11		10.00		110	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-18661	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	18661	RunNo:	25544					
Prep Date:	4/13/2015	Analysis Date:	4/15/2015	SeqNo:	756564	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	0.40								
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	0.40								
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 Not In Range

RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

OCD Central Landfarm Semiannual Sampling										
Sample ID mb-18661		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBS		Batch ID: 18661		RunNo: 25544						
Prep Date: 4/13/2015		Analysis Date: 4/15/2015		SeqNo: 756564		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	0.40								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.40								
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	0.40								
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	0.40								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	2.4		3.330		70.7	26.4	129			
Surr: Phenol-d5	2.4		3.330		72.3	34.8	118			
Surr: 2,4,6-Tribromophenol	2.4		3.330		72.4	26.8	128			
Surr: Nitrobenzene-d5	1.2		1.670		70.8	35.8	124			
Surr: 2-Fluorobiphenyl	1.1		1.670		65.9	24.5	139			
Surr: 4-Terphenyl-d14	1.1		1.670		65.9	29.4	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Project: OCD Central Landfill Semiannuul Sampling

Sample ID	Ics-18661	SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS	Batch ID: 18661			RunNo: 25544					
Prep Date:	4/13/2015	Analysis Date: 4/15/2015			SeqNo: 756565		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.99	0.20	1.670	0	59.3	45.8	114			
4-Chloro-3-methylphenol	2.3	0.50	3.330	0	69.4	52.3	122			
2-Chlorophenol	2.1	0.20	3.330	0	62.1	49.9	115			
1,4-Dichlorobenzene	1.1	0.20	1.670	0	64.0	43.7	107			
2,4-Dinitrotoluene	0.84	0.50	1.670	0	50.5	36	106			
N-Nitrosodi-n-propylamine	1.0	0.20	1.670	0	61.6	39.5	110			
4-Nitrophenol	2.0	0.25	3.330	0	59.3	45.1	121			
Pentachlorophenol	1.7	0.40	3.330	0	50.6	23.7	111			
Phenol	2.2	0.20	3.330	0	65.5	52.7	119			
Pyrene	0.98	0.20	1.670	0	58.5	50.4	116			
1,2,4-Trichlorobenzene	1.1	0.20	1.670	0	64.2	40.1	114			
Surr: 2-Fluorophenol	2.1		3.330		62.4	26.4	129			
Surr: Phenol-d5	2.2		3.330		67.2	34.8	118			
Surr: 2,4,6-Tribromophenol	2.2		3.330		66.5	26.8	128			
Surr: Nitrobenzene-d5	1.1		1.670		64.0	35.8	124			
Surr: 2-Fluorobiphenyl	1.0		1.670		62.8	24.5	139			
Surr: 4-Terphenyl-d14	1.1		1.670		66.0	29.4	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Project: OCD Central Landfarm Semiannual Sampling										
Sample ID	MB-18690	SampType: MBLK			TestCode: EPA Method 7471: Mercury					
Client ID:	PBS	Batch ID: 18690			RunNo: 25534					
Prep Date:	4/14/2015	Analysis Date: 4/15/2015			SeqNo: 756337		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

ND		0.033											
Mercury													
Sample ID		LCS-18690		SampType:		LCS		TestCode:			EPA Method 7471: Mercury		
Client ID:		LCSS		Batch ID:		18690		RunNo:		25534			
Prep Date:		4/14/2015		Analysis Date:		4/15/2015		SeqNo:		756338		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	97.8	80	120						

Sample ID 1504287-006BMS		SampType: MS		TestCode: EPA Method 7471: Mercury						
Client ID: CentralOCD-TZ-040		Batch ID: 18690		RunNo: 25534						
Prep Date: 4/14/2015		Analysis Date: 4/15/2015		SeqNo: 756356			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.58	0.16	0.1591	0.1429	276	75	125			S

Analyte	0.58	0.16	0.1591	0.1429	290	75	125	4.77	20	S
Mercury										
Sample ID: 1504287-006BMSD SampType: MSD TestCode: EPA Method 7471: Mercury										
Client ID: CentralOCD-TZ-040 Batch ID: 18690 RunNo: 25534										
Prep Date: 4/14/2015 Analysis Date: 4/15/2015 SeqNo: 756357 Units: mg/Kg										
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.61	0.16	0.1611	0.1429	290	75	125	4.77	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 Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287
08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

OCD Central Landfarm Semiannual Sampling										
Sample ID MB-18669		SampType: MBLK			TestCode: EPA Method 6010B: Soil Metals					
Client ID: PBS		Batch ID: 18669			RunNo: 25491					
Prep Date: 4/13/2015		Analysis Date: 4/14/2015			SeqNo: 754953		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Copper	ND	0.30								
Iron	ND	2.5								
Lead	ND	0.25								
Manganese	ND	0.10								
Selenium	ND	2.5								
Silver	ND	0.25								
Uranium	ND	5.0								

Uranium	ND	5.0								
Sample ID	LCS-18669	SampType:	LCS	TestCode: EPA Method 6010B: Soil Metals						
Client ID:	LCSS	Batch ID:	18669	RunNo: 25491						
Prep Date:	4/13/2015	Analysis Date:	4/14/2015	SeqNo: 754954			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	26	2.5	25.00	0	106	80	120			
Barium	26	0.10	25.00	0	103	80	120			
Cadmium	26	0.10	25.00	0	104	80	120			
Chromium	26	0.30	25.00	0	104	80	120			
Copper	27	0.30	25.00	0	107	80	120			
Iron	27	2.5	25.00	0	108	80	120			
Lead	26	0.25	25.00	0	102	80	120			
Manganese	26	0.10	25.00	0	103	80	120			
Selenium	26	2.5	25.00	0	102	80	120			
Silver	5.6	0.25	5.000	0	112	80	120			
Uranium	26	5.0	25.00	0	105	80	120			

Uranium	26	5.0	25.00	0	100	50	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	1
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Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	LCS-18669		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 18669		RunNo: 25596					
Prep Date:	4/13/2015		Analysis Date: 4/18/2015		SeqNo: 758373		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	25	2.5	25.00	0	101	80	120			

Qualifiers:

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

Chavez, Carl J, EMNRD

From: Grant Price <gprice@trihydro.com>
Sent: Friday, March 20, 2015 2:34 PM
To: Chavez, Carl J, EMNRD
Cc: Larsen, Thurman; Riege, Ed; Joey Waldmann
Subject: RE: AP-111 Land Farm Confirm. Sample Results by COB Today!
Attachments: 201503_ChlorideExceedance_LTRRPT.pdf

Hello Carl,

The response action plan for Western's Central OCD landfarm is attached. A hardcopy will be mailed today. Please let me know if you have any questions. We would like to conduct the field work the week of April 6, so an expedited review would be greatly appreciated.

Thanks,
Grant Price

From: Chavez, Carl J, EMNRD [<mailto:CarlJ.Chavez@state.nm.us>]
Sent: Thursday, March 05, 2015 12:00 PM
To: Riege, Ed
Cc: Grant Price
Subject: RE: AP-111 Land Farm Confirm. Sample Results by COB Today!

Ok. Thank you.

Carl J. Chavez, CHMM

New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Drive, Santa Fe, New Mexico 87505
O: (505) 476-3490
E-mail: CarlJ.Chavez@State.NM.US

Web: <http://www.emnrd.state.nm.us/oed/>

“Why Not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward With the Rest of the Nation?” To see how, please go to: “Pollution Prevention & Waste Minimization” at <http://www.emnrd.state.nm.us/oed/environmental.htm#environmental>



From: Riege, Ed [<mailto:Ed.Riege@wnr.com>]
Sent: Thursday, March 05, 2015 10:03 AM
To: Chavez, Carl J, EMNRD

Cc: Grant Price

Subject: FW: AP-111 Land Farm Confirm. Sample Results by COB Today!

Hi Carl,
See response below from Grant.

Thanks
Ed

From: Grant Price [<mailto:gprice@trihydro.com>]

Sent: Thursday, March 05, 2015 9:36 AM

To: Riege, Ed

Subject: RE: AP-111 Land Farm Confirm. Sample Results by COB Today!

Hi Ed,

We have all analytical results except for radium (takes longer). We are in the process of validating the data, and then we'll prepare the response action plan. The response action plan is due to OCD within 45 days of sample collection, which should put us at around March 20th. We'll have it done by then.

A preliminary review of the un-validated data looks good. No new chloride exceedances.

Thanks,
Grant

From: Riege, Ed [<mailto:Ed.Riege@wnr.com>]

Sent: Thursday, March 05, 2015 9:30 AM

To: Grant Price

Subject: FW: AP-111 Land Farm Confirm. Sample Results by COB Today!

From: Chavez, Carl J, EMNRD [<mailto:CarlJ.Chavez@state.nm.us>]

Sent: Thursday, March 05, 2015 8:08 AM

To: Riege, Ed

Subject: FW: AP-111 Land Farm Confirm. Sample Results by COB Today!

Ed:

Good morning! Do you know when OCD can expect the analytical results (see attachment)?

Thank you.

Carl J. Chavez, CHMM

New Mexico Energy, Minerals & Natural Resources Department

Oil Conservation Division, Environmental Bureau

1220 South St. Francis Drive, Santa Fe, New Mexico 87505

O: (505) 476-3490

E-mail: CarlJ.Chavez@State.NM.US

Web: <http://www.emnrd.state.nm.us/ocd/>

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<http://www.emnrd.state.nm.us/oed/environmental.htm#environmental>





March 20, 2015

Mr. Carl J. Chavez
Environmental Engineer
New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Chloride Exceedance Response Action Plan, Central Oil Conservation Division Landfarm,
Western Refining Company Southwest, Inc., Gallup Refinery, Gallup, New Mexico

Dear Mr. Chavez:

On behalf of Western Refining Company Southwest, Inc. (Western), Trihydro Corporation is submitting this correspondence to propose a response action plan due to an action level exceedance of chloride in a vadose zone soil sample collected from the Central Oil Conservation Division (OCD) Landfarm at Western's Gallup Refinery located in Gallup, New Mexico. Semiannual vadose zone sampling was conducted on September 16, 2014 in accordance with 19.15.36.15.E NMAC (Rule 36). A summary of the September 16, 2014 data is provided as Table 1. The September 16, 2014 laboratory analytical report and a Tier II data validation are included as Attachment A. Note that a treatment zone sample that was voluntarily collected by Western to evaluate potential soil reuse is included in this data set, but the treatment zone data are not relevant to this report. No vadose zone data were rejected as a result of the Tier II data validation.

Background

Rule 36 requires that semiannual vadose zone samples be analyzed for total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, and xylenes (BTEX); and, chloride. Results are to be compared to either the practical quantitation limit (PQL) or background soil concentrations (whichever is higher) to determine whether a release has occurred. However, as agreed to in an OCD email dated April 30, 2013, action levels for Western's Central OCD Landfarm for chloride and TPH are 500 and 2,500 mg/kg, respectively. Baseline values and action levels are shown on Table 1.

Baseline values were established for the specific purpose of comparing background concentrations to OCD landfarm soil at the Gallup refinery. Western worked collaboratively with OCD to determine the appropriate processes for establishing these concentrations. The concentrations are referred to as "baseline" instead of background at OCD's request to avoid potential confusion with RCRA background samples. In regards to Western's OCD landfarm and Rule 36, the terms baseline and background should be considered synonymous. Note that, for baseline sampling, the reporting limit was set to equal the PQL. If a constituent was not detected during baseline sampling, the reporting limit (the PQL) was used as the baseline concentration. Therefore, by comparing soil data to the baseline concentrations shown on



Mr. Carl J. Chavez
March 20, 2015
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Table 1, the data are actually being compared to the higher of the baseline data and the PQL (as required by Section 19.15.36.16.F NMAC).

The baseline concentrations beneficial reuse screening concentrations (ABRSCs). During August 2011 teleconferences, Western and OCD agreed that the ABRSCs (shown on Table 1) may be used to determine whether landfarm soil may be beneficially reused in the event that the baseline concentrations are exceeded. By definition, ABRSCs are the highest value relative to:

- NMED Construction Worker Soil Screening Standards were submitted to OCD on September 12, 2011, along with the alternate OCD Form C-137 EZ (Registration/Final Closure Report For Small Landfarm) Screening Standards
- NMAC 20.6.2.3103 Screening Standards with a 20 X dilution factor

The baseline and ABRSC values were conditionally approved by OCD in a letter dated November 4, 2011.

September 2014 Results

As shown on Table 1, analytical data from the September 16, 2014 sampling event indicate that chloride concentrations of one of the four vadose zone soil samples (CentralOCD-04-9/16/14) exceed the baseline concentration and the 500 mg/kg action level/ABRSC. Baseline chloride concentrations were also exceeded in the other three vadose zone soil samples (CentralOCD-01-9/16/14, CentralOCD-02-9/16/14, and CentralOCD-03-9/16/14), however the action level / ABRSC was not exceeded.

In response to the above-referenced chloride action level / ABRSC exceedance, in accordance with Rule 36, and as approved in NMED's January 20, 2015 email, Western collected and analyzed an additional "four randomly selected, independent samples for TPH, BTEX, chlorides, and the constituents listed in Subsections A and B of 20.6.2.3103 NMAC" on February 5, 2015. These data are summarized on Tables 2 through 5. The laboratory analytical report and a Tier II data validation for the February 5, 2015 event are included as Attachment B.

As shown on Table 5, the February 5, 2015 analytical data of the vadose zone samples indicate that chloride concentrations do not exceed the 500 mg/kg action level / ABRSC. As shown on Tables 4 and 5, baseline concentrations were exceeded for chloride, barium, chromium, copper, iron, lead, zinc, cyanide, fluoride, sulfate, and TPH. However, since the respective ABRSCs were not exceeded for these analytes, no additional action is necessitated by the baseline concentration exceedances.

Proposed Response Action Plan

Per Rule 36 and in response to the September 16, 2014 chloride exceedance, Western is submitting this response action plan to OCD to "[provide] a plan for remediating existing contamination." Western intends to excavate the area where an elevated chloride concentration was observed during the



Mr. Carl J. Chavez
March 20, 2015
Page 3

September 16, 2014 sampling event. The soil sample exceeding the chloride ABRSC was collected from approximately 6 feet (ft) below the current ground surface (bgs). The 6 ft x 6 ft grid cell where the original sample was collected will be excavated to a depth more than 6 ft bgs. During the grid excavation, field screening may be utilized at Western's discretion to help determine how deep the excavation should extend. However, the terminal depth of the grid will ultimately be based on analytical data (chloride concentrations less than 500 mg/kg). A confirmation sample will be collected from the bottom of the grid to confirm that soils with elevated chloride concentrations (i.e., greater than 500 mg/kg) have been removed.

Should analytical results indicate chloride exceedances at the bottom of the excavation, the depth of the excavation will be extended, and an additional confirmation sample will be collected. Excavated soil will be disposed at an offsite facility permitted to receive chloride-contaminated soils. Upon receipt of analytical data indicating that the chloride-contaminated soils have been removed, the excavation will be backfilled with clean fill material.

Fieldwork is tentatively scheduled for April 6, 2015, therefore an expedited review of this action plan would be greatly appreciated. Within 30 days of the receipt of complete and accurate laboratory data indicating that chloride contaminated soils have been excavated, Western will provide a letter-style report describing the grid excavation and confirmation soil sampling. The report will include a diagram showing the location of the grid, photo-documentation, the laboratory analytical report, and a copy of the waste manifest. Upon receipt of OCD approval of this response action plan, Western will implement the fieldwork detailed above. If you have any questions or comments, please do not hesitate to call me at (307) 745-7474

Sincerely,
Trihydro Corporation

Grant Price, P.G.
Project Manager

697-039-007

Attachments

cc: E. Riege, Western Refining
C. Johnson, Western Refining
T. Larsen, Western Refining
K. Van Horn, NMED

TABLES

**TABLE 1. SEPTEMBER 2014 VADOSE ZONE SOIL ANALYTICAL SUMMARY, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Toluene (mg/kg)	Total Petroleum Hydrocarbon (mg/kg)	Xylenes, Total (mg/kg)	Chloride (mg/kg)
CentralOCD-01_091614	09/16/14	ND(0.048)	ND(0.048)	ND(0.048)	ND(20) UJ	ND(0.097)	230 ^{A.}
CentralOCD-02_091614	09/16/14	ND(0.05)	ND(0.05)	ND(0.05)	1100 J+ ^{A.}	ND(0.099)	93 ^{A.}
CentralOCD-03_091614	09/16/14	ND(0.048)	ND(0.048)	ND(0.048)	ND(20) UJ	ND(0.097)	120 ^{A.}
CentralOCD-04_091614	09/16/14	ND(0.049)	ND(0.049)	ND(0.049)	92 J+ ^{A.}	ND(0.098)	870 ^{A.,B.,C.}

A.	Baseline Concentration	0.05	0.05	0.05	20	0.1	7.525
B.	Central Landfarm Action Level	NA	NA	NA	2,500	NA	500
C.	ABRSC	0.2	50	50	2,500	50	500

Notes:

Bold concentration indicates exceedance of screening value.

J+ - The result is an estimated value that may be biased high

ABRSC - Alternate Beneficial Reuse Screening Concentration

mg/kg - milligrams per kilogram

**TABLE 2. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, VOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Benzene (mg/kg)	Carbon Tetrachloride (mg/kg)	Chloroform (mg/kg)	Dibromomethane (mg/kg)	1,1-Dichloroethane (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)
Central OCD-02-020515	02/05/15	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)
Central OCD-03-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)
Central OCD-04-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)

Baseline Concentration	0.05	0.1	0.05	0.1	0.1
Central Landfarm Action Level	NA	NA	NA	NA	NA
ABRSC	0.2	199	671	0.002	6,880

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 2. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, VOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	1,2-Dichloroethane (mg/kg)	1,1-Dichloroethene (mg/kg)	Ethylbenzene (mg/kg)	Methylene Chloride (mg/kg)	1-Methylnaphthalene (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.15)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.14)	ND(0.18)
Central OCD-03-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.15)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.15)	ND(0.2)

Baseline Concentration	0.05	0.05	0.05	0.15	0.2
Central Landfarm Action Level	NA	NA	NA	NA	NA
ABRSC	751	1,830	50	10,600	0.6

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 2. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, VOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	2-Methylnaphthalene (mg/kg)	Naphthalene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)	1,1,1-Trichloroethane (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.098)	ND(0.049)	ND(0.049)	ND(0.049)
Central OCD-02-020515	02/05/15	ND(0.18)	ND(0.092)	ND(0.046)	ND(0.046)	ND(0.046)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.099)	ND(0.049)	ND(0.049)	ND(0.049)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.099)	ND(0.049)	ND(0.049)	ND(0.049)

Baseline Concentration	0.2	0.2	0.05	0.05	0.05
Central Landfarm Action Level	NA	NA	NA	NA	NA
ABRSC	0.6	702	338	50	64,300

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 2. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, VOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	1,1,2-Trichloroethane (mg/kg)	Trichloroethene (mg/kg)	Vinyl Chloride (mg/kg)	Xylenes, Total (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.098)
Central OCD-02-020515	02/05/15	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.092)
Central OCD-03-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.099)
Central OCD-04-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.099)

Baseline Concentration	0.05	0.05	0.05	0.1
Central Landfarm Action Level	NA	NA	NA	NA
ABRSC	1,240	4,600	248	50

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 3. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Anthracene (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.02)	ND(0.02)
Central OCD-02-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.02)	ND(0.02)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.02)	ND(0.02)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.1)	ND(0.1)

Baseline Concentration	0.2	0.2	0.2	0.02	0.02
Central Landfarm Action Level	NA	NA	NA	NA	NA
ABRSC	18,600	0.6	66,800	15.3	71.3

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 3. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)
Central OCD-02-020515	02/05/15	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)
Central OCD-03-020515	02/05/15	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)
Central OCD-04-020515	02/05/15	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)

Baseline Concentration	0.02	0.02	0.02	0.02	0.02
Central Landfarm Action Level	NA	NA	NA	NA	NA
ABRSC	71.3	75.8	75.8	4.36	75.8

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 3. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(g,h,i)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)

Baseline Concentration	0.2	0.2	0.2	0.2	0.2
Central Landfarm Action Level	NA	NA	NA	NA	NA
ABRSC	213	21.3	213	0.6	2,060

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 3. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	4-Chloro-3- methylphenol (mg/kg)	2-Chlorophenol (mg/kg)	Chrysene (mg/kg)	Dibenz(a,h)anthracene (mg/kg)	2,4-Dichlorophenol (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.5)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)
Central OCD-02-020515	02/05/15	ND(0.49)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)
Central OCD-03-020515	02/05/15	ND(0.5)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)
Central OCD-04-020515	02/05/15	ND(0.5)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)

Baseline Concentration	0.5	0.2	0.2	0.2	0.4
Central Landfarm Action Level	NA	NA	NA	NA	NA
ABRSC	0.1	1,550	20,600	21.3	715

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 3. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	2,4-Dimethylphenol (mg/kg)	2-Methyl-4,6- dinitrophenol (mg/kg)	2,4-Dinitrophenol (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.3)	ND(0.5)	ND(0.5)	ND(0.2)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.3)	ND(0.49)	ND(0.49)	ND(0.2)	ND(0.2)
Central OCD-03-020515	02/05/15	ND(0.3)	ND(0.5)	ND(0.5)	ND(0.2)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.3)	ND(0.5)	ND(0.5)	ND(0.2)	ND(0.2)

Baseline Concentration	0.3	0.5	0.4	0.2	0.2
Central Landfarm Action Level	NA	NA	NA	NA	NA
ABRSC	4,760	23.8	476	8,910	8,910

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 3. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Indeno(1,2,3-cd)pyrene (mg/kg)	1-Methylnaphthalene (mg/kg)	2-Methylnaphthalene (mg/kg)	2-Methylphenol (mg/kg)	3,4-Methylphenol (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.5)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.49)	ND(0.2)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.5)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.5)	ND(0.2)

Baseline Concentration	0.2	0.2	0.2	0.5	0.2
Central Landfarm Action Level	NA	NA	NA	NA	NA
ABRSC	213	0.6	0.6	0.1	0.1

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 3. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Naphthalene (mg/kg)	2-Nitrophenol (mg/kg)	4-Nitrophenol (mg/kg)	Pentachlorophenol (mg/kg)	Phenanthrene (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.25)	ND(0.4)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.25)	ND(0.4)	ND(0.2)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.25)	ND(0.4)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.25)	ND(0.4)	ND(0.2)

Baseline Concentration	0.2	0.2	0.225	0.4	0.2
Central Landfarm Action Level	NA	NA	NA	NA	NA
ABRSC	702	0.1	0.1	1,030	7,150

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 3. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Phenol (mg/kg)	Pyrene (mg/kg)	2,4,5-Trichlorophenol (mg/kg)	2,4,6-Trichlorophenol (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)

Baseline Concentration	0.2	0.2	0.2	0.2
Central Landfarm Action Level	NA	NA	NA	NA
ABRSC	68,800	6,680	23,800	238

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

**TABLE 4. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, METALS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Arsenic, Total (mg/kg)	Barium, Total (mg/kg)	Cadmium, Total (mg/kg)	Chromium, Total (mg/kg)	Copper, Total (mg/kg)
Central OCD-01-020515	02/05/15	ND(2.6)	210 J-	ND(0.1)	13 ^{A.}	3.7 ^{A.}
Central OCD-02-020515	02/05/15	ND(2.6)	760 J- ^{A.}	ND(0.1)	10	3.3 ^{A.}
Central OCD-03-020515	02/05/15	ND(2.4)	220 J-	ND(0.097)	12	3.6 ^{A.}
Central OCD-04-020515	02/05/15	ND(2.5)	250 J-	ND(0.1)	12	3.8 ^{A.}

A. Baseline Concentration	13	365	0.5	12.7	2.95
B. Central Landfarm Action Level	NA	NA	NA	NA	NA
C. ABRSC	65.4	4,350	309	447,000	12,400

Notes:

Bold concentration indicates that the detected value exceeds the screening value.

