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: <u>CarlJ.Chavez@State.NM.US</u>
Web: <u>http://www.emnrd.state.nm.us/ocd/</u>

"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

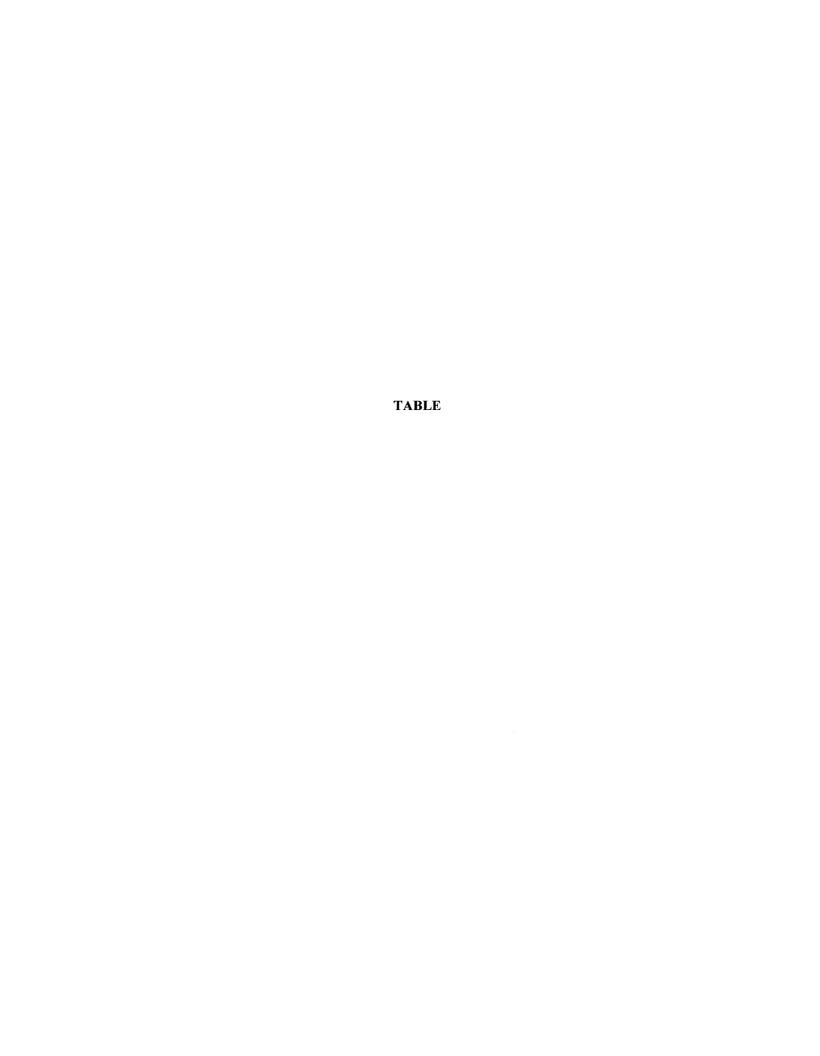


TABLE 1. GRID 2121 CHLORIDE EXCEEDANCE EXCAVATION DATA SUMMARY, CENTRAL OCD LANDFARM WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Sample Type	Sample Depth	Sample Identification	Collection Date	Chlorides (mg/kg)
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 Sta			
				7.525 500
	Semiannual Vadose Zone sample Confirmation sample collected from the bottom	Semiannual Vadose Zone sample Confirmation sample collected from the bottom of the excavation 6 ft bgs 8.5 ft bgs	Semiannual Vadose Zone sample Confirmation sample collected from the bottom of the excavation Screening Standards Base	Semiannual Vadose Zone sample Confirmation sample collected from the bottom of the excavation 6 ft bgs CentralOCD-04-091614 9/16/2014 OCD-2121-04072015 4/7/2015

Notes:

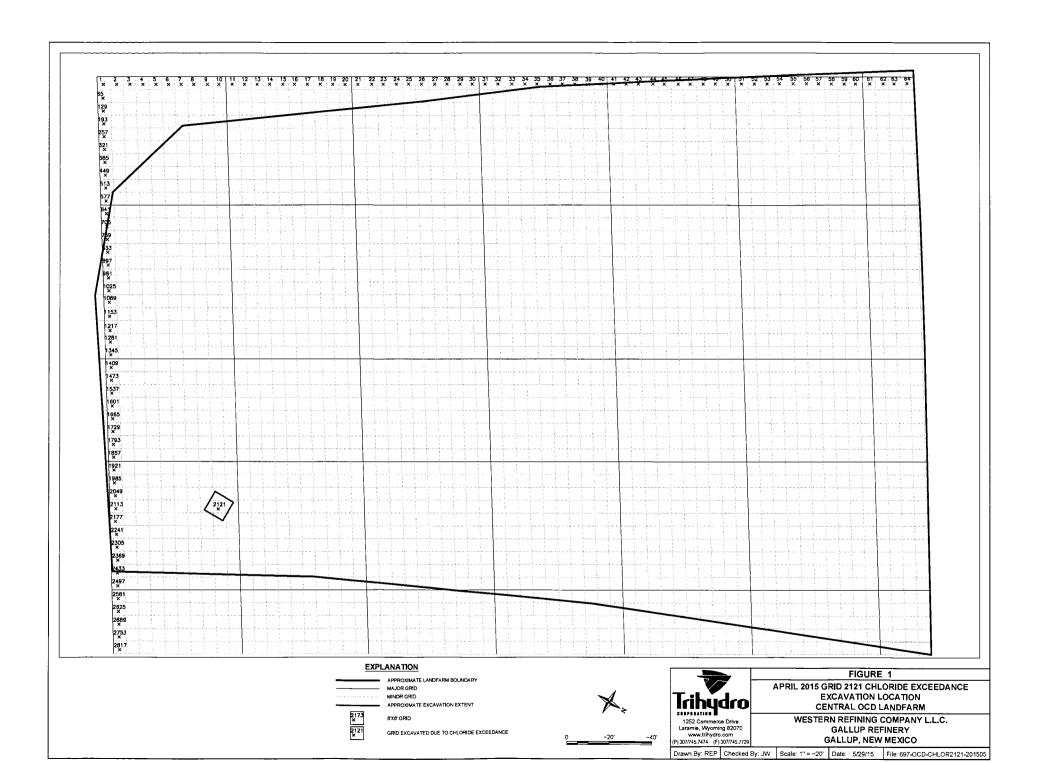
mg/kg = milligrams per kilogram

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.





ATTACHMENT A EXCAVATION LITHOLOGIC LOG

TRIHYDRO CORPORATION

Project Number cation/Address	Gallup Re		Landforme			1-7-			
cation/Address.		erinery UCU					1 (60		
	1011 5		Condidana			Company	Brunt		
01-11	Western F		7 6-	40 mg	6 Pio Type	e / Method:			
CKU-) V		NA 21	<u>~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ </u>	40.40					Split Spoon Shelby Tube Other:
	,						reic one).		
ionatura:							H	County Lieve	OC LIGHTON
							Central OCD	Landlarm	
		1		Plasticity	Consistency	Moisture	Odor	PID streng Reading	Additional Comments (Odor descriptor, sheen, nodules, structure, vegitation, etc.)
	Grytty	Black	Red Brown	High	(Very Soft)	(Dry)	Strong		
Sand JF M C	Sandy		Gray Green	Moderate	Son	Moist	Moderate		
,	(),,,,	Other	%	-	Very Hard	-	-		
GVL - FMC	Grvily	Black (Red Brown) High	Very Soft	COO	Strong		433345 31 1 1
Sand - FM C	Sandy	Gray - LMD	Oray Green	Moderate	Soft	Moist	Moderate		N3ft is where Native soil prefer to at and indicated by hard dig
SH	500	BUTHO	Rust Yellow	COW	Fint	Saturated	Stahl		, ,
Clay)	Clayey)	Red LMD	Other	(Non)	(Hard)	- <	None Noted	5	at and indicated by hard dire
		Other	14,	ر	Very Hard				graver hor
GVL FMC	Grvty	B.ack	Red Brown) High	Very Soft	Dry)	Strong		
Sand FMC	Sandy	Gray L M D	Gray Green	Moderate	Sett	Moist	#Moderate		
Sil	Sitty	Bm · L M D	Rust Yellow	tow	Firm	Saturated	Sight		
Clay	Clayey (Red L D	Other	CNOR	Ham	ے - ا	None Noted	D	
		Other	%		Very Hard				
	Gryily	Black C	Red Brown	High	Very Soft	(Ory)	Strong		1 11-1 -11 1 766
Sand - F M C	Sandy	Gray - L M D	Gray Green	Moderate	Soft	4	Moderate		Very Hara soil 10 17.
S:3						Saturated			
Ciay	elayey		Other	CNOD.		~ (None Noted	₽.	Very Hard soil ~ 7ft.
			*						TOO SERVICE
	1 - 1	1	1		,	1	-		
	1	1				1			
	1 '		i i			Sa:Ura:ed			
Cidy	Ciayey		Winer	. 14011					
GVI . E M.C	Goo			High		Dο	Sirono		
	1 '	1	1		· ·				
	1 '	1 '	,		Furn	Saturated			
	1 '	Red · L M D	Other	Non	Hard	-	None Noted		
,		Other	%	-	Very Hard			<u></u> _	
GVL FMC	Gryty	B:ack	Red Brown	High	Very Saft	Dry	Strong		
Sand · F M C	Sandy	Gray · L M D	Gray Green	Moderate	Soft	Moist	Moderate		
Sa	Sitty	Bm - L M D	Rust Ye*ow	LOW	Fam	Satura*ed	5l:ght		
Clay	Clayey	Red - L M D	Other	Non	Hard	-	None Noted		
		Other	14		Very Hard	**			
	GIOTALUTE: GID: GRID 21 Texture - Gr Major CVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl Clay GVL F M C Sand F M C Stl	GVL F M C Sand Sand Sand Sand Sand Sand Sand Sand	Texture - Grain Size Major Minor Major CVI_F M C Sand F M C Sand - F	Texture - Grain Size Major Minor Major Modifier CVI_F M C Sand F M C Sitty Sitty Black Red Brown Sitty Clayey Red - L M D Clay	Texture - Grain Size Major Minor Major Modifier CVL F M C Sand J F M C Claye Clayer Clayer	Texture - Grain Size Major Minor Major Modifier Sity Clay Clay Clay Clay Clay Clay Clay Clay	Surface Elevation: Equipment List: SID: GRID 2121 Boring Location: Texture - Grain Size Major Modifier Moderate Soft Modifier Modifier Moderate Major Modifier Moderate Soft Modifier Modifier Moderate Soft Modifier Modifier Moderate Soft Modifier Moderate Soft Modifier Modifier Moderate Soft Modifier Modifier Moderate Soft Modifier Moderate Soft Modifier Modifier Moderate Soft Modifier Moderate Soft Modifier Moderate Soft Modifier Moderate Soft Modifier Modifier Moderate Soft Modifier Modifier Modifier Moderate Soft Modifier Modifier Moderate Soft Modifier Modifier Modifier Moderate Soft Modifier Modifier Modifier Modifier Modifier Modifier Moderate Soft Modifier Modi	Supriage Elevation: Equipment List: BD: GRID 2121 Boring Location: Central OCD Texture - Grain Size Major Minor Major Modifier Plasticity Consistancy Moisture Odor GVV. F M.C. Saffy Back Red Brown High Saturated Sight Moderate Scal Saturated Sight Moderate Saffy Clay Clayer Red List Other Other Moderate Scal Saturated Sight Moderate Scal Scal Scal Scal Scal Scal Scal Scal	Surface Elevation: Casing Elevation: Equipment List: Texture - Grain Size Major Minor Control Major Minor M

te Collected	Yes	Number/Size of Containers:	Two 4oz jars
Sample ID:	000-2121-04072015	Analysis to be Performed:	Chloride
Date.	4-7-15	Duplicate Collected	
Time	1216	Notes:	
Depth;	8,5f+		

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

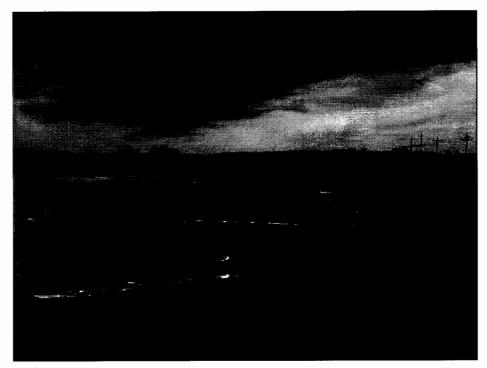


Photo 3. View to the E; barricaded excavation and stockpiled soil.



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.

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 Qu	al 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 2 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

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 Qu	al 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 S	HORT 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

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 Qu	al 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 S	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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 4 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Lab ID: 1504287-004

Project:

OCD Central Landfarm Semiannual Sam 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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	: LGT
Chloride	220	30	mg/Kg	20	4/17/2015 1:44:29 PM	18745
EPA METHOD 8260B: VOLATILES		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	I 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
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 5 of 32

- Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

OCD Central Landfarm Semiannual Sam

Lab ID: 1504287-005

Project:

Client Sample ID: BD-04062015

Collection Date: 4/6/2015

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

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	: LGT
Chloride	350	30	mg/Kg	20	4/17/2015 2:09:19 PM	18745
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analys	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					Analys	: JME
Petroleum Hydrocarbons, TR	ND	19	mg/Kg	1	4/14/2015 12:00:00 PM	1 18606

Matrix: SOIL

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

Page 6 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

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 RANG	E 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 RA	ANGE					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

Page 7 of 32

- P Sample pH Not ln Range
- RL Reporting Detection Limit

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

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

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLA	TILES	_			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

Matrix: SOIL

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

Page 8 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

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: SEMIVOLATILE	:S					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	1866
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	1866
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	1866
Nitrobenzene	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	1866
2-Nitrophenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	1866
4-Nitrophenol	ND	2.5		mg/Kg	1	4/15/2015 11:00:23 PM	1866
Pentachlorophenol	ND	4.0		mg/Kg	1	4/15/2015 11:00:23 PM	1866
Phenanthrene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	1866
Phenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	1866
Pyrene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	1866
Pyridine	ND	5.0		mg/Kg	1	4/15/2015 11:00:23 PM	1866
1,2,4-Trichlorobenzene	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	1866
2,4,5-Trichlorophenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	1866
2,4,6-Trichlorophenol	ND	2.0		mg/Kg	1	4/15/2015 11:00:23 PM	1866
Surr: 2-Fluorophenol	67.2	26.4-129		%REC	1	4/15/2015 11:00:23 PM	1866
Surr: Phenol-d5	75.1	34.8-118		%REC	1	4/15/2015 11:00:23 PM	1866
Surr: 2,4,6-Tribromophenol	76.8	26.8-128		%REC	1	4/15/2015 11:00:23 PM	1866
Surr: Nitrobenzene-d5	83.3	35.8-124		%REC	1	4/15/2015 11:00:23 PM	1866
Surr: 2-Fluorobiphenyl	86.9	24.5-139		%REC	1	4/15/2015 11:00:23 PM	1866
Surr: 4-Terphenyl-d14	0	29.4-129	S	%REC	1	4/15/2015 11:00:23 PM	1866
EPA METHOD 8260B: VOLATILES						Analyst	cadg
Benzene	ND	0.049		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

Page 9 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analys	t: 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
- RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 10 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sam

Lab ID: 1504287-006

Matrix: SOIL

Collection Date: 4/6/2015 12:30:00 PM **Received Date:** 4/8/2015 7:05:00 AM

Client Sample ID: CentralOCD-TZ-04062015

Analyses	Result	RL Qu	al 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 11 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sam

Lab ID: 1504287-007

Matrix: SOIL

Client Sample ID: OCD-2121-04072015

Collection Date: 4/7/2015 12:16:00 PM **Received Date:** 4/8/2015 7:05:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 12 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sam

Lab ID: 1504287-008

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	HORT LIST				Analys	t: 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

Matrix: AQUEOUS

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

Page 13 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sam

Lab ID: 1504287-009

Client Sample ID: FB-04062015

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

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

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	SHORT LIST				Analys	t: 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	N D	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

Matrix: AQUEOUS

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

Page 14 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1504287

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample 1D: 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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analys	t: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 15 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Anatek Labs, Inc.

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

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

150409032

Address:

4901 HAWKINS NE SUITE D

Project Name:

1504287

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

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

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifler
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.

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 Sa	mple									
Parameter		LCS Result	Units	s LCS	Spike %R	ec AR	%Rec	Ргер	Date	Analysis Date
Cyanide		0.511	mg/k	g 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	-	•
Matrix Spike Di	uplicate									
Parameter		MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD) Pre	p Date	Analysis Date
Cyanide		16.3	mg/kg	14.75	101.6	1.2	0-25		5/2015	4/15/2015
Method Blank										
Parameter			Re	sult	Units		PQL	Pr	ep Date	Analysis Date
Cyanide			1	ND	mg/Kg		0.5	4	/15/2015	4/15/2015

AR

Acceptable Range

ND

Not Detected

PQL RPD Practical Quantitation Limit Relative Percentage Difference

Comments:



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

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..



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.

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			Tes	tCode: E	s					
Client ID: PBS	Batch ID: 18745			RunNo: 25615							
Prep Date: 4/17/2015	Analysis D	Analysis Date: 4/17/2015			SeqNo: 758950 Units:			its: 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	SampT	vpe: LC	s	TestCode: EPA Met			300.0: Anion	S.			

Sample ID LCS-18/45	Samprype. LCS resicode. EPA Method 300							S		
Client ID: LCSS	Batch	ID: 18	745	F	RunNo: 2					
Prep Date: 4/17/2015	Analysis D	ate: 4/	17/2015	S	SeqNo: 7	: 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	SampTy	ре: МS	3	Test	Code: El	PA Method	300.0: Anion	s		
Client ID:	CentralOCD-03-040	6 Batch	ID: 18	745	R	tunNo: 2	5615				
Prep Date:	4/17/2015	SeqNo: 758962 Units: mg/Kg				(g					
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, Nitrat	e (As N)	17	0.30	7.500	8.487	114	85.3	110			S

Sample ID	1504287-003AMSD	SampT	уре: М \$	SD	TestCode: EPA Method 300.0: Anions							
Client ID:	CentralOCD-03-04	06 Batch	ID: 18	745	R	RunNo: 2	5615					
Prep Date:	Prep Date: 4/17/2015 Analysis Date: 4/17/2015					SeqNo: 7	58963	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, Nitrat	e (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

Page 16 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Western Refining Southwest, Gallup Client:

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

Result **PQL** SPK value SPK Ref Val %REC **RPDLimit** Analyte LowLimit HighLimit %RPD Qual

ND 20 Petroleum Hydrocarbons, TR

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

93 20 86.7 Petroleum Hydrocarbons, TR 100.0

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

RPDLimit %RPD PQL SPK value SPK Ref Val %REC HighLimit Analyte Result LowLimit 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

CentralOCD-03-0406 Batch ID: 18606 Client ID: RunNo: 25553

Prep Date: Analysis Date: 4/16/2015 SeqNo: 756803 4/9/2015 Units: mg/Kg

Analyte **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Result LowLimit

20 Petroleum Hydrocarbons, TR 93 100.0 0 92.9 120

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 98.2 20 100.7 120 6.19

P

Qualifiers:

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

Page 17 of 32

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 SPK value SPK Ref Val %REC HighLimit %RPD RPDLimit Qual **PQL** LowLimit Analyte Result Diesel Range Organics (DRO) ND 10 ND 50 Motor Oil Range Organics (MRO) 95.5 63.5 Surr: DNOP 9.6 10.00 128

Sample ID LCS-18574	TestCode: EPA Method 8015D: Diesel Range Organics									
Client ID: LCSS	Batch	ID: 18	574	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

Page 18 of 32

Hall Environmental Analysis Laboratory, Inc.

08-May-15

1504287

WO#:

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-18573	SampT	ype: ME	BLK	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 18573			F	RunNo: 2	5395					
Prep Date: 4/8/2015	Analysis Date: 4/9/2015		SeqNo: 751932			Units: mg/F	(g				
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				
	ID LCS-18573 SampType: LCS				TestCode: EPA Method 8015D: Gasoline Range						
Sample ID LCS-18573	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Gaso	oline Rang	e		
Sample ID LCS-18573 Client ID: LCSS		ype: LC			tCode: E		8015D: Gaso	oline Rang	e		
		i ID: 18		F		5395	8015D: Gaso	_	e		
Client ID: LCSS	Batch	i ID: 18	573 /9/2015	F	RunNo: 2	5395		_	RPDLimit	Qual	
Client ID: LCSS Prep Date: 4/8/2015	Batch Analysis D	i ID: 18 ate: 4	573 /9/2015	SPK Ref Val	RunNo: 2 SeqNo: 7	5395 51933	Units: mg/F	(g		Qual	

Sample ID 1504287-006AMS	SampT	ype: M \$	3	Test	tCode: E	PA Method	8015D: Gaso	line Rang	е	
Client ID: CentralOCD-TZ-0	40 Batch	ı ID: 18	573	R	RunNo: 2	5395				
Prep Date: 4/8/2015	Analysis D	ate: 4/	9/2015	S	SeqNo: 7	51936	Units: mg/K	(g		
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 1504287-006AMS	SD	tCode: E	PA Method	8015D: Gaso	line Rang	е				
Client ID: CentralOCD-TZ-	040 Batch	ID: 18	573	F	RunNo: 2	5395				
Prep Date: 4/8/2015	9/2015	8	SeqNo: 7	51937	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

Page 19 of 32

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	SampT	уре: МЕ	BLK	Tes	tCode: E	PA Method	8082: PCB's			•
Client ID: PBS	Batch	n ID: 180	660	F	RunNo: 2	5757				
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		32.487						
Arodor 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	SampT	ype: LC	s	Test	tCode: El	PA Method				
Client ID: LCSS	Batch	ID: 18 0	660	R	RunNo: 2	5757				
Prep Date: 4/13/2015	Analysis D	ate: 4/	24/2015	S	SeqNo: 7	63491	Units: mg/K	g		
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
- Analyte detected below quantitation limits J
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND

P

Page 20 of 32

Sample pH Not In Range

RL Reporting Detection Limit

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	SampT	ype: MBL	K	Tes	tCode: El	PA Method	8260B: Volat	iles		
Client ID: PBS	Batch	h ID: 1857	3	F	RunNo: 2	5409				
Prep Date: 4/8/2015	Analysis D	Date: 4/9/	2015	8	SeqNo: 7	52062	Units: mg/K	g		
Analyte	Result	PQL S	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

Page 21 of 32

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	SampT	Гуре: МЕ	BLK	Test	Code: E	PA Method	8260B: Volat	iles		
Client ID: PBS	Batch	h ID: 18	573	R	tunNo: 2	5409				
Prep Date: 4/8/2015	Analysis D	Date: 4/	9/2015	S	SeqNo: 7	52062	Units: mg/K	g		
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 Ics-18573	SampT	ype: LC	s	Tes	tCode: El	PA Method	8260B: Vola	tiles		
Client ID: LCSS	Batch	1D: 18	573	F	RunNo: 2	5409				
Prep Date: 4/8/2015	Analysis D	ate: 4/	9/2015	8	SeqNo: 7	52063	Units: mg/k	ζg		
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

Page 22 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID Ics-18573	SampT	ype: LC	S	Tes	tCode: El	PA Method	8260B: Vola	tiles		
Client ID: LCSS	Batch	n ID: 18	573	F	RunNo: 2	5409				
Prep Date: 4/8/2015	Analysis D	ate: 4/	9/2015	8	SeqNo: 7	52063	Units: mg/h	(g		
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

Page 23 of 32

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	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8260B: Volat	iles Short	List	
Client ID: PBS	Batcl	n ID: 18	573	R	RunNo: 2	5409				
Prep Date: 4/8/2015	Analysis D	Date: 4/	9/2015	S	SeqNo: 7	52065	Units: mg/K	g		
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 Ics-18573	SampT	ype: LC	S	Tes	List					
Client ID: LCSS	Batch	1D: 18	573	F	RunNo: 2	5409				
Prep Date: 4/8/2015	Analysis D	ate: 4/	9/2015	8	SeqNo: 7	52066	Units: mg/F	(g		
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	7 0	130			
Surr: Toluene-d8	0.46		0.5000		91.9	70	130			

Sample ID 1504287-003ams	s SampT	ype: M S	3	Tes	tCode: E	PA Method	8260B: Vola	tiles Short	List	_
Client ID: CentralOCD-03-	0406 Batch	ID: 18	573	F	RunNo: 2	5409				
Prep Date: 4/8/2015	Analysis D	ate: 4/	9/2015	S	SeqNo: 7	52070	Units: mg/k	(g		
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

Page 24 of 32

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

Official D. Central Cop-03	- 0400 Dates	11D. 10	3/3	•	turii 10. Z	0703				
Prep Date: 4/8/2015	Analysis D	ate: 4/	9/2015	5	SeqNo: 7	52071	Units: mg/h	(g		
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
- Analyte detected below quantitation limits J
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Sample pH Not In Range
- Reporting Detection Limit