J- - The result is an estimated value that may be biased low

UJ - Estimated reporting limit

ABRSC - Alternate Beneficial Reuse Screening Concentration

mg/kg - milligrams per kilogram

**TABLE 4. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, METALS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Iron, Total (mg/kg)	Lead, Total (mg/kg)	Manganese, Total (mg/kg)	Mercury, Total (mg/kg)	Selenium, Total (mg/kg)
Central OCD-01-020515	02/05/15	20000 ^{A.}	2.5 J-	360	ND(0.032)	ND(2.6) UJ
Central OCD-02-020515	02/05/15	16000	2.7 J-	370	ND(0.032)	ND(2.6) UJ
Central OCD-03-020515	02/05/15	18000 ^{A.}	3.2 J-	340	ND(0.035)	ND(2.4) UJ
Central OCD-04-020515	02/05/15	17000	6.2 J- ^{A.}	340	ND(0.032)	ND(2.5) UJ

^{A.} Baseline Concentration	17,333.333	5.533	520	0.107	13
^{B.} Central Landfarm Action Level	NA	NA	NA	NA	NA
^{C.} ABRSC	217,000	800	463	63.6	1,550

Notes:

Bold concentration indicates that the detected value exceeds the screening value.

J- - The result is an estimated value that may be biased low

UJ - Estimated reporting limit

ABRSC - Alternate Beneficial Reuse Screening Concentration

mg/kg - milligrams per kilogram

**TABLE 4. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, METALS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Silver, Total (mg/kg)	Uranium, Total (mg/kg)	Zinc, Total (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.26)	ND(5.2)	17
Central OCD-02-020515	02/05/15	ND(0.26)	ND(5.2)	14
Central OCD-03-020515	02/05/15	ND(0.24)	ND(4.9)	19
Central OCD-04-020515	02/05/15	ND(0.25)	ND(5.1)	22

A.

A. Baseline Concentration	1.3	43.75	21.333
B. Central Landfarm Action Level	NA	NA	NA
C. ABRSC	1,550	929	92,900

Notes:

Bold concentration indicates that the detected value exceeds the screening value.

J- - The result is an estimated value that may be biased low

UJ - Estimated reporting limit

ABRSC - Alternate Beneficial Reuse Screening Concentration

mg/kg - milligrams per kilogram

**TABLE 5. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, GENERAL PARAMETERS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Chloride (mg/kg)		Cyanide, Total (mg/kg)	DRO as Diesel (mg/kg)	Fluoride, Total (mg/kg)		GRO as Gasoline (mg/kg)
Central OCD-01-020515	02/05/15	290	A.	ND(0.31)	ND(10)	3	A.	ND(4.9)
Central OCD-02-020515	02/05/15	110	A.	ND(0.31)	ND(9.9)	4.3	A.	ND(4.6)
Central OCD-03-020515	02/05/15	300	A.	ND(0.29)	ND(9.9)	3.4	A.	ND(4.9)
Central OCD-04-020515	02/05/15	260	A.	0.45	54	5.9	A.	ND(4.9)

A. Baseline Concentration	7.525	0.425	NA	2.95	NA
B. Central Landfarm Action Level	500	NA	NA	NA	NA
C. ABRSC	500	6,190	NA	18,600	NA

Notes:

Bold concentration indicates that the detected value exceeds the screening value.

J - Estimated concentration

J+ - The result is an estimated value that may be biased high

ABRSC - Alternate Beneficial Reuse Screening Concentration

mg/kg - milligrams per kilogram

pCi/L - picocuries per liter

**TABLE 5. FEBRUARY 2015 VADOSE ZONE SOIL ANALYTICAL SUMMARY, GENERAL PARAMETERS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO**

Location ID	Date Sampled	Nitrogen, Nitrate (mg/kg)	Radium 226 (pCi/L)	Radium 228 (pCi/L)	Sulfate (mg/kg)	Total Petroleum Hydrocarbon (mg/kg)
Central OCD-01-020515	02/05/15	2.7 J+	0.586±0.338	1.561±0.449	400	ND(20)
Central OCD-02-020515	02/05/15	1.6 J+	1.24±0.264	1.514±0.382	700 J	ND(20)
Central OCD-03-020515	02/05/15	16 J+	1.467±0.265	2.207±0.494	570	ND(20)
Central OCD-04-020515	02/05/15	7.5 J+	1.48±0.372	1.854±0.591	750	59

A. Baseline Concentration	NA	NA	NA	21.5	20
B. Central Landfarm Action Level	NA	NA	NA	NA	2,500
C. ABRSC	NA	NA	NA	12,000	2,500

Notes:

Bold concentration indicates that the detected value exceeds the screening value.

J - Estimated concentration

J+ - The result is an estimated value that may be biased high

ABRSC - Alternate Beneficial Reuse Screening Concentration

mg/kg - milligrams per kilogram

pCi/L - picocuries per liter

ATTACHMENT A

SEPTEMBER 16, 2014 ANALYTICAL DATA AND TIER II DATA VALIDATION



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

October 21, 2014

Ed Riege

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

RE: OCD Central Landfarm Semiannual Sampling

OrderNo.: 1409874

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 8 sample(s) on 9/16/2014 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 **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-01-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 11:10:00 AM

Lab ID: 1409874-001

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	230	30		mg/Kg	20	9/19/2014 1:25:43 PM	15404
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	9/20/2014 9:45:22 PM	15378
Toluene	ND	0.048		mg/Kg	1	9/20/2014 9:45:22 PM	15378
Ethylbenzene	ND	0.048		mg/Kg	1	9/20/2014 9:45:22 PM	15378
Xylenes, Total	ND	0.097		mg/Kg	1	9/20/2014 9:45:22 PM	15378
Surr: 1,2-Dichloroethane-d4	89.8	70-130		%REC	1	9/20/2014 9:45:22 PM	15378
Surr: 4-Bromofluorobenzene	85.8	70-130		%REC	1	9/20/2014 9:45:22 PM	15378
Surr: Dibromofluoromethane	95.5	70-130		%REC	1	9/20/2014 9:45:22 PM	15378
Surr: Toluene-d8	90.0	70-130		%REC	1	9/20/2014 9:45:22 PM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	9/19/2014	15373

Refer to the QC Summary report and 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 1 of 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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 **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-02-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 10:30:00 AM

Lab ID: 1409874-002

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	93	30		mg/Kg	20	9/19/2014 1:38:07 PM	15404
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	9/20/2014 10:13:15 PM	15378
Toluene	ND	0.050		mg/Kg	1	9/20/2014 10:13:15 PM	15378
Ethylbenzene	ND	0.050		mg/Kg	1	9/20/2014 10:13:15 PM	15378
Xylenes, Total	ND	0.099		mg/Kg	1	9/20/2014 10:13:15 PM	15378
Surr: 1,2-Dichloroethane-d4	90.1	70-130		%REC	1	9/20/2014 10:13:15 PM	15378
Surr: 4-Bromofluorobenzene	80.6	70-130		%REC	1	9/20/2014 10:13:15 PM	15378
Surr: Dibromofluoromethane	93.4	70-130		%REC	1	9/20/2014 10:13:15 PM	15378
Surr: Toluene-d8	97.4	70-130		%REC	1	9/20/2014 10:13:15 PM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	1100	200		mg/Kg	10	9/19/2014	15373

Refer to the QC Summary report and 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 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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 **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-03-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 9:55:00 AM

Lab ID: 1409874-003

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	120	30		mg/Kg	20	9/19/2014 1:50:32 PM	15404
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	9/20/2014 10:41:12 PM	15378
Toluene	ND	0.048		mg/Kg	1	9/20/2014 10:41:12 PM	15378
Ethylbenzene	ND	0.048		mg/Kg	1	9/20/2014 10:41:12 PM	15378
Xylenes, Total	ND	0.097		mg/Kg	1	9/20/2014 10:41:12 PM	15378
Surr: 1,2-Dichloroethane-d4	87.0	70-130		%REC	1	9/20/2014 10:41:12 PM	15378
Surr: 4-Bromofluorobenzene	78.9	70-130		%REC	1	9/20/2014 10:41:12 PM	15378
Surr: Dibromofluoromethane	88.2	70-130		%REC	1	9/20/2014 10:41:12 PM	15378
Surr: Toluene-d8	86.5	70-130		%REC	1	9/20/2014 10:41:12 PM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	9/19/2014	15373

Refer to the QC Summary report and 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 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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 **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-04-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 8:40:00 AM

Lab ID: 1409874-004

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	870	30		mg/Kg	20	9/19/2014 3:04:58 PM	15404
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.049		mg/Kg	1	9/20/2014 11:09:13 PM	15378
Toluene	ND	0.049		mg/Kg	1	9/20/2014 11:09:13 PM	15378
Ethylbenzene	ND	0.049		mg/Kg	1	9/20/2014 11:09:13 PM	15378
Xylenes, Total	ND	0.098		mg/Kg	1	9/20/2014 11:09:13 PM	15378
Surr: 1,2-Dichloroethane-d4	85.8	70-130		%REC	1	9/20/2014 11:09:13 PM	15378
Surr: 4-Bromofluorobenzene	76.4	70-130		%REC	1	9/20/2014 11:09:13 PM	15378
Surr: Dibromofluoromethane	89.3	70-130		%REC	1	9/20/2014 11:09:13 PM	15378
Surr: Toluene-d8	89.9	70-130		%REC	1	9/20/2014 11:09:13 PM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	92	20		mg/Kg	1	9/19/2014	15373

Refer to the QC Summary report and 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 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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 **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BD-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014

Lab ID: 1409874-005

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	990	30		mg/Kg	20	9/19/2014 3:17:22 PM	15404
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	9/21/2014 12:33:06 AM	15378
Toluene	ND	0.050		mg/Kg	1	9/21/2014 12:33:06 AM	15378
Ethylbenzene	ND	0.050		mg/Kg	1	9/21/2014 12:33:06 AM	15378
Xylenes, Total	ND	0.099		mg/Kg	1	9/21/2014 12:33:06 AM	15378
Surr: 1,2-Dichloroethane-d4	84.9	70-130		%REC	1	9/21/2014 12:33:06 AM	15378
Surr: 4-Bromofluorobenzene	84.0	70-130		%REC	1	9/21/2014 12:33:06 AM	15378
Surr: Dibromofluoromethane	93.0	70-130		%REC	1	9/21/2014 12:33:06 AM	15378
Surr: Toluene-d8	90.3	70-130		%REC	1	9/21/2014 12:33:06 AM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	39	20		mg/Kg	1	9/19/2014	15373

Refer to the QC Summary report and 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 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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 **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 10:55:00 AM

Lab ID: 1409874-006

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S							Analyst: SCC
Aroclor 1016	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1221	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1232	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1242	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1248	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1254	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1260	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Surr: Decachlorobiphenyl	0	37.2-143	S	%REC	1	9/24/2014 9:38:29 AM	15379
Surr: Tetrachloro-m-xylene	0	35.6-141	S	%REC	1	9/24/2014 9:38:29 AM	15379
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	1100	98		mg/Kg	10	9/22/2014 6:51:10 PM	15363
Surr: DNOP	0	57.9-140	S	%REC	10	9/22/2014 6:51:10 PM	15363
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/23/2014 11:51:20 AM	15378
Surr: BFB	82.8	80-120		%REC	1	9/23/2014 11:51:20 AM	15378
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	7.4	6.0		mg/Kg	20	9/19/2014 3:29:46 PM	15404
Chloride	130	30		mg/Kg	20	9/19/2014 3:29:46 PM	15404
Nitrogen, Nitrate (As N)	6.9	6.0		mg/Kg	20	9/19/2014 3:29:46 PM	15404
Sulfate	1000	30		mg/Kg	20	9/19/2014 3:29:46 PM	15404
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.062	0.033		mg/Kg	1	9/26/2014 11:16:27 AM	15505
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	ND	2.5		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Barium	340	0.20		mg/Kg	2	9/24/2014 2:47:32 PM	15465
Cadmium	ND	0.098		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Chromium	10	0.29		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Copper	10	0.29		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Iron	16000	250		mg/Kg	100	9/24/2014 1:07:26 PM	15465
Lead	5.6	0.25		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Manganese	370	0.20		mg/Kg	2	9/24/2014 2:47:32 PM	15465
Selenium	ND	2.5		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Silver	ND	0.25		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Uranium	ND	4.9		mg/Kg	1	9/25/2014 12:35:49 PM	15465
Zinc	31	2.5		mg/Kg	1	9/24/2014 2:46:09 PM	15465
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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 **1409874**Date Reported: **10/21/2014****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** CentralOCD-TZ-9/16/14**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 9/16/2014 10:55:00 AM**Lab ID:** 1409874-006**Matrix:** SOIL**Received Date:** 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Acenaphthylene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Aniline	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Anthracene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Azobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benz(a)anthracene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzo(a)pyrene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzo(b)fluoranthene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzo(g,h,i)perylene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzo(k)fluoranthene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzoic acid	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzyl alcohol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Bis(2-chloroethoxy)methane	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Bis(2-chloroethyl)ether	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Bis(2-chloroisopropyl)ether	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Bis(2-ethylhexyl)phthalate	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Bromophenyl phenyl ether	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Butyl benzyl phthalate	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Carbazole	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Chloro-3-methylphenol	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Chloroaniline	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Chloronaphthalene	ND	2.5		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Chlorophenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Chlorophenyl phenyl ether	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Chrysene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Di-n-butyl phthalate	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Di-n-octyl phthalate	ND	4.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Dibenz(a,h)anthracene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Dibenzofuran	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
1,2-Dichlorobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
1,3-Dichlorobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
1,4-Dichlorobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
3,3'-Dichlorobenzidine	ND	2.5		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Diethyl phthalate	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Dimethyl phthalate	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,4-Dichlorophenol	ND	4.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,4-Dimethylphenol	ND	3.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4,6-Dinitro-2-methylphenol	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,4-Dinitrophenol	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370

Refer to the QC Summary report and 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 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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 **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 10:55:00 AM

Lab ID: 1409874-006

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2,4-Dinitrotoluene	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,6-Dinitrotoluene	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Fluoranthene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Fluorene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Hexachlorobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Hexachlorobutadiene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Hexachlorocyclopentadiene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Hexachloroethane	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Indeno(1,2,3-cd)pyrene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Isophorone	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
1-Methylnaphthalene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Methylnaphthalene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Methylphenol	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
3+4-Methylphenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
N-Nitrosodi-n-propylamine	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
N-Nitrosodiphenylamine	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Naphthalene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Nitroaniline	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
3-Nitroaniline	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Nitroaniline	ND	4.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Nitrobenzene	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Nitrophenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Nitrophenol	ND	2.5		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Pentachlorophenol	ND	4.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Phenanthrene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Phenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Pyrene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Pyridine	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
1,2,4-Trichlorobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,4,5-Trichlorophenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,4,6-Trichlorophenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Surr: 2-Fluorophenol	0	21-111	S	%REC	1	9/19/2014 5:59:33 PM	15370
Surr: Phenol-d5	0	23.1-117	S	%REC	1	9/19/2014 5:59:33 PM	15370
Surr: 2,4,6-Tribromophenol	0	22.7-88.9	S	%REC	1	9/19/2014 5:59:33 PM	15370
Surr: Nitrobenzene-d5	0	24.5-126	S	%REC	1	9/19/2014 5:59:33 PM	15370
Surr: 2-Fluorobiphenyl	0	21.2-129	S	%REC	1	9/19/2014 5:59:33 PM	15370
Surr: 4-Terphenyl-d14	0	39.4-107	S	%REC	1	9/19/2014 5:59:33 PM	15370
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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 **1409874**Date Reported: **10/21/2014****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** CentralOCD-TZ-9/16/14**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 9/16/2014 10:55:00 AM**Lab ID:** 1409874-006**Matrix:** SOIL**Received Date:** 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Toluene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Ethylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Methyl tert-butyl ether (MTBE)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2,4-Trimethylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,3,5-Trimethylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2-Dichloroethane (EDC)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2-Dibromoethane (EDB)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Naphthalene	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1-Methylnaphthalene	ND	0.18		mg/Kg	1	9/21/2014 1:00:56 AM	15378
2-Methylnaphthalene	ND	0.18		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Acetone	ND	0.69		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Bromobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Bromodichloromethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Bromoform	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Bromomethane	ND	0.14		mg/Kg	1	9/21/2014 1:00:56 AM	15378
2-Butanone	ND	0.46		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Carbon disulfide	ND	0.46		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Carbon tetrachloride	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Chlorobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Chloroethane	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Chloroform	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Chloromethane	ND	0.14		mg/Kg	1	9/21/2014 1:00:56 AM	15378
2-Chlorotoluene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
4-Chlorotoluene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
cis-1,2-DCE	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
cis-1,3-Dichloropropene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2-Dibromo-3-chloropropane	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Dibromochloromethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Dibromomethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2-Dichlorobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,3-Dichlorobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,4-Dichlorobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Dichlorodifluoromethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1-Dichloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1-Dichloroethene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2-Dichloropropane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,3-Dichloropropane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
2,2-Dichloropropane	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1-Dichloropropene	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378

Refer to the QC Summary report and 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 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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 **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 10:55:00 AM

Lab ID: 1409874-006

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Hexachlorobutadiene	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
2-Hexanone	ND	0.46		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Isopropylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
4-Isopropyltoluene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
4-Methyl-2-pentanone	ND	0.46		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Methylene chloride	ND	0.14		mg/Kg	1	9/21/2014 1:00:56 AM	15378
n-Butylbenzene	ND	0.14		mg/Kg	1	9/21/2014 1:00:56 AM	15378
n-Propylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
sec-Butylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Styrene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
tert-Butylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,1,2-Tetrachloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,2,2-Tetrachloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Tetrachloroethene (PCE)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
trans-1,2-DCE	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
trans-1,3-Dichloropropene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2,3-Trichlorobenzene	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2,4-Trichlorobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,1-Trichloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,2-Trichloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Trichloroethene (TCE)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Trichlorofluoromethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2,3-Trichloropropane	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Vinyl chloride	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Xylenes, Total	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
mp-Xylenes	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
o-Xylene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Surr: Dibromofluoromethane	88.8	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
Surr: 1,2-Dichloroethane-d4	84.1	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
Surr: Toluene-d8	94.7	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
Surr: 4-Bromofluorobenzene	84.0	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	1400	200		mg/Kg	10	9/19/2014	15373

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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 **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 12:10:00 PM

Lab ID: 1409874-007

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	9/22/2014 3:33:56 PM	R21353
Toluene	ND	1.0		µg/L	1	9/22/2014 3:33:56 PM	R21353
Ethylbenzene	ND	1.0		µg/L	1	9/22/2014 3:33:56 PM	R21353
Xylenes, Total	ND	1.5		µg/L	1	9/22/2014 3:33:56 PM	R21353
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%REC	1	9/22/2014 3:33:56 PM	R21353
Surr: 4-Bromofluorobenzene	104	70-130		%REC	1	9/22/2014 3:33:56 PM	R21353
Surr: Dibromofluoromethane	95.8	70-130		%REC	1	9/22/2014 3:33:56 PM	R21353
Surr: Toluene-d8	92.0	70-130		%REC	1	9/22/2014 3:33:56 PM	R21353

Refer to the QC Summary report and 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 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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 **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 12:15:00 PM

Lab ID: 1409874-008

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	9/22/2014 4:03:40 PM	R21353
Toluene	ND	1.0		µg/L	1	9/22/2014 4:03:40 PM	R21353
Ethylbenzene	ND	1.0		µg/L	1	9/22/2014 4:03:40 PM	R21353
Xylenes, Total	ND	1.5		µg/L	1	9/22/2014 4:03:40 PM	R21353
Surr: 1,2-Dichloroethane-d4	90.2	70-130		%REC	1	9/22/2014 4:03:40 PM	R21353
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	9/22/2014 4:03:40 PM	R21353
Surr: Dibromofluoromethane	89.9	70-130		%REC	1	9/22/2014 4:03:40 PM	R21353
Surr: Toluene-d8	88.8	70-130		%REC	1	9/22/2014 4:03:40 PM	R21353

Refer to the QC Summary report and 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 12 of 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the 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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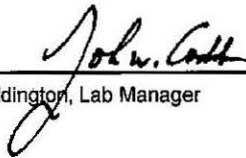
Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 140919029
Project Name: 1409874

Analytical Results Report

Sample Number	140919029-001	Sampling Date	9/16/2014	Date/Time Received	9/19/2014 12:10 PM		
Client Sample ID	1409874-006C / CENTRALOCD-TZ-9/16/14			Sampling Time	10:55 AM		
Matrix	Soil	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.285	9/29/2014	CRW	EPA 335.4	
%moisture	11.9	Percent		9/30/2014	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.

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 #: 140919029
Project Name: 1409874

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.502	mg/kg	0.5	100.4	90-110	9/29/2014	9/29/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140919031-005	Cyanide	ND	12.7	mg/kg	14.1	90.1	90-110	9/29/2014	9/29/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	13.2	mg/kg	14.1	93.6	3.9	0-25	9/29/2014	9/29/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	9/29/2014	9/29/2014

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:C595; MT:Cert0095; FL(NELAP): E871099

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1409874

Pace Project No.: 30129978

Sample: 1409874-006B CentralOCD-
TZ-9/1 **Lab ID:** 30129978001 **Collected:** 09/16/14 10:55 **Received:** 09/19/14 09:45 **Matrix:** Solid

PWS: **Site ID:** **Sample Type:**

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	1.134 ± 0.247 (0.192) C:NA T:NA	pCi/g	10/19/14 13:48	13982-63-3	
Radium-228	EPA 901.1	0.748 ± 0.241 (0.417) C:NA T:NA	pCi/g	10/19/14 13:48	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1409874
Pace Project No.: 30129978

QC Batch:	RADC/21509	Analysis Method:	EPA 901.1
QC Batch Method:	EPA 901.1	Analysis Description:	901.1 Gamma Spec Ingrowth
Associated Lab Samples:	30129978001		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15404	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	15404		RunNo:	21343				
Prep Date:	9/19/2014	Analysis Date:	9/19/2014		SeqNo:	623059		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID	LCS-15404		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 15404		RunNo: 21343					
Prep Date:	9/19/2014		Analysis Date: 9/19/2014		SeqNo: 623060		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	98.7	90	110			
Chloride	14	1.5	15.00	0	94.5	90	110			
Nitrogen, Nitrate (As N)	7.5	0.30	7.500	0	99.4	90	110			
Sulfate	29	1.5	30.00	0	97.1	90	110			

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the 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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15373		SampType:	MBLK		TestCode:	EPA Method 418.1: TPH				
Client ID:	PBS		Batch ID:	15373		RunNo:	21288				
Prep Date:	9/18/2014		Analysis Date:	9/19/2014		SeqNo:	621284		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	ND	20									

Sample ID	LCS-15373			SampType:	LCS		TestCode:	EPA Method 418.1: TPH			
Client ID:	LCSS			Batch ID:	15373		RunNo:	21288			
Prep Date:	9/18/2014			Analysis Date:	9/19/2014		SeqNo:	621285		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	96	20	100.0	0	95.8	80	120				

Sample ID	1409874-004AMS		SampType: MS		TestCode: EPA Method 418.1: TPH					
Client ID:	CentralOCD-04-9/16/		Batch ID: 15373		RunNo: 21288					
Prep Date:	9/18/2014		Analysis Date: 9/19/2014		SeqNo: 621301		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	230	20	98.33	91.89	139	80	120			S

Sample ID	1409874-004AMSD		SampType: MSD		TestCode: EPA Method 418.1: TPH					
Client ID:	CentralOCD-04-9/16/		Batch ID: 15373		RunNo: 21288					
Prep Date:	9/18/2014		Analysis Date: 9/19/2014		SeqNo: 621302		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	330	20	98.72	91.89	237	80	120	35.2	20	RS

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the 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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15363		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 15363		RunNo: 21269					
Prep Date:	9/18/2014		Analysis Date: 9/18/2014		SeqNo: 620601		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	10		10.00		100	57.9	140			

Sample ID	LCS-15363		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15363		RunNo: 21269					
Prep Date:	9/18/2014		Analysis Date: 9/18/2014		SeqNo: 620602		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	62	10	50.00	0	125	68.6	130			
Surr: DNOP	5.2		5.000		104	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15378		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 15378		RunNo: 21342					
Prep Date:	9/18/2014		Analysis Date: 9/22/2014		SeqNo: 623292		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	940		1000		94.2	80	120			

Sample ID	LCS-15378		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 15378		RunNo: 21342					
Prep Date:	9/18/2014		Analysis Date: 9/22/2014		SeqNo: 623293		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	1000		1000		101	80	120			

Sample ID	1409874-006AMS		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	CentralOCD-TZ-9/16		Batch ID: 15378		RunNo: 21342					
Prep Date:	9/18/2014		Analysis Date: 9/22/2014		SeqNo: 623304		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.6	23.08	0	101	71.8	132			
Surr: BFB	1000		923.4		110	80	120			

Sample ID	1409874-006AMSD		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	CentralOCD-TZ-9/16		Batch ID: 15378		RunNo: 21342					
Prep Date:	9/18/2014		Analysis Date: 9/22/2014		SeqNo: 623305		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.6	23.15	0	96.5	71.8	132	4.58	20	
Surr: BFB	1000		925.9		108	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-15379	SampType: MBLK		TestCode: EPA Method 8082: PCB's							
Client ID: PBS	Batch ID: 15379		RunNo: 21397							
Prep Date: 9/18/2014	Analysis Date: 9/24/2014		SeqNo: 625113		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.041		0.06250		65.2	37.2	143			
Surr: Tetrachloro-m-xylene	0.034		0.06250		54.8	35.6	141			

Sample ID LCS-15379	SampType: LCS		TestCode: EPA Method 8082: PCB's							
Client ID: LCSS	Batch ID: 15379		RunNo: 21397							
Prep Date: 9/18/2014	Analysis Date: 9/24/2014		SeqNo: 625114		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.065	0.020	0.1250	0	52.1	34.7	146			
Aroclor 1260	0.085	0.020	0.1250	0	68.1	36.3	153			
Surr: Decachlorobiphenyl	0.040		0.06250		64.8	37.2	143			
Surr: Tetrachloro-m-xylene	0.035		0.06250		55.6	35.6	141			

Sample ID LCS-15379 1221_12	SampType: LCS		TestCode: EPA Method 8082: PCB's							
Client ID: LCSS	Batch ID: 15379		RunNo: 21397							
Prep Date: 9/18/2014	Analysis Date: 9/24/2014		SeqNo: 626901		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1221	0.044	0.020	0.1250	0	35.4	70	130			S
Aroclor 1248	0.068	0.020	0.1250	0	54.4	70	130			S
Surr: Decachlorobiphenyl	0.037		0.06250		59.6	37.2	143			
Surr: Tetrachloro-m-xylene	0.035		0.06250		55.6	35.6	141			

Sample ID LCSD-15379 1221_1	SampType: LCSD		TestCode: EPA Method 8082: PCB's							
Client ID: LCSS02	Batch ID: 15379		RunNo: 21397							
Prep Date: 9/18/2014	Analysis Date: 9/24/2014		SeqNo: 626902		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1221	0.043	0.020	0.1250	0	34.2	70	130	3.45	20	S
Aroclor 1248	0.069	0.020	0.1250	0	55.0	70	130	1.17	20	S
Surr: Decachlorobiphenyl	0.037		0.06250		59.6	37.2	143	0	0	
Surr: Tetrachloro-m-xylene	0.034		0.06250		54.8	35.6	141	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	LCS-15379 1232_12			SampType:	LCS		TestCode:	EPA Method 8082: PCB's			
Client ID:	LCSS		Batch ID:	15379		RunNo:	21397				
Prep Date:	9/18/2014		Analysis Date:	9/24/2014		SeqNo:	626903		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Aroclor 1232	0.081	0.020	0.1250	0	64.9	70	130			S	
Aroclor 1254	0.11	0.020	0.1250	0	86.7	70	130				
Surr: Decachlorobiphenyl	0.045		0.06250		71.6	37.2	143				
Surr: Tetrachloro-m-xylene	0.040		0.06250		63.2	35.6	141				

Sample ID	LCSD-15379 1232_1			SampType:	LCSD		TestCode: EPA Method 8082: PCB's			
Client ID:	LCSS02		Batch ID:		15379		RunNo: 21397			
Prep Date:	9/18/2014		Analysis Date:		9/24/2014		SeqNo: 626904		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1232	0.074	0.020	0.1250	0	59.0	70	130	9.49	20	S
Aroclor 1254	0.093	0.020	0.1250	0	74.3	70	130	15.4	20	
Surr: Decachlorobiphenyl	0.042		0.06250		68.0	37.2	143	0	0	
Surr: Tetrachloro-m-xylene	0.038		0.06250		61.2	35.6	141	0	0	

Sample ID	LCS-15379 1242	SampType: LCS			TestCode: EPA Method 8082: PCB's					
Client ID:	LCSS	Batch ID: 15379			RunNo: 21397					
Prep Date:	9/18/2014	Analysis Date: 9/24/2014			SeqNo: 626905		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1242	0.079	0.020	0.1250	0	63.1	70	130			S
Surr: Decachlorobiphenyl	0.040		0.06250		64.4	37.2	143			
Surr: Tetrachloro-m-xylene	0.036		0.06250		56.8	35.6	141			

Sample ID	LCSD-15379 1242	SampType:	LCSD	TestCode:	EPA Method 8082: PCB's					
Client ID:	LCSS02	Batch ID:	15379	RunNo:	21397					
Prep Date:	9/18/2014	Analysis Date:	9/24/2014	SeqNo:	626906	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1242	0.088	0.020	0.1250	0	70.5	70	130	11.1	20	
Surr: Decachlorobiphenyl	0.044		0.06250		70.8	37.2	143	0	0	
Surr: Tetrachloro-m-xylene	0.038		0.06250		61.6	35.6	141	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-15378		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15378		RunNo:	21355			
Prep Date:	9/18/2014		Analysis Date:	9/20/2014		SeqNo:	623843		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.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the 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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-15378		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15378		RunNo:	21355			
Prep Date:	9/18/2014		Analysis Date:	9/20/2014		SeqNo:	623843		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	0.42		0.5000		84.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.2	70	130			
Surr: Toluene-d8	0.47		0.5000		94.6	70	130			
Surr: 4-Bromofluorobenzene	0.37		0.5000		74.2	70	130			

Sample ID	lcs-15378		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	LCSS		Batch ID:	15378		RunNo:	21355			
Prep Date:	9/18/2014		Analysis Date:	9/20/2014		SeqNo:	623844		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.0	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Chlorobenzene	1.0	0.050	1.000	0	101	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	lcs-15378		SampType: LCS			TestCode: EPA Method 8260B: Volatiles				
Client ID:	LCSS		Batch ID: 15378			RunNo: 21355				
Prep Date:	9/18/2014		Analysis Date: 9/20/2014			SeqNo: 623844		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.1	0.050	1.000	0	105	60.5	160			
Trichloroethene (TCE)	0.92	0.050	1.000	0	91.5	58.8	139			
Surr: Dibromofluoromethane	0.44		0.5000		88.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.0	70	130			
Surr: Toluene-d8	0.44		0.5000		87.5	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		84.7	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-15378		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	PBS		Batch ID: 15378		RunNo: 21355					
Prep Date:	9/18/2014		Analysis Date: 9/20/2014		SeqNo: 623834		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.050								
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
1,2-Dibromoethane (EDB)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
Naphthalene	ND	0.10								
2-Methylnaphthalene	ND	0.20								
1-Methylnaphthalene	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.2	70	130			
Surr: 4-Bromofluorobenzene	0.37		0.5000		74.2	70	130			
Surr: Dibromofluoromethane	0.42		0.5000		84.4	70	130			
Surr: Toluene-d8	0.47		0.5000		94.6	70	130			

Sample ID	1409874-004ams		SampType: MS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	CentralOCD-04-9/16/		Batch ID: 15378		RunNo: 21355					
Prep Date:	9/18/2014		Analysis Date: 9/20/2014		SeqNo: 623840		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.049	0.9794	0	104	32.2	145			
Toluene	0.98	0.049	0.9794	0	99.6	29.1	139			
Surr: 1,2-Dichloroethane-d4	0.43		0.4897		88.0	70	130			
Surr: 4-Bromofluorobenzene	0.38		0.4897		78.6	70	130			
Surr: Dibromofluoromethane	0.45		0.4897		92.3	70	130			
Surr: Toluene-d8	0.43		0.4897		87.0	70	130			

Sample ID	1409874-004amsd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	CentralOCD-04-9/16/		Batch ID: 15378		RunNo: 21355					
Prep Date:	9/18/2014		Analysis Date: 9/21/2014		SeqNo: 623841		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.049	0.9814	0	108	32.2	145	3.73	20	
Toluene	0.99	0.049	0.9814	0	100	29.1	139	1.05	20	
Surr: 1,2-Dichloroethane-d4	0.42		0.4907		85.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.40		0.4907		82.0	70	130	0	0	
Surr: Dibromofluoromethane	0.47		0.4907		95.0	70	130	0	0	
Surr: Toluene-d8	0.41		0.4907		84.2	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	lcs-15378		SampType: LCS			TestCode: EPA Method 8260B: Volatiles Short List				
Client ID:	LCSS		Batch ID: 15378			RunNo: 21355				
Prep Date:	9/18/2014		Analysis Date: 9/20/2014			SeqNo: 625670		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.0	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.0	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		84.7	70	130			
Surr: Dibromofluoromethane	0.44		0.5000		88.1	70	130			
Surr: Toluene-d8	0.44		0.5000		87.5	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID b3	SampType: MBLK			TestCode: EPA Method 8260: Volatiles Short List						
Client ID: PBW	Batch ID: R21353			RunNo: 21353						
Prep Date:	Analysis Date: 9/22/2014			SeqNo: 623722		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								
Xylenes, Total	ND	1.5								
mp-Xylenes	ND	1.0								
o-Xylene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	9.0		10.00		89.5	70	130			
Surr: Toluene-d8	8.7		10.00		87.0	70	130			

Sample ID 100ng lcs2	SampType: LCS			TestCode: EPA Method 8260: Volatiles Short List						
Client ID: LCSW	Batch ID: R21353			RunNo: 21353						
Prep Date:	Analysis Date: 9/22/2014			SeqNo: 623723		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			
Toluene	18	1.0	20.00	0	91.1	80	120			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.2	70	130			
Surr: Toluene-d8	9.2		10.00		91.6	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-15370	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15370	RunNo:	21328					
Prep Date:	9/18/2014	Analysis Date:	9/19/2014	SeqNo:	622393	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-15370	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15370	RunNo:	21328					
Prep Date:	9/18/2014	Analysis Date:	9/19/2014	SeqNo:	622393	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	1.9		3.330		58.4	21	111			
Surr: Phenol-d5	2.3		3.330		69.7	23.1	117			
Surr: 2,4,6-Tribromophenol	2.4		3.330		70.8	22.7	88.9			
Surr: Nitrobenzene-d5	1.1		1.670		67.3	24.5	126			
Surr: 2-Fluorobiphenyl	1.2		1.670		74.2	21.2	129			
Surr: 4-Terphenyl-d14	1.4		1.670		81.0	39.4	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the 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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	Ics-15370		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles				
Client ID:	LCSS		Batch ID: 15370			RunNo: 21328				
Prep Date:	9/18/2014		Analysis Date: 9/19/2014			SeqNo: 622394		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.93	0.20	1.670	0	55.4	50.7	110			
4-Chloro-3-methylphenol	2.2	0.50	3.330	0	66.9	47.8	107			
2-Chlorophenol	2.2	0.20	3.330	0	66.6	45.7	108			
1,4-Dichlorobenzene	0.88	0.20	1.670	0	52.7	46.1	112			
2,4-Dinitrotoluene	0.80	0.50	1.670	0	47.8	44.9	114			
N-Nitrosodi-n-propylamine	0.81	0.20	1.670	0	48.5	38.7	128			
4-Nitrophenol	1.8	0.25	3.330	0	54.3	40.2	103			
Pentachlorophenol	1.6	0.40	3.330	0	48.5	32.9	94			
Phenol	2.2	0.20	3.330	0	64.8	44.1	109			
Pyrene	1.1	0.20	1.670	0	64.3	51.9	109			
1,2,4-Trichlorobenzene	0.92	0.20	1.670	0	55.3	49.5	115			
Surr: 2-Fluorophenol	1.8		3.330		54.4	21	111			
Surr: Phenol-d5	2.2		3.330		65.8	23.1	117			
Surr: 2,4,6-Tribromophenol	1.8		3.330		53.1	22.7	88.9			
Surr: Nitrobenzene-d5	1.1		1.670		64.4	24.5	126			
Surr: 2-Fluorobiphenyl	0.96		1.670		57.7	21.2	129			
Surr: 4-Terphenyl-d14	1.1		1.670		63.7	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15505		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 15505		RunNo: 21480					
Prep Date:	9/25/2014		Analysis Date: 9/26/2014		SeqNo: 628099		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	LCS-15505		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 15505		RunNo: 21480					
Prep Date:	9/25/2014		Analysis Date: 9/26/2014		SeqNo: 628100		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	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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15465	SampType:	MBLK	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	PBS	Batch ID:	15465	RunNo:	21420					
Prep Date:	9/23/2014	Analysis Date:	9/24/2014	SeqNo:	625694	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Copper	ND	0.30								
Iron	ND	2.5								
Lead	ND	0.25								
Manganese	ND	0.10								
Selenium	ND	2.5								
Silver	ND	0.25								
Zinc	ND	2.5								

Sample ID	LCS-15465	SampType:	LCS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	LCSS	Batch ID:	15465	RunNo:	21420					
Prep Date:	9/23/2014	Analysis Date:	9/24/2014	SeqNo:	625695	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	24	2.5	25.00	0	95.6	80	120			
Barium	25	0.10	25.00	0	99.2	80	120			
Cadmium	24	0.10	25.00	0	97.4	80	120			
Chromium	24	0.30	25.00	0	97.3	80	120			
Copper	28	0.30	25.00	0	110	80	120			
Iron	26	2.5	25.00	0	103	80	120			
Lead	24	0.25	25.00	0	97.8	80	120			
Manganese	25	0.10	25.00	0	101	80	120			
Selenium	24	2.5	25.00	0	95.5	80	120			
Silver	5.0	0.25	5.000	0	101	80	120			
Zinc	23	2.5	25.00	0	90.7	80	120			

Sample ID	MB-15465	SampType:	MBLK	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	PBS	Batch ID:	15465	RunNo:	21466					
Prep Date:	9/23/2014	Analysis Date:	9/25/2014	SeqNo:	627397	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	5.0								

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#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	LCS-15465		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 15465		RunNo: 21466					
Prep Date:	9/23/2014		Analysis Date: 9/25/2014		SeqNo: 627398		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	24	5.0	25.00	0	97.1	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 Gallup

Work Order Number: 1409874

RcptNo: 1

Received by/date:

CS 09/16/14

Logged By:

Lindsay Mangin

9/16/2014 5:03:00 PM



Completed By:

Lindsay Mangin

9/18/2014 8:26:23 AM



Reviewed By:

CS

09/18/14

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? Client

Log In

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

of preserved
bottles checked
for pH:

(<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:

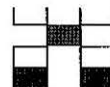
Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Not Present			

Client: Western Refining

☒ Standard☐ Rush

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Mailing Address: Route 3 Box 7

Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-722-0210

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other☐ EDD (Type) Please provide EDD

Project Name:

OCD Central Landfarm Semiannual Sampling

Project #:

697-039-004

Project Manager:

Ed Riege

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.1°

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No	Vadose Zone List (see attached)	NMAC List (see attached)	DRO and GRO by 8015D	BTEX (8260)	Air Ruthless (Y or N)
1/6/14	1110	soil	CentralOCD-01-9/16/14	4oz - 2	none	-001	X				
1/6/14	1030	soil	CentralOCD-02-9/16/14	4oz - 2	none	-002	X				
1/6/14	0955	soil	CentralOCD-03-9/16/14	4oz - 2	none	-003	X				
1/6/14	0840	soil	CentralOCD-04-9/16/14	4oz - 2	none	-004	X				
1/6/14		soil	BD-9/16/14	4oz - 2	none	-005	X				
1/6/14	0855	soil	CentralOCD-04-9/16/14-MS	4oz - 2	none	-004	X				
1/6/14	0900	soil	CentralOCD-04-9/16/14-MSD	4oz - 2	none	-004	X				
1/6/14	1055	soil	CentralOCD-12-9/16/14	8oz - 3, 4oz - 1	none	-006	X	X	X		
1/6/14	1210	water	EB-9/16/14	VOA - 3	HCL	-007				X	
1/6/14	1215	water	FB-9/16/14	VOA - 3	HCL	-008				X	
		water	Trip Blank	VOA - 3	HCL	-009				X	

Date: Time: Relinquished by:

1/6/14 1450 [Signature]

Date: Time: Relinquished by:

1/6/14 1703 [Signature]

Received by:

[Signature] 9-16-14 1450

Received by:

[Signature] 09/16/14 1703

Remarks: Please cc Grant Price (gprice@trihydro.com) with results

Call Grant @ 307-745-7474 w/ questions. **Verify that Reporting****limits comply with those shown on the attached. PCBs need****DL of 0.02 mg/kg.**