Page 25 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID 100ng Ics	Samp	ype: LC	s	Tes	tCode: E	PA Method	8260: Volatile	es Short L	₋ist	
Client ID: LCSW	Batcl	n ID: R2	5378	F	RunNo: 2	5378				
Prep Date:	Analysis D	ate: 4/	8/2015	8	SeqNo: 7	50966	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	4.4		10.00		109	70	130			
Suit. Toluette-uo	11		10.00							
Sample ID 5mL-rb		уре: МЕ		Tes			8260: Volatile	s Short L	-ist	
	SampT	ype: ME	BLK			PA Method		es Short L	ist	
Sample ID 5mL-rb	SampT	n ID: R2	3LK 25378	F	tCode: E	PA Method 5378		es Short L	-ist	
Sample ID 5mL-rb Client ID: PBW	Samp1 Batcl	n ID: R2	3LK 25378 28/2015	F	tCode: El RunNo: 2 SeqNo: 7	PA Method 5378	8260: Volatile	es Short L	.ist RPDLimit	Qual
Sample ID 5mL-rb Client ID: PBW Prep Date:	Sampī Batci Analysis E	n ID: R2 Date: 4 /	3LK 25378 28/2015	F	tCode: El RunNo: 2 SeqNo: 7	PA Method 5378 50970	8260: Volatile			Qual
Sample ID 5mL-rb Client ID: PBW Prep Date: Analyte	SampT Batcl Analysis D Result	n ID: R2 Pate: 4 /	3LK 25378 28/2015	F	tCode: El RunNo: 2 SeqNo: 7	PA Method 5378 50970	8260: Volatile			Qual
Sample ID 5mL-rb Client ID: PBW Prep Date: Analyte Benzene	SampT Batcl Analysis D Result ND	PQL 1.0	3LK 25378 28/2015	F	tCode: El RunNo: 2 SeqNo: 7	PA Method 5378 50970	8260: Volatile			Qual
Sample ID 5mL-rb Client ID: PBW Prep Date: Analyte Benzene Toluene	SampT Batcl Analysis E Result ND ND	PQL 1.0	3LK 25378 28/2015	F	tCode: El RunNo: 2 SeqNo: 7	PA Method 5378 50970	8260: Volatile			Qual
Sample ID 5mL-rb Client ID: PBW Prep Date: Analyte Benzene Toluene Ethylbenzene	SampT Batcl Analysis E Result ND ND ND	PQL 1.0 1.0	3LK 25378 28/2015	F	tCode: El RunNo: 2 SeqNo: 7	PA Method 5378 50970	8260: Volatile			Qual
Sample ID 5mL-rb Client ID: PBW Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	SampT Batcl Analysis D Result ND ND ND ND	PQL 1.0 1.0	3LK 25378 8/2015 SPK value	F	tCode: El RunNo: 2 SeqNo: 7 %REC	PA Method 5378 50970 LowLimit	8260: Volatile Units: µg/L HighLimit			Qual
Sample ID 5mL-rb Client ID: PBW Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4	SampT Batcl Analysis D Result ND ND ND ND ND	PQL 1.0 1.0	3LK 25378 8/2015 SPK value	F	tCode: El RunNo: 2 SeqNo: 7 %REC	PA Method 5378 50970 LowLimit	8260: Volatile Units: µg/L HighLimit			Qual

Qualifiers:

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

Page 26 of 32

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	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8270C: Semi	volatiles		
Client ID: PBS	Batch	ID: 18	661	F	RunNo: 2	5544				
Prep Date: 4/13/2015	Analysis D	ate: 4/	15/2015	\$	SeqNo: 7	56564	Units: mg/K	(g		
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

Page 27 of 32

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	SampT	ype: MB l	LK	Tes	tCode: El	PA Method	8270C: Semi	volatiles		
Client ID: PBS	Batch	n ID: 186	61	F	RunNo: 2	5544				
Prep Date: 4/13/2015	Analysis D	ate: 4/1	5/2015	8	SeqNo: 7	56564	Units: mg/K	g		
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

Page 28 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID Ics-18661	SampT	ype: LC	s	Tes	tCode: El	PA Method	8270C: Sem	ivolatiles		
Client ID: LCSS	Batch	n ID: 18 0	661	F	RunNo: 2	5544				
Prep Date: 4/13/2015	Analysis D	ate: 4/	15/2015	8	SeqNo: 7	56565	Units: mg/k	(g		
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	4 3. 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

Page 29 of 32

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 PQL

SeqNo: 756337

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg

HighLimit

%RPD **RPDLimit**

Qual

Analyte Mercury

ND 0.033

Result

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

SPK value SPK Ref Val Result **PQL**

%REC

HighLimit

%RPD **RPDLimit** Qual

Mercury

0.16

Result

0.58

0.61

0.033 0.1667 0 97.8

120

Sample ID 1504287-006BMS

SampType: MS

Batch ID: 18690

PQL

0.16

0.1591

TestCode: EPA Method 7471: Mercury

RunNo: 25534

75

80

LowLimit

Units: mg/Kg

125

Analyte Mercury

Client ID:

Prep Date: 4/14/2015

CentralOCD-TZ-040

Analysis Date: 4/15/2015

SeqNo: 756356 SPK value SPK Ref Val

0.1429

%REC LowLimit 276

HighLimit

%RPD **RPDLimit**

Qual

s

Sample ID 1504287-006BMSD

Client ID:

Prep Date:

CentralOCD-TZ-040

4/14/2015

SampType: MSD Batch ID: 18690 TestCode: EPA Method 7471: Mercury

RunNo: 25534

Units: mg/Kg

RPDLimit

Qual

Analyte Mercury

Result

PQL

0.16

Analysis Date: 4/15/2015

SPK value

0.1611

SPK Ref Val

0.1429

SeqNo: 756357 %REC 290

LowLimit 75

HighLimit 125 %RPD 4.77

20

S

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- В Analyte detected in the associated Method Blank
- Η ND
- P Sample pH Not In Range
- Reporting Detection Limit

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit Page 30 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#: 1504287

08-May-15

Western Refining Southwest, Gallup Client:

OCD Central Landfarm Semiannual Sampling Project:

Sample ID MB-18669	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	6010B: Soil	Metals		
Client ID: PBS	Batch	1D: 18	669	F	RunNo: 2	5491				
Prep Date: 4/13/2015	Analysis D	ate: 4/	14/2015	S	SeqNo: 7	54953	Units: mg/F	ζg		
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	SampT	ype: LC	s	Test	tCode: E	PA Method	6010B: Soil	Metals		
Client ID: LCSS	Batch	n ID: 18	669	R	tunNo: 2	5491				
Prep Date: 4/13/2015	Analysis D	ate: 4/	14/2015	S	SeqNo: 7	54954	Units: mg/h	(g		
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 M	Metals
Client ID: PBS	Batch ID: 18669	RunNo: 25596	
Prep Date: 4/13/2015	Analysis Date: 4/18/2015	SeqNo: 758372 Units: mg/K	g
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual

Zinc ND 2.5

Qualifiers:

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

Page 31 of 32

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

Prep Date: 4/13/2015

SampType: LCS

TestCode: EPA Method 6010B: Soil Metals

Client ID:

LCSS

Batch ID: 18669

RunNo: 25596

SeqNo: 758373

Units: mg/Kg

RPDLimit Qual

Analyte

Analysis Date: 4/18/2015

SPK value SPK Ref Val

%RPD

Zinc

HighLimit 120

%REC PQL LowLimit 80 25 2.5 25.00 101

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Е Value above quantitation range
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Sample pH Not In Range

Reporting Detection Limit

Page 32 of 32



Hail Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87469 TEL: 505-345-3975 FAX: 503-245-4467

Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name:	Western Refining Gallup	Work Order Number	15042	287			Rcp	plNo 1
Received by/date	e	alloglis				459		
Logged By:	Lindsay Mangin	4/8/2015 7:05:00 AM			Order.	Majo		
Completed By	Lindsay Mangin	4/8/2015 7:59:16 AM			94	MGO		
Roviewed By:	PA	24/23/15						
Chain of Cus	, , ,	.,						
1. Custody sea	ils intact on sample bottles?	•	Yes		No		Not Present	(
2. Is Chain of C	Custody complete?		Yes	V	No		Not Present	
3. How was the	sample delivered?		Fedt	<u>x</u>				
Log In								
4. Was an atte	empt made to cool the samp	les?	Yes	Z	No	; •	NA	A COLOR
5. Were all san	riples received at a tempera	sture of >0° C to 5 0°C	Yes	(Z)	No		NA	
6. Sample(s) in	n proper container(s)?		Yes	Ø	No			
7, Sufficient sai	mple volume for indicated to	est(s)7	Yes	y	No	and the		
8, Are samples	(except VOA and ONG) pro	operly preserved?	Yes	✓.	No	*****		
9. Was preserv	ative added to bolties?		Yes	1	No	¥	NA	
10.VQA vials ha	ave zero headspace?		Yes	7	No		No VOA Vials	
11. Were any so	ample containers received t	proken?	Yes		No	Y	,	
						2000	# of preserved bottles checke	
	work match bottle labels?	Α.	Yes	~	No		for pH:	(<2 or >12 unless noted)
	pancies on chain of custody correctly identified on Chai		Yes	Y	No		Adjusted	
	a: analyses were requested	_	Yes		No			
	ding times able to be met? customer for authorization.)		Yes	Y	No		Checked	by:
Special Hand	lling (if applicable)							
16. Was client no	otified of all discrepancies v	with this order?	Yes		No		NA	.
Person	Notified:	Date		***************************************				
By Wh	om:	Via (eMa	n (F	Phone	Fax	In Person	
Regard	ding:	elper roce harry - time to the horrow		**********		***********		Manage Control of the
Client I	Instructions:					***************************************		
17. Additional re	emarks							
18. <u>Cooler Info</u> Cooler No		Seal Intact Seal No S	Seal Da	ite	Signed I	Ву		

(Chain	-of-C	ustody Record	Turn-Around Time	•			,		1		. =	NIV.	TD	N.	ME	NT	· A I	
Client:	Westerr	Refining		☑ Standard	□ Rush_												ATC		
				Pròject Name:						www	ı.hall	enviro	nmer	ntal.co	om:				
Mailing Add	iress:		Route 3 Box 7	OCD Central Land	farm Semiann	ual Sampling		49	01 H	awki	ns N	E - A	Albuqi	uerqu	e, NA	vi 871	C9		
Gallup, NM	87301	Wilden Control		Project #:	***************************************			Te	el. 5 0	5-34	5-39	75	Fax	505-	345-	4107			
Phone #:		505-722	-3833	697-039-008								Anal	ysis f	Requi	est				
email or Fa	x#:	505-722	-0210	Project Manager:			ed)												
CA/QC Pad Standar			☐ Level 4 (Full Validation)	Ed Riege			attach	(ped)											
Accreditation	on:			Sampler:	Zaç Bitsue			lac	EPA 300.0										2
□ NELAP		□ Other	**************************************	On loe:	∠Z Yes	Ç No	<u>.</u>	30	A 3										ठ
IT EDD (T)	pe)_Ple	ase prov	de EDD	Sample Temperate	ure: 3,2		= E	SE L(SE	y E	<u>@</u>									S (S
Date	Tima	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	Vadose Zone List (see attached)	NMAC List (see attached)	Chloride by	BTEX (8260)									Air Bubbles (Y or N)
4/6/2015	13 45	soil	Centra/OCD-01-04062015	4oz - 2	none	-001	×												
4/6/2015	1417	soil	CentralOCD-02-04062015	40z - 2	none	-002	Х												
4/6/2015	1305	sail	CentralOCD-03-04062015	4oz - 2	none	-007	×												
4/6/2015	- Committee of the same of the	1	CentralOCD-04-04062015	4oz - 2	none	-0041	×												
4/6/2015		soil	BD-04062015	402 - 2	none	-005	Х												
4/6/2015	1312	soil		4oz - 2	none	-013	X												
4/6/2015	1316	soil	CentralOCD-CS-04062015-MSD	4oz - 2	none	-003	Х												
4/6/2015	and the second	soil	CentralOCD-TZ-04062015	8oz - 3, 4oz - 1	none	-000	X	X											
4/7/2015	12/6	soil	OCD-2121-04072015	40z - 2	none	-007			х										
4/6/2015	1330	water	EB-04062015	VOA - 3	HCL	00%				×									
4/6/2015	1335	water	FB-04062015	VOA - 3	HCL	-009		<u> </u>		×						Ш		\perp	\perp
NA NA	NA	water	Trip Blank	VOA - 3	HCL	010				X			_	_		\vdash	_	_	4
Date: 4-7-/5	Time: 1430 Time:	Relinquish Relinquish	BB	Received by	Cilled	ate Time	res Rei	ults. porti	Call n a l i	Gra:	nt @	307-	745-7 vith t	474 w hose	vi que shov	estion wn o	lro.com ns. <u>Ve</u> n the	erify	

	,	,	
Analyte	Analytical	Reporting	Requested Reporting
	Method	Units	Limit
Fluoride	E300	ma/ka	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.5000
*Radium-226	E901.1	pCVg	1.3950
*Radium-228	E901.1	pC⊮g	1.2500
*Radium-226+Radium-228	E901.1	pCVg	2.8450
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	rng/kg	0.6000
tron	SW6010A	rng/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/kp	0.0200
Aroclor 1221	\$W8082	mg/kg	0.0200
Aroclor 1232	SW6062	mg/kg	0.0200
Arodor 1242	SW8082	mg/kg	0.0200
Arodor 1248	SW8082	mg/kg	0.0200
Arodor 1254	SW6082	mg/kg	0.0200
Arocior 1260	SW6082	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	SW82608	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
Tetrachioroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW82608	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichforophenol	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	5W8270C	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
4,8-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachiorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthelene	SW8260B	mo/kg	0.2000
Acenaphthene	SW8270C	marka	0.2000
Acenaphthylene	SW8270C SW8270C	marka	0.2000
Anthracene Reggo(e)enthracene	SW8270C	mg/kg mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg mg/kg	0.2000
Benzo(a)oyrene Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	ma/ka	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(s,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	mo/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyenide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gasoline Range Organics (GRO)	SW8015	mg/kg	1.0
The second of th	9110010		.,,,

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



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:

- 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





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.





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





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 (\checkmark) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (\otimes) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (\otimes) 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)
- O 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)
- O 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.





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.

Qualifier	<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.

Method 8270C: One of the surrogate compounds was not recoverable due to dilution and matrix interferences.

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.

Method 8015B: A dilution factor of 10 times was applied for the DRO analysis of sample CentralOCD-TZ-04062015.

Method 300.0: A dilution factor of 20 times was applied for the analyses of anions for selected samples.

Method 6010B: 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.

Method 7471: 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)	<u>Batch</u>	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?

Νo

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- d_{14} 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

		mple ID: CentralOCD-0 iplicate Sample ID: BD				
Method	Analyte Laboratory Result Duplicate Result Relative Perce (mg/kg) (mg/kg) Difference (RF					
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	tion 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



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

2.5

101

80

Zinc

25

25.00

120

Qualifiers:

Value exceeds Maximum Contaminant Level.

E Value above quantitation range

Analyte detected below quantitation limits J

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits B Analyte 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

Reporting Detection Limit RL

Page 32 of 32



Hail Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4167 Website: www.hallenviconmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order N	umber: 1504287		RcpINo 1
Received by/date Lindsay Mangin Completed By: Lindsay Mangin A/8/2015 7:05:0 Completed By: Lindsay Mangin Completed By: Lindsay Mangin	6 AM	A-HHILD A-HHILD	
Chain of Custody			
	Yes 🔲	No 🗆	Not Present
Custody seals intact on sample bottles?	Yes 🗸	No 🗌	Not Present
2. Is Chain of Custody complete?	FedEx		
3. How was the sample delivered?	reges		
<u>Log In</u>	F-9		NA 🗌
4. Was an attempt made to cool the samples?	Yes 🗸	No	NA L
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 _	
Are samples (except VOA and ONG) properly preserved?	Yes 🗸	No _	
Was preservative added to bottles?	Yes	No 🗸	NA 🗆
	Yes 🗸	No 🗆	No VOA Vials
10.VOA vials have zero headspace?	Yes 🗆	No V	COL MATERIAL CONTRACTOR AND
11. Were any sample containers received broken?	103		# of preserved bottles checked
12. Does paperwork match bottle labels?	Yes 🗸	No 🗌	for pH:
(Note discrepancies on chain of custody)			(<2 or >12 unless noted) Adjusted?
13. Are matrices correctly identified on Chain of Custody?	Yes 🗹	No 🗌	Valuence
14. Is it clear what analyses were requested?	Yes 🗸	No 🗆	Checked by:
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	№ □	district 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:			
40. O to leformation			
18. Cooler Information Cooler No Temp °C Condition Seal Intact Se	al No Seal Date	Signed By	

C	hain-	of-Cus	stody Record	Turn-Around Time:						HAL	LEI	VVIR	ONE	1ENT	AL	,
		Refining		Standard Rush_			ANALYSIS LABORATOR						JKI	in.		
HEHL .	rootoni						www.hallenvironmental.com									
						-I Constina		490	1 Ha	wkins 1	NE - A	lbuquer	que, NIV	87109		
Aailing Addr	ess:	F	toute 3 Box 7	OCD Central Land	arm Semiannu	al Samping	1			-345-3		Fax 50				
Sallup, NM 8	87301			Project #:			1000		NE		Analy	ysis Red	uest		7.5	
hone #:	- Intraction to the second	505-722-3	833	697-039-008			9			T						
ernail or Fax	d#:	505-722-0	210	Project Manager:			altached)									
QA/QC Pack				Ed Riege			alle	(pai								
Standard	d	1	☐ Level 4 (Full Validation)	Sampler:	Zac Bitsue		List (see	Itaci	300.0		11					Or N
Accreditatio	n:	= Olher		On Ice:	Yes	F No	1 1	96 8								2
☐ NELAP	no) Ple	Other_	le EDD	Sample Temperatu	ure: 3,4		Zone	1 (8)) E	(8260)						les
I EDD (19	pc/_1 ~			Container Type	Preservative	HEAL No.	Vadose Z	NMAC List (see attached)	Chloride by EPA	EX (82						Air Bubbles (Y
Date	Time	Matrix	Sample Request ID	and#	Type	1504087	-	1	5	BTEX	1	-	-			-
. 10 1004 5	2 05	soil	CentralOCD-01-04062015	4oz - 2	none	-001	X	-	_	+	+	-	_		\Box	\top
4/6/2015			CentralOCD-02-04062015	40z - 2	none	-002	Х	-	-	-	+					T
4/6/2015	Total Contract	soil	CentralOCD-03-04062015	4oz - 2	none	-003	X	-	-	_	+	_		+-		+
4/6/2015	The same of the sa	soil	CentralOCD-04-04062015	40z - 2	none	-004	X	-	-	-	+-	-	-	++		+
4/6/2015	1993	soil	BD-04062015	4oz - 2	none	-005	X	-	-	-	+-	-	\vdash	+-	+	+
4/6/2015		soil	CentralOCD - 5-04062015-MI		none	-003	X	-	-	-	+	-	-	++		+
4/6/2015		soil	CentralOCD-03-04062015-MS		none	-003)		_	1	+	-	-	+	+	+
4/6/2015	5 13/16	soil	CentralOCD-TZ-04062015	8gz - 3, 4gz - 1	none	-066	>	(X	_		_		-	+	+	+
4/6/2015	5 1230	soil	OCD-2121-04072015	40z + 2	none	-007			X				-	++	+	\vdash
4/7/201	5 1214	soil	EB-04062015	VOA - 3	HCL	-008				X			\vdash	++	+	\vdash
4/6/201	5 /330	water	FB-04062015	VOA - 3	HCL	-009				X		-	-	++	+-	
4/6/201	5 1 535	water			HCL	-010				X			1	++	+	
NA	NA	water	Trip Blank	VOA - 3	TICE									@ tribude	2 00m	with
			TOTAL TOTAL	Received by: /		Date Time	71		- 0	III Crar	1 100 30	17-745-1	4/4 W/ 0	@trinydr juestions	veri	fy th
Date:	Time	Relinquis	- FI	777		1- 2000		enni	rting	limits	compl	y with t	nose sr	IOWII OII	the	
4-71	5 143	0 -	BR	DE	M4/125	Date Time	- 2	ttacl	ned.	PCBs	need I	DL of 0.)2 mg/k	q.		
Date:	Time:	Relinquis	shed by:	Received by		Date - Itte										
10 To				1 1										on the ana		

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluorida	E300	mg/kg	0 3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2 2000
Sulfate	E300	mg/kg	21.5000
*Radium-226	E901.1	pC//g pC//g	1.3950 1.2500
*Rad um-228	E901.1	pCvg	2.6450
*Radium-226+Radium-228	SW6010A	mg/kg	2.5000
Arsenic Barium	SW6010A	mg/kg	1.0000
Cadmium	SW6010A	mg/kg_	0 1000
Chromlum	SW6010A	rng/kg	0.3000
Copper	SW6010A	mg/kg mg/kg	500.0000
tron	SW6010A SW6010A	mg/kg	0.2500
Lead	SW6010A	mg/kg	1.0000
Manganese Selenium	SW6010A	mg/kg	2.5000
Silver	SW6010A	mg/kg	0 2500
Uranium	SW6010A	mg/kg	2.5000
Zinc	SW6010A	mg/kg	0.0330
Mercury	SW7471	mg/kg mg/kg	0.0200
Arocior 1016	SW8082 SW8082	mg/kg	0.0200
Arockir 1221	SW8082	mg/kg	0.0200
Aroclor 1232 Aroclor 1242	SW8092	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Arodor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichlorgethane	SW8260B	mg/kg mg/kg	0.0480
1.1,2-Trichloroethane	SW8260B SW8260B	mg/kg	0.0970
1,1-Dichloroethane	SW8260B	mg/kg	0 0480
1,1-Dichloroethene 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	0.1500
Methylene chloride	SW8260B SW8260B	mg/kg mg/kg	0.0480
Tetrachioroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trich'orophenol	SW8270C	mg/kg	0.2000
2.4-Dichtorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg mg/kg	0.4000
2,4-Dinitrophenol	SW8270C SW8270C	mg/kg	0.2000
2-Chlorophenol	SW8270C	mg/kg	0.1000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol 3+4-Methylphenol	SW8270C	mg/kg	0.1000
4.6-Dinitra-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg mg/kg	
4-Nitrophenol	SW8270C SW8270C	mg/kg	
Pentachlorophenol	SW8270C	mg/kg	0.2000
Phonol 1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	
Acenaphthene	SW8270C	mg/kg	
Acanaphthylene	SW8270C	mg/kg	0.0000
Anthracene	SW8270C SW8270C	mg/kg mg/kg	2 2000
Benzo(a)anthracene	SW8270C	mg/kg	2 2000
Benzo(a)pyrene	SW82700		0.2000
Benzo(p)fluoranthene Benzo(g,h,i)perylene	SW82700	mg/kg	0.2000
Benzo(g)t()perylene Benzo(k)fluoranthene	SW82700	mg/ks	
Chrysene	SW82700		
Dibenz(a,h)anthraceno	SW82700		
Fluoranthene	SW82700		0.000
Fluorene	SW82700 SW82700		2
Indeno(1,2,3-c,d)pyrene	SW82700		0.200
Naphthalene Phenanthrene	SW82700		0.200
Phenantriche	SW82700	c mg/k	g 0 200
Cyanide	EPA 335	4 mg/k	
Diesel Range Organics (DRO)	SW8015	i mg/l	g 12

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

Analyto	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



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:

- 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





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.





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 / 3014529200
OCD-2121-04072015	1504287-007
EB-04062015	1504287-008
FB-04062015	1504287-009
Trip Blank	1504287-010



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 (O) 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)
- O 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)
- O 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.





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.

Qualifier	<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.

Method 8270C: One of the surrogate compounds was not recoverable due to dilution and matrix interferences.

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.

Method 8015B: A dilution factor of 10 times was applied for the DRO analysis of sample CentralOCD-TZ-04062015.

Method 300.0: A dilution factor of 20 times was applied for the analyses of anions for selected samples.

Method 6010B: 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.

Method 7471: 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 $4.0^{\circ}\text{C} \pm 2.0^{\circ}\text{C}$ 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.

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

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)	<u>Batch</u>	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 Yes 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? 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 Yes laboratory QC limits? Comments: The LCS/LCSD percent recoveries and LCS/LCSD RPDs were within laboratory QC limits. No 16. Were surrogate recoveries within laboratory QC limits? 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. Yes 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? 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 Yes of target analyte contamination? Comments: The trip blank, field blank, and equipment blank samples were reported to be free of target analyte contamination. Yes 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? 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 Yes 0-30%, or air 0-25%)? 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. N/A For laboratory duplicates prepared from project samples, were RPDs within laboratory QC limits?

Comments: Laboratory duplicate samples were not prepared as a part of this data set.



FIELD DUPLICATE SUMMARY

		Sample ID: CentralOCD-0 Duplicate Sample ID: BD-		
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



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			Tes	TestCode: EPA Method 300.0: Anions					
Client ID: PBS	Batch	1D: 18	745	RunNo: 25615						
Prep Date: 4/17/2015	Analysis D	ate: 4/	17/2015	8	SeqNo: 7	58950	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
luoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID LCS-18745	SampT	ype: LC	S	Tes	TestCode: EPA Method 300.0: Anions						
Client ID: LCSS	Batch ID: 18745			F	RunNo: 25615						
Prep Date: 4/17/2015	Analysis Date: 4/17/2015			8	SeqNo: 758951			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
luoride	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	7-003AMS SampType: MS				Code: E	PA Method	300.0: Anion	s		
Client ID: CentralOCD-03-0406 Batch ID: 18745					F	RunNo: 25615					
Prep Date:	4/17/2015	Analysis D	ate: 4/	17/2015	8	SeqNo: 7	58962	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
luoride		2.4	0.30	1.500	2.186	14.0	13.6	100			
							85.3	110			S

Sample ID	1504287-003AMSD	SampT	ype: MS	SD	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID:	CentralOCD-03-040	6 Batch	ID: 18	745	R	RunNo: 2	5615				
Prep Date:	4/17/2015	Analysis D	ate: 4/	17/2015	S	SeqNo: 7	58963	Units: mg/K	g		
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, Nitrat	e (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

Page 16 of 32

Hall Environmental Analysis Laboratory, Inc.