Did not receive trip blank

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

mg 05/15



NMAC LIST ANALYTES AND REPORTING LIMITS, CONSTITUENTS LISTED IN SUBSECTIONS A AND B OF 20.6.2.3103 NMAC, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.5000
*Radium-226	E901.1	pCi/g	1.3950
*Radium-228	E901.1	pCi/g	1.2500
*Radium-226+Radium-228	E901.1	pCi/g	2.6450
Arsenic	SW6010A	mg/kg	2.5000
Barium	SW6010A	mg/kg	1.0000
Cadmium	SW6010A	mg/kg	0.1000
Chromium	SW6010A	mg/kg	0.3000
Copper	SW6010A	mg/kg	0.6000
Iron	SW6010A	mg/kg	500.0000
Lead	SW6010A	mg/kg	0.2500
Manganese	SW6010A	mg/kg	1.0000
Selenium	SW6010A	mg/kg	2.5000
Silver	SW6010A	mg/kg	0.2500
Uranium	SW6010A	mg/kg	5.0000
Zinc	SW6010A	mg/kg	2.5000
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg	0.0200
Aroclor 1221	SW8082	mg/kg	0.0200
Aroclor 1232	SW8082	mg/kg	0.0200
Aroclor 1242	SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1,1-Dichloroethane	SW8260B	mg/kg	0.0970
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethane	SW8260B	mg/kg	0.0480
Carbon tetrachloride	SW8260B	mg/kg	0.0970
Chloroform	SW8260B	mg/kg	0.0480
Dibromomethane	SW8260B	mg/kg	0.1000
Methylene chloride	SW8260B	mg/kg	0.1500
Tetrachloroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4-Dichlorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg	0.3000
2,4-Dinitrophenol	SW8270C	mg/kg	0.4000
2-Chlorophenol	SW8270C	mg/kg	0.2000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol	SW8270C	mg/kg	0.1000
3+4-Methylphenol	SW8270C	mg/kg	0.1000
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachlorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	0.2000
Acenaphthene	SW8270C	mg/kg	0.2000
Acenaphthylene	SW8270C	mg/kg	0.2000
Anthracene	SW8270C	mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg	0.2000
Benzo(a)pyrene	SW8270C	mg/kg	0.2000
Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	mg/kg	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(a,h)anthracene	SW8270C	mg/kg	0.2000
Fluoranthene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Indeno(1,2,3-c,d)pyrene	SW8270C	mg/kg	0.2000
Naphthalene	SW8270C	mg/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyanide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gasoline Range Organics (GRO)	SW8015	mg/kg	1.0

**VADOSE ZONE ANALYTES AND REPORTING LIMITS, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO**

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Chloride	E300	mg/kg	30
Benzene	SW8260B	mg/kg	0.050
Ethylbenzene	SW8260B	mg/kg	0.050
Toluene	SW8260B	mg/kg	0.050
Xylenes, Total	SW8260B	mg/kg	0.100
Petroleum Hydrocarbons, TR	E418.1	mg/kg	20



Tier II Data Validation Report Summary

Client: Western Refining Southwest, Inc.	Laboratory: Hall Environmental Analysis Laboratory, Inc.
Project Name: OCD Central Landfarm Semiannual Sampling	Sample Matrix: Soil
Project Number: 697-039-005	Sample Start Date: 9/16/2014
Date Validated: 12/23/2014	Sample End Date: 9/16/2014
Parameters Included: <ul style="list-style-type: none">• Inorganic Anions by Environmental Protection Agency (EPA) Method 300.0• Volatile Organic Compounds (VOC) by Solid Waste 846 (SW-846) Method 8260B• Total Petroleum Hydrocarbons (TPH) by EPA Method 418.1• Polychlorinated Biphenyls (PCBs) by EPA Method 8082• Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) by EPA Method 8015D• Total Mercury by SW-846 Method 7471• Total Metals by SW-846 Method 6010B• Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C• Total Cyanide by EPA Method 335.4• Radium-226 and Radium-228 by EPA Method 901.1	
Laboratory Project ID: 1409874	
Data Validator: James Gianakon, Environmental Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, Anatek Labs, Inc. in Moscow, Idaho, and Pace Analytical Services, Inc. in Greensburg, Pennsylvania, evaluating samples from the Western Refining Southwest, Inc. site, located in Gallup, New Mexico.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from:

- Field duplicate pairs
- Matrix spike (MS) and matrix spike duplicate (MSD) pairs
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs

Laboratory accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- LCS/LCSD samples
- Organic system monitoring compounds (surrogates)

Field accuracy was established by collecting and analyzing the following samples to monitor for possible ambient or cross contamination during sampling and transportation.

- Field blanks
- Equipment blanks





Tier II Data Validation Report Summary

Method compliance was established by reviewing sample integrity, holding times, detection limits, surrogate recoveries, laboratory blanks, initial and continuing calibrations (where applicable), and the LCS/LCSD percent recoveries against method-specific requirements.

Completeness was evaluated by determining the overall ratio of the number of samples and analyses planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other laboratory and field documents associated with this analytical data set.

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Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
CentralOCD-01-9/16/14	1409874-001
CentralOCD-02-9/16/14	1409874-002
CentralOCD-03-9/16/14	1409874-003
CentralOCD-04-9/16/14	1409874-004
BD-9/16/14	1409874-005
CentralOCD-TZ-9/16/14	1409874-006/140919029-001/30129978001
EB-9/16/14	1409874-007
FB-9/16/14	1409874-008



Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (□) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

- ⊗ Data Completeness
- ✓ CoC Documentation (Item 3)
- ✓ Holding Times and Preservation (Items 6 and 7)
- Initial and Continuing Calibrations (Item 9)
- ✓ Laboratory Blanks (Item 10)
- ⊗ MS/MSD (Item 12)
- ⊗ LCS/LCSD (Item 14)
- ⊗ System Monitoring Compounds (i.e., Surrogates) (Item 16)
- ✓ Field and Equipment Blanks (Item 17)
- ⊗ Field Duplicates (Item 19)
- Laboratory Duplicates (Item 21)

Guidance References

Chemical data validation was conducted in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for the analyses listed below, or by the appropriate method if not covered in the National Functional Guidelines.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Superfund Organic Methods Data Review, document number EPA-540-R-014-002, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Organic Data Review, document number EPA 540/R-99/008, October 1999.
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Data Review, document number EPA-540-R-013-001, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number EPA 540-R-04-004, October 2004.
- Review of field duplicates was conducted according to the USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.
- The USEPA CLP National Functional Guidelines for Chlorinated Dibenzo-*p*-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review, document number EPA-540-R-11-016, September 2011, was referenced for review of CDDs and CDFs.
- Trihydro Data Validation Variance Documentation, September 2014.





Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Validation Criteria Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes.

Text identified in **bold font** in the Validation Criteria Checklist indicates that further action and/or qualification of the data were required. Data were qualified with J data flags by the laboratory if the result was greater than or equal to the method detection limit (MDL) but less than the reporting limit (RL). Laboratory J flags were preserved in the data and included in the Data Qualification Summary table at the end of this report. Additional data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data that would be qualified with more than one flag were assigned one qualifier based on the severity; however, all reasons for qualification were retained. The hierarchy of qualifiers from the most to least severe is as follows:

- R > JB/U > NJ > J+/J- > J/UJ

Data that would be qualified with both J+ and J- flags were assigned one or the other based on the validation criteria involved. The hierarchy of validation criteria from higher to lower precedence is as follows:

- Holding Time > Calibrations > Surrogates > LCS/LCSD > MS/MSD

Data qualifiers used during this validation are included in the following table.

<u>Qualifier</u>	<u>Definition</u>
J+	The result is an estimated concentration, but may be biased high
J-	The result is an estimated concentration, but may be biased low
UJ	Estimated reporting limit
R	Rejected, data not usable

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 198 data points excluding blank samples. Seventy-five data points were rejected. The data completeness measure for this data package is calculated to be 62.12% and is not acceptable.



VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	Yes
Comments: The laboratory did not report non-conformances related to this data set.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags in the laboratory report. S – Spike Recovery outside accepted recover limits. R – RPD outside accepted recovery limits.	
3. Were sample CoC forms and procedures complete?	Yes
Comments: The CoC record from the field to the laboratory was complete and custody was maintained as evidenced by the field and laboratory personnel signatures, dates, and times of receipt.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The detection limits appeared to be acceptable. The following dilutions were applied. <u>Method 300.0</u> : A dilution factor of 20 times was applied for the inorganic anions analyses of the soil samples. <u>Method 418.1</u> : A dilution factor of 10 times was applied for the TPH analysis of samples CentralOCD-02-9/16/14 and CentralOCD-TZ-9/16/14. <u>Method 6010B</u> : Dilution factors of 2 to 100 times were applied for the total metals analyses of sample CentralOCD-TZ-9/16/14. <u>Method 8015D</u> : A dilution factor of 10 times was applied for the DRO analysis of sample CentralOCD-TZ-9/16/14.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC? Were any analytes reported by more than one method?	Yes
Comments: The reported analytical methods and constituents were found to be in compliance with the CoC.	
6. Were samples received in good condition within method-specified requirements?	No
Comments: Samples were received on ice, intact, and in good condition, outside the temperature acceptance range of 4°C +/- 2°C at a temperature of 1.1°C as noted on the CoC and the Sample Log-In Checklist. The samples were not frozen and bottles were not broken; therefore, no further action was required. Custody seals were not present on the coolers or the sample containers because the samples were delivered directly to the laboratory by a member of the sampling team after sample collection and custody was maintained at all times.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	Yes
Comments: Samples were extracted/digested and analyzed within the method specified holding times.	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil.	Yes
Comments: The results were reported in concentration units of milligrams per kilogram (mg/kg), picocurie per gram (pCi/g), and micrograms per liter (µg/L) which were acceptable for the sample matrices and the analyses requested. Analytical results for the soil samples were reported on an as-received, wet weight basis.	
9. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	N/A
Comments: Initial and continuing calibration data were not included as part of this data set. However, there data were assumed to be acceptable as the laboratory did not note that any calibration verification results were outside the acceptable limits.	

VALIDATION CRITERIA CHECKLIST

10. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.

11. Were laboratory blank samples reported to be free of target analyte contamination? Yes

Comments: The laboratory blank samples were reported to be free of target analyte contamination

12. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Method	Analyte (s)	Batch	MS Sample Source
300.0	Inorganic Anions	24343	Not Prepared
418.1	TPH	15373	CentralOCD-04-9/16/14
8015D	DRO	15363	Not Prepared
8015D	GRO	15378	CentralOCD-TZ-9/16/14
8082	PCBs	15379	Not Prepared
8260B	VOCs	15378	CentralOCD-04-9/16/14
8260B	VOCs	R21353	Not Prepared
8270C	SVOCs	15370	Not Prepared
7471	Mercury	15505	Not Prepared
6010B	Total Metals	15465	Not Prepared
335.4	Cyanide	140919029	Not Associated

Not Associated – The MS sample source was not associated with this project.

Not Prepared – Matrix spikes were not prepared for this batch.

13. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory quality control (QC) limits? No

Comments: MS/MSD percent recoveries and MS/MSD RPDs were within data validation and laboratory QC limits, with the following exceptions.

The recoveries for petroleum hydrocarbons in the MS and MSD for Method 418.1 batch 15373 were outside the laboratory acceptance limits of 80-120% at 139% and 237%, respectively. The MS/MSD RPD for petroleum hydrocarbons was outside of the laboratory acceptance limit of 20% at 35.2%. Associated detections were assigned J+ qualifiers due to evidence of high bias and non-detections in associated samples were qualified UJ due to evidence of poor precision.

14. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples analyzed.



VALIDATION CRITERIA CHECKLIST

15. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits? No

Comments: The LCS/LCSD percent recoveries and LCS/LCSD RPDs were within data validation or laboratory QC limits with the following exceptions.

<u>Method</u>	<u>Analyte</u>	<u>Batch</u>	<u>LCS Recovery</u>	<u>LCSD Recovery</u>	<u>LCS/LCSD QC Limits</u>
8082	Aroclor 1221	15379	35.4%	34.2%	70-130%
8082	Aroclor 1248	15379	54.4%	55.0%	70-130%
8082	Aroclor 1232	15379	64.9%	59.0%	70-130%
8082	Aroclor 1242	15379	53.1%	Acceptable	70-130%

The identified target analytes were not detected in the associated sample in batch 15379, CentralOCD-TZ-9/16/14, and the results were assigned UJ qualifiers due to evidence of low bias.

16. Were surrogate recoveries within laboratory QC limits? No

Comments: Surrogate recoveries were within laboratory QC limits with the following exceptions.

<u>Method</u>	<u>Surrogate</u>	<u>Sample</u>	<u>Surrogate Recovery</u>	<u>QC Limits</u>
8082	Decachlorobiphenyl	CentralOCD-TZ-9/16/14	0%	37.2-143%
8082	Tetrachloro-m-xylene	CentralOCD-TZ-9/16/14	0%	35.6-141%
8015D	DNOP	CentralOCD-TZ-9/16/14	0%	57.9-140%
8270C	2-Fluorophenol	CentralOCD-TZ-9/16/14	0%	21-111%
8270C	Phenol-d ₅	CentralOCD-TZ-9/16/14	0%	23.1-117%
8270C	2,4,6-Tribromophenol	CentralOCD-TZ-9/16/14	0%	22.7-88.9%
8270C	Nitrobenzene-d ₅	CentralOCD-TZ-9/16/14	0%	24.5-126%
8270C	2-Fluorobiphenyl	CentralOCD-TZ-9/16/14	0%	21.2-129%
8270C	4-Terphenyl-d ₁₄	CentralOCD-TZ-9/16/14	0%	39.4-107%

Sample CentralOCD-TZ-9/16/14 had a positive detection from TPH DRO, related to surrogate DNOP. The result was assigned a J- qualifier due to evidence of low bias.

The target analytes associated with the identified surrogates were not detected in the sample and the results were assigned R qualifiers due to evidence of low bias.

17. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of trip blank, field blank, and equipment blank samples collected was equal to at least 10% of the total samples. One field blank sample, FB-9/16/14, and one equipment blank sample, EB-9/16/14, were collected as a part of this data set.

18. Were the field blank and/or equipment blank samples reported to be free of target analyte contamination? Yes

Comments: The field blank and equipment blank samples were free of target analyte contamination.

19. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of field duplicate samples collected was equal to at least 10% of the total number of samples. The sample BD-9/16/14 was collected as a duplicate for CentralOCD-04-9/16/14.



VALIDATION CRITERIA CHECKLIST	
20. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	No
<p>Comments: As detailed in the Field Duplicate Summary Tables below, the field duplicate RPD values were within QC limits with the following exception.</p> <p>The RPD value for petroleum hydrocarbons was greater than 50% at 80.9% and the parent and duplicate samples, CentralOCD-04-9/16/14 and BD-9/16/14, would have been assigned J qualifiers due to high RPD, but had previously been assigned J+ qualifiers due to evidence of high bias.</p>	
21. Were laboratory duplicate RPD values within laboratory QC limits?	N/A
<p>Comments: Laboratory duplicate samples were not prepared as a part of this data set.</p>	

FIELD DUPLICATE SUMMARY

Client Sample ID: CentralOCD-04-9/16/14 Field Duplicate Sample ID: BD-9/16/14				
Method	Analyte	Laboratory Result (mg/kg)	Duplicate Result (mg/kg)	Relative Percent Difference (RPD)
300.0	Chloride	870	990	12.9%
418.1	Total Petroleum Hydrocarbons	92	39	80.9%
<p>Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.</p> <p>The RPD value for total petroleum hydrocarbons was greater than 50% at 80.9% and the parent and duplicate samples, CentralOCD-04-9/16/14 and BD-9/16/14, would have been assigned J qualifiers due to high RPD, but had previously been assigned J+ qualifiers due to evidence of high bias.</p>				

DATA QUALIFICATION SUMMARY

Abbreviation	Reason
LR -SUR	The surrogate percent recovery was less than the lower acceptable limit indicating a possible low bias.
HR-MS	The MS and/or MSD percent recovery was greater than the upper acceptable limit indicating possible matrix interference.
LR-LCS	The LCS and/or LCSD percent recovery was less than the lower acceptable limit indicating a possible low bias.
ERPD-MS	The MS/MSD RPD exceeded the upper acceptable limit indicating poor precision.
ERPD-FD	High field duplicate RPD.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,2,4-Trichlorobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
1,2-Dichlorobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
1,3-Dichlorobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
1,4-Dichlorobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
1-Methylnaphthalene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2,2-oxybis(1-Chloropropane)	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2,4,5-Trichlorophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2,4,6-Trichlorophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2,4-Dichlorophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	4	mg/kg	R	LR -SUR
2,4-Dimethylphenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	3	mg/kg	R	LR -SUR
2,4-Dinitrophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
2,4-Dinitrotoluene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
2,6-Dinitrotoluene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
2-Chloronaphthalene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2.5	mg/kg	R	LR -SUR
2-Chlorophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2-Methylnaphthalene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2-Methylphenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
2-Nitroaniline	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2-Nitrophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR



Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
3,3-Dichlorobenzidine	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2.5	mg/kg	R	LR -SUR
3,4-Dimethylphenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
3-Nitroaniline	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
4,6-Dinitro-2-methylphenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
4-Bromophenyl-phenylether	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
4-Chloro-3-Methylphenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
4-Chloroaniline	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
4-Chlorophenyl-phenylether	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
4-Nitroaniline	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	4	mg/kg	R	LR -SUR
4-Nitrophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2.5	mg/kg	R	LR -SUR
Acenaphthene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Acenaphthylene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Aniline	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Anthracene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Azobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzo(a)anthracene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzo(a)pyrene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzo(b)fluoranthene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzo(g,h,i)perylene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzo(k)fluoranthene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzoic Acid	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
Benzyl Alcohol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Bis(2-chloroethoxy)methane	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Bis(2-chloroethyl)ether	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Bis(2-ethylhexyl)phthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
Butylbenzylphthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Carbazole	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Chrysene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Dibenzo(a,h)anthracene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Dibenzofuran	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Diethylphthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Dimethylphthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Di-n-butylphthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
Di-n-octylphthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	4	mg/kg	R	LR -SUR
Fluoranthene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Fluorene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Hexachlorobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Hexachlorobutadiene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Hexachlorocyclopentadiene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Hexachloroethane	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Indeno(1,2,3-cd)pyrene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Isophorone	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
Naphthalene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Nitrobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
N-Nitrosodi-n-propylamine	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
N-Nitrosodiphenylamine	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
PCB-1016	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR
PCB-1221	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR, LR-LCS
PCB-1232	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR, LR-LCS
PCB-1242	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR, LR-LCS
PCB-1248	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR, LR-LCS
PCB-1254	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR
PCB-1260	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR
Pentachlorophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	4	mg/kg	R	LR -SUR



Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Phenanthrene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Phenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Pyrene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Pyridine	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
Total Petroleum Hydrocarbons	E418.1	CentralOCD-02-9/16/14	1409874-002A	1100	200	mg/kg	J+	ERPD-MS, HR-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-TZ-9/16/14	1409874-006A	1400	200	mg/kg	J+	ERPD-MS, HR-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-01-9/16/14	1409874-001A	ND	20	mg/kg	UJ	ERPD-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-03-9/16/14	1409874-003A	ND	20	mg/kg	UJ	ERPD-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-04-9/16/14	1409874-004A	92	20	mg/kg	J+	ERPD-FD, ERPD-MS, HR-MS
Total Petroleum Hydrocarbons	E418.1	BD-9/16/14	1409874-005A	39	20	mg/kg	J+	ERPD-FD, ERPD-MS, HR-MS
TPH DRO	SW8015	CentralOCD-TZ-9/16/14	1409874-006A	1100	98	mg/kg	J-	LR -SUR



ATTACHMENT B

FEBRUARY 5, 2015 ANALYTICAL DATA AND TIER II DATA VALIDATION



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

March 09, 2015

Ed Riege

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

RE: OCD Central Landfarm Semiannual Sampling

OrderNo.: 1502324

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 8 sample(s) on 2/6/2015 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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-01-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 1:30:00 PM

Lab ID: 1502324-001

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S							Analyst: SCC
Aroclor 1016	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1221	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1232	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1242	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1248	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1254	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1260	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Surr: Decachlorobiphenyl	65.2	37.5-161		%REC	1	2/12/2015 3:20:56 PM	17661
Surr: Tetrachloro-m-xylene	56.8	28.1-149		%REC	1	2/12/2015 3:20:56 PM	17661
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/10/2015 2:06:15 PM	17621
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/10/2015 2:06:15 PM	17621
Surr: DNOP	103	63.5-128		%REC	1	2/10/2015 2:06:15 PM	17621
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/10/2015 5:44:45 PM	17626
Surr: BFB	90.4	80-120		%REC	1	2/10/2015 5:44:45 PM	17626
EPA METHOD 300.0: ANIONS							Analyst: LGT
Fluoride	3.0	0.30		mg/Kg	1	2/11/2015 5:21:36 PM	17685
Chloride	290	30		mg/Kg	20	2/11/2015 5:34:01 PM	17685
Nitrogen, Nitrate (As N)	2.7	0.30		mg/Kg	1	2/11/2015 5:21:36 PM	17685
Sulfate	400	30		mg/Kg	20	2/11/2015 5:34:01 PM	17685
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.032		mg/Kg	1	2/11/2015 1:44:04 PM	17645
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	ND	2.6		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Barium	210	0.10		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Cadmium	ND	0.10		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Chromium	13	0.31		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Copper	3.7	0.31		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Iron	20000	100		mg/Kg	100	2/12/2015 8:49:00 AM	17644
Lead	2.5	0.26		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Manganese	360	0.21		mg/Kg	2	2/11/2015 11:05:57 AM	17644
Selenium	ND	2.6		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Silver	ND	0.26		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Uranium	ND	5.2		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Zinc	17	2.6		mg/Kg	1	2/11/2015 11:04:27 AM	17644

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-01-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 1:30:00 PM

Lab ID: 1502324-001

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Acenaphthylene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Aniline	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Azobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benz(a)anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzo(a)pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzoic acid	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzyl alcohol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Carbazole	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Chloroaniline	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Chloronaphthalene	ND	0.25		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Chlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Chrysene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Di-n-octyl phthalate	ND	0.40		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Dibenzofuran	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Diethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Dimethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,4-Dinitrophenol	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635

Refer to the QC Summary report and 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 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-01-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 1:30:00 PM

Lab ID: 1502324-001

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Fluorene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Hexachlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Hexachlorobutadiene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Hexachloroethane	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Isophorone	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Methylphenol	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
3+4-Methylphenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Naphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
3-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Nitroaniline	ND	0.40		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Nitrobenzene	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Nitrophenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Nitrophenol	ND	0.25		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Pentachlorophenol	ND	0.40		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Phenanthrene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Phenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Pyridine	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Surr: 2-Fluorophenol	85.1	26.4-129		%REC	1	2/11/2015 10:18:36 AM	17635
Surr: Phenol-d5	77.5	34.8-118		%REC	1	2/11/2015 10:18:36 AM	17635
Surr: 2,4,6-Tribromophenol	78.8	26.8-128		%REC	1	2/11/2015 10:18:36 AM	17635
Surr: Nitrobenzene-d5	86.9	35.8-124		%REC	1	2/11/2015 10:18:36 AM	17635
Surr: 2-Fluorobiphenyl	84.8	24.5-139		%REC	1	2/11/2015 10:18:36 AM	17635
Surr: 4-Terphenyl-d14	67.1	29.4-129		%REC	1	2/11/2015 10:18:36 AM	17635
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626

Refer to the QC Summary report and 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 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-01-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 1:30:00 PM

Lab ID: 1502324-001

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Toluene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Ethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2,4-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,3,5-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2-Dichloroethane (EDC)	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2-Dibromoethane (EDB)	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Naphthalene	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 2:07:20 PM	17626
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Acetone	ND	0.74		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Bromobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Bromodichloromethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Bromoform	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Bromomethane	ND	0.15		mg/Kg	1	2/10/2015 2:07:20 PM	17626
2-Butanone	ND	0.49		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Carbon disulfide	ND	0.49		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Carbon tetrachloride	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Chlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Chloroethane	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Chloroform	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Chloromethane	ND	0.15		mg/Kg	1	2/10/2015 2:07:20 PM	17626
2-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
4-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
cis-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
cis-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2-Dibromo-3-chloropropane	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Dibromochloromethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Dibromomethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,3-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,4-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Dichlorodifluoromethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1-Dichloroethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1-Dichloroethene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,3-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
2,2-Dichloropropane	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1-Dichloropropene	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626

Refer to the QC Summary report and 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 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-01-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 1:30:00 PM

Lab ID: 1502324-001

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
Hexachlorobutadiene	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
2-Hexanone	ND	0.49		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Isopropylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
4-Isopropyltoluene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
4-Methyl-2-pentanone	ND	0.49		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Methylene chloride	ND	0.15		mg/Kg	1	2/10/2015 2:07:20 PM	17626
n-Butylbenzene	ND	0.15		mg/Kg	1	2/10/2015 2:07:20 PM	17626
n-Propylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
sec-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Styrene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
tert-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1,1,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1,2,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Tetrachloroethene (PCE)	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
trans-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
trans-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2,3-Trichlorobenzene	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2,4-Trichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1,1-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1,2-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Trichloroethene (TCE)	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Trichlorofluoromethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2,3-Trichloropropane	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Vinyl chloride	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Xylenes, Total	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Surr: Dibromofluoromethane	89.5	70-130		%REC	1	2/10/2015 2:07:20 PM	17626
Surr: 1,2-Dichloroethane-d4	81.5	70-130		%REC	1	2/10/2015 2:07:20 PM	17626
Surr: Toluene-d8	88.1	70-130		%REC	1	2/10/2015 2:07:20 PM	17626
Surr: 4-Bromofluorobenzene	85.5	70-130		%REC	1	2/10/2015 2:07:20 PM	17626
EPA METHOD 418.1: TPH				Analyst: BCN			
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	2/10/2015 2:00:00 PM	17630
CYANIDE-TOTAL				Analyst: SUB			
Cyanide	ND	0.31		mg/Kg	1	2/16/2015	R24387

Refer to the QC Summary report and 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 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-02-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 12:15:00 PM

Lab ID: 1502324-002

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S							Analyst: SCC
Aroclor 1016	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1221	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1232	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1242	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1248	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1254	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1260	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Surr: Decachlorobiphenyl	73.2	37.5-161		%REC	1	2/12/2015 5:38:58 PM	17661
Surr: Tetrachloro-m-xylene	65.6	28.1-149		%REC	1	2/12/2015 5:38:58 PM	17661
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/10/2015 2:50:05 PM	17621
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/10/2015 2:50:05 PM	17621
Surr: DNOP	98.1	63.5-128		%REC	1	2/10/2015 2:50:05 PM	17621
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/10/2015 11:00:26 PM	17626
Surr: BFB	89.6	80-120		%REC	1	2/10/2015 11:00:26 PM	17626
EPA METHOD 300.0: ANIONS							Analyst: LGT
Fluoride	4.3	0.30		mg/Kg	1	2/11/2015 6:11:15 PM	17685
Chloride	110	30		mg/Kg	20	2/11/2015 6:23:40 PM	17685
Nitrogen, Nitrate (As N)	1.6	0.30		mg/Kg	1	2/11/2015 6:11:15 PM	17685
Sulfate	700	30		mg/Kg	20	2/11/2015 6:23:40 PM	17685
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.032		mg/Kg	1	2/11/2015 1:45:52 PM	17645
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	ND	2.6		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Barium	760	0.52		mg/Kg	5	2/12/2015 9:01:20 AM	17644
Cadmium	ND	0.10		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Chromium	10	0.31		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Copper	3.3	0.31		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Iron	16000	100		mg/Kg	100	2/12/2015 8:50:20 AM	17644
Lead	2.7	0.26		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Manganese	370	0.21		mg/Kg	2	2/11/2015 11:08:53 AM	17644
Selenium	ND	2.6		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Silver	ND	0.26		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Uranium	ND	5.2		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Zinc	14	2.6		mg/Kg	1	2/11/2015 11:07:21 AM	17644

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-02-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 12:15:00 PM

Lab ID: 1502324-002

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Acenaphthylene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Aniline	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Azobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benz(a)anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzo(a)pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzoic acid	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzyl alcohol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Bis(2-ethylhexyl)phthalate	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Carbazole	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Chloro-3-methylphenol	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Chloroaniline	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Chloronaphthalene	ND	0.25		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Chlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Chrysene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Di-n-butyl phthalate	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Di-n-octyl phthalate	ND	0.40		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Dibenzofuran	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Diethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Dimethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4,6-Dinitro-2-methylphenol	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,4-Dinitrophenol	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635

Refer to the QC Summary report and 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 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-02-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 12:15:00 PM

Lab ID: 1502324-002

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2,4-Dinitrotoluene	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,6-Dinitrotoluene	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Fluorene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Hexachlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Hexachlorobutadiene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Hexachloroethane	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Isophorone	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Methylphenol	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
3+4-Methylphenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Naphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
3-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Nitroaniline	ND	0.40		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Nitrobenzene	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Nitrophenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Nitrophenol	ND	0.25		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Pentachlorophenol	ND	0.40		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Phenanthrene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Phenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Pyridine	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Surr: 2-Fluorophenol	88.4	26.4-129		%REC	1	2/11/2015 10:46:31 AM	17635
Surr: Phenol-d5	77.2	34.8-118		%REC	1	2/11/2015 10:46:31 AM	17635
Surr: 2,4,6-Tribromophenol	73.6	26.8-128		%REC	1	2/11/2015 10:46:31 AM	17635
Surr: Nitrobenzene-d5	81.5	35.8-124		%REC	1	2/11/2015 10:46:31 AM	17635
Surr: 2-Fluorobiphenyl	79.1	24.5-139		%REC	1	2/11/2015 10:46:31 AM	17635
Surr: 4-Terphenyl-d14	62.0	29.4-129		%REC	1	2/11/2015 10:46:31 AM	17635
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626

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 Not In Range
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1502324**Date Reported: **3/9/2015****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** Central OCD-02-2/5/2015**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 2/5/2015 12:15:00 PM**Lab ID:** 1502324-002**Matrix:** SOIL**Received Date:** 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Toluene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Ethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Methyl tert-butyl ether (MTBE)	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2,4-Trimethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,3,5-Trimethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2-Dichloroethane (EDC)	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2-Dibromoethane (EDB)	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Naphthalene	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1-Methylnaphthalene	ND	0.18		mg/Kg	1	2/10/2015 2:34:51 PM	17626
2-Methylnaphthalene	ND	0.18		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Acetone	ND	0.69		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Bromobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Bromodichloromethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Bromoform	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Bromomethane	ND	0.14		mg/Kg	1	2/10/2015 2:34:51 PM	17626
2-Butanone	ND	0.46		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Carbon disulfide	ND	0.46		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Carbon tetrachloride	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Chlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Chloroethane	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Chloroform	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Chloromethane	ND	0.14		mg/Kg	1	2/10/2015 2:34:51 PM	17626
2-Chlorotoluene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
4-Chlorotoluene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
cis-1,2-DCE	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
cis-1,3-Dichloropropene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2-Dibromo-3-chloropropane	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Dibromochloromethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Dibromomethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,3-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,4-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Dichlorodifluoromethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1-Dichloroethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1-Dichloroethene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2-Dichloropropane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,3-Dichloropropane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
2,2-Dichloropropane	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1-Dichloropropene	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626

Refer to the QC Summary report and 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 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-02-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 12:15:00 PM

Lab ID: 1502324-002

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Hexachlorobutadiene	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
2-Hexanone	ND	0.46		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Isopropylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
4-Isopropyltoluene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
4-Methyl-2-pentanone	ND	0.46		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Methylene chloride	ND	0.14		mg/Kg	1	2/10/2015 2:34:51 PM	17626
n-Butylbenzene	ND	0.14		mg/Kg	1	2/10/2015 2:34:51 PM	17626
n-Propylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
sec-Butylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Styrene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
tert-Butylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1,1,2-Tetrachloroethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1,2,2-Tetrachloroethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Tetrachloroethene (PCE)	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
trans-1,2-DCE	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
trans-1,3-Dichloropropene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2,3-Trichlorobenzene	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2,4-Trichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1,1-Trichloroethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1,2-Trichloroethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Trichloroethene (TCE)	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Trichlorofluoromethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2,3-Trichloropropane	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Vinyl chloride	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Xylenes, Total	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Surr: Dibromofluoromethane	90.7	70-130		%REC	1	2/10/2015 2:34:51 PM	17626
Surr: 1,2-Dichloroethane-d4	83.7	70-130		%REC	1	2/10/2015 2:34:51 PM	17626
Surr: Toluene-d8	86.5	70-130		%REC	1	2/10/2015 2:34:51 PM	17626
Surr: 4-Bromofluorobenzene	84.1	70-130		%REC	1	2/10/2015 2:34:51 PM	17626
EPA METHOD 418.1: TPH							Analyst: BCN
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	2/10/2015 2:00:00 PM	17630
CYANIDE-TOTAL							Analyst: SUB
Cyanide	ND	0.31		mg/Kg	1	2/16/2015	R24387

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-03-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 2:17:00 PM

Lab ID: 1502324-003

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S							Analyst: SCC
Aroclor 1016	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1221	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1232	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1242	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1248	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1254	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1260	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Surr: Decachlorobiphenyl	81.6	37.5-161		%REC	1	2/12/2015 8:41:10 PM	17661
Surr: Tetrachloro-m-xylene	67.2	28.1-149		%REC	1	2/12/2015 8:41:10 PM	17661
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/10/2015 3:11:57 PM	17621
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/10/2015 3:11:57 PM	17621
Surr: DNOP	99.6	63.5-128		%REC	1	2/10/2015 3:11:57 PM	17621
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/10/2015 11:29:05 PM	17626
Surr: BFB	90.0	80-120		%REC	1	2/10/2015 11:29:05 PM	17626
EPA METHOD 300.0: ANIONS							Analyst: LGT
Fluoride	3.4	0.30		mg/Kg	1	2/11/2015 6:36:04 PM	17685
Chloride	300	30		mg/Kg	20	2/11/2015 7:13:19 PM	17685
Nitrogen, Nitrate (As N)	16	0.30		mg/Kg	1	2/11/2015 6:36:04 PM	17685
Sulfate	570	30		mg/Kg	20	2/11/2015 7:13:19 PM	17685
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.035		mg/Kg	1	2/11/2015 1:51:23 PM	17645
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	ND	2.4		mg/Kg	1	2/12/2015 9:05:14 AM	17644
Barium	220	0.097		mg/Kg	1	2/12/2015 9:05:14 AM	17644
Cadmium	ND	0.097		mg/Kg	1	2/11/2015 11:10:17 AM	17644
Chromium	12	0.29		mg/Kg	1	2/11/2015 11:10:17 AM	17644
Copper	3.6	0.29		mg/Kg	1	2/11/2015 11:10:17 AM	17644
Iron	18000	97		mg/Kg	100	2/12/2015 8:51:40 AM	17644
Lead	3.2	0.24		mg/Kg	1	2/12/2015 9:05:14 AM	17644
Manganese	340	0.19		mg/Kg	2	2/11/2015 11:14:55 AM	17644
Selenium	ND	2.4		mg/Kg	1	2/12/2015 9:05:14 AM	17644
Silver	ND	0.24		mg/Kg	1	2/11/2015 11:10:17 AM	17644
Uranium	ND	4.9		mg/Kg	1	2/11/2015 11:10:17 AM	17644
Zinc	19	4.9		mg/Kg	2	2/11/2015 11:14:55 AM	17644

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-03-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 2:17:00 PM

Lab ID: 1502324-003

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Acenaphthylene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Aniline	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Anthracene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Azobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benz(a)anthracene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzo(a)pyrene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzoic acid	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzyl alcohol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Carbazole	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Chloroaniline	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Chloronaphthalene	ND	0.25		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Chlorophenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Chrysene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Di-n-octyl phthalate	ND	0.40		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Dibenzofuran	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Diethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Dimethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,4-Dinitrophenol	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635

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 Not In Range
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-03-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 2:17:00 PM

Lab ID: 1502324-003

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Fluorene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Hexachlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Hexachlorobutadiene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Hexachloroethane	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Isophorone	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Methylphenol	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
3+4-Methylphenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Naphthalene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
3-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Nitroaniline	ND	0.40		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Nitrobenzene	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Nitrophenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Nitrophenol	ND	0.25		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Pentachlorophenol	ND	0.40		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Phenanthrene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Phenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Pyrene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Pyridine	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Surr: 2-Fluorophenol	82.7	26.4-129		%REC	1	2/11/2015 2:00:51 PM	17635
Surr: Phenol-d5	73.0	34.8-118		%REC	1	2/11/2015 2:00:51 PM	17635
Surr: 2,4,6-Tribromophenol	75.6	26.8-128		%REC	1	2/11/2015 2:00:51 PM	17635
Surr: Nitrobenzene-d5	80.8	35.8-124		%REC	1	2/11/2015 2:00:51 PM	17635
Surr: 2-Fluorobiphenyl	79.3	24.5-139		%REC	1	2/11/2015 2:00:51 PM	17635
Surr: 4-Terphenyl-d14	64.8	29.4-129		%REC	1	2/11/2015 2:00:51 PM	17635
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626

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 Not In Range
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-03-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 2:17:00 PM

Lab ID: 1502324-003

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Toluene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Ethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2,4-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,3,5-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2-Dichloroethane (EDC)	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2-Dibromoethane (EDB)	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Naphthalene	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 3:02:24 PM	17626
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Acetone	ND	0.74		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Bromobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Bromodichloromethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Bromoform	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Bromomethane	ND	0.15		mg/Kg	1	2/10/2015 3:02:24 PM	17626
2-Butanone	ND	0.49		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Carbon disulfide	ND	0.49		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Carbon tetrachloride	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Chlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Chloroethane	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Chloroform	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Chloromethane	ND	0.15		mg/Kg	1	2/10/2015 3:02:24 PM	17626
2-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
4-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
cis-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
cis-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2-Dibromo-3-chloropropane	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Dibromochloromethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Dibromomethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,3-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,4-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Dichlorodifluoromethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1-Dichloroethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1-Dichloroethene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,3-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
2,2-Dichloropropane	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1-Dichloropropene	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**Date Reported: **3/9/2015****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** Central OCD-03-2/5/2015**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 2/5/2015 2:17:00 PM**Lab ID:** 1502324-003**Matrix:** SOIL**Received Date:** 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Hexachlorobutadiene	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
2-Hexanone	ND	0.49		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Isopropylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
4-Isopropyltoluene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
4-Methyl-2-pentanone	ND	0.49		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Methylene chloride	ND	0.15		mg/Kg	1	2/10/2015 3:02:24 PM	17626
n-Butylbenzene	ND	0.15		mg/Kg	1	2/10/2015 3:02:24 PM	17626
n-Propylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
sec-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Styrene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
tert-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1,1,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1,2,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Tetrachloroethene (PCE)	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
trans-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
trans-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2,3-Trichlorobenzene	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2,4-Trichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1,1-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1,2-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Trichloroethene (TCE)	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Trichlorofluoromethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2,3-Trichloropropane	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Vinyl chloride	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Xylenes, Total	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Surr: Dibromofluoromethane	93.0	70-130		%REC	1	2/10/2015 3:02:24 PM	17626
Surr: 1,2-Dichloroethane-d4	81.8	70-130		%REC	1	2/10/2015 3:02:24 PM	17626
Surr: Toluene-d8	85.1	70-130		%REC	1	2/10/2015 3:02:24 PM	17626
Surr: 4-Bromofluorobenzene	83.3	70-130		%REC	1	2/10/2015 3:02:24 PM	17626
EPA METHOD 418.1: TPH							Analyst: BCN
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	2/10/2015 2:00:00 PM	17630
CYANIDE-TOTAL							Analyst: SUB
Cyanide	ND	0.29		mg/Kg	1	2/16/2015	R24387

Refer to the QC Summary report and 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 15 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-04-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 11:35:00 AM

Lab ID: 1502324-004

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S							Analyst: SCC
Aroclor 1016	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1221	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1232	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1242	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1248	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1254	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1260	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Surr: Decachlorobiphenyl	116	37.5-161		%REC	1	2/13/2015 4:17:43 AM	17661
Surr: Tetrachloro-m-xylene	84.0	28.1-149		%REC	1	2/13/2015 4:17:43 AM	17661
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	54	10		mg/Kg	1	2/11/2015 9:16:02 AM	17621
Motor Oil Range Organics (MRO)	100	50		mg/Kg	1	2/11/2015 9:16:02 AM	17621
Surr: DNOP	103	63.5-128		%REC	1	2/11/2015 9:16:02 AM	17621
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/13/2015 2:57:09 PM	17626
Surr: BFB	88.1	80-120		%REC	1	2/13/2015 2:57:09 PM	17626
EPA METHOD 300.0: ANIONS							Analyst: LGT
Fluoride	5.9	0.30		mg/Kg	1	2/11/2015 7:25:44 PM	17685
Chloride	260	30		mg/Kg	20	2/11/2015 7:38:09 PM	17685
Nitrogen, Nitrate (As N)	7.5	0.30		mg/Kg	1	2/11/2015 7:25:44 PM	17685
Sulfate	750	30		mg/Kg	20	2/11/2015 7:38:09 PM	17685
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.032		mg/Kg	1	2/11/2015 1:56:54 PM	17645
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	ND	2.5		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Barium	250	0.10		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Cadmium	ND	0.10		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Chromium	12	0.30		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Copper	3.8	0.30		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Iron	17000	100		mg/Kg	100	2/12/2015 8:53:00 AM	17644
Lead	6.2	0.25		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Manganese	340	0.20		mg/Kg	2	2/11/2015 11:26:05 AM	17644
Selenium	ND	2.5		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Silver	ND	0.25		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Uranium	ND	5.1		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Zinc	22	2.5		mg/Kg	1	2/11/2015 11:24:29 AM	17644

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-04-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 11:35:00 AM

Lab ID: 1502324-004

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Acenaphthylene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Aniline	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Anthracene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Azobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benz(a)anthracene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzo(a)pyrene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzoic acid	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzyl alcohol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Carbazole	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Chloroaniline	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Chloronaphthalene	ND	0.25		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Chlorophenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Chrysene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Di-n-octyl phthalate	ND	0.40		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Dibenzofuran	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Diethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Dimethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,4-Dinitrophenol	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-04-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 11:35:00 AM

Lab ID: 1502324-004

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Fluorene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Hexachlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Hexachlorobutadiene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Hexachloroethane	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Isophorone	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Methylphenol	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
3+4-Methylphenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Naphthalene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
3-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Nitroaniline	ND	0.40		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Nitrobenzene	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Nitrophenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Nitrophenol	ND	0.25		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Pentachlorophenol	ND	0.40		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Phenanthrene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Phenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Pyrene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Pyridine	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Surr: 2-Fluorophenol	82.2	26.4-129		%REC	1	2/11/2015 3:24:31 PM	17635
Surr: Phenol-d5	68.0	34.8-118		%REC	1	2/11/2015 3:24:31 PM	17635
Surr: 2,4,6-Tribromophenol	73.5	26.8-128		%REC	1	2/11/2015 3:24:31 PM	17635
Surr: Nitrobenzene-d5	80.0	35.8-124		%REC	1	2/11/2015 3:24:31 PM	17635
Surr: 2-Fluorobiphenyl	83.2	24.5-139		%REC	1	2/11/2015 3:24:31 PM	17635
Surr: 4-Terphenyl-d14	59.3	29.4-129		%REC	1	2/11/2015 3:24:31 PM	17635