93

20

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
etroleum 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
	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Analyte Petroleum Hydrocarbons, TR	93 20 100.0	- 007 126
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
Analyto	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Analyte Petroleum Hydrocarbons, TR	98 20 100.0	27 20 7 426 5.45 20
Sample ID 1504287-003AMS	S SampType: MS	TestCode: EPA Method 418.1: TPH
Same of a management		RunNo: 25553
	0406 Batch ID: 18606	
Client ID: CentralOCD-03-0 Prep Date: 4/9/2015	0406 Batch ID: 18606 Analysis Date: 4/16/2015	SeqNo: 756803 Units: mg/Kg

Sample ID 1504287-003AN	ISD SampT	ype: MS	SD.	Test	Code: El	PA Method	418.1: TPH			
Client ID: CentralOCD-03		ID: 18	606	R	tunNo: 2	5553				
Prep Date: 4/9/2015	Analysis D	ate: 4/	16/2015	S	eqNo: 7	56804	Units: mg/K	(g		
o. :: 	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte Petroleum Hydrocarbons, TR	99	20	100.7	0	98.2	80	120	6.19	20	

92.9

120

80

100.0

Qualifiers:

Analyte

Petroleum Hydrocarbons, TR

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit 0
- RPD outside accepted recovery limits R
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank B
- Holding times for preparation or analysis exceeded H
- Not Detected at the Reporting Limit
- Sample pH Not In Range
- Reporting Detection Limit RL

Page 17 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

OCD Central Landfarm Semiannual Sampling

Project: OCD C	Central Landia	arm Ser	niannuai Sa	mpinig						
Sample ID MB-18574 Client ID: PBS	2011/06/05/05/05/05	ype: ME			Code: El		8015D: Diese	el Range C	Organics	
Prep Date: 4/8/2015	Analysis D	ate: 4/	9/2015	S	eqNo: 7	51714	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP	ND ND 9.6	10 50	10.00		95.5	63.5	128			
Sample ID LCS-18574 Client ID: LCSS	50	ype: LC			Code: E		8015D: Dies	el Range (Organics	
Prep Date: 4/8/2015	Analysis D	ate: 4/	9/2015	\$	SeqNo: 7	51806	Units: mg/h	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO) Surr: DNOP	49 4.6	10	50.00 5.000	0	97.1 92.4	67.8 63.5	130 128			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit 0
- RPD outside accepted recovery limits R
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank B
- Holding times for preparation or analysis exceeded H
- Not Detected at the Reporting Limit ND
- Sample pH Not In Range
- Reporting Detection Limit

Page 18 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Western Refining Southwest, Gallup

lient: roject:	Western R OCD Cent	efining Sout tral Landfarn	nwest, n Semi	annual Sar							
Client ID: Prep Date: Analyte	MB-18573 PBS 4/8/2015 ge Organics (GRO)	SampType Batch ID Analysis Date Result F ND 850): 1857 e: 4/9/	'3 2015	Ru	nNo: 253 qNo: 751	95	015D: Gasoli Units: mg/Kg HighLimit 120		RPDLimit	Qual
	LCS-18573 LCSS	SampTyp Batch II	D: 185	73	Ri	code: EPa unNo: 25 eqNo: 75	395	8015D: Gaso Units: mg/K		e	
	4/8/2015 ge Organics (GRO)	Analysis Dat Result 26 920			SPK Ref Val	0.00	LowLimit 64 80	HighLimit 130 120	%RPD	RPDLimit	Qual
Client ID:	54559990	SampTy	ID: 18	573	R	Code: EF	5395	8015D: Gaso		e	
Analyte Gasoline Rai Surr: BFB	nge Organics (GRO)	Result 24 940	PQL 4.9			%REC 96.1 95.9	LowLimit 47.9 80	120	%RPD	RPDLimit	Qual
Client ID:			ID: 18	573	ı	RunNo: 2 SeqNo: 7	5395	d 8015D: Gas Units: mg/		ge	
Analyte Gasoline Ra	ange Organics (GRO)	Result 26 960	PQL 4.9	SPK value		%REC 104 97.6	LowLimit 47.9 80	144	%RPD 7.82 0	29.9	Qual

Qualif	iers
--------	------

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit 0
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits

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

Page 19 of 32

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	SampT	ype: ME			tCode: EF RunNo: 2						
Client ID: PBS		Analysis Date: 4/24/2015			SeqNo: 70	63490	Units: mg/Kg				
Prep Date: 4/13/2015	Analysis D	ate. 41				LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Analyte	Result	PQL	SPK value	SPK Ref Val	70REC	LOWLIIII	1 113.1				
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			444	37.5	161				
Surr: Decachlorobiphenyl	0.071		0.06250	K.	114	2204					
Surr: Tetrachloro-m-xylene	0.078		0.06250		124		- 3550				
	Samn	Tyne: L	cs	Te	stCode: E	PA Metho	d 8082: PCB's	S			

Sample ID LCS-18660 Client ID: LCSS		ID: 186	660	R	Code: EftunNo: 26 SeqNo: 76		Units: mg/Kg					
Prep Date: 4/13/2015	Analysis D		24/2015	SPK Ref Val	©: 1001000000000000000000000000000000000	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Analyte	Result			0	59.2	26.2	127					
Aroclor 1016	0.074	0.020	0.1250 0.1250		79.2	36.6	122					
Aroclor 1260	0.099	0.020	0.06250		94.0	37.5	161					
Surr: Decachlorobiphenyl Surr: Tetrachloro-m-xylene	0.059 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

Page 20 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

Project:

OCD Central Landfarm Semiannual Sampling

8 V 18 V 19	- L									
Sample ID mb-18573		Гуре: МЕ		Tes	tCode: El	PA Method	8260B: Volat	iles		
Client ID: PBS	Batc	h ID: 18	573	F	RunNo: 2	5409				
Prep Date: 4/8/2015	Analysis [Date: 4/	9/2015	5	SeqNo: 7	52062	Units: mg/K	g		
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								
UL # UU		1576.5								

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

Page 21 of 32

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	SampTy	pe: MB	LK				8260B: Volat	iles		
		ID: 185		R	tunNo: 2	409				
Client ID: PBS	Analysis Da			S	eqNo: 7	52062	Units: mg/K	(g		
Prep Date: 4/8/2015	Analysis Da				%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result	PQL	SPK value	SPK Ref Val	701120					
,1-Dichloropropene	ND	0.10								
lexachlorobutadiene	ND	0.10								
-Hexanone	ND	0.50								
sopropylbenzene	ND	0.050								
-Isopropyltoluene	ND	0.050								
I-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	0							
Trichloroethene (TCE)	ND	0.05	0							
Trichlorofluoromethane	ND	0.05	0							
1,2,3-Trichloropropane	ND	0.1	0							
Vinyl chloride	ND	0.05								
Xylenes, Total	ND	0.1			40		70 13	0		
Surr: Dibromofluoromethane	0.52		0.50		10 10	T	70 13			
Surr: 1,2-Dichloroethane-d4	0.52		0.50			ā: .	70 13			
Surr: Toluene-d8	0.47		0.50		93		70 13			
Surr: 4-Bromofluorobenzene	0.50		0.50	00	99	.8	70 10			

		600		Test	Code: EF	A Method	8260B: Volat	iles		
Sample ID Ics-18573 Client ID: LCSS	SampT Batch Analysis D	ID: 18	573	R	unNo: 2	5409	Units: mg/Kg			
Prep Date: 4/8/2015	13 2000E.E			SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result			0	98.8	70	130			
enzene	0.99	0.050	1.000	0	88.6	70	130			
Foluene Chlorobenzene	0.89	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

Page 22 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

Project:

OCD Central Landfarm Semiannual Sampling

Sample ID Ics-18573		ype: LC			Code: EF unNo: 25		8260B: Volat	iles		
Client ID: LCSS	Batch Analysis D	ID: 18	573 9/2015		eqNo: 7		Units: mg/K	g		
Prep Date: 4/8/2015	- 15) - 1000 - 1000		SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result		1.000	0	113	60.6	134			
1,1-Dichloroethene	1.1	0.050	1.000	0	89.0	70	130			
Trichloroethene (TCE)	0.89	0.030	0.5000		108	70	130			
Surr: Dibromofluoromethane	0.54 0.52		0.5000		104	70	130			
Surr: 1,2-Dichloroethane-d4			0.5000		91.9	70	130			
Surr: Toluene-d8 Surr: 4-Bromofluorobenzene	0.46 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

Page 23 of 32

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	SampTy	pe: MB	LK				3260B: Volatil	es onort		
Client ID: PBS	Batch	ID: 185	73	Ru	inNo: 254	09				
Prep Date: 4/8/2015	Analysis Da				eqNo: 752		Units: mg/Kg	I %RPD	RPDLimit	Qual
Analyte	Result	PQL	SPK value S	PK Ref Val	%REC	LowLimit	HighLimit	76KFD	NI DEIIII	- Cuu
Methyl tert-butyl ether (MTBE)	ND	0.050								
Benzene	ND	0.050								
,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			400	70	130			
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				A 579 - W	
Sample ID Ics-18573	Samp	Type: LC	cs	Tes	tCode: EF	A Method	8260B: Vola	tiles Shor	t List	
	Bato	h ID: 18	3573	F	RunNo: 2	5409				
Client ID: LCSS	Analysis I				SeqNo: 7	52066	Units: mg/k	(g		
Prep Date: 4/8/2015	Analysis				%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result	PQL		SPK Ref Val	98.8	70	30000			
Benzene	0.99	0.050	75776276276	0	88.6	70				
Toluene	0.89	0.050		U	104	70				
Surr: 1,2-Dichloroethane-d4	0.52		0.5000 0.5000		103	70				
Surr: 4-Bromofluorobenzene	0.52		0.5000		108	70				
Surr: Dibromofluoromethane	0.54		0.5000		91.9	70				
Surr: Toluene-d8	0.46		0.5000		760			tiles Cha	rt Liet	
Sample ID 1504287-003ar		Type: N		Те			d 8260B: Vola	atiles 5110	It LIST	
Client ID: CentralOCD-03		ch ID: 1			RunNo: 2		Units: mg/	Ka		
Prep Date: 4/8/2015	Analysis	Date:			SeqNo: 7		-	%RPD	RPDLimit	Qual
Analyte	Result	PQL		SPK Ref Va	105	LowLimi 57.		MED	THE DELINIT	
Benzene	1.0	0.04	8 0.9515				T 193			
Delizerio	0.90	0.04	8 0.9515	0	94.4	54.	8 139			

0.4757

0.4757

0.4757

0.4757

0.90

0.51

0.46

0.52

0.44

Qualifiers:

Surr: Toluene-d8

Toluene

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

- Analyte detected below quantitation limits J
- RSD is greater than RSDlimit 0
- RPD outside accepted recovery limits R
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Holding times for preparation or analysis exceeded H

70

70

70

70

130

130

130

130

Not Detected at the Reporting Limit

106

97.1

109

92.5

- Sample pH Not In Range P
- Reporting Detection Limit

Page 24 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

Project:

OCD Central Landfarm Semiannual Sampling

Sample ID 1504287-003ams	d SampT	ype: MS	D	Test	Code: EF	PA Method	8260B: Volat	iles Short	List	
Client ID: CentralOCD-03-0		ID: 18		R	RunNo: 2	5409				
Prep Date: 4/8/2015	Analysis D	ate: 4/	9/2015	S	SeqNo: 7	52071	Units: mg/K	g		
	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	MULTI-COLORS		0.9497	0	110	57.8	132	3.98	20	
Benzene	1.0	0.047		0	94.2	54.8	139	0.433	20	
Toluene	0.89	0.047	0.9497	O,	109	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.52		0.4748		98.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.47		0.4748			70	130	0	0	
Surr: Dibromofluoromethane	0.54		0.4748		113				0	
Surr: Toluene-d8	0.43		0.4748		90.5	70	130	0	U	

Qualifiers:

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

Page 25 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#: 15

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

OCD Central Landfarm Semiannual Sampling

Project: OCD Co	SampT	ne: LC	S	TestCode: EPA Method 8260: Volatiles Short List									
Sample ID 100ng Ics		ID: R2		R	unNo: 25	378							
Client ID: LCSW	Analysis D		8/2015	S	eqNo: 7	50966	Units: µg/L			-			
Prep Date:			ODK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Analyte	Result	PQL		O C	95.7	70	130						
Benzene	19	1.0	20.00	0	101	70	130						
Toluene	20	1.0	20.00	0	99.0	70	130						
Surr: 1,2-Dichloroethane-d4	9.9		10.00		113	70	130						
Surr: 4-Bromofluorobenzene	11		10.00		102	70	130						
Surr: Dibromofluoromethane	10		10.00		109	70	130						
Surr: Toluene-d8	11		10.00			7,50	I 8260: Volati	01 - 1	Lint				

Surr: Toluene-d8	11		10.00		103	781				
Sample ID 5mL-rb Client ID: PBW Prep Date:	SampTy Batch Analysis D	ID: R2		F	tCode: EF RunNo: 25 SeqNo: 75	5378	8260: Volatile		RPDLimit	Qual
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	KPDLIIIII	Quui
Benzene Toluene Ethylbenzene	ND ND ND	1.0 1.0 1.0								
Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8	ND 11 9.6 11	1.5	10.00 10.00 10.00))	108 95.5 111 110	70 70 70 70	130 130			

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

Page 26 of 32

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	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8270C: Semi	volatiles		
Client ID: PBS	Batch	ID: 18	661	F	RunNo: 2	5544				
Prep Date: 4/13/2015	Analysis D	ate: 4/	15/2015	S	SeqNo: 7	56564	Units: mg/K	g		
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

Page 27 of 32

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	SampTy	pe: MBL	_K				8270C: Semi	voiatiles		
		ID: 186			RunNo: 2			• • •		
	Analysis Da			5	SeqNo: 7	56564	Units: mg/k	(g		
Prep Date: 4/13/2015				SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result	PQL 0.50	SFIX Value	Of Itties						
2,4-Dinitrotoluene	ND ND	0.50								
2,6-Dinitrotoluene	ND	0.20								
Fluoranthene	23770	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND									
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	Ĕ							
4-Nitroaniline	ND	0.40	1							
	ND	0.40)							
Nitrobenzene	ND	0.20)							
2-Nitrophenol	ND	0.25	5							
4-Nitrophenol	ND	0.40								
Pentachlorophenol	ND	0.20								
Phenanthrene	ND	0.2								
Phenol	ND	0.2								
Pyrene	ND	0.4								
Pyridine	ND	0.4								
1,2,4-Trichlorobenzene	ND ND									
2,4,5-Trichlorophenol	ND									
2,4,6-Trichlorophenol				330	70).7 2	0	29		
Surr: 2-Fluorophenol	2.4			330	7:	2.3 3	1.0	18		
Surr: Phenol-d5	2.4			330	7:	2.4 2	6.8	28		
Surr: 2,4,6-Tribromophenol	2.4			370 370	7	0.8	5.8 1	24		
Surr: Nitrobenzene-d5	1.2			670 670			24.5 1	39		
Surr: 2-Fluorobiphenyl	1.1						9.4 1	29		
Surr: 4-Terphenyl-d14	1.1	L	1.0	670						

Qualifiers:

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

Page 28 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

Project:

OCD Central Landfarm Semiannual Sampling

Sample ID Ics-18661	SampT	ype: LC	s	Tes	Code: El	PA Method	8270C: Semi	volatiles		
		ID: 186		F	tunNo: 2	5544				
Client ID: LCSS Prep Date: 4/13/2015	Analysis D		15/2015	5	SeqNo: 7	56565	Units: mg/K	g		Page 1
	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	0.99	0.20	1.670	0	59.3	45.8	114			
Acenaphthene	2.3	0.50	3.330	0	69.4	52.3	122			
4-Chloro-3-methylphenol	2.1	0.20	3.330	0	62.1	49.9	115			
2-Chlorophenol	1.1	0.20	1.670	0	64.0	43.7	107			
1,4-Dichlorobenzene	0.84	0.50	1.670	323	50.5	36	106			
2,4-Dinitrotoluene	1.0	0.20	1.670		61.6	39.5	110			
N-Nitrosodi-n-propylamine	2.0	0.25	3.330	1020	59.3	45.1	121			
4-Nitrophenol	1.7	0.40	3.330		50.6	23.7	111			
Pentachlorophenol	2.2	0.20	3.330	174	65.5	52.7	119			
Phenol	0.98	0.20		0.20	58.5	50.4	116			
Pyrene	1.1	0.20			64.2	40.1	114			
1,2,4-Trichlorobenzene	2.1	0.20	3.330		62.4	26.4	129			
Surr: 2-Fluorophenol	2.2		3.330		67.2	34.8	118			
Surr: Phenol-d5	2.2		3.330		66.5	26.8	128			
Surr: 2,4,6-Tribromophenol	1.1		1.670		64.0	35.8	124			
Surr: Nitrobenzene-d5	1.0		1.670		62.8	24.5	139			
Surr: 2-Fluorobiphenyl 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

Page 29 of 32

Hall Environmental Analysis Laboratory, Inc.

1504287 WO#: 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

4/14/2015 Prep Date:

SeqNo: 756337

Units: mg/Kg

Analyte

Analysis Date: 4/15/2015

SPK value SPK Ref Val %REC LowLimit

HighLimit

Mercury

Result PQL 0.033 ND

Result

Result

Sample ID LCS-18690

SampType: LCS Batch ID: 18690 TestCode: EPA Method 7471: Mercury

Client ID: LCSS

RunNo: 25534

Prep Date: Analyte

4/14/2015

Analysis Date: 4/15/2015

0.1667

0.1591

SegNo: 756338

Units: mg/Kg

%RPD

%RPD

Qual

Qual

Mercury

PQL 0.033 0.16

%REC LowLimit SPK value SPK Ref Val 97.8

HighLimit 120 **RPDLimit**

RPDLimit

RPDLimit

Sample ID 1504287-006BMS

SampType: MS

TestCode: EPA Method 7471: Mercury

Batch ID: 18690

RunNo: 25534

HighLimit

Client ID: Prep Date:

4/14/2015

CentralOCD-TZ-040

SeqNo: 756356

Units: mg/Kg

125

Analysis Date: 4/15/2015 SPK value SPK Ref Val

%REC

276

%RPD

Analyte Mercury

PQL 0.16 0.58

TestCode: EPA Method 7471: Mercury

LowLimit

SampType: MSD Sample ID 1504287-006BMSD

CentralOCD-TZ-040 Client ID:

Batch ID: 18690

RunNo: 25534

Prep Date:

4/14/2015

Analysis Date: 4/15/2015

SeqNo: 756357

Units: mg/Kg

Qual

Qual

S

Analyte Mercury

Result PQL

SPK value SPK Ref Val 0.1429

0.1429

%REC

LowLimit 75

RPDLimit %RPD

0.1611 0.16 0.61

290

HighLimit 125

4.77

20

S

Qualifiers:

- Value above quantitation range E
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit 0
- RPD outside accepted recovery limits R Spike Recovery outside accepted recovery limits
- Value exceeds Maximum Contaminant Level.
- Analyte detected in the associated Method Blank В Holding times for preparation or analysis exceeded
- H Not Detected at the Reporting Limit
- Reporting Detection Limit RL
- Sample pH Not In Range
- Page 30 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

OCD Central Landfarm Semiannual Sampling

Sample ID MB-18669 Client ID: PBS		SampType: MBLK Batch ID: 18669			R	Code: EF unNo: 29 seqNo: 7	5491	6010B: Soil I			
	13/2015	Analysis D Result	ate: 4/	14/2015 SPK value	SPK Ref Val		77 100000000000000000000000000000000000	HighLimit	%RPD	RPDLimit	Qual
		ND	2.5								
		ND	0.10								
		ND	0.10								
		ND	0.30								
1		ND	0.30								
		ND	2.5								
		ND	0.25								
		ND	0.10								
se		ND	2.5								
			0.25								
		ND ND	5.0			The second second		d 6010В: Soi	I Metals		

Iranium	ND	0.0					0 !! !!	l-talo		
Sample ID LCS-18669 Client ID: LCSS		ype: LC:	669	R	Code: EP unNo: 25 eqNo: 75	5491	0010B: Soil N			
Prep Date: 4/13/2015				SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result	PQL	25.00	0	106	80	120			
Arsenic	26	2.5		0	103	80	120			
Barium	26	0.10	25.00	0	104	80	120			
Cadmium	26	0.10	25.00	0	104	80	120			
Chromium	26	0.30	25.00		107	80	120			
Copper	27	0.30			108	80	120			
	27	2.5				80	120			
Iron	26	0.25	25.00		102	80	120			
Lead	26	0.10	25.00	0	103		120			
Manganese	26	2.5	25.00	0	102					
Selenium	5.6	0.25	5.000	0	112		722			
Silver	26	5.0		0	105	80	120			
Uranium	20	0.0			397 N 19		4 6010B: Soil	Motals		

Iranium	20	0.0					andon, Call I	Motale		
10,000	SampT	vpe: ME	BLK	Test	Code: El	PA Method	6010B: Soil I	Victais		
Sample ID MB-18669				R	RunNo: 2	5596				
Client ID: PBS		ID: 18		c	SeqNo: 7	58372	Units: mg/K	(g		
Prep Date: 4/13/2015	Analysis D						HighLimit	%RPD	RPDLimit	Qual
	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	701 CI	, M. 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	
Analyte	ND	2.5								

Qualifiers: Value exceeds Maximum Contaminant Level.

Value above quantitation range E

Analyte detected below quantitation limits J

RSD is greater than RSDlimit 0

RPD outside accepted recovery limits R

Spike Recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded H

Not Detected at the Reporting Limit ND

Sample pH Not In Range

Reporting Detection Limit

Page 31 of 32

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

Result PQL SPK value SPK Ref Val

%REC LowLimit

HighLimit %RPD **RPDLimit** Qual

Zinc

Analyte

25

2.5

25.00

101

80

120

Qualifiers:

Value exceeds Maximum Contaminant Level.