EPA METHOD 8260B: VOLATILES

Analyst: **DJF**

Benzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
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Refer to the QC Summary report and 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 18 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	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 **1502324**Date Reported: **3/9/2015****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** Central OCD-04-2/5/2015**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 2/5/2015 11:35:00 AM**Lab ID:** 1502324-004**Matrix:** SOIL**Received Date:** 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Toluene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Ethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2,4-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,3,5-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2-Dichloroethane (EDC)	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2-Dibromoethane (EDB)	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Naphthalene	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 4:25:04 PM	17626
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Acetone	ND	0.74		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Bromobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Bromodichloromethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Bromoform	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Bromomethane	ND	0.15		mg/Kg	1	2/10/2015 4:25:04 PM	17626
2-Butanone	ND	0.49		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Carbon disulfide	ND	0.49		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Carbon tetrachloride	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Chlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Chloroethane	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Chloroform	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Chloromethane	ND	0.15		mg/Kg	1	2/10/2015 4:25:04 PM	17626
2-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
4-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
cis-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
cis-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2-Dibromo-3-chloropropane	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Dibromochloromethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Dibromomethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,3-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,4-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Dichlorodifluoromethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1-Dichloroethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1-Dichloroethene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,3-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
2,2-Dichloropropane	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1-Dichloropropene	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Central OCD-04-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 11:35:00 AM

Lab ID: 1502324-004

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Hexachlorobutadiene	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
2-Hexanone	ND	0.49		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Isopropylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
4-Isopropyltoluene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
4-Methyl-2-pentanone	ND	0.49		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Methylene chloride	ND	0.15		mg/Kg	1	2/10/2015 4:25:04 PM	17626
n-Butylbenzene	ND	0.15		mg/Kg	1	2/10/2015 4:25:04 PM	17626
n-Propylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
sec-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Styrene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
tert-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1,1,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1,2,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Tetrachloroethene (PCE)	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
trans-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
trans-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2,3-Trichlorobenzene	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2,4-Trichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1,1-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1,2-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Trichloroethene (TCE)	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Trichlorofluoromethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2,3-Trichloropropane	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Vinyl chloride	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Xylenes, Total	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Surr: Dibromofluoromethane	87.8	70-130		%REC	1	2/10/2015 4:25:04 PM	17626
Surr: 1,2-Dichloroethane-d4	75.9	70-130		%REC	1	2/10/2015 4:25:04 PM	17626
Surr: Toluene-d8	86.0	70-130		%REC	1	2/10/2015 4:25:04 PM	17626
Surr: 4-Bromofluorobenzene	84.2	70-130		%REC	1	2/10/2015 4:25:04 PM	17626
EPA METHOD 418.1: TPH							Analyst: BCN
Petroleum Hydrocarbons, TR	59	20		mg/Kg	1	2/10/2015 2:00:00 PM	17630
CYANIDE-TOTAL							Analyst: SUB
Cyanide	0.45	0.29		mg/Kg	1	2/16/2015	R24387

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BD-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015

Lab ID: 1502324-005

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S							Analyst: SCC
Aroclor 1016	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1221	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1232	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1242	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1248	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1254	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1260	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Surr: Decachlorobiphenyl	79.2	37.5-161		%REC	1	2/13/2015 6:34:18 AM	17661
Surr: Tetrachloro-m-xylene	60.8	28.1-149		%REC	1	2/13/2015 6:34:18 AM	17661
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/10/2015 4:39:34 PM	17621
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/10/2015 4:39:34 PM	17621
Surr: DNOP	98.8	63.5-128		%REC	1	2/10/2015 4:39:34 PM	17621
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/13/2015 3:25:48 PM	17626
Surr: BFB	88.6	80-120		%REC	1	2/13/2015 3:25:48 PM	17626
EPA METHOD 300.0: ANIONS							Analyst: LGT
Fluoride	6.0	1.5		mg/Kg	5	2/11/2015 7:50:33 PM	17685
Chloride	170	7.5		mg/Kg	5	2/11/2015 7:50:33 PM	17685
Nitrogen, Nitrate (As N)	3.4	1.5		mg/Kg	5	2/11/2015 7:50:33 PM	17685
Sulfate	370	7.5		mg/Kg	5	2/11/2015 7:50:33 PM	17685
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	ND	0.031		mg/Kg	1	2/11/2015 1:58:45 PM	17645
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	ND	5.0		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Barium	200	0.20		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Cadmium	ND	0.20		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Chromium	15	0.60		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Copper	4.1	0.60		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Iron	20000	100		mg/Kg	100	2/12/2015 8:54:20 AM	17644
Lead	3.0	0.50		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Manganese	290	0.20		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Selenium	ND	5.0		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Silver	ND	0.50		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Uranium	ND	10		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Zinc	20	5.0		mg/Kg	2	2/11/2015 11:29:02 AM	17644

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BD-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015

Lab ID: 1502324-005

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Acenaphthylene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Aniline	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Anthracene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Azobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benz(a)anthracene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzo(a)pyrene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzoic acid	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzyl alcohol	0.23	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Carbazole	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Chloroaniline	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Chloronaphthalene	ND	0.25		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Chlorophenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Chrysene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Di-n-octyl phthalate	ND	0.40		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Dibenzofuran	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
3,3'-Dichlorobenzidine	ND	0.25		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Diethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Dimethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,4-Dinitrophenol	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BD-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015

Lab ID: 1502324-005

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Fluorene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Hexachlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Hexachlorobutadiene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Hexachloroethane	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Isophorone	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Methylphenol	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
3+4-Methylphenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Naphthalene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
3-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Nitroaniline	ND	0.40		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Nitrobenzene	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Nitrophenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Nitrophenol	ND	0.25		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Pentachlorophenol	ND	0.40		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Phenanthrene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Phenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Pyrene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Pyridine	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Surr: 2-Fluorophenol	86.0	26.4-129		%REC	1	2/11/2015 11:14:30 AM	17635
Surr: Phenol-d5	76.8	34.8-118		%REC	1	2/11/2015 11:14:30 AM	17635
Surr: 2,4,6-Tribromophenol	79.4	26.8-128		%REC	1	2/11/2015 11:14:30 AM	17635
Surr: Nitrobenzene-d5	80.6	35.8-124		%REC	1	2/11/2015 11:14:30 AM	17635
Surr: 2-Fluorobiphenyl	85.2	24.5-139		%REC	1	2/11/2015 11:14:30 AM	17635
Surr: 4-Terphenyl-d14	64.8	29.4-129		%REC	1	2/11/2015 11:14:30 AM	17635

EPA METHOD 8260B: VOLATILES

Analyst: **DJF**

Benzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
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Refer to the QC Summary report and 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 23 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	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 **1502324**Date Reported: **3/9/2015****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** BD-2/5/2015**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 2/5/2015**Lab ID:** 1502324-005**Matrix:** SOIL**Received Date:** 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Toluene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Ethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Methyl tert-butyl ether (MTBE)	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2,4-Trimethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,3,5-Trimethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2-Dichloroethane (EDC)	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2-Dibromoethane (EDB)	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Naphthalene	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1-Methylnaphthalene	ND	0.18		mg/Kg	1	2/10/2015 4:52:38 PM	17626
2-Methylnaphthalene	ND	0.18		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Acetone	ND	0.69		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Bromobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Bromodichloromethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Bromoform	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Bromomethane	ND	0.14		mg/Kg	1	2/10/2015 4:52:38 PM	17626
2-Butanone	ND	0.46		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Carbon disulfide	ND	0.46		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Carbon tetrachloride	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Chlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Chloroethane	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Chloroform	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Chloromethane	ND	0.14		mg/Kg	1	2/10/2015 4:52:38 PM	17626
2-Chlorotoluene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
4-Chlorotoluene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
cis-1,2-DCE	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
cis-1,3-Dichloropropene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2-Dibromo-3-chloropropane	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Dibromochloromethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Dibromomethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,3-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,4-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Dichlorodifluoromethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1-Dichloroethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1-Dichloroethene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2-Dichloropropane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,3-Dichloropropane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
2,2-Dichloropropane	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1-Dichloropropene	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BD-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015

Lab ID: 1502324-005

Matrix: SOIL

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Hexachlorobutadiene	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
2-Hexanone	ND	0.46		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Isopropylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
4-Isopropyltoluene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
4-Methyl-2-pentanone	ND	0.46		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Methylene chloride	ND	0.14		mg/Kg	1	2/10/2015 4:52:38 PM	17626
n-Butylbenzene	ND	0.14		mg/Kg	1	2/10/2015 4:52:38 PM	17626
n-Propylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
sec-Butylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Styrene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
tert-Butylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1,1,2-Tetrachloroethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1,2,2-Tetrachloroethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Tetrachloroethene (PCE)	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
trans-1,2-DCE	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
trans-1,3-Dichloropropene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2,3-Trichlorobenzene	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2,4-Trichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1,1-Trichloroethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1,2-Trichloroethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Trichloroethene (TCE)	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Trichlorofluoromethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2,3-Trichloropropane	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Vinyl chloride	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Xylenes, Total	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Surr: Dibromofluoromethane	91.3	70-130		%REC	1	2/10/2015 4:52:38 PM	17626
Surr: 1,2-Dichloroethane-d4	81.9	70-130		%REC	1	2/10/2015 4:52:38 PM	17626
Surr: Toluene-d8	85.8	70-130		%REC	1	2/10/2015 4:52:38 PM	17626
Surr: 4-Bromofluorobenzene	85.8	70-130		%REC	1	2/10/2015 4:52:38 PM	17626
EPA METHOD 418.1: TPH							Analyst: BCN
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	2/10/2015 2:00:00 PM	17630
CYANIDE-TOTAL							Analyst: SUB
Cyanide	ND	0.30		mg/Kg	1	2/16/2015	R24387

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 2:58:00 PM

Lab ID: 1502324-006

Matrix: AQUEOUS

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: KJH
Benzene	ND	1.0		µg/L	1	2/12/2015 6:57:01 AM	R24238
Toluene	ND	1.0		µg/L	1	2/12/2015 6:57:01 AM	R24238
Ethylbenzene	ND	1.0		µg/L	1	2/12/2015 6:57:01 AM	R24238
Xylenes, Total	ND	1.5		µg/L	1	2/12/2015 6:57:01 AM	R24238
Surr: 1,2-Dichloroethane-d4	82.4	70-130		%REC	1	2/12/2015 6:57:01 AM	R24238
Surr: 4-Bromofluorobenzene	94.2	70-130		%REC	1	2/12/2015 6:57:01 AM	R24238
Surr: Dibromofluoromethane	86.6	70-130		%REC	1	2/12/2015 6:57:01 AM	R24238
Surr: Toluene-d8	84.8	70-130		%REC	1	2/12/2015 6:57:01 AM	R24238

Refer to the QC Summary report and 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 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB-2/5/2015

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 2/5/2015 3:05:00 PM

Lab ID: 1502324-007

Matrix: AQUEOUS

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	2/12/2015 7:25:27 AM	R24238
Toluene	ND	1.0		µg/L	1	2/12/2015 7:25:27 AM	R24238
Ethylbenzene	ND	1.0		µg/L	1	2/12/2015 7:25:27 AM	R24238
Xylenes, Total	ND	1.5		µg/L	1	2/12/2015 7:25:27 AM	R24238
Surr: 1,2-Dichloroethane-d4	91.2	70-130		%REC	1	2/12/2015 7:25:27 AM	R24238
Surr: 4-Bromofluorobenzene	97.9	70-130		%REC	1	2/12/2015 7:25:27 AM	R24238
Surr: Dibromofluoromethane	94.2	70-130		%REC	1	2/12/2015 7:25:27 AM	R24238
Surr: Toluene-d8	94.5	70-130		%REC	1	2/12/2015 7:25:27 AM	R24238

Refer to the QC Summary report and 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 27 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	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 **1502324**

Date Reported: **3/9/2015**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: OCD Central Landfarm Semiannual Sam

Collection Date:

Lab ID: 1502324-008

Matrix: AQUEOUS

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	2/12/2015 7:54:03 AM	R24238
Toluene	ND	1.0		µg/L	1	2/12/2015 7:54:03 AM	R24238
Ethylbenzene	ND	1.0		µg/L	1	2/12/2015 7:54:03 AM	R24238
Xylenes, Total	ND	1.5		µg/L	1	2/12/2015 7:54:03 AM	R24238
Surr: 1,2-Dichloroethane-d4	82.1	70-130		%REC	1	2/12/2015 7:54:03 AM	R24238
Surr: 4-Bromofluorobenzene	88.7	70-130		%REC	1	2/12/2015 7:54:03 AM	R24238
Surr: Dibromofluoromethane	85.8	70-130		%REC	1	2/12/2015 7:54:03 AM	R24238
Surr: Toluene-d8	87.2	70-130		%REC	1	2/12/2015 7:54:03 AM	R24238

Refer to the QC Summary report and 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 28 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

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

Batch #: 150210026
Project Name: 1502324

Analytical Results Report

Sample Number 150210026-001 **Sampling Date** 2/5/2015 **Date/Time Received** 2/10/2015 10:40 AM
Client Sample ID 1502324-001D / CENTRAL OCD-01-2/5/2015 **Sampling Time** 1:30 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.31	2/16/2015	CRW	EPA 335.4	
%moisture	19.4	Percent		2/17/2015	CRW	%moisture	

Sample Number 150210026-002 **Sampling Date** 2/5/2015 **Date/Time Received** 2/10/2015 10:40 AM
Client Sample ID 1502324-002D / CENTRAL OCD-02-2/5/2015 **Sampling Time** 12:15 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.312	2/16/2015	CRW	EPA 335.4	
%moisture	20.5	Percent		2/17/2015	CRW	%moisture	

Sample Number 150210026-003 **Sampling Date** 2/5/2015 **Date/Time Received** 2/10/2015 10:40 AM
Client Sample ID 1502324-003D / CENTRAL OCD-03-2/5/2015 **Sampling Time** 2:17 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.289	2/16/2015	CRW	EPA 335.4	
%moisture	17	Percent		2/17/2015	CRW	%moisture	

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

Batch #: 150210026
Project Name: 1502324

Analytical Results Report

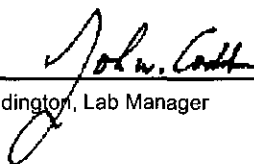
Sample Number	150210026-004	Sampling Date	2/5/2015	Date/Time Received	2/10/2015 10:40 AM
Client Sample ID	1502324-004D / CENTRAL OCD-04-2/5/2015			Sampling Time	11:35 AM
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.451	mg/Kg	0.293	2/16/2015	CRW	EPA 335.4	
%moisture	14.7	Percent		2/17/2015	CRW	%moisture	

Sample Number	150210026-005	Sampling Date	2/5/2015	Date/Time Received	2/10/2015 10:40 AM
Client Sample ID	1502324-005D / BD-2/5/2015			Sampling Time	
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.302	2/16/2015	CRW	EPA 335.4	
%moisture	19.9	Percent		2/17/2015	CRW	%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.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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

Batch #: 150210026
Project Name: 1502324

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.494	mg/kg	0.5	98.8	90-110	2/16/2015	2/16/2015

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
150210026-001	Cyanide	ND	15.3	mg/kg	15.5	98.7	90-110	2/16/2015	2/16/2015

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	15.1	mg/kg	15.5	97.4	1.3	0-25	2/16/2015	2/16/2015

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	2/16/2015	2/16/2015

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1502324
Pace Project No.: 30140414

Sample: 1502324-001C Central Lab ID: 30140414001 Collected: 02/05/15 13:30 Received: 02/10/15 10:00 Matrix: Solid
OCD-01-2/

PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	1.586 ± 0.338 (0.126) C:NA T:NA	pCi/g	03/05/15 10:36	13982-63-3	
Radium-228	EPA 901.1	1.561 ± 0.449 (0.589) C:NA T:NA	pCi/g	03/05/15 10:36	15262-20-1	

Sample: 1502324-002C Central Lab ID: 30140414002 Collected: 02/05/15 12:15 Received: 02/10/15 10:00 Matrix: Solid
OCD-02-2/

PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	1.240 ± 0.264 (0.257) C:NA T:NA	pCi/g	03/05/15 10:35	13982-63-3	
Radium-228	EPA 901.1	1.514 ± 0.382 (0.425) C:NA T:NA	pCi/g	03/05/15 10:35	15262-20-1	

Sample: 1502324-003C Central Lab ID: 30140414003 Collected: 02/05/15 14:17 Received: 02/10/15 10:00 Matrix: Solid
OCD-03-2/

PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	1.467 ± 0.265 (0.189) C:NA T:NA	pCi/g	03/05/15 11:01	13982-63-3	
Radium-228	EPA 901.1	2.207 ± 0.494 (0.131) C:NA T:NA	pCi/g	03/05/15 11:01	15262-20-1	

Sample: 1502324-004C Central Lab ID: 30140414004 Collected: 02/05/15 11:35 Received: 02/10/15 10:00 Matrix: Solid
OCD-04-2/

PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	1.480 ± 0.372 (0.214) C:NA T:NA	pCi/g	03/05/15 11:02	13982-63-3	
Radium-228	EPA 901.1	1.854 ± 0.591 (0.424) C:NA T:NA	pCi/g	03/05/15 11:02	15262-20-1	

Sample: 1502324-005C BD-2/5/2015 Lab ID: 30140414005 Collected: 02/05/15 00:01 Received: 02/10/15 10:00 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	1.602 ± 0.379 (0.141) C:NA T:NA	pCi/g	03/05/15 11:19	13982-63-3	
Radium-228	EPA 901.1	2.233 ± 0.499 (0.432) C:NA T:NA	pCi/g	03/05/15 11:19	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1502324
Pace Project No.: 30140414

QC Batch:	RADC/23382	Analysis Method:	EPA 901.1
QC Batch Method:	EPA 901.1	Analysis Description:	901.1 Gamma Spec Ingrowth
Associated Lab Samples:	30140414001, 30140414002		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1502324
Pace Project No.: 30140414

QC Batch:	RADC/23383	Analysis Method:	EPA 901.1
QC Batch Method:	EPA 901.1	Analysis Description:	901.1 Gamma Spec Ingrowth
Associated Lab Samples:	30140414003, 30140414004, 30140414005		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-17685		SampType: MBLK		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 17685		RunNo: 24256					
Prep Date:	2/11/2015		Analysis Date: 2/11/2015		SeqNo: 714901		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID	LCS-17685		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 17685		RunNo: 24256					
Prep Date:	2/11/2015		Analysis Date: 2/11/2015		SeqNo: 714902		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	99.9	90	110			
Chloride	14	1.5	15.00	0	91.8	90	110			
Nitrogen, Nitrate (As N)	7.2	0.30	7.500	0	96.4	90	110			
Sulfate	28	1.5	30.00	0	92.9	90	110			

Sample ID	1502324-003BMS		SampType: MS		TestCode: EPA Method 300.0: Anions					
Client ID:	Central OCD-03-2/5/		Batch ID: 17685		RunNo: 24256					
Prep Date:	2/11/2015		Analysis Date: 2/11/2015		SeqNo: 714940		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.0	0.30	1.500	3.363	39.8	13.6	100			
Nitrogen, Nitrate (As N)	25	0.30	7.500	16.15	117	85.3	110			S

Sample ID	1502324-003BMSD		SampType: MSD		TestCode: EPA Method 300.0: Anions					
Client ID:	Central OCD-03-2/5/		Batch ID: 17685		RunNo: 24256					
Prep Date:	2/11/2015		Analysis Date: 2/11/2015		SeqNo: 714941		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.1	0.30	1.500	3.363	46.2	13.6	100	2.38	20	
Nitrogen, Nitrate (As N)	25	0.30	7.500	16.15	118	85.3	110	0.329	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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-17630		SampType:	MBLK		TestCode:	EPA Method 418.1: TPH				
Client ID:	PBS		Batch ID:	17630		RunNo:	24217				
Prep Date:	2/9/2015		Analysis Date:	2/10/2015		SeqNo:	713807		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	ND	20									

Sample ID	LCS-17630		SampType:	LCS		TestCode:	EPA Method 418.1: TPH				
Client ID:	LCSS		Batch ID:	17630		RunNo:	24217				
Prep Date:	2/9/2015		Analysis Date:	2/10/2015		SeqNo:	713808		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	100	20	100.0	0	104	86.7	126				

Sample ID	LCSD-17630		SampType:	LCSD		TestCode:	EPA Method 418.1: TPH				
Client ID:	LCSS02		Batch ID:	17630		RunNo:	24217				
Prep Date:	2/9/2015		Analysis Date:	2/10/2015		SeqNo:	713809		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	100	20	100.0	0	101	86.7	126	3.76	20		

Sample ID	1502324-003AMS		SampType:	MS		TestCode:	EPA Method 418.1: TPH				
Client ID:	Central OCD-03-2/5/		Batch ID:	17630		RunNo:	24217				
Prep Date:	2/9/2015		Analysis Date:	2/10/2015		SeqNo:	713814		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	99	20	99.60	8.639	90.6	80	120				

Sample ID	1502324-003AMSD		SampType:	MSD		TestCode:	EPA Method 418.1: TPH				
Client ID:	Central OCD-03-2/5/		Batch ID:	17630		RunNo:	24217				
Prep Date:	2/9/2015		Analysis Date:	2/10/2015		SeqNo:	713815		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	100	20	98.14	8.639	94.3	80	120	2.32	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 Not In Range |
| 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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-17621	SampType:	MBLK		TestCode:	EPA Method 8015D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	17621		RunNo:	24202				
Prep Date:	2/9/2015	Analysis Date:	2/10/2015		SeqNo:	713699		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	9.4		10.00		93.7	63.5	128			

Sample ID	LCS-17621		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 17621		RunNo: 24202					
Prep Date:	2/9/2015		Analysis Date: 2/10/2015		SeqNo: 713700		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	67.8	130			
Surr: DNOP	4.4		5.000		88.3	63.5	128			

Sample ID	1502324-003AMS		SampType: MS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	Central OCD-03-2/5/		Batch ID: 17621		RunNo: 24202					
Prep Date:	2/9/2015		Analysis Date: 2/10/2015		SeqNo: 713952		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	49.75	0	106	29.2	176	200	0	
Surr: DNOP	5.1		4.975		102	63.5	128	0	0	