E Value above quantitation range

Analyte detected below quantitation limits J

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits B Analyte 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

Reporting Detection Limit RL

Page 32 of 32



Hail Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4167 Website: www.hallenviconmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order N	umber: 1504287		RcpINo 1
Received by/date: Cull Coll Coll Coll Coll Coll Coll Coll	6 AM	A-HAMBO A-HAMBO	
Chain of Custody			
	Yes 🔲	No 🗆	Not Present
Custody seals intact on sample bottles?	Yes 🗸	No 🗌	Not Present
2. Is Chain of Custody complete?	FedEx		
3. How was the sample delivered?	reges		
<u>Log In</u>	F-9		NA 🗌
4. Was an attempt made to cool the samples?	Yes 🗸	No	NA L
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 _	
Are samples (except VOA and ONG) properly preserved?	Yes 🗸	No _	
Was preservative added to bottles?	Yes	No 🗹	NA 🗆
	Yes 🗸	No 🗆	No VOA Vials
10.VOA vials have zero headspace?	Yes 🗆	No V	COL MATERIAL CONTRACTOR AND
11. Were any sample containers received broken?	103		# of preserved bottles checked
12. Does paperwork match bottle labels?	Yes 🗸	No 🗌	for pH:
(Note discrepancies on chain of custody)			(<2 or >12 unless noted) Adjusted?
13. Are matrices correctly identified on Chain of Custody?	Yes 🗹	No 🗆	Valuence
14. Is it clear what analyses were requested?	Yes 🗸	No 🗆	Checked by:
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	№ □	district 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:			
40. O to leformation			
18. Cooler Information Cooler No Temp °C Condition Seal Intact Se	al No Seal Date	Signed By	

Chain	of-Cu	stody Record	Turn-Around Time:						HAL	LE	NV	IRC	NM	IEN	FAL	5
lient: Western			☑ Standard	□ Rush_					ANA	LY	SIS	LA	BOI	RAT	UK	
Henr Western			Project Name:					N	ww.ha	llenvir	onme	ntal.co	m			
					-I Constina		490	1 Ha	wkins	NE -	Albuq	uerque	MM ,e	87109		
Mailing Address:	F	Route 3 Box 7	OCD Central Lands	arm Semiannu	at Sampung	1			-345-3			505-				
Ballup, NM 87301			Project #:			(Total				Ana	lysis	Reque	st		7.5	
	505-722-3	833	697-039-008			चि			T							
	505-722-0	0210	Project Manager:			attached)										
QA/QC Package:		(C. HAL Edoras)	Ed Riege			alle	(pai									
Standard		☐ Level 4 (Full Validation)	Sampler:	Zac Bitsue		List (see	Itac	300.0								S LO
Accreditation:	□ Other		On Ice:	Yes	F No	List	99 3									3
☐ NELAP ☐ EDD (Type) _Pk			Sample Temperatu	ure: 3.4		Zone	s) to	SV E	(8260)						1 1	los
Date Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	Vadose Z	NMAC List (see attached)	Chloride by EPA	BTEX (82							Vi Buibbles (V
7.44		CentralOCD-01-04062015	4oz - 2	none	-001	X			_	+	-	+	-	-	\vdash	+
4/6/2015 15 45	soil	CentralOCD-02-04062015	4oz - 2	none	-002	Х	-	_	-	+	++	-	+-	+	+	+
4/6/2015	soil	CentralOCD-03-04062015	4oz - 2	none	-003	X				+	\vdash	-	-	-	+	+
4/6/2015 / 508	soil	CentralOCD-04-04062015	40z - 2	none	-0041	×				_	-	-	+	-	+	\vdash
4/6/2015 445	soil	BD-04062015	40z - 2	none	-005	X				_	\vdash	-	-		+	
4/6/2015	soil	CentralOCD - 3-04062015-MS		none	-013	X					1	_	+	-	+	\vdash
4/6/2015 13/2	soil	CentralOCD-04062015-MS		none	-003	×								-	+	\vdash
4/6/2015 13/6	soil			none	-064	×	X							-	_	\vdash
4/6/2015 12.30	soil	CentralOCD-TZ-04062015	8az - 3, 4az - 1	none	-007			X						1	_	\vdash
4/7/2015	soil	OCD-2121-04072015	40z - 2	HCL	-00%				X					1	_	\vdash
4/6/2015 /330	water	EB-04062015	VOA - 3	HCL	-009				X					1		\perp
4/6/2015 (55)	water	FB-04062015	VOA - 3		-010				X					1		1
NA NA	water	Trip Blank	VOA - 3	HCL	-0.0											200
Date: Time: 4-7-15 143	Relinqui	BEB	Received by:	celles	Date Time Date Time Time	r	esults	s. Ca	II Gra	com	07-74 oly wi	3-1411	se she	estion own or	S. VEI	ify th

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0 3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2 2000
Sullate	E300	mg/kg	21.5000
*Radium-226	E901.1	pC//g	1.3950
*Rad um-228	E901.1	pCvg	2.6450
*Radium-226+Radium-228	SW6010A	mg/kg	2.5000
Arsenic Barium	SW6010A	mg/kg	1.0000
Cadmium	SW6010A	mg/kg_	0 1000
Chromlum	SW6010A	mg/kg	0.3000
Copper	SW6010A	mg/kg mg/kg	500.0000
Iron	SW6010A SW6010A	mg/kg	0.2500
Lead	SW6010A	mg/kg	1 0000
Manganese	SW6010A	mg/kg	2.5000
Se'enium Silver	SW6010A	mg/kg	0 2500
Uranium	SW6010A	mg/kg	5.0000
Zinc	SW6010A	mg/kg	0.0330
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg mg/kg	0.0200
Arockir 1221	SW8082 SW8082	mg/kg	0.0200
Aroclor 1232	SW8092	mg/kg	0.0200
Aroclor 1242 Aroclor 1248	SW8082	mg/kg	0.0200
Arodor 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 mg/kg	0.0970
1,1-Dichloroethane	SW8260B SW8260B	mg/kg	0.0480
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethane	SW8260B	mg/kg	0.0970
Carbon tetrachloride Chloroform	SW8260B	mg/kg	0.0480
Dibromomelhane	SW8260B	mg/kg	0.1000
Methylene chloride	SW8260B	mg/kg	0.1500
Telrach'oroethene	SW8260B	mg/kg mg/kg	0.0480
Trichloroethene	SW8260B SW8260B	mg/kg	0.0480
Vinyl chloride	SW8270C	mg/kg	0.2000
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trich'orophenol	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	0.1000
2-Methylphenol	SW8270C	mg/kg mg/kg	0.1000
2-Nitrophenal	SW8270C SW8270C	mg/kg	0.1000
3+4-Methylphenol	SW8270C	mg/kg	0.5000
4,6-Dinitra-2-methylphenol 4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	
Pentachlorophenol	SW8270C	mg/kg	
Phenol	SW8270C	mg/kg	0.0000
1-Methylnaphthalene	SW8260B SW8260B	mg/kg mg/kg	
2-Methylnaphthalene	SW8270C	mg/kg	0.0000
Acenaphthene	SW8270C	mg/kg	0 2000
Acenaphthylene Anthracene	SW8270C	mg/kg	0 2000
Benzo(a)anthracene	SW8270C	mg/kg	
Benzo(a)pyrene	SW8270C	mg/kg	
Benzo(b)fluoranthene	SW82700	mg/kg	0.000
Benzo(g.h,i)perylene	SW82700		2.000
Benzo(k)fluoranthene	SW8270C		2000
Chrysene	SW82700		0.200
Dibenz(a,h)anthraceno	SW82700		0.200
Fluoranthene Fluorene	SW82700	mg/k	0.200
Indeno(1,2,3-c,d)pyrene	SW82700	mg/k	g 0.200
Naphthalene	SW82700		
Phenanthrene	SW82700		0.000
Pyrene	SW82700	0 mg/k 4 mg/k	3
Cyanide	EPA 335. SW8015	mg/s	
Diesel Range Organics (DRO)	2440010	111/07	0 1.0

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

Analyto	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



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:

- 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





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.





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 / 3014529200
OCD-2121-04072015	1504287-007
EB-04062015	1504287-008
FB-04062015	1504287-009
Trip Blank	1504287-010



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 (O) 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)
- O 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)
- O 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.

Qualifier	<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.

Method 8270C: One of the surrogate compounds was not recoverable due to dilution and matrix interferences.

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.

Method 8015B: A dilution factor of 10 times was applied for the DRO analysis of sample CentralOCD-TZ-04062015.

Method 300.0: A dilution factor of 20 times was applied for the analyses of anions for selected samples.

Method 6010B: 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.

Method 7471: 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 $4.0^{\circ}\text{C} \pm 2.0^{\circ}\text{C}$ 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.

 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

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)	<u>Batch</u>	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 Require	

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 Yes 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? 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 Yes laboratory QC limits? Comments: The LCS/LCSD percent recoveries and LCS/LCSD RPDs were within laboratory QC limits. No 16. Were surrogate recoveries within laboratory QC limits? 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. Yes 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? 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 Yes of target analyte contamination? Comments: The trip blank, field blank, and equipment blank samples were reported to be free of target analyte contamination. Yes 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? 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 Yes 0-30%, or air 0-25%)? 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. N/A For laboratory duplicates prepared from project samples, were RPDs within laboratory QC limits?

Comments: Laboratory duplicate samples were not prepared as a part of this data set.



FIELD DUPLICATE SUMMARY

		Sample ID: CentralOCD-0 Duplicate Sample ID: BD-		
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, EMNRDCc:VanHorn, Kristen, NMENVSubject: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

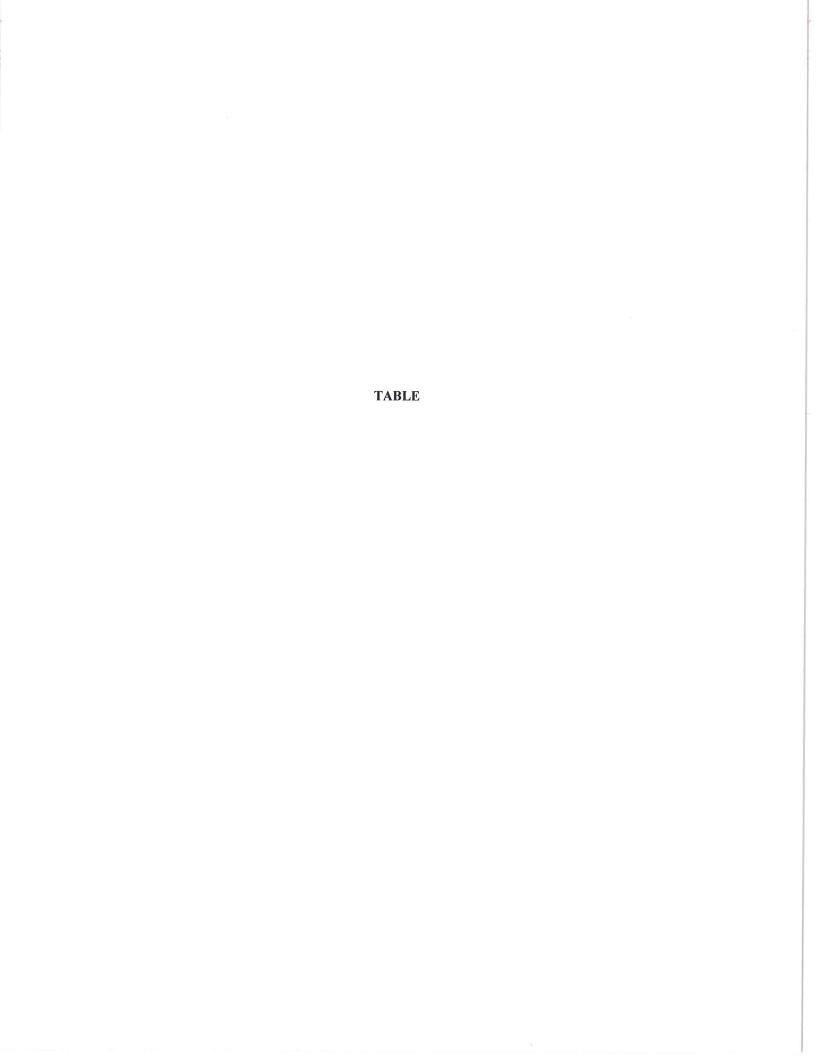


TABLE 1. GRID 2121 CHLORIDE EXCEEDANCE EXCAVATION DATA SUMMARY, CENTRAL OCD LANDFARM WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

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				
2121	Confirmation sample collected from the bottom of the excavation	8.5 ft bgs	OCD-2121-04072015	4/7/2015	160				
	Screening Standards								
			Baseli	ne Concentration:	7.525				
	ABRSC/Central Landfarm Action Level: 500								

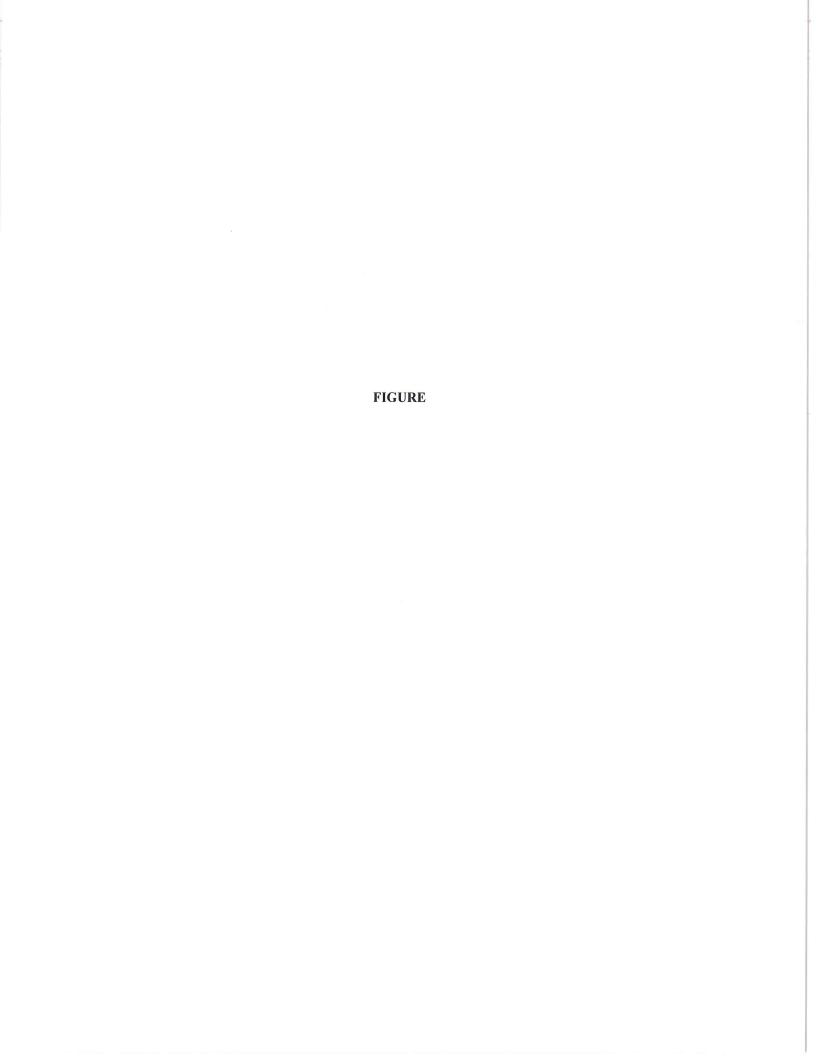
Notes:

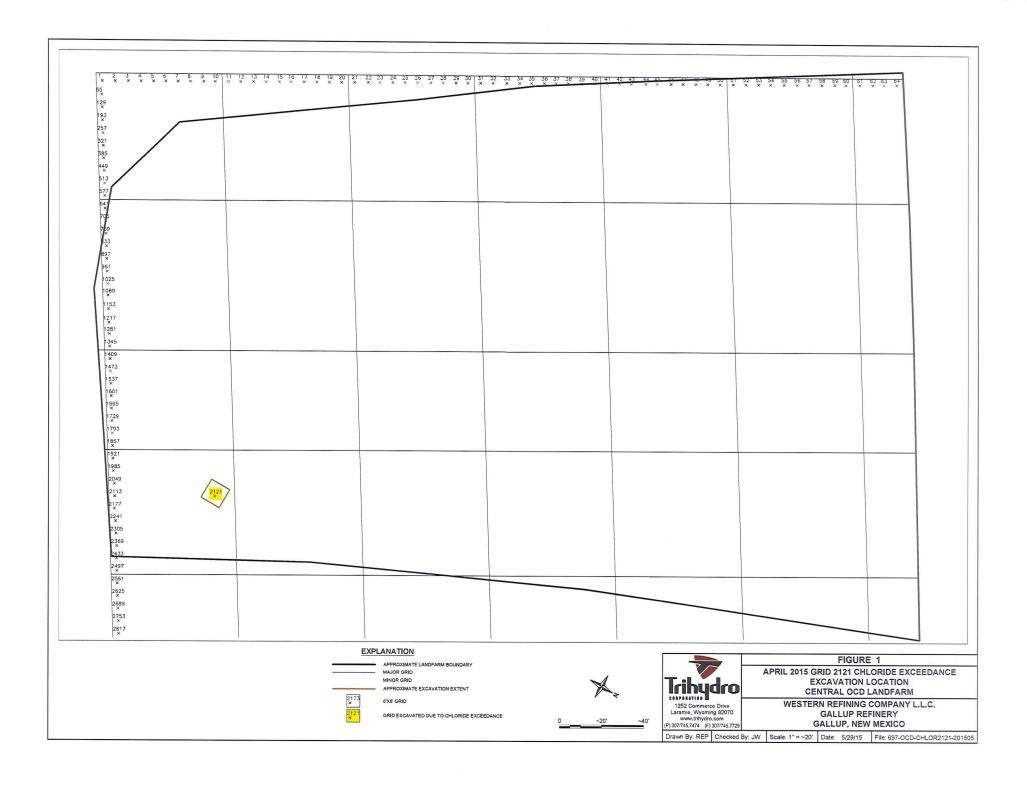
mg/kg = milligrams per kilogram

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.





ATTACHMENT A EXCAVATION LITHOLOGIC LOG

TRIHYDRO CORPORATION FIELD BORING LOG

Project & Project Number 697-039-007/8	Date: 4-7-15
Project Location/Address: Gallup Refinery OCD Landfarms	Drilling Company W6R
Chent: Western Refining	Onlier Adician Becapets
Weather Cicumi Very Windy SW 25-40 mgh	Rig Type / Method: Back nee
Logged by Zoc Brania	Sample Method (circle one). Direct Push Split Spoon Shetby Tube Other:
Logger's Signature:	Surface Elevation: Casing Elevation: GE Elevation:
Logger's Signature:	Equipment List:

BORING ID: GRID 2121

Boring Location: Central OCD Landfarm

	D. GRID 21	41				Boring	Location:	Central OCD	Landlarm	
Interval (ft bgs)	Texture - Gr Major	Minor	Major	olor Modi		Consistency	Moisture	Odor	PID Itterva/Reading	Additional Comments (Odor descriptor, sheen, nodules, structure, vegitation, etc.)
6 (Sand F M C	Grylly	Black STETY L M D	Gray G	own High een Moderate	Very Soft Soft	Moist	Strong Moderate		
2	Clay	Silty	Red - L M D	Other	Non	Firm	Saturated ~	Norte Noted		
	GVL - F M C		Other	%	-	Very Hard	-			
2	Sand - F M C	Grvity Sandy	Gray - L M D		own High	Very Soft Soft	Dry	Strong		DOLY THERE WATER STATE AND IN
+0/	STIT	STITY	BALMD		tlow Low	Finit	Saturated	Moderate St-ght		N 3H : Where I will soit biter with
4(Clay	Clayey)	Red L M D	Other	Non	Hard Very Hard	- <	None Noted	٥	13ft is where Native soil potentially at and indicated by hard digit
4	GVL F M C	Grvity	Black C		own High	Very Soft	Dry	Strong		
4-6	Sand - F M C	Sandy	Gray - L M D		een Lioderate	Soft	Moist	Moderate		1
10	Clay	Clayey	Red L AD	Rust Yo Other	Non Non) Firm	Saturated	Slight		1
6	0.03	Cisyey	Other	%	- Non	Very Hard] [None Noted	۲ .	
1	GVL - F M C	Grvily	Black C	Red) B	own High	Very Soft	(Dry)	Strong		
6	Sand - F M C	Sandy	Gray - L M D		een Moderate	Soft	Moist	Moderate		Very Harre soil ~ 7ft.
	Silt	Silly	Red - L M D		llow Tow	Firm	Saturated	Slight		
8.50	Ciay	CaseA	Other	Other %	(Non	Very Hard	_ <	None Noted		Very Hard soil ~ 7ft. Healt sample @ 8,5ft
	GVL - F M C Sand - F M C	Grytty	Black		own High	Very Soft	Dry	Strong		
	Sand - F M C	Sandy	Gray - L M D Bm - L M D		een Moderate	Soft	Moist	Moderate		
	Clay	Clayey	Red - L M D	Other	Non	Hard	Saturated	Stight None Nated		
			Other	%		Very Hard	_	-		
	GVL - F M C	Gnrity	Black		own High	Very Soft	Dry	Strong		
}	Sand - F M C	Sandy	Gray - L M D		een Moderate	Soft	Moist	Moderate		
	Clay	Sifty	Bm - L M D Red - L M D	Rust Ye	llow Low Non	Firm	Saturated	Slight		
	0.0,	Ciayay	Other	%	-	Very Hard		None Noted		
	GVL - FMC	Grvtty	Black	Red Br	own High	Very Saft	Dry	Strong		
	Sand - F M C	Sandy	Gray - L M D		een Moderate	Soft	Moist	Moderate		
	Set	Sifty	Bm - L M D		low Law	Firm	Satura*ed	\$l:ght		
	Clay	Clayey	Red - L M D Other	Other	Non	Hard	-	None Noted		
			Other	1.0		Very Hard		~		

Sample Coffected: Yes	Number/Size of Containers:	Two 4oz jars
Sample ID: 000-2121 - 0407-2015	Analysis to be Performed:	Chloride
Date. 84-7-15	Duplicate Collected	
Time. /216	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

OrderNo.: 1504287

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

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 qualifers 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,

Andy Freeman

Laboratory Manager

andyl

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.

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 Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	250	30	mg/Kg	20	4/17/2015 11:40:24 AN	1 18745
EPA METHOD 8260B: VOLATILES S	SHORT LIST				Analys	t: 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					Analys	t: JME
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	4/14/2015 12:00:00 PM	1 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

Page 2 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 5/8/2015

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	160	30	mg/Kg	20	4/17/2015 12:05:13 PM	1 18745
EPA METHOD 8260B: VOLATILES SI	HORT LIST				Analys	t: 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					Analys	t: JME
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	4/14/2015 12:00:00 PM	1 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

Page 3 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-03-04062015 MS

OCD Central Landfarm Semiannual Sam Project:

Collection Date: 4/6/2015 1:05:00 PM Received Date: 4/8/2015 7:05:00 AM

Lab ID: 1504287-003 Matrix: SOIL

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

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
- Analyte detected below quantitation limits 1
- RSD is greater than RSDlimit O
- RPD outside accepted recovery limits R
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Sample pH Not In Range
- Page 4 of 32

P

Reporting Detection Limit

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

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 Qu	al 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 SH	HORT 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					Analys	: JME
Petroleum Hydrocarbons, TR	24	20	mg/Kg	1	4/14/2015 12:00:00 PM	1 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

Page 5 of 32

- 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

OCD Central Landfarm Semiannual Sam

Lab ID: 1504287-005

Project:

Matrix: SOIL

Client Sample ID: BD-04062015

Collection Date: 4/6/2015

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

Analyses	Result	RL Qua	al Units	DF I	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 S	HORT 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
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit O
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 6 of 32 Sample pH Not In Range

- P
- RL Reporting Detection Limit

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 D	ate 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		/25/2015 10:22:49 AM	18660
Aroclor 1260	ND	0.20	mg/Kg		/25/2015 10:22:49 AM	18660
Surr: Decachlorobiphenyl	68.0	37.5-161	%REC		/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 RANG	E 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 RA	NGE				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		/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

Page 7 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

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 Qua	al 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	1866
Benzo(a)pyrene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Benzo(b)fluoranthene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Benzo(g,h,i)perylene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
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	1866
Bis(2-chloroisopropyl)ether	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Bis(2-ethylhexyl)phthalate	ND	5.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
4-Bromophenyl phenyl ether	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Butyl benzyl phthalate	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Carbazole	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
4-Chloro-3-methylphenol	ND	5.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
4-Chloroaniline	ND	5.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
2-Chloronaphthalene	ND	2.5	mg/Kg	1	4/15/2015 11:00:23 PM	1866
2-Chlorophenol	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
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	1866
Di-n-octyl phthalate	ND	4.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
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	1866
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	1866
2,4-Dichlorophenol	ND	4.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 8 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

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	Batc
EPA METHOD 8270C: SEMIVOLATILE	ES .				Analyst:	DAM
2,4-Dinitrotoluene	ND	5.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
2,6-Dinitrotoluene	ND	5.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Fluoranthene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Fluorene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Hexachlorobenzene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Hexachlorobutadiene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Hexachlorocyclopentadiene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Hexachloroethane	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Indeno(1,2,3-cd)pyrene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Isophorone	ND	5.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
1-Methylnaphthalene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
2-Methylnaphthalene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
2-Methylphenol	ND	5.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
3+4-Methylphenol	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
N-Nitrosodi-n-propylamine	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
N-Nitrosodiphenylamine	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Naphthalene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
2-Nitroaniline	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
3-Nitroaniline	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
4-Nitroaniline	ND	4.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Nitrobenzene	ND	5.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
2-Nitrophenol	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
4-Nitrophenol	ND	2.5	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Pentachlorophenol	ND	4.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Phenanthrene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Phenol	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Pyrene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Pyridine	ND	5.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
1,2,4-Trichlorobenzene	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
2,4,5-Trichlorophenol	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
2,4,6-Trichlorophenol	ND	2.0	mg/Kg	1	4/15/2015 11:00:23 PM	1866
Surr: 2-Fluorophenol	67.2	26.4-129	%REC	1	4/15/2015 11:00:23 PM	1866
Surr: Phenol-d5	75.1	34.8-118	%REC	1	4/15/2015 11:00:23 PM	1866
Surr: 2,4,6-Tribromophenol	76.8	26.8-128	%REC	1	4/15/2015 11:00:23 PM	1866
Surr: Nitrobenzene-d5	83.3	35.8-124	%REC	1	4/15/2015 11:00:23 PM	1866
Surr: 2-Fluorobiphenyl	86.9	24.5-139	%REC	1	4/15/2015 11:00:23 PM	1866
Surr: 4-Terphenyl-d14	0	29.4-129	S %REC	1	4/15/2015 11:00:23 PM	1866
EPA METHOD 8260B: VOLATILES					Analyst:	
Benzene	ND	0.049	mg/Kg	1	4/9/2015 3:48:39 PM	1857
Delizerie	מאו	0.049	mg/ixg	1	7/3/2013 3.40.33 FW	1037

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
 - Page 9 of 32
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analys	t: 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
- Page 10 of 32
- P Sample pH Not In Range
- RL Reporting Detection Limit

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

Lab ID: 1504287-006

Matrix: SOIL

Analyses Result **RL Qual Units DF** Date Analyzed Batch **EPA METHOD 8260B: VOLATILES** Analyst: cadg Hexachlorobutadiene ND 0.099 mg/Kg 4/9/2015 3:48:39 PM 18573 2-Hexanone ND 0.49 mg/Kg 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 4/9/2015 3:48:39 PM 1 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 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 4/9/2015 3:48:39 PM mg/Kg 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 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.

70-130

70-130

20

%REC

%REC

mg/Kg

89.9

96.6

370

Qualifiers:

Surr: Toluene-d8

EPA METHOD 418.1: TPH

Petroleum Hydrocarbons, TR

Surr: 4-Bromofluorobenzene

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

1

1

4/9/2015 3:48:39 PM

4/9/2015 3:48:39 PM

4/14/2015 12:00:00 PM 18606

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 11 of 32

18573

18573

Analyst: JME

- P Sample pH Not In Range
- RL Reporting Detection Limit

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sam

Lab ID: 1504287-007

Client Sample ID: OCD-2121-04072015

Collection Date: 4/7/2015 12:16:00 PM

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

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Anal	yst: LGT
Chloride	160	30	mg/Kg	20	4/17/2015 3:23:47 P	M 18745

Matrix: SOIL

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

Page 12 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

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 Recei

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

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analys	t: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 13 of 32

- 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

OCD Central Landfarm Semiannual Sam

Lab ID: 1504287-009

Project:

Client Sample ID: FB-04062015

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

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

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	HORT LIST				Analys	: 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

Matrix: AQUEOUS

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

Page 14 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Date Reported: 5/8/2015

Hall Environmental Analysis Laboratory, Inc.

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 Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	Analy	st: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 15 of 32

- P Sample pH Not In Range
- RL Reporting Detection Limit

Anatek Labs, Inc.

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

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

150409032

Address:

4901 HAWKINS NE SUITE D

Project Name:

1504287

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

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

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.

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

Addiess

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Analytical Results Report

Quality Control Data

Lab Control Sa	imple										
Parameter		LCS Result	Units	LCS	Spike 9	%Rec	AR	%Rec	Prep	Date	Analysis Date
Cyanide	Processor Control of the Control of	0.511	mg/kç	9 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	
Matrix Spike D	uplicate		_						-		
Parameter		MSD Result	Units	MSD	%Re		%RPD	AR %RPD	Dec.	p Date	Analysis Data
Cyanide		16.3	mg/kg	Spike 14.75	101.		1.2	0-25		5/2015	Analysis Date 4/15/2015
Method Blank											
Parameter Cyanide				sult D	Uni mg/l			PQL 0.5		ep Date /15/2015	Analysis Date 4/15/2015

AR ND Acceptable Range

ND

Not Detected

PQL RPD Practical Quantitation Limit Relative Percentage Difference

Comments:



ANALYTICAL RESULTS - RADIOCHEMISTRY

Project:

PWS:

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

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

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..



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

Matrix: Solid

METHOD BLANK: 884958 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

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

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			Tes	tCode: El	6				
Client ID: PBS	Batch ID: 18745			F	RunNo: 2	5615				
Prep Date: 4/17/2015	Analysis D	ate: 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	SampT	ype: LC	s	Tes	tCode: El	PA Method	s			
Client ID: LCSS	Batch	Batch ID: 18745 RunNo: 25615								
Prep Date: 4/17/2015	Analysis D	ate: 4/	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 1	504287-003AMS	SampTy	/pe: MS	3	Test	tCode: El					
Client ID: C	entralOCD-03-040	Batch	ID: 18 7	745	R	RunNo: 2	5615				
Prep Date: 4	4/17/2015 A	nalysis Da	ate: 4/	17/2015	S	SeqNo: 7	58962	Units: mg/K	(g		
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 (A	As N)	17	0.30	7.500	8.487	114	85.3	110			S

Sample ID 1504287-003A	MSD SampT	ype: MS	SD	TestCode: EPA Method 300.0: Anions						
Client ID: CentralOCD-0	3-0406 Batch	ID: 18	745	R	RunNo: 2	5615				
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

Page 16 of 32

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

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg

Prep Date:

4/9/2015

Sample ID LCS-18606

Analysis Date: 4/14/2015

SeqNo: 755191

HighLimit

RPDLimit

Qual

Analyte Petroleum Hydrocarbons, TR Result

20

TestCode: EPA Method 418.1: TPH

LowLimit

86.7

Client ID:

LCSS

SampType: LCS Batch ID: 18606

PQL

20

RunNo: 25503

SPK value SPK Ref Val

100.0

100.0

100.0

100.7

SeqNo: 755192

Units: mg/Kg

%RPD

%RPD

5.45

%RPD

%RPD

Analyte

Prep Date: 4/9/2015

Analysis Date: 4/14/2015 Result

93

ND

%REC

HighLimit

RPDLimit

Qual

Petroleum Hydrocarbons, TR

Sample ID LCSD-18606

SampType: LCSD

TestCode: EPA Method 418.1: TPH

Client ID: LCSS02

Batch ID: 18606

RunNo: 25503

Units: mg/Kg

126

Prep Date:

4/9/2015

Analysis Date: 4/14/2015

SeqNo: **755193**

HighLimit

RPDLimit

Qual

Analyte

SPK value SPK Ref Val PQL Result

20

%REC

LowLimit 126 86.7

20

Qual

Petroleum Hydrocarbons, TR Sample ID 1504287-003AMS

SampType: MS

98

TestCode: EPA Method 418.1: TPH RunNo: 25553

Client ID:

CentralOCD-03-0406

Batch ID: 18606

Result

HighLimit

Prep Date:

4/9/2015

SeqNo: 756803

80

Units: mg/Kg

Analysis Date: 4/16/2015 SPK value SPK Ref Val

%REC

LowLimit

120

Analyte

Petroleum Hydrocarbons, TR Sample ID 1504287-003AMSD

SampType: MSD

PQL

20

20

TestCode: EPA Method 418.1: TPH

92.9

RunNo: 25553

98.2

Client ID: Prep Date:

CentralOCD-03-0406 4/9/2015

Analysis Date: 4/16/2015

99

Batch ID: 18606

SeqNo: 756804

Units: mg/Kg

RPDLimit

Qual

Analyte Petroleum Hydrocarbons, TR Result PQL

SPK value SPK Ref Val %REC

LowLimit 80

HighLimit 120

%RPD 6.19 **RPDLimit** 20

- **Qualifiers:** Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- Analyte detected below quantitation limits RSD is greater than RSDlimit 0
- RPD outside accepted recovery limits R Spike Recovery outside accepted recovery limits S
- Analyte detected in the associated Method Blank В
- Holding times for preparation or analysis exceeded Н
- Not Detected at the Reporting Limit ND
- Sample pH Not In Range
- Reporting Detection Limit RL

Page 17 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

128

63.5

92.4

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

4.6

Project:

Surr: DNOP

OCD Central Landfarm Semiannual Sampling

Project: OCD CC	ilitai Landio	arm our	mannaar st							
Sample ID MB-18574	SampTy	/pe: ME	BLK	Test	Code: El	PA Method	8015D: Diese	el Range C	Organics	
Client ID: PBS	Batch	ID: 18	574	R	unNo: 2	5386				
Prep Date: 4/8/2015	Analysis Da	ate: 4/	9/2015	S	eqNo: 7	51714	Units: mg/K	g		
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					9-14000			
Surr: DNOP	9.6		10.00		95.5	63.5	128			
Sample ID LCS-18574	SampTy	ype: LC	s	Tes	tCode: E	PA Method	8015D: Dies	el Range (Organics	
Client ID: LCSS	Batch	ID: 18	574	F	RunNo: 2	5386				
Prep Date: 4/8/2015	Analysis Da	ate: 4/	9/2015	8	SeqNo: 7	51806	Units: mg/M	(g		
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			
					02.4	62 5				

5.000

Qualifiers:

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

Page 18 of 32

Hall Environmental Analysis Laboratory, Inc.

1504287 WO#:

08-May-15

Client:

Western Refining Southwest, Gallup

Client: Project:		ral Landfarm									
Sample ID Client ID: Prep Date: Analyte Gasoline Rang	PBS	ND	: 1857 : 4/9/2	3 2015	Ri	unNo: 25 3 eqNo: 75 1	395	3015D: Gasoli Units: mg/Kg HighLimit		RPDLimit	Qual
Surr: BFB Sample ID Client ID:	LCS-18573 LCSS	SampType Batch ID): 1857	73	R	Code: EP. RunNo: 25 SeqNo: 75	395	8015D: Gasol		•	
Prep Date: Analyte Gasoline Ran Surr: BFB	ge Organics (GRO)	Analysis Date Result F 26 920			SPK Ref Val		LowLimit 64 80	HighLimit 130 120	%RPD	RPDLimit	Qual
			D: 185	73 9/2015	I	RunNo: 29	5395	8015D: Gaso Units: mg/F		e RPDLimit	Qual
Analyte Gasoline Ra Surr: BFB	inge Organics (GRO)	Result 24 940	4.9	24.63 985.2		96.1 95.9	47.9 80	144 120		10	
Sample I	1007 000 AMC	D SampTy	no. MS	en.	Te	stCode: E	PA Method	d 8015D: Gas	onne rang	Je	
Client ID:			ID: 18	573		RunNo: 2 SeqNo: 7		Units: mg/	Kg %RPD	RPDLimit	Qual

Qualifiers:

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

Page 19 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

Project:

OCD Central Landfarm Semiannual Sampling

rioject.										1
0 1 1D 14D 49660	SampT	ype: MB	LK	Test	Code: EF	PA Method	8082: PCB's			
Sample ID MB-18660				R	RunNo: 2	5757				
Client ID: PBS	Batch	1D: 186			SeqNo: 70		Units: mg/K	q		
Prep Date: 4/13/2015	Analysis D	ate: 4/	24/2015	3	sequo. Ti				RPDLimit	Qual
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	NI DEIIIIC	- Can
Aroclor 1016	ND	0.020								
	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	0.071	0.020	0.06250	ĭ	114	37.5				
Surr: Decachlorobiphenyl			0.06250		124	28.1	149			
Surr: Tetrachloro-m-xylene	0.078		0.00200							
	Samn	Tyne: L	cs	Te	stCode: E	EPA Method	d 8082: PCB's	5		

C 18660	SampTy	pe: LC	S	TestCode: EPA Method 8082: PCB's							
Sample ID LCS-18660		ID: 18 6		R	unNo: 2	5757					
Client ID: LCSS				9	eqNo: 70	63491	Units: mg/K	g		1	
Prep Date: 4/13/2015	Analysis D	ate: 4/	24/2015	0	icqivo.			%RPD	RPDLimit	Qual	
	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit		%KPD	N DEIIII	4	
Analyte			0.1250	0	59.2	26.2	127				
Aroclor 1016	0.074	0.020		0	79.2	36.6	122				
Aroclor 1260	0.099	0.020	0.1250	U	94.0	37.5	161				
Surr: Decachlorobiphenyl	0.059 0.065		0.06250 0.06250		104	28.1	149				
Surr: Tetrachloro-m-xylene											

Qualifiers:

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

Page 20 of 32

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	Samp	Type: ME	BLK	Tes	tCode: El	PA Method	8260B: Volat	iles		
Client ID: PBS	Batc	h ID: 18	573	R	RunNo: 2	5409				
Prep Date: 4/8/2015	Analysis [Date: 4/	9/2015	S	SeqNo: 7	52062	Units: mg/K	g		
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

Page 21 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

Project:

OCD Central Landfarm Semiannual Sampling

Project: OCD Con								ilee		
Sample ID mb-18573	SampTy	ре: МВ	ıLK				l 8260B: Volati	les		
Client ID: PBS	Batch	ID: 185	573		RunNo: 25					1
	Analysis Da			٤	SeqNo: 75	52062	Units: mg/K	.g		
Prep Date: 4/8/2015				CDV Bof Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result	PQL	SPK value	SPK Ref Val	701120	LOWE				
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	0.05								
Trichloroethene (TCE)	ND	0.05								
Trichlorofluoromethane	ND									
1,2,3-Trichloropropane	ND	0.1 0.05								
Vinyl chloride	ND	0.05								
Xylenes, Total	ND 0.53	0.1	0.500	inn	10)5	70 130	J		
Surr: Dibromofluoromethane	0.52		0.500		10)3	70 130			
Surr: 1,2-Dichloroethane-d4	0.52		0.50		93.	.5	70 130			
Surr: Toluene-d8	0.47		0.50		99		70 130	0		
Surr: 4-Bromofluorobenzene	0.50		0.00							
			1.00	-	TestCode	: EPA Meth	hod 8260B: Vo	olatiles		

Suit. 4-Diomondoroscinzenz								u		
2	SampTy	pe: LC	3	Test	Code: EF	A Method	8260B: Volati	lies		
Sample ID Ics-18573				R	unNo: 2	5409				
Client ID: LCSS	Batch	ID: 185	113				Units: mg/K	a		
Prep Date: 4/8/2015	Analysis Da	ate: 4/9	9/2015	S	SeqNo: 7	0 <u>2</u> 003	Cinto. ingi-			01
Trop Bate. Weizers		DOL	CDV value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result			0	98.8	70	130			
Benzene	0.99	0.050	1.000		88.6	70	130			
Toluene	0.89	0.050	1.000	0		70	130			
	0.94	0.050	1.000	0	94.5	70	100			
Chlorobenzene										

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit O
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits S
- Analyte detected in the associated Method Blank В
- Holding times for preparation or analysis exceeded Н
- Not Detected at the Reporting Limit
- Page 22 of 32

- Sample pH Not In Range
- Reporting Detection Limit RL

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

Project:

OCD Central Landfarm Semiannual Sampling

Project: OCD CC	iiii Bairar									
- 1 ID 1 - 40572	SampT	vpe: LC	S	Test	Code: EP	A Method	8260B: Volati	iles		
Sample ID Ics-18573				R	unNo: 25	6409				
Client ID: LCSS		Batch ID: 18573 Analysis Date: 4/9/2015			eqNo: 78	52063	Units: mg/K	g		
Prep Date: 4/8/2015	Analysis D						HighLimit	%RPD	RPDLimit	Qual
	Result	PQL	SPK value	SPK Ref Val		LowLimit		701 (1 12		
Analyte	1.1	0.050	1.000	0	113	60.6	134			
1,1-Dichloroethene	0.000		1.000	0	89.0	70	130			
Trichloroethene (TCE)	0.89	0.050	0.5000		108	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		104	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		91.9	70	130			
Surr: Toluene-d8	0.46				103	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		100					

Qualifiers:

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

Page 23 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#: 1

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

Project:

OCD Central Landfarm Semiannual Sampling

Project: OCD Con	.rai Danara							1908 V		
Sample ID mb-18573	SampTy	pe: MBI	LK				3260B: Volati	iles Short	List	
Client ID: PBS	Batch	ID: 185	73	R	unNo: 25	409				
	Analysis Da			S	eqNo: 75	2065	Units: mg/K	g		
Prep Date: 4/8/2015	Allalysis Da				W DEC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result		SPK value	SPK Ref Val	%REC	LOWLITTIC	Tilgitziiiii	,		
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			103	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		99.8	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		93.5	70	130			
Surr: Toluene-d8	0.47		0.5000		93.5	70	100			
	Campl	ype: LC	20	Te	stCode: E	PA Method	8260B: Vola	atiles Sho	rt List	
Sample ID Ics-18573	-				RunNo: 2					
Client ID: LCSS		h ID: 18					Units: mg/	Ka		
Prep Date: 4/8/2015	Analysis [Date: 4	/9/2015		SeqNo: 7	52066		•		Ovel
Analyte	Result	PQL	SPK value	SPK Ref Va				%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.8					
Toluene	0.89	0.050	1.000	0	88.6					
Surr: 1,2-Dichloroethane-d4	0.52		0.5000)	104					
Surr: 4-Bromofluorobenzene	0.52		0.5000)	103					
Surr: Dibromofluoromethane	0.54		0.5000)	108					
Surr: Toluene-d8	0.46		0.5000		91.9					
	Samn	Type: N	is	T	estCode:	EPA Metho	d 8260B: Vo	latiles Sho	ort List	
Sample ID 1504287-003ams	, camp	. 7			DunNo:	25409				

Outt. Foldone as										
Sample ID 1504287-003ams	SampTy	ype: MS		Test	Code: EF	A Method	8260B: Volat	iles Short	List	
Client ID: CentralOCD-03-04		ID: 185	573	R	unNo: 2 5	5409				
Prep Date: 4/8/2015	Analysis D	ate: 4/9	9/2015	S	eqNo: 7	52070	Units: mg/K	g		
Trop Bate.	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte		0.048	0.9515	0	105	57.8	132			
Benzene	1.0			0	94.4	54.8	139			
Toluene	0.90	0.048	0.9515	U	106	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.4757							
Surr: 4-Bromofluorobenzene	0.46		0.4757		97.1	70	130			
	0.52		0.4757		109	70	130			
Surr: Dibromofluoromethane			0.4757		92.5	70	130			
Surr: Toluene-d8	0.44		0.4737							

Qualifiers:

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

Page 24 of 32

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-03-04		ID: 185	573		unNo: 2					
Prep Date: 4/8/2015	Analysis D	ate: 4/9	9/2015	S	eqNo: 7	52071	Units: mg/K	_		0 1
1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte		0.047	0.9497	0	110	57.8	132	3.98	20	
Benzene	1.0		0.9497	0	94.2	54.8	139	0.433	20	
Toluene	0.89	0.047	• • • • • • • • • • • • • • • • • • • •	Ü	109	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.52		0.4748		98.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.47		0.4748			70	130	0	0	
Surr: Dibromofluoromethane	0.54		0.4748		113		2 000	0	0	
Surr: Toluene-d8	0.43		0.4748		90.5	70	130	U	Ü	

Qualifiers:

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

Page 25 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

OCD Central Landfarm Semiannual Sampling

Project: OC	D Central Landfa	ırm Sen	mannuai sa							
				Test	Code: EP	A Method	8260: Volatile	s Short L	ist	
Sample ID 100ng Ics	SampTy				unNo: 25					
Client ID: LCSW	Batch	ID: R2 :	5378				Units: µg/L			
	Analysis D	ate: 4/	8/2015	S	eqNo: 7	50966	Office. pg/=			Qual
Prep Date:			CDK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Quai
Analyte	Result	PQL	20.00	0	95.7	70	130			
Benzene	19	1.0	20.00	0	101	70	130			
Toluene	20	1.0	10.00	0-0	99.0	70	130			
Surr: 1,2-Dichloroethane-d4	4 9.9				113	70	130			
Surr: 4-Bromofluorobenzen			10.00		102	70	130			
Surr: Dibromofluoromethar			10.00		109	70	130			
Surr: Toluene-d8	11		10.00		51.710			011	Liet	
				Т-	+Codo: E	DA Methor	8260: Volati	es Short	List	

Surr: Toluene-d8	11		10.00							
Sample ID 5mL-rb	SampTy	/pe: MB	ILK				8260: Volatile	s Short L	ist	
Client ID: PBW		ID: R2	5378 8/2015		unNo: 25 SeqNo: 75		Units: µg/L			
Prep Date:	Analysis Da	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane Surr: Toluene-d8	ND ND ND ND 11 9.6	1.0 1.0 1.0 1.0			108 95.5 111 110	70 70 70	130 130			

Qualifiers:

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

Page 26 of 32

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	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8270C: Semi	volatiles		
Client ID: PBS	Batch	1D: 18	661	F	RunNo: 2	5544				
Prep Date: 4/13/2015	Analysis D	ate: 4/	15/2015	5	SeqNo: 7	56564	Units: mg/K	g		
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

Page 27 of 32

Hall Environmental Analysis Laboratory, Inc.

Western Refining Southwest, Gallup

Client: OCD Central Landfarm Semiannual Sampling Project:

Sample ID mb-18661	SampTyp	e: MBLK				8270C: Semi	voiatiles		
		D: 18661		RunNo: 28		101011001	•		
0		e: 4/15/2015	8	SeqNo: 7	56564	Units: mg/M	.g		
Prep Date: 4/13/2015			SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result ND	0.50	0						
2,4-Dinitrotoluene	ND	0.50							
2,6-Dinitrotoluene	ND	0.20							
Fluoranthene	ND	0.20							
Fluorene	ND ND	0.20							
Hexachlorobenzene		0.20							
Hexachlorobutadiene	ND	0.20							
Hexachlorocyclopentadiene	ND								
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							
	ND	0.20							
2-Nitrophenol	ND	0.25							
4-Nitrophenol	ND	0.40							
Pentachlorophenol	ND	0.20							
Phenanthrene	ND	0.20							
Phenol	ND	0.20							
Pyrene	ND	0.40							
Pyridine	ND	0.20							
1,2,4-Trichlorobenzene	ND	0.20							
2,4,5-Trichlorophenol	ND	0.20				Street, and the street, and th			
2,4,6-Trichlorophenol			330	70).7 2	0.1	29		
Surr: 2-Fluorophenol	2.4		330	72	2.3 3		18		
Surr: Phenol-d5	2.4		330	72	2.4 2	0.0	28		
Surr: 2,4,6-Tribromophenol	2.4		670			0.0	24		
Surr: Nitrobenzene-d5	1.2		670			4.5 1	39		
Surr: 2-Fluorobiphenyl	1.1		670			9.4 1	29		
Surr: 4-Terphenyl-d14	1.1	1.	070	·	=10.51				

Qualifiers:

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

Page 28 of 32

1504287

08-May-15

WO#:

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

Project:

OCD Central Landfarm Semiannual Sampling

Sample ID Ics-18661	SampT	ype: LCS	3	Test	Code: EF	'A Method	8270C: Semiv	olatiles/		
Client ID: LCSS		ID: 186		R	tunNo: 25	544				
Prep Date: 4/13/2015	Analysis D		15/2015	S	SeqNo: 75	56565	Units: mg/Kg	-		0
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			
1-0.0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	2.1	0.20	3.330	0	62.1	49.9	115			
2-Chlorophenol	1.1	0.20	1.670	0	64.0	43.7	107			
1,4-Dichlorobenzene	0.84	0.50	1.670	0	50.5	36	106			
2,4-Dinitrotoluene	1.0	0.20	1.670	0	61.6	39.5	110			
N-Nitrosodi-n-propylamine	2.0	0.25	3.330	0	59.3	45.1	121			
4-Nitrophenol	1.7	0.40	3.330	-	50.6	23.7	111			
Pentachlorophenol	2.2	0.20			65.5	52.7	119			
Phenol	0.98	0.20		21	58.5	50.4	116			
Pyrene	1.1	0.20		_	64.2	40.1	114			
1,2,4-Trichlorobenzene	2.1	0.20	3.330		62.4	26.4	129			
Surr: 2-Fluorophenol	2.1		3.330		67.2	34.8	118			
Surr: Phenol-d5	2.2		3.330		66.5	26.8	128			
Surr: 2,4,6-Tribromophenol	1.1		1.670		64.0	35.8	124			
Surr: Nitrobenzene-d5			1.670		62.8		139			
Surr: 2-Fluorobiphenyl	1.0		1.670		66.0					
Surr: 4-Terphenyl-d14	1.1		1.070	•	55.6					

Qualifiers:

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

Page 29 of 32

Hall Environmental Analysis Laboratory, Inc.

1504287 WO#:

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

Batch ID: 18690

RunNo: 25534

Client ID: PBS 4/14/2015

PQL

0.033

SeqNo: 756337

Units: mg/Kg

Prep Date:

Analysis Date: 4/15/2015

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

%RPD

RPDLimit

RPDLimit

Qual

Analyte Mercury

Result ND

Sample ID LCS-18690 Client ID: LCSS

SampType: LCS Batch ID: 18690 TestCode: EPA Method 7471: Mercury

RunNo: 25534

0.033

Units: mg/Kg

Prep Date:

Analysis Date: 4/15/2015 4/14/2015

SeqNo: 756338

HighLimit

97.8

Analyte

SPK value SPK Ref Val PQL Result

%REC LowLimit

120

Qual

Mercury

0.16

SampType: MS

0.1667

0.1591

0.1611

TestCode: EPA Method 7471: Mercury

80

Sample ID 1504287-006BMS CentralOCD-TZ-040 Client ID:

Batch ID: 18690

RunNo: 25534

Units: mg/Kg

125

Prep Date:

4/14/2015

Analysis Date: 4/15/2015

SeqNo: 756356

276

Analyte Mercury

PQL Result

0.16

SPK value SPK Ref Val %REC LowLimit

0.1429

0.1429

HighLimit

RPDLimit %RPD

Qual S

1504287-006BMSD Sample ID

SampType: MSD

TestCode: EPA Method 7471: Mercury

Client ID:

Batch ID: 18690 CentralOCD-TZ-040

0.58

0.61

RunNo: 25534

Prep Date:

4/14/2015

Analysis Date: 4/15/2015

SeqNo: 756357

Units: mg/Kg

Analyte Mercury

SPK value SPK Ref Val Result PQL

0.16

%REC LowLimit 290

75

HighLimit 125 %RPD 4.77

RPDLimit

Qual 20 S

Qualifiers:

Value exceeds Maximum Contaminant Level.

Value above quantitation range E

Analyte detected below quantitation limits

RSD is greater than RSDlimit O

RPD outside accepted recovery limits R Spike Recovery outside accepted recovery limits

Analyte detected in the associated Method Blank В Holding times for preparation or analysis exceeded

Н Not Detected at the Reporting Limit

Sample pH Not In Range

Reporting Detection Limit

Page 30 of 32

Hall Environmental Analysis Laboratory, Inc.