Sample ID	1502324-003AMSD		SampType:	MSD		TestCode:	EPA Method 8015D: Diesel Range Organics				
Client ID:	Central OCD-03-2/5/		Batch ID:	17621		RunNo:	24202				
Prep Date:	2/9/2015		Analysis Date:	2/10/2015		SeqNo:	713953		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	50	9.9	49.26	0	102	29.2	176	4.12	23		
Surr: DNOP	4.9		4.926		99.4	63.5	128	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 Not In Range |
| 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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-17626		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 17626		RunNo: 24212					
Prep Date:	2/9/2015		Analysis Date: 2/10/2015		SeqNo: 714085		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		87.8	80	120			

Sample ID	LCS-17626		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 17626		RunNo: 24212					
Prep Date:	2/9/2015		Analysis Date: 2/10/2015		SeqNo: 714086		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	98.0	64	130			
Surr: BFB	990		1000		99.1	80	120			

Sample ID	1502324-003AMS		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	Central OCD-03-2/5/		Batch ID: 17626		RunNo: 24212					
Prep Date:	2/9/2015		Analysis Date: 2/10/2015		SeqNo: 714095		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.9	24.68	0	112	47.9	144			
Surr: BFB	950		987.2		96.0	80	120			

Sample ID	1502324-003AMSD		SampType:	MSD		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	Central OCD-03-2/5/		Batch ID:	17626		RunNo:	24212				
Prep Date:	2/9/2015		Analysis Date:	2/10/2015		SeqNo:	714096		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	28	4.9	24.68	0	115	47.9	144	3.25	29.9		
Surr: BFB	950		987.2		96.3	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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-17661	SampType: MBLK		TestCode: EPA Method 8082: PCB's							
Client ID: PBS	Batch ID: 17661		RunNo: 24309							
Prep Date: 2/10/2015	Analysis Date: 2/12/2015		SeqNo: 716406		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.040		0.06250		63.2	37.5	161			
Surr: Tetrachloro-m-xylene	0.036		0.06250		58.0	28.1	149			

Sample ID LCS-17661	SampType: LCS		TestCode: EPA Method 8082: PCB's							
Client ID: LCSS	Batch ID: 17661		RunNo: 24309							
Prep Date: 2/10/2015	Analysis Date: 2/12/2015		SeqNo: 716407		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.092	0.020	0.1250	0	73.8	26.2	127			
Aroclor 1260	0.12	0.020	0.1250	0	93.9	36.6	122			
Surr: Decachlorobiphenyl	0.058		0.06250		92.8	37.5	161			
Surr: Tetrachloro-m-xylene	0.067		0.06250		108	28.1	149			

Sample ID 1502324-003BMS	SampType: MS		TestCode: EPA Method 8082: PCB's							
Client ID: Central OCD-03-2/5/	Batch ID: 17661		RunNo: 24309							
Prep Date: 2/10/2015	Analysis Date: 2/12/2015		SeqNo: 716419		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.056	0.020	0.1254	0	44.5	15.8	111			
Aroclor 1260	0.090	0.020	0.1254	0	71.6	6.14	135			
Surr: Decachlorobiphenyl	0.054		0.06272		86.4	37.5	161			
Surr: Tetrachloro-m-xylene	0.042		0.06272		66.8	28.1	149			

Sample ID 1502324-003BMSD	SampType: MSD		TestCode: EPA Method 8082: PCB's							
Client ID: Central OCD-03-2/5/	Batch ID: 17661		RunNo: 24309							
Prep Date: 2/10/2015	Analysis Date: 2/13/2015		SeqNo: 716420		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.062	0.020	0.1252	0	49.6	15.8	111	10.8	20	
Aroclor 1260	0.10	0.020	0.1252	0	83.6	6.14	135	15.3	32.8	
Surr: Decachlorobiphenyl	0.060		0.06259		96.0	37.5	161	0	0	
Surr: Tetrachloro-m-xylene	0.048		0.06259		77.2	28.1	149	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 Not In Range |
| 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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-17626		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	17626		RunNo:	24224			
Prep Date:	2/9/2015		Analysis Date:	2/10/2015		SeqNo:	714046		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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-17626		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	17626		RunNo:	24224			
Prep Date:	2/9/2015		Analysis Date:	2/10/2015		SeqNo:	714046		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	0.47		0.5000		94.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		81.2	70	130			
Surr: Toluene-d8	0.42		0.5000		83.0	70	130			
Surr: 4-Bromofluorobenzene	0.41		0.5000		81.3	70	130			

Sample ID	lcs-17626		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	LCSS		Batch ID:	17626		RunNo:	24224			
Prep Date:	2/9/2015		Analysis Date:	2/10/2015		SeqNo:	714047		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	0.94	0.050	1.000	0	93.7	70	130			
Chlorobenzene	0.92	0.050	1.000	0	91.7	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 Not In Range
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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	lcs-17626		SampType: LCS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	LCSS		Batch ID: 17626		RunNo: 24224					
Prep Date:	2/9/2015		Analysis Date: 2/10/2015		SeqNo: 714047		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.2	0.050	1.000	0	118	60.6	134			
Trichloroethene (TCE)	1.0	0.050	1.000	0	104	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		97.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		88.0	70	130			
Surr: Toluene-d8	0.43		0.5000		86.3	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		85.1	70	130			

Sample ID	1502324-003ams		SampType: MS		TestCode: EPA Method 8260B: Volatiles					
Client ID:	Central OCD-03-2/5/		Batch ID: 17626		RunNo: 24224					
Prep Date:	2/9/2015		Analysis Date: 2/10/2015		SeqNo: 714051		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.049	0.9872	0	99.5	57.8	132			
Toluene	0.95	0.049	0.9872	0	95.7	54.8	139			
Chlorobenzene	0.95	0.049	0.9872	0	95.9	63.5	134			
1,1-Dichloroethene	1.0	0.049	0.9872	0	105	26.4	145			
Trichloroethene (TCE)	0.95	0.049	0.9872	0	95.7	54.9	125			
Surr: Dibromofluoromethane	0.44		0.4936		88.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.39		0.4936		79.2	70	130			
Surr: Toluene-d8	0.44		0.4936		89.3	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.4936		84.6	70	130			

Sample ID	1502324-003amsd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles					
Client ID:	Central OCD-03-2/5/		Batch ID: 17626		RunNo: 24224					
Prep Date:	2/9/2015		Analysis Date: 2/10/2015		SeqNo: 714052		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.049	0.9872	0	99.7	57.8	132	0.159	20	
Toluene	0.91	0.049	0.9872	0	91.9	54.8	139	4.14	20	
Chlorobenzene	0.89	0.049	0.9872	0	90.6	63.5	134	5.65	20	
1,1-Dichloroethene	1.0	0.049	0.9872	0	105	26.4	145	0.516	20	
Trichloroethene (TCE)	0.98	0.049	0.9872	0	99.0	54.9	125	3.33	20	
Surr: Dibromofluoromethane	0.45		0.4936		90.5	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.40		0.4936		80.0	70	130	0	0	
Surr: Toluene-d8	0.42		0.4936		85.0	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.43		0.4936		86.9	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 Not In Range
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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	5mL-rb	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	R24238	RunNo:	24238					
Prep Date:		Analysis Date:	2/11/2015	SeqNo:	714516	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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.4		10.00		83.9	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.3	70	130			
Surr: Dibromofluoromethane	8.4		10.00		83.7	70	130			
Surr: Toluene-d8	9.8		10.00		97.5	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	R24238	RunNo:	24238					
Prep Date:		Analysis Date:	2/11/2015	SeqNo:	714517	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	112	70	130			
Toluene	19	1.0	20.00	0	96.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.3	70	130			
Surr: Toluene-d8	8.8		10.00		88.1	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 Not In Range
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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-17635	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	17635	RunNo:	24253					
Prep Date:	2/9/2015	Analysis Date:	2/11/2015	SeqNo:	714838	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	0.40								
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	0.40								
2,4-Dinitrophenol	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 Not In Range
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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-17635	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	17635	RunNo:	24253					
Prep Date:	2/9/2015	Analysis Date:	2/11/2015	SeqNo:	714838	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	0.40								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.40								
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	0.40								
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	0.40								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	3.1		3.330		92.6	26.4	129			
Surr: Phenol-d5	2.9		3.330		86.7	34.8	118			
Surr: 2,4,6-Tribromophenol	3.0		3.330		90.4	26.8	128			
Surr: Nitrobenzene-d5	1.5		1.670		87.3	35.8	124			
Surr: 2-Fluorobiphenyl	1.5		1.670		91.0	24.5	139			
Surr: 4-Terphenyl-d14	1.2		1.670		73.3	29.4	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 Not In Range
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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	lcs-17635		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 17635		RunNo: 24253					
Prep Date:	2/9/2015		Analysis Date: 2/11/2015		SeqNo: 714839		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.5	0.20	1.670	0	87.6	45.8	114			
4-Chloro-3-methylphenol	2.8	0.50	3.330	0	84.8	52.3	122			
2-Chlorophenol	2.6	0.20	3.330	0	77.6	49.9	115			
1,4-Dichlorobenzene	1.2	0.20	1.670	0	71.4	43.7	107			
2,4-Dinitrotoluene	1.1	0.50	1.670	0	66.7	36	106			
N-Nitrosodi-n-propylamine	1.3	0.20	1.670	0	75.5	39.5	110			
4-Nitrophenol	2.6	0.25	3.330	0	78.3	45.1	121			
Pentachlorophenol	2.4	0.40	3.330	0	72.2	23.7	111			
Phenol	2.8	0.20	3.330	0	84.3	52.7	119			
Pyrene	1.2	0.20	1.670	0	71.6	50.4	116			
1,2,4-Trichlorobenzene	1.3	0.20	1.670	0	77.9	40.1	114			
Surr: 2-Fluorophenol	2.8		3.330		83.7	26.4	129			
Surr: Phenol-d5	2.7		3.330		82.0	34.8	118			
Surr: 2,4,6-Tribromophenol	3.0		3.330		91.5	26.8	128			
Surr: Nitrobenzene-d5	1.4		1.670		83.8	35.8	124			
Surr: 2-Fluorobiphenyl	1.5		1.670		90.3	24.5	139			
Surr: 4-Terphenyl-d14	1.3		1.670		74.9	29.4	129			

Sample ID	1502324-003bms	SampType: MS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	Central OCD-03-2/5/	Batch ID: 17635			RunNo: 24253					
Prep Date:	2/9/2015	Analysis Date: 2/11/2015			SeqNo: 714845		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.5	0.20	1.675	0	86.7	36.3	121			
4-Chloro-3-methylphenol	2.7	0.50	3.340	0	81.0	48.2	119			
2-Chlorophenol	2.7	0.20	3.340	0	81.1	37.2	114			
1,4-Dichlorobenzene	1.3	0.20	1.675	0	76.1	28.8	106			
2,4-Dinitrotoluene	1.1	0.50	1.675	0	68.4	34.6	111			
N-Nitrosodi-n-propylamine	1.4	0.20	1.675	0	81.5	32.7	117			
4-Nitrophenol	2.5	0.25	3.340	0	75.8	30.1	134			
Pentachlorophenol	2.3	0.40	3.340	0.1365	65.9	24	120			
Phenol	2.8	0.20	3.340	0	84.4	38.3	118			
Pyrene	1.3	0.20	1.675	0	78.7	38.3	134			
1,2,4-Trichlorobenzene	1.3	0.20	1.675	0	76.1	31.8	110			
Surr: 2-Fluorophenol	2.7		3.340		81.9	26.4	129			
Surr: Phenol-d5	2.8		3.340		82.7	34.8	118			
Surr: 2,4,6-Tribromophenol	2.7		3.340		80.0	26.8	128			
Surr: Nitrobenzene-d5	1.4		1.675		82.7	35.8	124			
Surr: 2-Fluorobiphenyl	1.5		1.675		89.2	24.5	139			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	1502324-003bms	SampType:	MS	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	Central OCD-03-2/5/	Batch ID:	17635	RunNo:	24253					
Prep Date:	2/9/2015	Analysis Date:	2/11/2015	SeqNo:	714845	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	1.2		1.675		74.2	29.4	129			

Sample ID	1502324-003bmsd	SampType:	MSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	Central OCD-03-2/5/	Batch ID:	17635	RunNo:	24253					
Prep Date:	2/9/2015	Analysis Date:	2/11/2015	SeqNo:	714846	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.20	1.674	0	85.7	36.3	121	1.21	25.4	
4-Chloro-3-methylphenol	2.8	0.50	3.339	0	82.5	48.2	119	1.79	30.4	
2-Chlorophenol	2.5	0.20	3.339	0	76.0	37.2	114	6.52	33.4	
1,4-Dichlorobenzene	1.2	0.20	1.674	0	69.8	28.8	106	8.76	20.9	
2,4-Dinitrotoluene	1.2	0.50	1.674	0	69.3	34.6	111	1.30	27.9	
N-Nitrosodi-n-propylamine	1.3	0.20	1.674	0	75.1	32.7	117	8.24	27.5	
4-Nitrophenol	2.8	0.25	3.339	0	83.7	30.1	134	9.87	33.7	
Pentachlorophenol	2.5	0.40	3.339	0.1365	71.4	24	120	7.59	39.7	
Phenol	2.7	0.20	3.339	0	80.2	38.3	118	5.19	30.1	
Pyrene	1.3	0.20	1.674	0	76.3	38.3	134	3.05	22.7	
1,2,4-Trichlorobenzene	1.3	0.20	1.674	0	77.4	31.8	110	1.68	27.8	
Surr: 2-Fluorophenol	2.5		3.339		76.2	26.4	129	0	0	
Surr: Phenol-d5	2.6		3.339		77.5	34.8	118	0	0	
Surr: 2,4,6-Tribromophenol	2.8		3.339		84.0	26.8	128	0	0	
Surr: Nitrobenzene-d5	1.3		1.674		78.0	35.8	124	0	0	
Surr: 2-Fluorobiphenyl	1.4		1.674		84.8	24.5	139	0	0	
Surr: 4-Terphenyl-d14	1.2		1.674		71.0	29.4	129	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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-R24387		SampType:	MBLK		TestCode:	CYANIDE-TOTAL				
Client ID:	PBS		Batch ID:	R24387		RunNo:	24387				
Prep Date:			Analysis Date:	2/16/2015		SeqNo:	718598		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Cyanide	ND	0.50									

Sample ID	LCS-R24387			SampType:	LCS		TestCode:	CYANIDE-TOTAL			
Client ID:	LCSS			Batch ID:	R24387		RunNo:	24387			
Prep Date:				Analysis Date:	2/16/2015		SeqNo:	718599		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Cyanide	0.49		0.5000	0	98.8	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 Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-17645		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 17645		RunNo: 24243					
Prep Date:	2/9/2015		Analysis Date: 2/11/2015		SeqNo: 714587		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.033								

Sample ID	LCS-17645			SampType:	LCS		TestCode:	EPA Method 7471: Mercury			
Client ID:	LCSS			Batch ID:	17645		RunNo:	24243			
Prep Date:	2/9/2015			Analysis Date:	2/11/2015		SeqNo:	714588		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	99.9	80	120				

Sample ID	1502324-003BMS		SampType: MS		TestCode: EPA Method 7471: Mercury					
Client ID:	Central OCD-03-2/5/		Batch ID: 17645		RunNo: 24243					
Prep Date:	2/9/2015		Analysis Date: 2/11/2015		SeqNo: 714600		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.035	0.1753	0	99.0	75	125			

Sample ID	1502324-003BMSD		SampType:	MSD		TestCode:	EPA Method 7471: Mercury				
Client ID:	Central OCD-03-2/5/		Batch ID:	17645		RunNo:	24243				
Prep Date:	2/9/2015		Analysis Date:	2/11/2015		SeqNo:	714601		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.16	0.033	0.1665	0	98.2	75	125	5.93	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 Not In Range |
| 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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-17644	SampType: MBLK		TestCode: EPA Method 6010B: Soil Metals							
Client ID: PBS	Batch ID: 17644		RunNo: 24235							
Prep Date: 2/9/2015	Analysis Date: 2/11/2015		SeqNo: 714437		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Copper	ND	0.30								
Iron	ND	2.5								
Lead	ND	0.25								
Manganese	ND	0.10								
Selenium	ND	2.5								
Silver	ND	0.25								
Uranium	ND	5.0								
Zinc	ND	2.5								

Sample ID LCS-17644	SampType: LCS		TestCode: EPA Method 6010B: Soil Metals							
Client ID: LCSS	Batch ID: 17644		RunNo: 24235							
Prep Date: 2/9/2015	Analysis Date: 2/11/2015		SeqNo: 714438		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	26	2.5	25.00	0	104	80	120			
Barium	25	0.10	25.00	0	99.6	80	120			
Cadmium	25	0.10	25.00	0	99.1	80	120			
Chromium	26	0.30	25.00	0	102	80	120			
Copper	26	0.30	25.00	0	104	80	120			
Iron	26	2.5	25.00	0	102	80	120			
Lead	24	0.25	25.00	0	95.5	80	120			
Manganese	25	0.10	25.00	0	98.3	80	120			
Selenium	24	2.5	25.00	0	94.6	80	120			
Silver	5.2	0.25	5.000	0	104	80	120			
Uranium	24	5.0	25.00	0	96.9	80	120			
Zinc	25	2.5	25.00	0	99.6	80	120			

Sample ID 1502324-003BMS	SampType: MS		TestCode: EPA Method 6010B: Soil Metals							
Client ID: Central OCD-03-2/5/	Batch ID: 17644		RunNo: 24235							
Prep Date: 2/9/2015	Analysis Date: 2/11/2015		SeqNo: 714462		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	18	0.097	24.31	0	75.3	75	125			
Chromium	32	0.29	24.31	11.82	81.9	75	125			
Copper	24	0.29	24.31	3.564	82.9	75	125			
Silver	3.9	0.24	4.863	0	80.4	75	125			

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH Not In Range |
| 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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	1502324-003BMS	SampType:	MS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	Central OCD-03-2/5/	Batch ID:	17644	RunNo:	24235					
Prep Date:	2/9/2015	Analysis Date:	2/11/2015	SeqNo:	714462	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	19	4.9	24.31	0	76.6	75	125			

Sample ID	1502324-003BMSD	SampType:	MSD	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	Central OCD-03-2/5/	Batch ID:	17644	RunNo:	24235					
Prep Date:	2/9/2015	Analysis Date:	2/11/2015	SeqNo:	714463	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	19	0.10	25.73	0	75.5	75	125	5.87	20	
Chromium	32	0.31	25.73	11.82	80.1	75	125	2.17	20	
Copper	25	0.31	25.73	3.564	83.4	75	125	5.36	20	
Silver	4.2	0.26	5.147	0	81.2	75	125	6.61	20	
Uranium	20	5.1	25.73	0	76.4	75	125	5.41	20	

Sample ID	1502324-003BMS	SampType:	MS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	Central OCD-03-2/5/	Batch ID:	17644	RunNo:	24235					
Prep Date:	2/9/2015	Analysis Date:	2/11/2015	SeqNo:	714465	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	41	4.9	24.31	18.77	90.0	75	125			

Sample ID	1502324-003BMSD	SampType:	MSD	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	Central OCD-03-2/5/	Batch ID:	17644	RunNo:	24235					
Prep Date:	2/9/2015	Analysis Date:	2/11/2015	SeqNo:	714469	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	44	5.1	25.73	18.77	97.6	75	125	7.65	20	

Sample ID	1502324-003BMS	SampType:	MS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	Central OCD-03-2/5/	Batch ID:	17644	RunNo:	24254					
Prep Date:	2/9/2015	Analysis Date:	2/12/2015	SeqNo:	714888	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	20	2.4	24.31	1.641	76.1	75	125			
Barium	230	0.097	24.31	219.3	48.1	75	125			S
Lead	18	0.24	24.31	3.197	62.1	75	125			S
Selenium	9.8	2.4	24.31	0	40.2	75	125			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 Not In Range |
| 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#: 1502324

09-Mar-15

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	1502324-003BMSD	SampType:	MSD	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	Central OCD-03-2/5/	Batch ID:	17644	RunNo:	24254					
Prep Date:	2/9/2015	Analysis Date:	2/12/2015	SeqNo:	714889	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	21	2.6	25.73	1.641	76.5	75	125	5.71	20	
Barium	240	0.10	25.73	219.3	73.9	75	125	3.13	20	S
Lead	20	0.26	25.73	3.197	63.4	75	125	6.40	20	S
Selenium	11	2.6	25.73	0	41.7	75	125	9.33	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 Not In Range
RL Reporting Detection Limit



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

Sample Log-In Check List

Client Name: Western Refining Gallup

Work Order Number: 1502324

RcptNo: 1

Received by/date: CM 02/04/15

Logged By: Anne Thorne 2/6/2015 4:35:00 PM

Anne Thorne

Completed By: Anne Thorne 2/9/2015

Anne Thorne

Reviewed By: CS 02/09/15

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

17. Additional remarks:

18. Cooler Information

Cooler No.	Temp °C	Condition	Seal Intact	Seal No.	Seal Date	Signed By
3	1.5	Good	Yes			

**NMAC LIST ANALYTES AND REPORTING LIMITS, CONSTITUENTS LISTED IN SUBSECTIONS A AND B OF 20.6.2.3103 NMAC, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO**