WO#:

1504287

08-May-15

Client:

Western Refining Southwest, Gallup

OCD Central Landfarm Semiannual Sampling

Project:	OCD	Central Landfa	rm Sen	nannuai sa								
		0Tv	no: MP	ı K	Test	Code: EF	A Method	6010B: Soil l	Vietals			
Sample ID	MB-18669		SampType: MBLK Batch ID: 18669			tunNo: 2						
Client ID:	PBS							Units: mg/Kg				
Prep Date:	4/13/2015	Analysis Da	ite: 4/	14/2015		sequo. 7				RPDLimit	Qual	
		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	NI DEIIIII		
Analyte		ND	2.5									
Arsenic		ND	0.10									
Barium		ND	0.10									
Cadmium		ND	0.30									
Chromium		ND	0.30									
Copper		ND	2.5									
Iron		ND	0.25									
Lead		ND	0.10									
Manganese		ND	2.5									
Selenium		ND	0.25									
Silver		ND	5.0									
Uranium		ND	0.0		т.	-tCada: l	EDA Metho	d 6010B: Soi	l Metals			

Uranium								20.00		
	SampTy	ne: LC	s	Test	Code: EP	A Method	6010B: Soil N	letals		
Sample ID LCS-18669				R	unNo: 25	5491				
Client ID: LCSS	Batch	Batch ID: 18669						a		
200000	Analysis D	Analysis Date: 4/14/2015		S	SeqNo: 754954 U			<u> </u>		0 1
Prep Date: 4/13/2015	,,			CDV Bof Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result	PQL		SPK Ref Val	106	80	120			
Arsenic	26	2.5	25.00	0		80	120			
	26	0.10	25.00	0	103		120			
Barium	26	0.10	25.00	0	104	80				
Cadmium	26	0.30	25.00	0	104	80	120			
Chromium		0.30	25.00	0	107	80	120			
Copper	27			_	108	80	120			
Iron	27	2.5	00		102	80	120			
Lead	26	0.25			103	80	120			
Manganese	26	0.10		_	102	80	120			
•	26	2.5	25.00							
Selenium	5.6	0.25	5.000	0	112					
Silver	26	5.0	25.00	0	105	80	120			
Uranium	20	0.0					LAGAGE: Call	Matala		

Uranium	20 0.0	
	SampType: MBLK	TestCode: EPA Method 6010B: Soil Metals
Sample ID MB-18669	Batch ID: 18669	RunNo: 25596
Client ID: PBS		SeqNo: 758372 Units: mg/Kg
Prep Date: 4/13/2015	Analysis Date: 4/18/2015	
Analyte	TCOURT	SPK Ref Val %REC LowLimit HighLimit %NY B 14 15 15 15 15 15 15 15 15 15 15 15 15 15
Zinc	ND 2.5	

Qualifiers: Value exceeds Maximum Contaminant Level.

Value above quantitation range E

Analyte detected below quantitation limits

RSD is greater than RSDlimit O

RPD outside accepted recovery limits R

Spike Recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded Н

Not Detected at the Reporting Limit ND

Sample pH Not In Range P

Reporting Detection Limit

Page 31 of 32

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

Result **PQL** 2.5

SPK value SPK Ref Val

%REC 101

LowLimit HighLimit

%RPD **RPDLimit**

Qual

25

25.00

80

120

Zinc

Analyte

Qualifiers:

Value exceeds Maximum Contaminant Level.

E Value above quantitation range

Analyte detected below quantitation limits J

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

RL Reporting Detection Limit Page 32 of 32

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: <u>CarlJ.Chavez@State.NM.US</u>
Web: <u>http://www.emnrd.state.nm.us/ocd/</u>

"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: 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 Fd

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: <u>CarlJ.Chavez@State.NM.US</u>
Web: <u>http://www.emnrd.state.nm.us/ocd/</u>

"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





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 Page 2

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

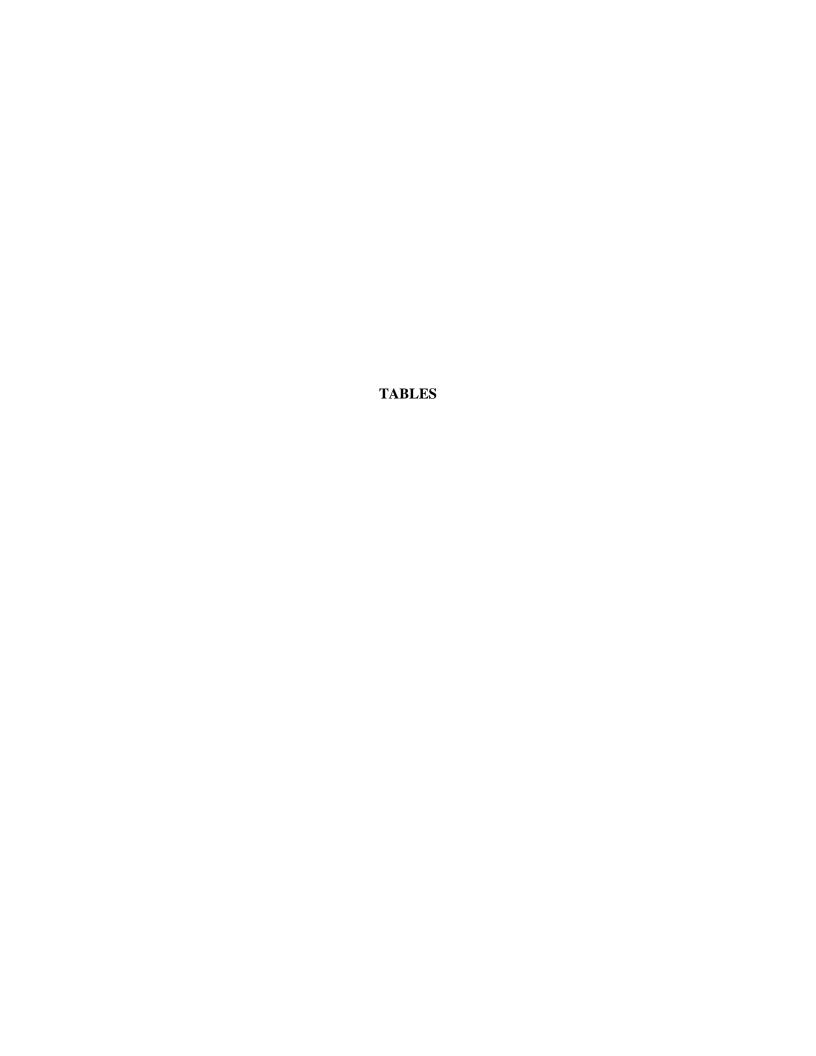


TABLE 1. SEPTEMBER 2014 VADOSE ZONE SOIL ANALYTICAL SUMMARY, CENTRAL OCD LANDFARM WESTERN REFINING COMPANY SOUTHWEST, INC. GALLUP REFINERY, GALLUP, NEW MEXICO

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

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
ADDCC	0.0	400	074	0.000	
ABRSC	0.2	199	0/1	0.002	6,880

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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
Baseline Concentration	0.00	0.03	0.05	0.10	0.2
Central Landfarm Action Level	NA	NA	NA	NA	NA
ADDCC	754	1 920	50	40.000	0.0
ABRSC	/51	1,830	50	10,600	0.6

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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 338	NA	NA
ABRSC	0.6	702	338	50	64.300

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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	0.03 NA	A I A	NA	ŇÁ	
ADDOO	NA	NA 1 000		INA 50	
ABRSC	1,240	4,600	248	50	

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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
ADDCC	10.000	0.0		15.0	74.0
ABRSC	18,000	0.6	66,800	15.3	71.3

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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
Dascinic Contochilation	0.02		0.02	0.02	0.02
Central Landfarm Action Level	NA	NA	NA	NA	NA
ADDCC	74.0	75.0	75.0	4.00	75.0
ABROU	71.3	75.8	75.8	4.30	75.8

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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
Dascille Collectitiation	0.2	0.2	0.2	0.2	0.2
Central Landfarm Action Level	NA	NA	NA	NA	NA
Contral Edital III / totloil Edvoi		1 17 1		1 1/ 1	
ABRSC	213	21.3	713	0.6	2 060
Central Landiann Action Level	INA	2 17 1	NA 213	NA 0.6	NA 2,060

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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
	0.0	0.2	0.2	0. <u>Z</u>	0.4
Central Landfarm Action Level	NA	NA	NA	NA	NA
ADDCC	0.1	1 550	20,600	21.3	715
ADROC	U. I	1,000	20.000	21.3	/ 10

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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
Dascinic Confectitiation	0.0	0.0	0.7	0.2	0.2
Central Landfarm Action Level	NA	NA	NA	NA	NA
ADDCC	4,760	၁၁ ၀	476	0.010	9.010
ADROC	4,700	۷۵.0	4/0	0,910	0,910

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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
Dascille Concentration	0.2	0.2	0.2	0.0	0.2
Central Landfarm Action Level	NA	NA	NA	NA	NA
Contrar Earlaiann / totion Eovor		1 1/ 1	1 47 1	1 1// 1	1 17 1
ABRSC	213	0.6	0.6	0.1	0.1

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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
	0.2	0.2	0.220	0.4	0.2
Central Landfarm Action Level	NA	NA	NA	NA	NA
ARRSC	702	0.1	0.1	1 030	7,150
ADROC	102	0.1	0.1	1,030	7,130

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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	
	NIA	0.Z NIA	0.Z NIA	0.Z NA	
Central Landianni Action Level	NA	NA	NA	NA	
ABRSC	68,800	6,680	23,800	238	

Notes:

ABRSC - Alternate Beneficial Reuse Screening Concentration

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	12	365	0.5	12.7	2.05
Daseline Concentration	10	365	0.5	14.7	2.90
B. Central Landfarm Action Level	NΙΛ	NΛ	NΙΛ	NA	NΛ
Central Landiann Action Level	NA	NA	INA	INA	NA
C. ARRC	65.4	4.250	200	447,000	12,400
ABROC	05.4	4,330	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

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

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

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	A.	54	5.9	A.	ND(4.9)

A. Baseline Concentration	7 525	O 425	NA	2 95	NA
B	7.525	0.720	14/1	2.33	14/1
Central Landfarm Action Level	500	NA	NA	NA	NA
C. ARRSC	500	6 100	NΙΛ	18 600	NA
ADIOC	300	0,190	INA	10,000	INA

Notes:

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

ABRSC - Alternate Beneficial Reuse Screening Concentration

mg/kg - milligrams per kilogram

pCi/L - picocuries per liter

J - Estimated concentration

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

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	A.	ND(20)
Central OCD-02-020515	02/05/15	1.6 J+	1.24±0.264	1.514±0.382	700 J	A.	ND(20)
Central OCD-03-020515	02/05/15	16 J+	1.467±0.265	2.207±0.494	570	A.	ND(20)
Central OCD-04-020515	02/05/15	7.5 J+	1.48±0.372	1.854±0.591	750	A.	59 A.

A. Baseline Concentration	NΙΔ	NA	NΔ	21.5	20
_ baseline Concentration	NA	INA	INA	21.0	20
^B Central Landfarm Action Level	NΙΛ	NΙΛ	NΙΛ	NA	2 500
Central Landiann Action Level	NA	NA	INA	INA	2,300
C. ADDCC	NΔ	NΙΛ	NΙΛ	12.000	2 500
ABROC	INA	NA	INA	12,000	2,300

Notes:

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

ABRSC - Alternate Beneficial Reuse Screening Concentration

mg/kg - milligrams per kilogram

pCi/L - picocuries per liter

J - Estimated concentration

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

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 qualifers 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,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

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 1409874-001 Lab ID: Matrix: SOIL Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL Qu	al 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.
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
 - P Sample pH greater than 2.
- Page 1 of 30
- RL Reporting Detection Limit

Date Reported: 10/21/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sam

Lab ID: 1409874-002

Matrix: SOIL

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

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

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

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: JRR
Chloride	93	30	mg/Kg	20	9/19/2014 1:38:07 PM	15404
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analys	t: RAA
Benzene	ND	0.050	mg/Kg	1	9/20/2014 10:13:15 PM	Л 15378
Toluene	ND	0.050	mg/Kg	1	9/20/2014 10:13:15 PM	И 15378
Ethylbenzene	ND	0.050	mg/Kg	1	9/20/2014 10:13:15 PM	A 15378
Xylenes, Total	ND	0.099	mg/Kg	1	9/20/2014 10:13:15 PM	A 15378
Surr: 1,2-Dichloroethane-d4	90.1	70-130	%REC	1	9/20/2014 10:13:15 PM	A 15378
Surr: 4-Bromofluorobenzene	80.6	70-130	%REC	1	9/20/2014 10:13:15 PM	A 15378
Surr: Dibromofluoromethane	93.4	70-130	%REC	1	9/20/2014 10:13:15 PM	A 15378
Surr: Toluene-d8	97.4	70-130	%REC	1	9/20/2014 10:13:15 PM	Л 15378
EPA METHOD 418.1: TPH					Analys	t: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

Page 2 of 30

- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc. Date Reported: 10/21/2014

CLIENT: Western Refining Southwest, Gallup
 Project: OCD Central Landfarm Semiannual Sam
 Lab ID: 1409874-003
 Matrix: SOIL
 Client Sample ID: Central OCD-03-9/16/14
 Collection Date: 9/16/2014 9:55:00 AM
 Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	:: JRR
Chloride	120	30	mg/Kg	20	9/19/2014 1:50:32 PM	15404
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analys	: RAA
Benzene	ND	0.048	mg/Kg	1	9/20/2014 10:41:12 PM	1 15378
Toluene	ND	0.048	mg/Kg	1	9/20/2014 10:41:12 PM	1 15378
Ethylbenzene	ND	0.048	mg/Kg	1	9/20/2014 10:41:12 PM	1 15378
Xylenes, Total	ND	0.097	mg/Kg	1	9/20/2014 10:41:12 PM	1 15378
Surr: 1,2-Dichloroethane-d4	87.0	70-130	%REC	1	9/20/2014 10:41:12 PM	1 15378
Surr: 4-Bromofluorobenzene	78.9	70-130	%REC	1	9/20/2014 10:41:12 PM	1 15378
Surr: Dibromofluoromethane	88.2	70-130	%REC	1	9/20/2014 10:41:12 PM	1 15378
Surr: Toluene-d8	86.5	70-130	%REC	1	9/20/2014 10:41:12 PM	1 15378
EPA METHOD 418.1: TPH					Analys	: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 30

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/21/2014

CLIENT: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sam

Lab ID: 1409874-004

Matrix: SOIL

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

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

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

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: JRR
Chloride	870	30	mg/Kg	20	9/19/2014 3:04:58 PM	15404
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analys	t: RAA
Benzene	ND	0.049	mg/Kg	1	9/20/2014 11:09:13 PM	A 15378
Toluene	ND	0.049	mg/Kg	1	9/20/2014 11:09:13 PM	<i>l</i> l 15378
Ethylbenzene	ND	0.049	mg/Kg	1	9/20/2014 11:09:13 PM	<i>l</i> l 15378
Xylenes, Total	ND	0.098	mg/Kg	1	9/20/2014 11:09:13 PM	<i>l</i> l 15378
Surr: 1,2-Dichloroethane-d4	85.8	70-130	%REC	1	9/20/2014 11:09:13 PM	<i>l</i> l 15378
Surr: 4-Bromofluorobenzene	76.4	70-130	%REC	1	9/20/2014 11:09:13 PM	<i>l</i> l 15378
Surr: Dibromofluoromethane	89.3	70-130	%REC	1	9/20/2014 11:09:13 PM	<i>l</i> l 15378
Surr: Toluene-d8	89.9	70-130	%REC	1	9/20/2014 11:09:13 PM	<i>l</i> l 15378
EPA METHOD 418.1: TPH					Analys	t: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Page 4 of 30

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/21/2014

CLIENT: Western Refining Southwest, Gallup

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: JRR
Chloride	990	30	mg/Kg	20	9/19/2014 3:17:22 PM	15404
EPA METHOD 8260B: VOLATILES SI	HORT LIST				Analys	t: RAA
Benzene	ND	0.050	mg/Kg	1	9/21/2014 12:33:06 AM	1 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 AN	15378
EPA METHOD 418.1: TPH					Analys	t: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 5 of 30

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/21/2014

CLIENT: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sam

Lab ID: 1409874-006

Matrix: SOIL

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

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

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 RANG	GE					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	
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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
 - of Detected at the Reporting Limit Page 6 of 30
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Analytical Report

Lab Order **1409874**

Date Reported: 10/21/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: CentralOCD-TZ-9/16/14 OCD Central Landfarm Semiannual Sam **Collection Date:** 9/16/2014 10:55:00 AM Matrix: SOIL Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATI	LES				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:

Project:

Lab ID:

1409874-006

- Value exceeds Maximum Contaminant Level.
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 7 of 30

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Analytical Report

Lab Order **1409874**

Date Reported: 10/21/2014

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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: SEMIVOLATILE	S					Analys	t: 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						Analys	t: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 8 of 30

- $P \hspace{0.5cm} \hbox{Sample pH greater than 2.} \\$
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/21/2014

CLIENT: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sam

Lab ID: 1409874-006

Matrix: SOIL

Client Sample ID: Central OCD-TZ-9/16/14

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

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

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

P

Page 9 of 30

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/21/2014

CLIENT: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sam

Lab ID: 1409874-006

Matrix: SOIL

Client Sample ID: Central OCD-TZ-9/16/14

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

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

Analyses	Result	RL Qu	al 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 10 of 30

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	HORT 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

Page 11 of 30

- ND Not Detected at the Reporting Limit Page
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Analytical Report

Lab Order 1409874 Date Reported: 10/21/2014

Hall Environmental Analysis Laboratory, Inc.

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 1409874-008 Lab ID: Matrix: AQUEOUS Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	HORT 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.
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 12 of 30

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Anatek Labs, Inc.

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

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

140919029

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

Project Name:

1409874

Sampling Time 10:55 AM

Attn:

ANDY FREEMAN

Analytical Results Report

Sample Number

140919029-001

9/16/2014 Sampling Date

Date/Time Received 9/19/2014 12:10 PM

Client Sample ID

1409874-006C / CENTRALOCD-TZ-9/16/14 Soil

Sample Location

Matrix 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

This report shall not be reproduced except in full, without the written approval of the laboratory. The results reported relate only to the samples indicated.

Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Anatek Labs, Inc.

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

140919029

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109 **Project Name:**

Batch #:

1409874

Attn:

ANDY FREEMAN

Analytical Results Report

Quality Control Data

Lab Control Sa	ımple										
Parameter		LCS Result	Units	LCS	Spike	%Rec	AR	%Rec	Prep	Date	Analysis Date
Cyanide	-	0.502	mg/kg	g 0	.5	100.4	90	-110	9/29/	2014	9/29/2014
Matrix Spike							0.000				
Sample Number	Parameter		Sample Result	MS Result	Unit	-	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140919031-005	Cyanide		ND	12.7	mg/k		14.1	90.1	90-110	9/29/2014	
Matrix Spike D	uplicate				-			i.	V		
Parameter		MSD Result	Units	MSD Spike	%R	ec	%RPD	AR %RPD	. Pro	p Date	Analysis Date
Cyanide		13.2	mg/kg	14.1	93		3.9	0-25		9/2014	9/29/2014
Method Blank		·	***	and the second					-		
Parameter			Re	sult	Uı	nits		PQL	Pr	ep Date	Analysis Date
Cyanide			N	ID	mg	/Kg		0.5	g	/29/2014	9/29/2014

AR

Acceptable Range

ND

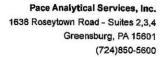
Not Detected Practical Quantitation Limit

PQL RPD

Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CC: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:

1409874

Pace Project No.:

30129978

Sample: 1409874-006B CentralOCD-

Lab ID: 30129978001

Collected: 09/16/14 10:55 Received: 09/19/14 09:45 Matrix: Solid

TZ-9/1 PWS:

Site ID:

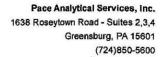
Sample Type:

Results reported on a "drv-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

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..





QUALITY CONTROL - RADIOCHEMISTRY

Project:

1409874

Pace Project No.:

QC Batch Method:

30129978

QC Batch:

RADC/21509 EPA 901.1 Analysis 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

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

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 **PBS** Client ID: Batch ID: 15404 RunNo: 21343 9/19/2014 Analysis Date: 9/19/2014 Prep Date: 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 ND Sulfate 1.5

Sample ID LCS-15404	SampT	SampType: LCS TestCode: EPA Method 30					300.0: Anion	ıs		
Client ID: LCSS	Batch	h ID: 15	404	F	RunNo: 2	1343				
Prep Date: 9/19/2014	Analysis D	Date: 9/	19/2014	S	SeqNo: 6	23060	Units: mg/h	(g		
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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Reporting Detection Limit

P Sample pH greater than 2.

Page 13 of 30

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

%REC POL SPK value SPK Ref Val LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Result Petroleum Hydrocarbons, TR 230 20 98.33 91.89 139 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 I owl imit HighLimit %RPD **RPDLimit** Qual 80 35.2 Petroleum Hydrocarbons, TR 330 20 98.72 91.89 237 120 20 RS

Qualifiers:

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

Page 14 of 30

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

5.2

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) 10 ND Surr: DNOP 10.00 100 57.9 10 140

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 50.00 125 68.6 130

104

57.9

140

5.000

Qualifiers:

Surr: DNOP

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

Page 15 of 30

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

SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result PQL LowLimit HighLimit Qual Gasoline Range Organics (GRO) 23 23.08 101 71.8 132 Surr: BFB 1000 923.4 120 110 80

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

Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 22 4.6 23.15 96.5 71.8 132 4.58 20 Λ 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

Page 16 of 30

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	SampT	уре: МЕ	BLK	Tes	tCode: El						
Client ID: PBS	Batch	n ID: 15	379	F	RunNo: 2	1397					
Prep Date: 9/18/2014	Analysis D	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	SampT	ype: LC	s	Tes	TestCode: EPA Method 8082: PCB's						
Client ID: LCSS	Batch	n ID: 15	379	F	RunNo: 21397						
Prep Date: 9/18/2014	Analysis D	Date: 9/	24/2014	5	SeqNo: 6	25114	Units: mg/k	(g			
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 122	Tes									
Client ID: LCSS	R	RunNo: 2								
Prep Date: 9/18/2014	rep Date: 9/18/2014 Analysis Date: 9/24/2014					26901	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 122 1	Tes									
Client ID: LCSS02	Batch	1D: 15	379	R	RunNo: 2					
Prep Date: 9/18/2014	Analysis D	ate: 9/	24/2014	S	SeqNo: 626902			(g		
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.
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- Reporting Detection Limit

Page 17 of 30

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	S	Tes								
Client ID: LCSS	Batch	379	F	RunNo: 2	1397					
Prep Date: 9/18/2014	Analysis D	ate: 9/	24/2014	8	SeqNo: 6	26903	Units: mg/k	(g		
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 12	232_1 SampTy _l	SD	TestCode: EPA Method 8082: PCB's							
Client ID: LCSS02 Batch ID: 15379				R						
Prep Date: 9/18/2014	Analysis Da	Analysis Date: 9/24/2014			SeqNo: 6	26904	Units: mg/K	(g		
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	SampT	ype: LC	s	Tes	tCode: E					
Client ID: LCSS	Batch ID: 15379			F	RunNo: 2					
Prep Date: 9/18/2014	Analysis Date: 9/24/2014			S	SeqNo: 626905			(g		
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	SampT	ype: LC	SD	Tes	tCode: El					
Client ID: LCSS02	Batch ID: 15379			R	RunNo: 2	1397				
Prep Date: 9/18/2014	Analysis Date: 9/24/2014			S	SeqNo: 6	26906	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte Aroclor 1242	Result 0.088	PQL 0.020	SPK value 0.1250	SPK Ref Val	%REC 70.5	LowLimit 70	HighLimit 130	%RPD 11.1	RPDLimit 20	Qual
				SPK Ref Val						Qual

Qualifiers:

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

Page 18 of 30

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 ND Ethylbenzene 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 ND 1-Methylnaphthalene 0.20 2-Methylnaphthalene ND 0.20 ND 0.75 Acetone ND 0.050 Bromobenzene 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 ND Chloroethane 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 ND 0.050 Dibromomethane ND 0.050 1.2-Dichlorobenzene ND 0.050 1,3-Dichlorobenzene 1.4-Dichlorobenzene ND 0.050 Dichlorodifluoromethane ND 0.050 1,1-Dichloroethane ND 0.050 1,1-Dichloroethene ND 0.050 ND 0.050 1,2-Dichloropropane 1,3-Dichloropropane ND 0.050 2,2-Dichloropropane ND 0.10

Qualifiers:

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

Page 19 of 30

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	SampT	ype: ME	BLK	TestCode: EPA Method 8260B: Volatiles						
Client ID: PBS	Batch ID: 15378			F	RunNo: 2	1355				
Prep Date: 9/18/2014	Analysis D	ate: 9/	20/2014	S	SeqNo: 6	23843	Units: mg/K	(g		
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	0.10	0.5000		84.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.42		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 Ics-15378	SampT	ype: LC	:S	Tes	tCode: E	PA Method	8260B: Volat	iles		
Client ID: LCSS		1D: 15			RunNo: 2					
Prep Date: 9/18/2014	Analysis D				SeqNo: 6		Units: mg/K	ίg		
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.0	70	130	,,,,,		

Qualifiers:

Chlorobenzene

Toluene

* Value exceeds Maximum Contaminant Level.

1.0

1.0

0.050

0.050

1.000

1.000

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

70

70

130

130

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

101

101

P Sample pH greater than 2.

0

0

RL Reporting Detection Limit

Page 20 of 30

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID Ics-15378	SampT	SampType: LCS			TestCode: EPA Method 8260B: Volatiles					
Client ID: LCSS	Batch	n ID: 15	378	R	RunNo: 2	1355				
Prep Date: 9/18/2014	Analysis D	oate: 9/	20/2014	S	SeqNo: 62	23844	Units: mg/k	(g		
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

Page 21 of 30

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	Samp1	уре: МЕ	BLK	Tes	tCode: El	PA Method	8260B: Volat	iles Short	List	
Client ID: PBS	Batcl	h ID: 15	378	F	RunNo: 2	1355				
Prep Date: 9/18/2014	Analysis D	Date: 9/	20/2014	S	SeqNo: 6	23834	Units: mg/K	g		
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

0.4897

Client ID: CentralOCD-04-9/16/ Batch ID: 153/8 Runno: 21355

0.43

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 1.0 0.049 0.9794 0 104 32.2 145 Benzene 0.98 0.049 0.9794 0 99.6 29.1 Toluene 139 Surr: 1,2-Dichloroethane-d4 0.43 0.4897 88.0 70 130 0.4897 78.6 Surr: 4-Bromofluorobenzene 0.38 70 130 Surr: Dibromofluoromethane 92.3 70 0.45 0.4897 130

Sample ID 1409874-004amsd	1 , , , , , , , , , , , , , , , , , , ,				tCode: E	PA Method	8260B: Vola	iles Short	List	
Client ID: CentralOCD-04-9/	Client ID: CentralOCD-04-9/16/ Batch ID: 15378				RunNo: 21355					
Prep Date: 9/18/2014	Analysis D	ate: 9/	21/2014	8	SeqNo: 6	23841	Units: mg/k	ίg		
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:

Surr: Toluene-d8

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

87.0

70

130

P Sample pH greater than 2. RL Reporting Detection Limit Page 22 of 30

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID Ics-15378	·	SampType: LCS				tiles Short	List			
Client ID: LCSS	Batcl	Batch ID: 15378			RunNo: 2	1355				
Prep Date: 9/18/2014	Analysis D	Date: 9/	20/2014	5	SeqNo: 6	25670	Units: mg/k	(g		
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

Page 23 of 30

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID b3	SampT	SampType: MBLK			tCode: El	PA Method	8260: Volatil	es Short L	ist	
Client ID: PBW	Batch	ID: R2	1353	R	tunNo: 2	1353				
Prep Date:	Analysis D	ate: 9/	22/2014	S	eqNo: 6	23722	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	SampT	ype: LC	S	TestCode: EPA Method 8260: Volatiles Short List						
Client ID: LCSW	Batch	n ID: R2	1353	F	RunNo: 2	1353				
Prep Date:	Analysis D	oate: 9/	22/2014	9	SeqNo: 6	23723	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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Page 24 of 30

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 ND 0.20 Aniline 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(q,h,i)perylene ND 0.20 ND 0.20 Benzo(k)fluoranthene Benzoic acid ND 0.50 ND 0.20 Benzyl alcohol 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 ND 0.50 Di-n-butyl phthalate Di-n-octyl phthalate ND 0.40 Dibenz(a,h)anthracene ND 0.20 Dibenzofuran ND 0.20 ND 0.20 1,2-Dichlorobenzene ND 0.20 1.3-Dichlorobenzene 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

Page 25 of 30

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 Metho			PA Method	hod 8270C: Semivolatiles					
Client ID: PBS	Batch	ID: 15	370	F	RunNo: 2	1328				
Prep Date: 9/18/2014	Analysis D	ate: 9/	19/2014	5	SeqNo: 6	22393	Units: mg/K	(g		
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	0.20	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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Page 26 of 30

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	SampT	SampType: LCS			tCode: El	PA Method	8270C: Semi	ivolatiles		
Client ID: LCSS	Batch	n ID: 15 3	370	F	RunNo: 2	1328				
Prep Date: 9/18/2014	Analysis D	oate: 9/	19/2014	S	SeqNo: 6	22394	Units: mg/k	(g		
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

Page 27 of 30

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

Page 28 of 30

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	SampT	SampType: MBLK			tCode: El	PA Method	6010B: Soil	Metals		
Client ID: PBS	Batch	n ID: 15	465	R	RunNo: 2	1420				
Prep Date: 9/23/2014	Analysis D	ate: 9/	24/2014	S	SeqNo: 6	25694	Units: mg/k	(g		
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	SampT	SampType: LCS			tCode: El	PA Method	6010B: Soil	Metals		
Client ID: LCSS	Batch	n ID: 15	465	R	RunNo: 2	1420				
Prep Date: 9/23/2014	Analysis D	ate: 9/	24/2014	S	SeqNo: 6	25695	Units: mg/k	(g		
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 S	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
11 1	ND FO	·	<u> </u>

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

Page 29 of 30

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

Page 30 of 30



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

Sample Log-In Check List

TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Client Name:	Western Refining Gallup	Work Order Number:	1409874		RcptNo:	1
Received by/date	te: <u>CS</u>	09/16/21		***	- Mari	
Logged By:	Lindsay Mangin	9/16/2014 5:03:00 PM		July Allego		
Completed By:	Lindsay Mangin	9/18/2014 8:26:23 AM		July Hayso		
Reviewed By:	CS	09/18/14		000	74	
Chain of Cus	tody		***			
1. Custody sea	als intact on sample bottles?		Yes \square	No 🗆	Not Present	
2. Is Chain of C	Custody complete?		Yes 🗹	No 🗆	Not Present	
3. How was the	e sample delivered?		Client			
Log In						
4. Was an atte	empt made to cool the samp	les?	Yes 🔽	No \square	NA \square	
5. Were all san	mples received at a tempera	ture of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆	
6. Sample(s) in	n proper container(s)?		Yes 🗹	No 🗌		
7. Sufficient sa	imple volume for indicated to	est(s)?	Yes 🗸	No 🗆		
8. Are samples	(except VOA and ONG) pro	pperly preserved?	Yes 🗹	No 🗆		
9. Was preserv	vative added to bottles?		Yes	No 🗹	NA 🗆	
10.VOA vials ha	ave zero headspace?		Yes	No 🗆	No VOA Vials 🗹	
11, Were any sa	ample containers received b	roken?	Yes	No 🔽	# of preserved	
40 -					bottles checked	
Commence of the Commence of th	work match bottle labels? pancies on chain of custody	1	Yes 🗸	No 🗀	for pH: (<2 o	r >12 unless noted)
	s correctly identified on Chai		Yes 🗹	No 🗆	Adjusted?	
	nat analyses were requested		Yes 🗹	No 🗆		
	ding times able to be met? customer for authorization.)		Yes 🗸	No 🗆	Checked by:	
14-30-39 - SOULD SEED SACCHORD -						
Special Hand	lling (if applicable)					
16. Was client n	notified of all discrepancies w	vith this order?	Yes 🗌	No 🗆	NA 🗹	٦
Persor	n Notified:	Date:		54 L		
By Wh	nom:	Via: [eMail _	Phone Fax	In Person	
Regard		Anne di				
Client	Instructions:	11.11 to 11.		6 4 4	Action (see a contract of	J
17. Additional re	emarks:					
18. Cooler Info		1 - 7 - 1 1	_ :, _ · · · 1	ا الشاري الله الله الله الله الله الله الله الل		
Cooler N	In Temp © Condition 1.1 Good	Seal Intact Seal No S	Seal Date	Signed By		
		Page 1 122221				

Client:	Westerr	Refining	ı	□ Standard □ Rush			ANALYSIS LABORATORY						r								
			377 76 (1949)	Project Name:				1 2		www.h	alle	nvin	onm	enta	al.cor	n					
Mailing	Address	:	Route 3 Box 7	OCD Central Landfarm Semiannual Sampling			4901 Hawkins NE - Albuquerque, NM 87109														
Gallup,	NM 873	01		Project #:				Tel. 505-345-3975 Fax 505-345-4107													
Phone :	# :	505-722	-3833	697-039-004								Ar	naly	sis	Req	uest					
email o	Fax#:	505-722	-0210	Project Manager:			hed						i e i								
QA/QC I	Package: dard	e e escada de la companya de la comp	☐ Level 4 (Full Validation)	Ed Riege			Zone List (see attached	(peq)	8015D												
Accredi		□ Other		Sampler: On Ice	X∕yes	DI No	List (se	e attac	by												or N
□ EDD	(Type)	Please p	provide EDD	Sample Temperati	.ire: /	10	ne	t (se	3RC	6								1			2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservativ e Type	HEALNO 14098734	Vadose Zo	NMAC List (see attached)	DRO and GRO	BTEX (8260)											Air Ruhhlas (Y
16/14	1110	soil	CentralOCD-01-9/16/14	4oz - 2	none	-001	х								T						Γ
18/14	1030	soil	GentralOCD-02-9/6/14	4oz - 2	none	-007	х														Γ
18/14	0955	soil	CentralOCD-03- 9/18/14	4oz - 2	none	-603	Х											72 AVIII-61			Г
18/14	0840	soil	CentralOCD-04-4/16/19	4oz - 2	none	-004	Х														Γ
16/14		soil	BD- <u>9/18/1</u> 4	4oz - 2	none	-005	×							Γ							Γ
16/14	0855	soil	CentralOCD- <u>04</u> -9////4-MS	4oz - 2	none	-004	Х														Γ
IJ/JU	0900	soil	CentralOCD- <u>04</u> -9/16/14-MSD	4oz - 2	none	- 604	. X												ł		Γ
16/14	1055	soil	CentralOCD-TZ- <u>9/16//</u> 4	8oz - 3, 4oz - 1	none	-006	Х	Х	Х								ď				
18/14	1210	water	EB- <u>9//6/1</u> 4	VOA - 3	HCL	-007				Х											
18/14	1215	water	FB- <u>9//8//</u> 4	VOA - 3	HCL	-008				Х			,	r							
		water	Trip Blank	VOA - 3	HCL	-009	-			X	- M	09	118	14					\perp	\perp	L
			-								0					<u></u>			Щ.		L
Date: ///// Date:	Time: <u>1457</u> Time:	Relinquish Relinquish	It her	Received by: Date Time Remarks: Please cc Grant Price (gprice@trihydro.com) with re Call Grant @ 307-745-7474 w/ questions. Verify that Reporting limits comply with those shown on the attached. PCBs ne			orting	L													
16-14	1703	Hall .		Celeme See 09/16/14 1703 Did not recieve trip blank																	
		If necessar	, samples submitted to Hall Environmental may	be subcontracted to other a	ocredited laboratori	es. This serves as notice of this	s poss	sibility.	Any s	sub-con	tracted d	lata w	ill be	clearl	y notat	ted on t	he ana	lytical re	*portry	LOS!	lis

	Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
<u> </u>	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
Т—	*Radium-228	E901.1	pCl/g	1.2500
*	Radium-226+Radium-228	E901.1	pCi/g	2.6450
Τ	Arsenic	SW6010A	mg/kg	2.5000
_	Barium Cadmium	SW6010A	mg/kg	1.0000 0.1000
	Chromium	SW6010A SW6010A	mg/kg mg/kg	0.3000
F	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
F	Silver	SW6010A	mg/kg	0.2500
1	Uranium	SW6010A	mg/kg	5.0000
E	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
<u> </u>	Aroclor 1242	SW8082	mg/kg	0.0200
١ـــــــ	Aroclor 1248	SW8082	rng/kg	0.0200
<u> </u>	Aroclor 1254	SW8082	mg/kg	0.0200
—الا	Aroclor 1260	SW8082	mg/kg	0.0200
	1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
ļ	1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1	1,1-Dichloroethane	SW82608	mg/kg	0.0970
1	1,1-Dichloroethene	SW8260B	rng/kg	0.0480
1	1,2-Dichloroethane	SW8260B	mg/kg	0,0480
II	Carbon tetrachloride	SW8260B SW8260B	mg/kg	0.0970
I I—	Chloroform Dibromomethane	SW8260B	mg/kg	0.0460
ll	Methylene chloride	SW8260B	mg/kg mg/kg	0.1500
II	Tetrachloroethene	SW8260B	mg/kg	0.0480
11-	Trichloroethene	SW8260B	mg/kg	0.0480
	Vinyl chloride	SW8260B	mg/kg	0.0480
1	2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
A serverse	2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
1777	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-methylphenal	SW8270C	mg/kg	0.1000
ļ	4-Nitrophenol	SW8270C	mg/kg	0.1000
	Pentachlorophenol	SW8270C	mg/kg	0.4000
	Phenol	SW8270C	mg/kg	0.2000
-	1-Methylnaphthalene	SW82603	mg/kg	0.2000
I —	2-Methylnaphthalene	SW8260B	mg/kg	0.2000
I —	Acenaphthelene	SW8270C	mg/kg	0.2000
 	Acenaphthylene Anthracene	SW8270C SW8270C	mg/kg mg/kg	0.2000
11	Benzo(a)anthracene	SW8270C	mg/kg	0,2000
11	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
1	Pyrene	SW8270C	mg/kg	0.2000
\vdash	Cyanide	EPA 335.4	mg/kg	0.3000
0	lesel Range Organics (DRO)	SW8015	mg/kg	12

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



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:

- 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





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.

١





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



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 (\checkmark) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (\otimes) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (\square) indicates that the specified criterion does not apply to the reviewed data. Details are noted in the tables below.

Validation Criteria

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





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.

Qualifier	<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.



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.

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.

Method 300.0: A dilution factor of 20 times was applied for the inorganic anions analyses of the soil samples.

Method 418.1: 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.

Method 8015D: 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.



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.

<u>Method</u>	<u>Analyte (s)</u>	<u>Batch</u>	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.



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.

Method	Analyte	Ratch	<u>LCS</u>	LCSD	LCS/LCSD
ivietriou	Analyte	<u>Batch</u>	Recovery	<u>Recovery</u>	QC Limits
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.

Method	<u>Surrogate</u>	<u>Sample</u>	Surrogate Recovery	QC Limits
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-d₅	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-d₅	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.



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 exception.

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.

21. Were laboratory duplicate RPD values 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-04-9/16/14 Field Duplicate Sample ID: BD-9/16/14							
Method Analyte Laboratory Result (mg/kg) Duplicate Result Relative Percent (mg/kg) Difference (RPD)							
300.0	Chloride	870	990	12.9%			
418.1	Total Petroleum Hydrocarbons	92	39	80.9%			

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.

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.

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 qualifers 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,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order **1502324**Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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 2/12/2015 3:20:56 PM Aroclor 1016 ND 0.020 mg/Kg 17661 1 Aroclor 1221 ND 0.020 mg/Kg 2/12/2015 3:20:56 PM 17661 Aroclor 1232 ND 0.020 mg/Kg 17661 1 2/12/2015 3:20:56 PM Aroclor 1242 ND mg/Kg 0.020 2/12/2015 3:20:56 PM 17661 ND Aroclor 1248 0.020 mg/Kg 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 2/12/2015 3:20:56 PM 17661 **EPA METHOD 8015D: DIESEL RANGE ORGANICS** Analyst: JME Diesel Range Organics (DRO) 10 mg/Kg 1 2/10/2015 2:06:15 PM 17621 Motor Oil Range Organics (MRO) ND 2/10/2015 2:06:15 PM 50 mg/Kg 1 17621 Surr: DNOP 103 63.5-128 %REC 2/10/2015 2:06:15 PM 17621 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) 2/10/2015 5:44:45 PM ND 4.9 mg/Kg 1 17626 Surr: BFB 90.4 80-120 %REC 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 2/11/2015 5:34:01 PM Chloride 290 30 mg/Kg 17685 Nitrogen, Nitrate (As N) 2.7 0.30 mg/Kg 2/11/2015 5:21:36 PM 17685 Sulfate 400 30 mg/Kg 2/11/2015 5:34:01 PM 17685 **EPA METHOD 7471: MERCURY** Analyst: MMD 2/11/2015 1:44:04 PM ND 0.032 Mercury mg/Kg 1 17645 **EPA METHOD 6010B: SOIL METALS** Analyst: ELS Arsenic ND 2.6 mg/Kg 2/11/2015 11:04:27 AM 17644 2/11/2015 11:04:27 AM 17644 Barium 210 0.10 mg/Kg Cadmium ND 0.10 mg/Kg 2/11/2015 11:04:27 AM 17644 Chromium 13 0.31 mg/Kg 2/11/2015 11:04:27 AM 17644 Copper 3.7 0.31 mg/Kg 2/11/2015 11:04:27 AM 17644 20000 100 mg/Kg 100 2/12/2015 8:49:00 AM Iron Lead 2.5 0.26 mg/Kg 2/11/2015 11:04:27 AM 17644 Manganese 360 0.21 mg/Kg 2/11/2015 11:05:57 AM 17644 Selenium ND 2.6 2/11/2015 11:04:27 AM 17644 mg/Kg Silver ND 0.26 mg/Kg 2/11/2015 11:04:27 AM 17644 Uranium ND 2/11/2015 11:04:27 AM 17644 5.2 mg/Kg Zinc 17 2.6 mg/Kg 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report

Lab Order **1502324**

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLAT	TILES .				Analys	t: DAM
Acenaphthene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Acenaphthylene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Aniline	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Anthracene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	M 17635
Azobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	M 17635
Benz(a)anthracene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Benzo(a)pyrene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Benzo(b)fluoranthene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Benzo(g,h,i)perylene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	<i>l</i> 17635
Benzo(k)fluoranthene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	<i>l</i> 17635
Benzoic acid	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 AM	<i>l</i> 17635
Benzyl alcohol	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Bis(2-chloroethoxy)methane	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Bis(2-chloroethyl)ether	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Bis(2-chloroisopropyl)ether	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	<i>l</i> 17635
Bis(2-ethylhexyl)phthalate	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
4-Bromophenyl phenyl ether	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Butyl benzyl phthalate	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	<i>l</i> 17635
Carbazole	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	M 17635
4-Chloro-3-methylphenol	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
4-Chloroaniline	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 AM	M 17635
2-Chloronaphthalene	ND	0.25	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
2-Chlorophenol	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
4-Chlorophenyl phenyl ether	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Chrysene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
Di-n-butyl phthalate	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 AM	<i>l</i> 17635
Di-n-octyl phthalate	ND	0.40	mg/Kg	1	2/11/2015 10:18:36 AM	<i>I</i> 17635
Dibenz(a,h)anthracene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	<i>I</i> 17635
Dibenzofuran	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	A 17635
1,2-Dichlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	<i>I</i> 17635
1,3-Dichlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	<i>I</i> 17635
1,4-Dichlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	<i>I</i> 17635
3,3´-Dichlorobenzidine	ND	0.25	mg/Kg	1	2/11/2015 10:18:36 AM	<i>I</i> 17635
Diethyl phthalate	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	<i>l</i> 17635
Dimethyl phthalate	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AM	<i>I</i> 17635
2,4-Dichlorophenol	ND	0.40	mg/Kg	1	2/11/2015 10:18:36 AM	<i>I</i> 17635
2,4-Dimethylphenol	ND	0.30	mg/Kg	1	2/11/2015 10:18:36 AM	<i>l</i> 17635
4,6-Dinitro-2-methylphenol	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 AM	<i>I</i> 17635
2,4-Dinitrophenol	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 AM	M 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
 - Page 2 of 46
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report

Lab Order **1502324**

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: Central OCD-01-2/5/2015

Project:OCD Central Landfarm Semiannual SamCollection Date: 2/5/2015 1:30:00 PMLab ID:1502324-001Matrix: SOILReceived Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL Qu	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILE	S				Analys	st: DAM
2,4-Dinitrotoluene	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
2,6-Dinitrotoluene	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
Fluoranthene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
Fluorene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
Hexachlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
Hexachlorobutadiene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
Hexachlorocyclopentadiene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
Hexachloroethane	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
Isophorone	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
1-Methylnaphthalene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
2-Methylnaphthalene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
2-Methylphenol	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
3+4-Methylphenol	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
N-Nitrosodi-n-propylamine	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
N-Nitrosodiphenylamine	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
Naphthalene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
2-Nitroaniline	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
3-Nitroaniline	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
4-Nitroaniline	ND	0.40	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
Nitrobenzene	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
2-Nitrophenol	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
4-Nitrophenol	ND	0.25	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
Pentachlorophenol	ND	0.40	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
Phenanthrene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
Phenol	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
Pyrene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
Pyridine	ND	0.50	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
1,2,4-Trichlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 Al	M 17635
2,4,5-Trichlorophenol	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
2,4,6-Trichlorophenol	ND	0.20	mg/Kg	1	2/11/2015 10:18:36 AI	M 17635
Surr: 2-Fluorophenol	85.1	26.4-129	%REC	1	2/11/2015 10:18:36 AI	M 17635
Surr: Phenol-d5	77.5	34.8-118	%REC	1	2/11/2015 10:18:36 Al	M 17635
Surr: 2,4,6-Tribromophenol	78.8	26.8-128	%REC	1	2/11/2015 10:18:36 Al	M 17635
Surr: Nitrobenzene-d5	86.9	35.8-124	%REC	1	2/11/2015 10:18:36 AI	M 17635
Surr: 2-Fluorobiphenyl	84.8	24.5-139	%REC	1	2/11/2015 10:18:36 AI	M 17635
Surr: 4-Terphenyl-d14	67.1	29.4-129	%REC	1	2/11/2015 10:18:36 Al	M 17635
EPA METHOD 8260B: VOLATILES					Analys	st: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report

Lab Order **1502324**

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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 Qu	al 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
 - Canada al Nat In Bana
- P Sample pH Not In Range

Page 4 of 46

RL Reporting Detection Limit

Lab Order **1502324**Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: Central OCD-01-2/5/2015

Project:OCD Central Landfarm Semiannual SamCollection Date: 2/5/2015 1:30:00 PMLab ID:1502324-001Matrix: SOILReceived Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL Qu	al 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 5 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order **1502324**Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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 Qu	al Units	DF D	ate Analyzed	Batch
EPA METHOD 8082: PCB'S					Analys	t: 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 RANG	SE ORGANICS				Analys	t: 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 RA	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1 2	/10/2015 11:00:26 PM	/I 17626
Surr: BFB	89.6	80-120	%REC	1 2	/10/2015 11:00:26 PM	/ 17626
EPA METHOD 300.0: ANIONS					Analys	t: 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					Analys	t: MMD
Mercury	ND	0.032	mg/Kg	1 2	/11/2015 1:45:52 PM	17645
EPA METHOD 6010B: SOIL METALS	5				Analys	t: ELS
Arsenic	ND	2.6	mg/Kg	1 2	/11/2015 11:07:21 AM	<i>l</i> 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	<i>l</i> 17644
Chromium	10	0.31	mg/Kg	1 2	/11/2015 11:07:21 AM	<i>l</i> 17644
Copper	3.3	0.31	mg/Kg	1 2	/11/2015 11:07:21 AM	<i>l</i> 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	<i>l</i> 17644
Manganese	370	0.21	mg/Kg	2 2	/11/2015 11:08:53 AM	<i>l</i> 17644
Selenium	ND	2.6	mg/Kg	1 2	/11/2015 11:07:21 AM	<i>l</i> 17644
Silver	ND	0.26	mg/Kg		/11/2015 11:07:21 AM	_
Uranium	ND	5.2	mg/Kg		/11/2015 11:07:21 AM	_
Zinc	14	2.6	mg/Kg	1 2	/11/2015 11:07:21 AM	<i>l</i> 17644

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

Page 6 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order **1502324**Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLAT	ILES				Analy	st: DAM
Acenaphthene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Acenaphthylene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Aniline	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Anthracene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Azobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Benz(a)anthracene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Benzo(a)pyrene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Benzo(b)fluoranthene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Benzo(g,h,i)perylene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Benzo(k)fluoranthene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Benzoic acid	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Benzyl alcohol	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Bis(2-chloroethoxy)methane	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Bis(2-chloroethyl)ether	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Bis(2-chloroisopropyl)ether	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Bis(2-ethylhexyl)phthalate	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
4-Bromophenyl phenyl ether	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Butyl benzyl phthalate	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Carbazole	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
4-Chloro-3-methylphenol	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
4-Chloroaniline	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2-Chloronaphthalene	ND	0.25	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2-Chlorophenol	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
4-Chlorophenyl phenyl ether	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Chrysene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Di-n-butyl phthalate	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Di-n-octyl phthalate	ND	0.40	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Dibenz(a,h)anthracene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Dibenzofuran	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
1,2-Dichlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
1,3-Dichlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
1,4-Dichlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
3,3´-Dichlorobenzidine	ND	0.25	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Diethyl phthalate	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Dimethyl phthalate	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2,4-Dichlorophenol	ND	0.40	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2,4-Dimethylphenol	ND	0.30	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
4,6-Dinitro-2-methylphenol	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2,4-Dinitrophenol	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 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
 - Page 7 of 46
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order **1502324**Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILE	S				Analy	st: DAM
2,4-Dinitrotoluene	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2,6-Dinitrotoluene	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Fluoranthene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Fluorene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Hexachlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Hexachlorobutadiene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Hexachlorocyclopentadiene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Hexachloroethane	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Isophorone	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
1-Methylnaphthalene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2-Methylnaphthalene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2-Methylphenol	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
3+4-Methylphenol	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
N-Nitrosodi-n-propylamine	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
N-Nitrosodiphenylamine	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Naphthalene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2-Nitroaniline	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
3-Nitroaniline	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
4-Nitroaniline	ND	0.40	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Nitrobenzene	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2-Nitrophenol	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
4-Nitrophenol	ND	0.25	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Pentachlorophenol	ND	0.40	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Phenanthrene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Phenol	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Pyrene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Pyridine	ND	0.49	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
1,2,4-Trichlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2,4,5-Trichlorophenol	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
2,4,6-Trichlorophenol	ND	0.20	mg/Kg	1	2/11/2015 10:46:31 A	M 17635
Surr: 2-Fluorophenol	88.4	26.4-129	%REC	1	2/11/2015 10:46:31 A	M 17635
Surr: Phenol-d5	77.2	34.8-118	%REC	1	2/11/2015 10:46:31 A	M 17635
Surr: 2,4,6-Tribromophenol	73.6	26.8-128	%REC	1	2/11/2015 10:46:31 A	M 17635
Surr: Nitrobenzene-d5	81.5	35.8-124	%REC	1	2/11/2015 10:46:31 A	M 17635
Surr: 2-Fluorobiphenyl	79.1	24.5-139	%REC	1	2/11/2015 10:46:31 A	M 17635
Surr: 4-Terphenyl-d14	62.0	29.4-129	%REC	1	2/11/2015 10:46:31 A	M 17635
EPA METHOD 8260B: VOLATILES					Analy	st: DJF
Benzene	ND	0.046	mg/Kg	1	2/10/2015 2:34:51 PM	1 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
 - Page 8 of 46
- P Sample pH Not In Range
- RL Reporting Detection Limit