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.5000
*Radium-226	E901.1	pCi/g	1.3950
*Radium-228	E901.1	pCi/g	1.2500
*Radium-226+Radium-228	E901.1	pCi/g	2.6450
Arsenic	SW8010A	mg/kg	2.5000
Barium	SW8010A	mg/kg	1.0000
Cadmium	SW8010A	mg/kg	0.1000
Chromium	SW8010A	mg/kg	0.3000
Copper	SW8010A	mg/kg	0.6000
Iron	SW8010A	mg/kg	500.0000
Lead	SW8010A	mg/kg	0.2500
Manganese	SW8010A	mg/kg	1.0000
Selenium	SW8010A	mg/kg	2.5000
Silver	SW8010A	mg/kg	0.2500
Uranium	SW8010A	mg/kg	5.0000
Zinc	SW8010A	mg/kg	2.5000
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg	0.0200
Aroclor 1221	SW8082	mg/kg	0.0200
Aroclor 1232	SW8082	mg/kg	0.0200
Aroclor 1242	SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1,1-Dichloroethane	SW8260B	mg/kg	0.0970
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethane	SW8260B	mg/kg	0.0480
Carbon tetrachloride	SW8260B	mg/kg	0.0970
Chloroform	SW8260B	mg/kg	0.0480
Dibromomethane	SW8260B	mg/kg	0.1000
Methylene chloride	SW8260B	mg/kg	0.1500
Tetrachloroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4-Dichlorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg	0.3000
2,4-Dinitrophenol	SW8270C	mg/kg	0.4000
2-Chlorophenol	SW8270C	mg/kg	0.2000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol	SW8270C	mg/kg	0.1000
3,4-Methylphenol	SW8270C	mg/kg	0.1000
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachlorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	0.2000
Acenaphthene	SW8270C	mg/kg	0.2000
Acenaphthylene	SW8270C	mg/kg	0.2000
Anthracene	SW8270C	mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg	0.2000
Benzo(a)pyrene	SW8270C	mg/kg	0.2000
Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	mg/kg	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(a,h)anthracene	SW8270C	mg/kg	0.2000
Fluoranthene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Indeno(1,2,3-c,d)pyrene	SW8270C	mg/kg	0.2000
Naphthalene	SW8270C	mg/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyanide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gasoline Range Organics (GRO)	SW8015	mg/kg	1.0

**VADOSE ZONE ANALYTES AND REPORTING LIMITS, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO**

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Chloride	E300	mg/kg	30
Benzene	SW8260B	mg/kg	0.050
Ethylbenzene	SW8260B	mg/kg	0.050
Toluene	SW8260B	mg/kg	0.050
Xylenes, Total	SW8260B	mg/kg	0.100
Petroleum Hydrocarbons, TR	E418.1	mg/kg	20

Chain-of-Custody Record

Client: Western Refining

Mailing Address: Route 3 Box 7
Gallup, NM 87301

Phone #: 505-722-3833
email or Fax#: 505-722-0210

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other _____

☐ EDD (Type) Please provide EDD _____

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
OCD Central Landfarm Semiannual Sampling

Project #:
697-039-008

Project Manager:
Ed Riege

Sampler: *PAC Bitsue*
On Ice: ☒ Yes ☐ No

Sample Temperature: *1.5*



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No	Vadose Zone List (see attached)	NMAC List (see attached)	BTEX (8260)	Air Bubbles (Y or N)
2/5/2015	1330	soil	CentralOCD-01-2/5/2015	8ox - 3, 4oz - 1	none	001	X	X		
2/5/2015	1215	soil	CentralOCD-02-2/5/2015	8ox - 3, 4oz - 1	none	-002	X	X		
2/5/2015	1417	soil	CentralOCD-03-2/5/2015	8ox - 3, 4oz - 1	none	-003	X	X		
2/5/2015	1135	soil	CentralOCD-04-2/5/2015	8ox - 3, 4oz - 1	none	-004	X	X		
2/5/2015	—	soil	BD-2/5/2015	8ox - 3, 4oz - 1	none	-005	X	X		
2/5/2015	1428	soil	CentralOCD-03-2/5/2015-MS	8ox - 3, 4oz - 1	none	-003	X	X		
2/5/2015	1441	soil	CentralOCD-03-2/5/2015-MSD	8ox - 3, 4oz - 1	none	-003	X	X		
2/5/2015	1458	water	EB-2/5/2015	VOA - 3	HCL	-006			X	
2/5/2015	1505	water	FB-2/5/2015	VOA - 3	HCL	-007			X	
		water	Trip Blank	VOA - 3	HCL	-008			X	

Date: 2/5/2015	Time: 1720	Relinquished by: <i>[Signature]</i>	Received by: <i>[Signature]</i>	Date: 2/6/15	Time: 1:00	Remarks: Please cc Grant Price (gprice@trihydro.com) with results. Call Grant @ 307-745-7474 w/ questions. Verify that Reporting limits comply with those shown on the attached. PCBs need DL of 0.02 mg/kg. Data report and package w/ Trihydro EDD needed within 10 days of receipt. Any way to prevent low surrogate recoveries as w/ Sept. 2014 data package (Det 140097412)
Date:	Time:	Relinquished by:	Received by:	Date:	Time:	

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.



Tier II Data Validation Report Summary

Client: Western Refining Southwest, Inc.	Laboratory: Hall Environmental Laboratory
Project Name: OCD Central Landfarm Semiannual Sampling	Sample Matrix: Soil
Project Number: 697-039-007	Sample Start Date: 02/05/2015
Date Validated: 02/26/2015	Sample End Date: 02/05/2015
Parameters Included: <ul style="list-style-type: none">• Polychlorinated Biphenyls (PCBs) by Environmental Protection Agency (EPA) Method 8082• Diesel Range Organics (DRO) and Gasoline Range Organics (GRO) by Solid Waste 846 (SW-846) Method 8015D• Anions by EPA Method 300.0• Total Mercury by SW-846 Method 7471• Total Metals by SW-846 Method 6010B• Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C• Volatile Organic Compounds (VOC) by SW-846 Method 8260B• Total Petroleum Hydrocarbons (TPH) by EPA Method 418.1• Total Cyanide by SW-846 Method 9012• Radium-226 and Radium-228 by EPA Method 901.1	
Laboratory Project ID: 1502324	
Data Validator: James Gianakon, Environmental Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, Anatek Labs, Inc. in Albuquerque, NM and Pace Analytical Labs in Greensburg, PA evaluating samples from the Western Refining Southwest, Inc. site, located in Gallup, New Mexico.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated relative percent difference (RPD) values from:

- Field duplicate pairs
- Matrix spike (MS) and matrix spike duplicate (MSD) pairs
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs

Laboratory accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- LCS/LCSD samples
- Organic system monitoring compounds (surrogates)

Field accuracy was established by collecting and analyzing the following samples to monitor for possible ambient or cross contamination during sampling and transportation.

- Trip blanks
- Field blanks
- Equipment blanks





Tier II Data Validation Report Summary

Method compliance was established by reviewing sample integrity, holding times, detection limits, surrogate recoveries, laboratory blanks, initial and continuing calibrations (where applicable), and the LCS/LCSD percent recoveries against method-specific requirements.

Completeness was evaluated by determining the overall ratio of the number of samples and analyses planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody (CoC), laboratory analytical methods, and other laboratory and field documents associated with this analytical data set.



Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
Central OCD-01-2/5/2015	1502324-001
Central OCD-02-2/5/2015	1502324-002
Central OCD-03-2/5/2015	1502324-003
Central OCD-04-2/5/2015	1502324-004
BD-2/5/2015	1502324-005
EB-2/5/1015	1502324-006
FB-2/5/2015	1502324-007
Trip Blank	1502324-008



Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (□) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

- ✓ Data Completeness
- ✓ CoC Documentation (Item 3)
- ✓ Holding Times and Preservation (Items 6 and 7)
- Initial and Continuing Calibrations (Item 9)
- ✓ Laboratory Blanks (Item 10)
- ⊗ MS/MSD (Item 12)
- ✓ LCS/LCSD (Item 14)
- ✓ System Monitoring Compounds (i.e., Surrogates) (Item 16)
- ✓ Field, Equipment, and Trip Blanks (Item 17)
- ⊗ Field Duplicates (Item 19)
- Laboratory Duplicates (Item 21)

Guidance References

Chemical data validation was conducted in accordance with the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for the analyses listed below, or by the appropriate method if not covered in the National Functional Guidelines.

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Superfund Organic Methods Data Review, document number EPA-540-R-014-002, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Organic Data Review, document number EPA 540/R-99/008, October 1999.
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Data Review, document number EPA-540-R-013-001, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number EPA 540-R-04-004, October 2004.
- Radiochemistry data were evaluated following criteria defined in USEPA Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP), document number EPA 402-B-04-001A, July 2004.
- Review of field duplicates was conducted according to the USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.
- Trihydro Data Validation Variance Documentation, September 2014.





Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Item 2 of the Validation Criteria Checklist.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data that are not qualified meet the site data quality objectives. If values are assigned qualifiers other than an R (rejected, data not usable), the data may be used for site evaluation; however, consideration should be given to the reasons for qualification when interpreting sample concentrations. Data points that are assigned an R qualifier should not be used for site evaluation purposes.

Text identified in **bold font** in the Validation Criteria Checklist indicates that further action and/or qualification of the data were required. Additional data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data that would be qualified with more than one flag were assigned one qualifier based on the severity; however, all reasons for qualification were retained. The hierarchy of qualifiers from the most to least severe is as follows:

- R > JB/U > NJ > J+/J- > J/UJ

Data that would be qualified with both J+ and J- flags were assigned one or the other based on the validation criteria involved. The hierarchy of validation criteria from higher to lower precedence is as follows:

- Holding Time > Calibrations > Surrogates > LCS/LCSD > MS/MSD

Data qualifiers used during this validation are included in the following table.

<u>Qualifier</u>	<u>Definition</u>
J	Estimated concentration
J+	The result is an estimated concentration, but may be biased high
J-	The result is an estimated concentration, but may be biased low
UJ	Estimated reporting limit

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 820 data points excluding blank samples. No data points were rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.



VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	No
Comments: The laboratory reported the following non-conformance related to this data set. <u>Method 8082</u> : Sample Central OCD-04-2/5/2015 was diluted x5, which elevates the PQL, because of the sample matrix.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags in the laboratory report. S – Spike Recovery outside accepted recover limits.	
3. Were sample CoC forms and procedures complete?	Yes
Comments: The CoC record from the field to the laboratory was complete and custody was maintained as evidenced by the field and laboratory personnel signatures, dates, and times of receipt.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The detection limits appeared to be acceptable. The following dilutions were applied. <u>Method 300.0</u> : Sample BD-2/5/2015 was diluted by a factor of 5 times for anion analysis. Dilution factors of 20 times were applied for the analyses of chloride and sulfate for samples Central OCD-01-2/5/2015, Central OCD-02-2/5/2015, Central OCD-03-2/5/2015, and Central OCD-04-2/5/2015. <u>Method 6010B</u> : Dilution factors of 2 to 100 times were applied for the total metals analyses of the soil samples.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC? Were any analytes reported by more than one method?	Yes
Comments: The reported analytical methods and constituents were found to be in compliance with the CoC.	
6. Were samples received in good condition within method-specified requirements?	No
Comments: Samples were received on ice, intact, and in good condition, outside the temperature acceptance range of 4°C +/- 2°C at a temperature of 1.5°C as noted on the CoC and the Sample Log-In Checklist. The samples were not frozen and bottles were not broken; therefore, no further action was required. Custody seals were noted to be present and intact on the coolers upon receipt by the laboratory.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	No
Comments: Samples were extracted/digested and analyzed within the method specified holding times.	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil.	Yes
Comments: The results were reported in concentration units of milligrams per kilogram (mg/kg), percent (%), and picocuries per gram (pCi/g) which were acceptable for the sample matrices and the analyses requested. Analytical results for the soil samples were reported on an as-received, wet weight basis. The analytical results for the field, equipment, and trip blank samples were reported in units of micrograms per liter which were appropriate.	
9. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	Yes
Comments: Initial and continuing calibration data were not included as part of this data set. However, there data were assumed to be acceptable as the laboratory did not note that any calibration verification results were outside the acceptable limits.	



VALIDATION CRITERIA CHECKLIST

10. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.

11. Were laboratory blank samples reported to be free of target analyte contamination? Yes

Comments: The laboratory blank samples were reported to be free of target analyte contamination.

12. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method? Yes

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples. The matrix spike sample source for each analytical batch in this sample set has been indicated below.

Method	Analyte (s)	Batch	MS Sample Source
300.0	Anions	17685	Central OCD-03-2/5/2015
418.1	TPH	17630	Central OCD-03-2/5/2015
8015D	DRO	17621	Central OCD-03-2/5-2015
8015D	GRO	17626	Central OCD-03-2/5/2015
8082	PCBs	17661	Central OCD-03-2/5/2015
8260B	VOCs	17626	Central OCD-03-2/5/2015
8260B	VOCs	R24238	Not Prepared
8270C	SVOCs	17635	Central OCD-03-2/5/2015
7471	Mercury	17645	Central OCD-03-2/5/2015
6010B	Total Metals	17644	Central OCD-03-2/5/2015
9012	Cyanide	R24387	Not Prepared
901.1	Radium	RADC/23382	Not Prepared/Not Required
901.1	Radium	RADC/23383	Not Prepared/Not Required

Not Prepared – Matrix spikes were not prepared for this batch.

13. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory quality control (QC) limits? No

Comments: MS/MSD percent recoveries and MS/MSD RPDs were within data validation and laboratory QC limits, with the following exceptions.

Method	Analyte	Batch	MS Recovery	MSD Recovery	MS/MSD QC Limits
300.0	Nitrogen, Nitrate	17685	117%	118%	85.3-110%
6010B	Barium	17644	48.1%	73.9%	75-125%
6010B	Lead	17644	62.1%	63.4%	75-125%
6010B	Selenium	17644	40.2%	41.7%	75-125%

Nitrogen, nitrate was detected in the associated samples and the results were assigned J+ qualifiers due to evidence of high bias.

Barium and lead were detected in the associated samples and the results were assigned J- qualifiers due to evidence of low bias.

Selenium was not detected in the associated samples and the results were assigned UJ qualifiers due to evidence of low bias.

VALIDATION CRITERIA CHECKLIST		
14. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method?	Yes	
Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples analyzed.		
15. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits?	Yes	
Comments: The LCS/LCSD percent recoveries and LCS/LCSD RPDs were within data validation and laboratory QC limits.		
16. Were surrogate recoveries within laboratory QC limits?	Yes	
Comments: Surrogate recoveries were within laboratory QC limits.		
17. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	Yes	
Comments: The number of trip blank, field blank, and equipment blank samples collected was equal to at least 10% of the total samples. One trip blank sample, Trip Blank, one field blank sample, FB-2/5/2015, and one equipment blank sample, EB-2/5/2015, were collected as a part of this data set.		
18. Were the trip blank, field blank, and/or equipment blank samples reported to be free of target analyte contamination?	Yes	
Comments: The trip blank, field blank, and equipment blank samples were reported to be free of target analyte contamination.		
19. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	Yes	
Comments: The number of field duplicate samples collected was equal to at least 10% of the total number of samples. The sample BD-2/5/2015 was collected as a duplicate for CentralOCD-02-2/5/2015.		
20. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	No	
Comments: As detailed in the Field Duplicate Summary Tables below, the field duplicate RPD values were within QC limits with the following exceptions. The RPD values for nitrogen (nitrate), sulfate, and barium were greater than the limit of 50% at 72.0%, 61.7%, and 116.7%, respectively. Results in the parent and duplicate sample, Central OCD-02-2/5/2015 and BD-2/5/2015 were assigned J qualifiers due to poor precision. Additionally, the barium results for the associated samples were also qualified and would have been assigned J qualifiers due to evidence of extremely poor precision (RPD > 100%), but the results had previously been assigned J- qualifiers due to evidence of low bias. The J- qualifiers were retained but the additional flag reason was included in the qualification results.		
21. Were laboratory duplicate RPD values within laboratory QC limits?	Yes	
Comments: Laboratory duplicate samples were not prepared as a part of this data set.		

FIELD DUPLICATE SUMMARY

Client Sample ID: Central OCD-02-2/5/2015 Field Duplicate Sample ID: BD-2/5/2015				
Method	Analyte	Laboratory Result (mg/kg)	Duplicate Result (mg/kg)	Relative Percent Difference (RPD)
300.0	Fluoride	4.3	6.0	33.0%
300.0	Chloride	110	170	42.9%
300.0	Nitrogen, Nitrate	1.6	3.4	72.0%
300.0	Sulfate	700	370	61.7%
6010B	Barium	760	200	116.7%
6010B	Chromium	10	15	40%
6010B	Copper	3.3	4.1	21.6%
6010B	Iron	16000	20000	22.2%
6010B	Lead	2.7	3.0	10.5%
6010B	Manganese	370	290	24.2%
6010B	Zinc	14	20	35.3%
8270C	Benzyl alcohol	ND (0.20)	0.23	DL
901.1	Radium-226	1.240 ± 0.264 pCi/g	1.602 ± 0.379 pCi/g	26.6%
901.1	Radium-228	1.514 ± 0.382 pCi/g	2.233 ± 0.499 pCi/g	38.4%

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within two times the reporting limit.

The RPD values for nitrogen (nitrate), sulfate, and barium were greater than the limit of 50% at 72.0%, 61.7%, and 116.7%, respectively. Results in the parent and duplicate sample, Central OCD-02-2/5/2015 and BD-2/5/2015 were assigned J qualifiers due to poor precision.

Additionally, the barium results for the associated samples were also qualified and would have been assigned J qualifiers due to evidence of extremely poor precision (RPD > 100%), but the results had previously been assigned J- qualifiers due to evidence of low bias. The J- qualifiers were retained but the additional flag reason was included in the qualification results.

DATA QUALIFICATION SUMMARY

Abbreviation	Reason
HR-MS	The MS and/or MSD percent recovery was greater than the upper acceptable limit indicating possible matrix interference.
LR-MS	The MS and/or MSD percent recovery was less than the lower acceptable limit indicating possible matrix interference.
ERPD-FD	High field duplicate RPD.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Nitrogen	E300	Central OCD-01-2/5/2015	1502324-001B	2.7	0.3	mg/kg	J+	HR-MS
Nitrogen	E300	Central OCD-03-2/5/2015	1502324-003B	16	0.3	mg/kg	J+	HR-MS
Nitrogen	E300	Central OCD-04-2/5/2015	1502324-004B	7.5	0.3	mg/kg	J+	HR-MS
Nitrogen	E300	Central OCD-02-2/5/2015	1502324-002B	1.6	0.3	mg/kg	J+	ERPD-FD, HR-MS
Nitrogen	E300	BD-2/5/2015	1502324-005B	3.4	1.5	mg/kg	J+	ERPD-FD, HR-MS
Sulfate	E300	Central OCD-02-2/5/2015	1502324-002B	700	30	mg/kg	J	ERPD-FD
Sulfate	E300	BD-2/5/2015	1502324-005B	370	7.5	mg/kg	J	ERPD-FD
Barium, Total	SW6010B	Central OCD-01-2/5/2015	1502324-001B	210	0.1	mg/kg	J-	ERPD-FD, LR-MS
Barium, Total	SW6010B	Central OCD-02-2/5/2015	1502324-002B	760	0.52	mg/kg	J-	ERPD-FD, LR-MS
Barium, Total	SW6010B	Central OCD-03-2/5/2015	1502324-003B	220	0.097	mg/kg	J-	ERPD-FD, LR-MS
Barium, Total	SW6010B	Central OCD-04-2/5/2015	1502324-004B	250	0.1	mg/kg	J-	ERPD-FD, LR-MS
Barium, Total	SW6010B	BD-2/5/2015	1502324-005B	200	0.2	mg/kg	J-	ERPD-FD, LR-MS
Lead, Total	SW6010B	Central OCD-01-2/5/2015	1502324-001B	2.5	0.26	mg/kg	J-	LR-MS
Lead, Total	SW6010B	Central OCD-02-2/5/2015	1502324-002B	2.7	0.26	mg/kg	J-	LR-MS
Lead, Total	SW6010B	Central OCD-03-2/5/2015	1502324-003B	3.2	0.24	mg/kg	J-	LR-MS
Lead, Total	SW6010B	Central OCD-04-2/5/2015	1502324-004B	6.2	0.25	mg/kg	J-	LR-MS
Lead, Total	SW6010B	BD-2/5/2015	1502324-005B	3	0.5	mg/kg	J-	LR-MS
Selenium, Total	SW6010B	Central OCD-01-2/5/2015	1502324-001B	ND	2.6	mg/kg	UJ	LR-MS
Selenium, Total	SW6010B	Central OCD-02-2/5/2015	1502324-002B	ND	2.6	mg/kg	UJ	LR-MS
Selenium, Total	SW6010B	Central OCD-03-2/5/2015	1502324-003B	ND	2.4	mg/kg	UJ	LR-MS
Selenium, Total	SW6010B	Central OCD-04-2/5/2015	1502324-004B	ND	2.5	mg/kg	UJ	LR-MS



Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Selenium, Total	SW6010B	BD-2/5/2015	1502324-005B	ND	5	mg/kg	UJ	LR-MS



Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, January 20, 2015 1:07 PM
To: 'Riege, Ed'
Cc: Grant Price
Subject: RE: Central OCD Landfarm exceedance notification at Western's Gallup Refinery

Ed:

Received. Ok. Thank you.

Carl J. Chavez, CHMM

New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Drive, Santa Fe, New Mexico 87505
O: (505) 476-3490

E-mail: CarlJ.Chavez@State.NM.US

Web: <http://www.emnrd.state.nm.us/ocd/>

“Why Not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward With the Rest of the Nation?” To see how, please go to: “Pollution Prevention & Waste Minimization” at <http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental>



From: Riege, Ed [<mailto:Ed.Riege@wnr.com>]
Sent: Tuesday, January 20, 2015 12:32 PM
To: Chavez, Carl J, EMNRD
Cc: Grant Price
Subject: Central OCD Landfarm exceedance notification at Western's Gallup Refinery

Hello Carl,

Results of the latest semiannual vadose zone sampling event at Western's Gallup Refinery Central OCD Landfarm indicate a chloride exceedance at one of the four vadose zone sample locations. In accordance with 19.15.36.15.E.(5) NMAC, Western intends to “collect and analyze four randomly selected, independent samples for TPH, BTEX, chlorides, and the constituents listed in Subsections A and B of 20.6.2.3103 NMAC.” Western will submit the results of the re-sampling event and a response action plan for the division's approval within 45 days. Resampling is tentatively scheduled for February 5, 2015. Please let me know if you have any questions.

Thanks,

Ed

Ed Riege MPH
Environmental Manager

Western Refining
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