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analys	t: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 9 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order **1502324**Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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 Qu	al 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 10 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 3/9/2015

CLIENT: Western Refining Southwest, Gallup

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 Q	ual 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 RANG	E 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 RA	NGE				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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 11 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLAT	TILES				Analys	t: 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

Page 12 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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 Qu	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILE	S				Analys	t: 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					Analys	t: 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
- Page 13 of 46
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1502324

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

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 **Received Date: 2/6/2015 4:35:00 PM** Lab ID: 1502324-003 Matrix: SOIL

Analyses	Result	RL Qu	al 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.
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
 - Page 14 of 46 Sample pH Not In Range
- P
- Reporting Detection Limit

Lab Order **1502324**Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: Central OCD-03-2/5/2015

Project:OCD Central Landfarm Semiannual SamCollection Date: 2/5/2015 2:17:00 PMLab ID:1502324-003Matrix: SOILReceived Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL Qu	al 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 15 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order **1502324**Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sam

Lab ID: 1502324-004

Matrix: SOIL

Client Sample ID: Central OCD-04-2/5/2015

Collection Date: 2/5/2015 11:35:00 AM

Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S					Analys	st: 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 RANG	SE ORGANICS				Analys	t: 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 RA	ANGE				Analys	t: 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					Analys	t: 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					Analys	t: MMD
Mercury	ND	0.032	mg/Kg	1	2/11/2015 1:56:54 PM	17645
EPA METHOD 6010B: SOIL METALS	6				Analys	t: ELS
Arsenic	ND	2.5	mg/Kg	1	2/11/2015 11:24:29 Af	√ 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	И 17644
Copper	3.8	0.30	mg/Kg	1	2/11/2015 11:24:29 AM	И 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 A	И 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	И 17644
Silver	ND	0.25	mg/Kg	1	2/11/2015 11:24:29 Al	√ 17644
Uranium	ND	5.1	mg/Kg	1	2/11/2015 11:24:29 Al	√ 17644
Zinc	22	2.5	mg/Kg	1	2/11/2015 11:24:29 Af	√ 17644

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

Page 16 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLAT	ΓILES				Analys	st: 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 17 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILE	S				Analys	t: 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					Analys	t: DJF
Benzene	ND	0.049	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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 18 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1502324

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

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

 Page 19 of 46
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order **1502324**Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

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 Qu	al 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 20 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1502324

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

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 Q	ual Units	DF I	Date Analyzed	Batch
EPA METHOD 8082: PCB'S					Analys	: 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 RANG	E ORGANICS				Analys	: 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 RA	NGE				Analys	: 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					Analys	:: 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					Analys	: MMD
Mercury	ND	0.031	mg/Kg	1	2/11/2015 1:58:45 PM	17645
EPA METHOD 6010B: SOIL METALS					Analys	:: 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	1 17644
Chromium	15	0.60	mg/Kg	2	2/11/2015 11:29:02 AM	1 17644
Copper	4.1	0.60	mg/Kg	2	2/11/2015 11:29:02 AM	1 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	1 17644
Selenium	ND	5.0	mg/Kg		2/11/2015 11:29:02 AM	
Silver	ND	0.50	mg/Kg		2/11/2015 11:29:02 AM	-
Uranium	ND	10	mg/Kg		2/11/2015 11:29:02 AM	-
Zinc	20	5.0	mg/Kg	2	2/11/2015 11:29:02 AM	1 17644

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

Page 21 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1502324

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLA	TILES				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.
- Е Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
 - Sample pH Not In Range
- P Reporting Detection Limit

Page 22 of 46

Lab Order **1502324**

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILE	S				Analy	st: DAM
2,4-Dinitrotoluene	ND	0.50	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
2,6-Dinitrotoluene	ND	0.50	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Fluoranthene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Fluorene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Hexachlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Hexachlorobutadiene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Hexachlorocyclopentadiene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Hexachloroethane	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Isophorone	ND	0.50	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
1-Methylnaphthalene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
2-Methylnaphthalene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
2-Methylphenol	ND	0.50	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
3+4-Methylphenol	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
N-Nitrosodi-n-propylamine	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
N-Nitrosodiphenylamine	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Naphthalene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
2-Nitroaniline	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
3-Nitroaniline	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
4-Nitroaniline	ND	0.40	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Nitrobenzene	ND	0.50	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
2-Nitrophenol	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
4-Nitrophenol	ND	0.25	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Pentachlorophenol	ND	0.40	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Phenanthrene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Phenol	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Pyrene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Pyridine	ND	0.50	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
1,2,4-Trichlorobenzene	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
2,4,5-Trichlorophenol	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
2,4,6-Trichlorophenol	ND	0.20	mg/Kg	1	2/11/2015 11:14:30 A	M 17635
Surr: 2-Fluorophenol	86.0	26.4-129	%REC	1	2/11/2015 11:14:30 A	M 17635
Surr: Phenol-d5	76.8	34.8-118	%REC	1	2/11/2015 11:14:30 A	M 17635
Surr: 2,4,6-Tribromophenol	79.4	26.8-128	%REC	1	2/11/2015 11:14:30 A	M 17635
Surr: Nitrobenzene-d5	80.6	35.8-124	%REC	1	2/11/2015 11:14:30 A	M 17635
Surr: 2-Fluorobiphenyl	85.2	24.5-139	%REC	1	2/11/2015 11:14:30 A	M 17635
Surr: 4-Terphenyl-d14	64.8	29.4-129	%REC	1	2/11/2015 11:14:30 A	M 17635
EPA METHOD 8260B: VOLATILES					Analy	st: DJF
Benzene	ND	0.046	mg/Kg	1	2/10/2015 4:52:38 PM	<i>l</i> 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

Page 23 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order **1502324**

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

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

Page 24 of 46

Lab Order **1502324**Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

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 Qu	al 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 25 of 46

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1502324

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup Client Sample ID: EB-2/5/2015

Project:OCD Central Landfarm Semiannual SamCollection Date: 2/5/2015 2:58:00 PMLab ID:1502324-006Matrix: AQUEOUSReceived Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL Qual Units		DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	HORT 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

Page 26 of 46

- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1502324

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

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	DF Date Analyzed		
EPA METHOD 8260: VOLATILES SI	HORT 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.
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
 - Sample pH Not In Range

Page 27 of 46

- P
- Reporting Detection Limit

Lab Order 1502324

Date Reported: 3/9/2015

Hall Environmental Analysis Laboratory, Inc.

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	Result RL Qual Units		DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	HORT 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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 28 of 46

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: Address: HALL ENVIRONMENTAL ANALYSIS LAB

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

Sampling Time 1:30 PM

Client Sample ID Matrix

1502324-001D / CENTRAL OCD-01-2/5/2015

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

Soil

2/5/2015 Sampling Date

Date/Time Received 2/10/2015

10:40 AM

10:40 AM

Client Sample ID

1502324-002D / CENTRAL OCD-02-2/5/2015

1502324-003D / CENTRAL QCD-03-2/5/2015

Sampling Time 12:15 PM

Matrix

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

2/5/2015 Sampling Date

Date/Time Received 2/10/2015 Sampling Time 2:17 PM

10:40 AM

Client Sample ID

Soil

Comments

Matrix

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		2/1 7 /2015	CRW	%moisture	•

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

Anatek Labs, Inc.

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 #:

150210026

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

Project Name:

1502324

Attn:

ANDY FREEMAN

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 Client Sample ID 150210026-005

2/5/2015 Sampling Date

Date/Time Received 2/10/2015 10:40 AM

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

This report shall not be reproduced except in full, without the written approval of the laboratory.

The results reported relate only to the samples indicated.

Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Anatek Labs, Inc.

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 #:

150210026

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109 **Project Name:**

1502324

Attn:

ANDY FREEMAN

Analytical Results Report

Quality Control Data

Lab Control Sample						·		<u></u> ,	
Parameter Cyanide	LCS Result 0.494	Unit mg/k				%Rec 0-110	•	Date 2015	Analysis Date 2/16/2015
Matrix Spike	<u>. </u>						, <u> </u>		
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	•	
Matrix Spike Duplicate	·								
Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPI) Pre	p Date	Analysis Date
Cyanide	15.1	mg/kg	15.5	97.4	1.3	0-25		6/2015	2/16/2015
Method Blank					<u>.</u>	<u> </u>			
Parameter		Re	sult	Units		PQL	Pr	ep Date	Analysis Date
Cyanide		ı	4D	mg/Kg		0.5	2	/16/2015	2/16/2015

AR

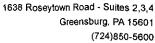
Acceptable Range

ND PQL Not Detected

RPD

Practical Quantitation Limit Relative Percentage Difference

Comments:





ANALYTICAL RESULTS - RADIOCHEMISTRY

Project:

1502324

Pace Project No.:

30140414

Sample: 1502324-001C Central

OCD-01-2/

Lab ID: 30140414001

Collected: 02/05/15 13:30 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	ÇAS 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

PWS:

OCD-03-2/

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

PWS:

OCD-04-2/

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	

PWS:

Sample: 1502324-005C BD-2/5/2015

Lab ID: 30140414005 Site ID:

Sample Type:

Collected: 02/05/15 00:01 Received: 02/10/15 10:00 Matrix: Solid

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

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc. 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

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

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc. 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

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

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

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 SeqNo: 714901 Prep Date: 2/11/2015 Analysis Date: 2/11/2015 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Fluoride 0.30 ND 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 %REC **RPDLimit** POL SPK value SPK Ref Val HighLimit %RPD Qual Analyte Result LowLimit Fluoride 1.5 0.30 1.500 0 99.9 90 110 0 91.8 90 Chloride 14 1.5 15.00 110 Nitrogen, Nitrate (As N) 7.2 0.30 7.500 0 96.4 90 110 Sulfate 28 30.00 0 92.9 90 1.5 110

TestCode: EPA Method 300.0: Anions Sample ID 1502324-003BMS SampType: MS 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/ RunNo: 24256 Batch ID: 17685 Prep Date: 2/11/2015 Analysis Date: 2/11/2015 SeqNo: 714941 Units: mg/Kg SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Analyte Result **PQL** SPK value LowLimit Fluoride 3.363 46.2 2.38 4.1 0.30 1.500 13.6 100 20 Nitrogen, Nitrate (As N) S 25 0.30 7.500 16.15 118 85.3 110 0.329 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

Page 29 of 46

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

SPK value SPK Ref Val **RPDLimit** Analyte Result **PQL** %REC LowLimit HighLimit %RPD 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: Analysis Date: 2/10/2015 SeqNo: 713809 Units: mg/Kg 2/9/2015

Result POL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Analyte LowLimit

Petroleum Hydrocarbons, TR 100 20 100.0 86.7 3.76 20

Sample ID 1502324-003AMS SampType: MS TestCode: EPA Method 418.1: TPH

Client ID: Central OCD-03-2/5/ RunNo: 24217 Batch ID: 17630

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 TestCode: EPA Method 418.1: TPH SampType: MSD

RunNo: 24217 Client ID: Central OCD-03-2/5/ Batch ID: 17630

Prep Date: 2/9/2015 Analysis Date: 2/10/2015 SeqNo: 713815 Units: mg/Kg

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.

Е Value above quantitation range

J Analyte detected below quantitation limits

0 RSD is greater than RSDlimit

R RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

В Analyte detected in the associated Method Blank

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 30 of 46

P Sample pH Not In Range

Reporting Detection Limit

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	SampT	SampType: MBLK TestCode: EPA Method 8015D: Diesel Range Organics								
Client ID: PBS	Batch	n ID: 17	621	F	RunNo: 24	4202				
Prep Date: 2/9/2015	Analysis D	ate: 2/	10/2015	S	SeqNo: 7	13699	Units: mg/k	(g		
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	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Dies	el Range (Organics	
Client ID: LCSS	Batch	n ID: 17	621	F	RunNo: 24	4202				
Prep Date: 2/9/2015	Analysis D	ate: 2/	10/2015	S	SeqNo: 7	13700	Units: mg/k	C g		
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 1502324-003AM	S SampT	уре: М \$		Tes	tCode: El	PA Method	8015D: Dies	el Range (Organics	
Client ID: Central OCD-03-	2/5/ Batch	n ID: 17	621	F	RunNo: 24	4202				
Prop Data: 2/0/2015	Analysis D	ato: 2	/10/201 <i>E</i>	c	SoaNo: 7	12052	Unite: ma/k	(a		

Client ID: Central OCD-03-2/5/ Batch ID: 17621				R	tunNo: 24	4202				
Prep Date: 2/9/2015	Analysis Da	ate: 2/	10/2015	S	SeqNo: 7	13952	Units: mg/K	(g		
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 1502324-003AMS	D SampT	ype: M \$	SD	Tes	tCode: El	PA Method	8015D: Dies	el Range C	Organics	
Client ID: Central OCD-03-2	/ 5/ Batch	ID: 17	621	R	RunNo: 2	4202				
Prep Date: 2/9/2015	Analysis D	ate: 2/	10/2015	S	SeqNo: 7	13953	Units: mg/k	(g		
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.

Е Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

Analyte detected in the associated Method Blank В

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 31 of 46

Sample pH Not In Range P

Reporting Detection Limit

Sample ID LCS-17626

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

SampType: LCS

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 1000 Surr: BFB 880 87.8 80 120

Client ID: LCSS Batch ID: 17626 RunNo: 24212 Analysis Date: 2/10/2015 SeqNo: 714086 Prep Date: 2/9/2015 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 5.0 25.00 98.0 64 130 Surr: BFB 990 1000 99.1 80 120

TestCode: EPA Method 8015D: Gasoline Range

SampType: MS Sample ID 1502324-003AMS 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 %REC LowLimit %RPD **RPDLimit** Analyte Result **PQL** SPK value SPK Ref Val HighLimit Qual Gasoline Range Organics (GRO) 28 4.9 24.68 112 47.9 144 Surr: BFB 950 987.2 96.0 120 80

SampType: MSD Sample ID 1502324-003AMSD TestCode: EPA Method 8015D: Gasoline Range Client ID: Central OCD-03-2/5/ Batch ID: 17626 RunNo: 24212 Analysis Date: 2/10/2015 Prep Date: 2/9/2015 SeqNo: 714096 Units: mg/Kg Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 28 4.9 24.68 115 47.9 144 3.25 29.9 Λ 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

Page 32 of 46

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	SampT	ype: ME	BLK	TestCode: EPA Method 8082: PCB's						
Client ID: PBS	Batch ID: 17661 Analysis Date: 2/12/2015			F	RunNo: 2	4309				
Prep Date: 2/10/2015				SeqNo: 716406			Units: mg/K	ζg		
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	SampT	ype: LC	s	Tes	tCode: El	PA Method	8082: PCB's			
Client ID: LCSS	Batcl	h ID: 17	661	F	RunNo: 2	4309				
Prep Date: 2/10/2015	Analysis D	Date: 2/	12/2015	SeqNo: 716407		16407	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 1502324-003BM	S Samp1	уре: М\$		Tes	tCode: El	PA Method	8082: PCB's			

Sample ID 1502324-003BN	Tes									
Client ID: Central OCD-03	F	RunNo: 2								
Prep Date: 2/10/2015	Analysis Date: 2/12/2015			SeqNo: 716419			Units: mg/K	(g		
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 1502324-003BMSE	TestCode: EPA Method 8082: PCB's									
Client ID: Central OCD-03-2/	R									
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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte 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

Page 33 of 46

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 ND Ethylbenzene 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 ND 1-Methylnaphthalene 0.20 2-Methylnaphthalene ND 0.20 ND 0.75 Acetone ND 0.050 Bromobenzene 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 ND Chloroethane 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 ND 0.050 Dibromomethane ND 0.050 1.2-Dichlorobenzene ND 0.050 1,3-Dichlorobenzene 1.4-Dichlorobenzene ND 0.050 Dichlorodifluoromethane ND 0.050 1,1-Dichloroethane ND 0.050 1,1-Dichloroethene ND 0.050 ND 0.050 1,2-Dichloropropane 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

Page 34 of 46

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	SampT	ype: ME	BLK	TestCode: EPA Method 8260B: Volatiles							
Client ID: PBS	Batch ID: 17626			F	RunNo: 2						
Prep Date: 2/9/2015	Analysis Date: 2/10/2015			S	SeqNo: 7	14046	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 Ics-17626	SampType: LCS			Tes	tCode: El						
Client ID: LCSS	Batch	n ID: 17	626	RunNo: 24224							
Prep Date: 2/9/2015	Analysis D	ate: 2/	10/2015	S	SeqNo: 7	14047	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Qualifiers:

Chlorobenzene

Benzene

Toluene

* Value exceeds Maximum Contaminant Level.

1.1

0.94

0.92

0.050

0.050

0.050

1.000

1.000

1.000

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

70

70

70

130

130

130

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

107

93.7

91.7

P Sample pH Not In Range

0

0

0

RL Reporting Detection Limit

Page 35 of 46

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID Ics-17626 SampType: LCS TestCode: EPA Method 8260B: Volatiles Client ID: LCSS Batch ID: 17626 RunNo: 24224 Analysis Date: 2/10/2015 Prep Date: 2/9/2015 SeqNo: 714047 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 1,1-Dichloroethene 0.050 118 60.6 1.2 1.000 0 134 104 Trichloroethene (TCE) 1.0 0.050 1.000 0 70 130 97.1 70 Surr: Dibromofluoromethane 0.49 0.5000 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 **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte Result LowLimit Qual Benzene 0.98 0.049 0.9872 99.5 57.8 132 0.95 0.049 0.9872 0 95.7 54.8 Toluene 139 95.9 63.5 Chlorobenzene 0.95 0.049 0.9872 0 134 0 105 26.4 1,1-Dichloroethene 1.0 0.049 0.9872 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 79.2 70 Surr: 1,2-Dichloroethane-d4 0.39 0.4936 130 Surr: Toluene-d8 0.44 0.4936 89.3 70 130 Surr: 4-Bromofluorobenzene 0.4936 84.6 70 0.42 130

Sample ID 1502324-003amsd SampType: MSD TestCode: EPA Method 8260B: Volatiles										
Client ID: Central OCD-03-2/	R									
Prep Date: 2/9/2015	S	SeqNo: 7								
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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte 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

Page 36 of 46

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	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW	Batch	1D: R2	4238	F	RunNo: 2	4238				
Prep Date:	Analysis D	ate: 2/	11/2015	8	SeqNo: 7	14516	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 Ics	SampT	Type: LCS TestCode: EPA Method					8260: Volatile	es Short L	ist	
Client ID: LCSW	Batch	n ID: R2	24238	F	RunNo: 2	4238				
Prep Date:	Analysis D	oate: 2/	11/2015	9	SeqNo: 7	14517	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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte 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

Page 37 of 46

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 ND 0.20 Aniline 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(q,h,i)perylene ND 0.20 ND 0.20 Benzo(k)fluoranthene Benzoic acid ND 0.50 ND 0.20 Benzyl alcohol 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 ND 0.40 Di-n-butyl phthalate Di-n-octyl phthalate ND 0.40 Dibenz(a,h)anthracene ND 0.20 Dibenzofuran ND 0.20 ND 0.20 1,2-Dichlorobenzene ND 0.20 1.3-Dichlorobenzene 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

Page 38 of 46

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				d 8270C: Semivolatiles						
Client ID: PBS	Batch	ID: 17	635	F	RunNo: 24	4253					
Prep Date: 2/9/2015	Analysis D	ate: 2/	11/2015		SeqNo: 7		Units: mg/K	(g			
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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte 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

Page 39 of 46

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID Ics-17635	SampType: LCS TestCode: EPA Metho						8270C: Semi	ivolatiles		
Client ID: LCSS	Batch	n ID: 17 0	635	F	RunNo: 2	4253				
Prep Date: 2/9/2015	Analysis D	ate: 2/	11/2015	8	SeqNo: 7	14839	Units: mg/k	(g		
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	O3bms SampType: MS TestCode: EPA Method 8270C: Semivolatiles									
Client ID: Central OCD-03-	-2/5/ Batch	1D: 17	635	R	RunNo: 2	4253				
Prep Date: 2/9/2015	Analysis D	ate: 2/	11/2015	S	SeqNo: 7	14845	Units: mg/K	(g		
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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte 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

Page 40 of 46

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	I SampT	ype: MS	SD	Tes	tCode: El	volatiles				
Client ID: Central OCD-03-2	/5/ Batch	ID: 17	635	F	RunNo: 2	4253				
Prep Date: 2/9/2015	Analysis D	ate: 2/	11/2015	S	SeqNo: 7	14846	Units: mg/K	(g		
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

Page 41 of 46

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

Page 42 of 46

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

ND 0.033 Mercury

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

%REC SPK value SPK Ref Val **RPDLimit** Analyte Result PQL LowLimit HighLimit %RPD Qual

Mercury 0.17 0.033 0.1667 0 99.9 120

TestCode: EPA Method 7471: Mercury Sample ID 1502324-003BMS SampType: MS

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

SPK value SPK Ref Val Analyte Result **PQL** %REC HighLimit %RPD **RPDLimit** Qual LowLimit

0.17 0.035 0.1753 Mercury

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 I owl imit HighLimit %RPD **RPDLimit** Qual

98.2 75 Mercury 0.16 0.033 0.1665 0 125 5.93 20

Qualifiers:

Value exceeds Maximum Contaminant Level.

Е Value above quantitation range

Analyte detected below quantitation limits J

0 RSD is greater than RSDlimit

R RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

В Analyte detected in the associated Method Blank

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P

Sample pH Not In Range Reporting Detection Limit Page 43 of 46

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 ND 2.5 Arsenic ND Barium 0.10 ND Cadmium 0.10 Chromium ND 0.30 Copper ND 0.30 Iron ND 2.5 ND 0.25 Lead ND 0.10 Manganese Selenium ND 2.5 ND 0.25 Silver Uranium ND 5.0 ND 2.5 Zinc

Sample ID LCS-17644	Sampi	ype: LC	S	Tes	tCode: El	Metals				
Client ID: LCSS	Batcl	n ID: 17	644	F	RunNo: 2	4235				
Prep Date: 2/9/2015	Analysis D	Date: 2/	11/2015	8	SeqNo: 7	14438	Units: mg/k	(g		
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	SampT	ype: MS	6	Vietals						
Client ID: Central OCD-03-	2/5/ Batch	n ID: 17 0	644	R	RunNo: 2	4235				
Prep Date: 2/9/2015	Analysis D	ate: 2/	11/2015	S	SeqNo: 7	14462	Units: mg/K	.g		
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.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte 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

Page 44 of 46

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

SPK value SPK Ref Val **RPDLimit** Analyte Result **PQL** %REC LowLimit HighLimit %RPD 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 25 3.564 83.4 75 20 0.31 25.73 125 Copper 5.36 Silver 4.2 0.26 81.2 75 125 20 5.147 6.61 25.73 0 76.4 75 125 20 Uranium 20 5.1 5.41

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

SPK value SPK Ref Val %RPD **RPDLimit** Analyte Result POL %REC LowLimit HighLimit 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			8	SeqNo: 7	(g				
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.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte 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

Page 45 of 46

Hall Environmental Analysis Laboratory, Inc.

WO#: 1502324

20

20

S

S

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

20

11

0.26

2.6

25.73

25.73

Sample ID 1502324-003BMSD SampType: MSD TestCode: EPA Method 6010B: Soil Metals Client ID: Central OCD-03-2/5/ Batch ID: 17644 RunNo: 24254 2/9/2015 Analysis Date: 2/12/2015 SeqNo: **714889** Prep Date: 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 5.71 20 125 240 25.73 219.3 73.9 75 20 S Barium 0.10 125 3.13

63.4

41.7

75

75

125

125

6.40

9.33

3.197

0

Qualifiers:

Lead

Selenium

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

Page 46 of 46



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:	15023	24			RcptNo:	i
Received by/dat	te: LM 02/ds	115						
Logged By:	Anne Thorne	2/6/2015 4:35:00 PM			anne S	l-		
Completed By:	Anne Thorne	2/9/2015			anne &	1-	_	
Reviewed By:	CS	02/09/16						
Chain of Cus	stody							
1. Custody sea	als intact on sample bottles?		Yes	V	No [Not Present	
2. Is Chain of C	Custody complete?		Yes	✓	No [Not Present	
3. How was the	e sample delivered?		Clien	<u>t</u>				
Log In	9							x
4. Was an atte	empt made to cool the samples	3?	Yes	✓	No ĺ		na \square	
5. Were all sar	mples received at a temperatu	re of >0° C to 6.0°C	Yes	✓	No [NA 🗆	
6. Sample(s) ii	n proper container(s)?		Yes	V	No [
7. Sufficient sa	imple volume for indicated test	(s)?	Yes	\checkmark	No [
8. Are samples	(except VOA and ONG) propo	erly preserved?	Yes	~	No [
9. Was preserv	vative added to bottles?		Yes		No 5		NA 🗆	
10.VOA vials ha	ave zero headspace?		Yes	V	No [No VOA Vials	
11. Were any sa	ample containers received bro	ken?	Yes		No	V	# of preserved	
12 pass	dd-b b dila labata		Yes		No [٦	bottles checked for pH:	
	work match bottle labels? pancies on chain of custody)		res	V	NO L	-		>12 unless noted)
13. Are matrices	s correctly identified on Chain of	of Custody?	Yes	✓	No [Adjusted?	
14, Is it clear wh	nat analyses were requested?		Yes	✓	No [⊒∣		
	ding times able to be met? customer for authorization.)		Yes	✓	No [J [Checked by:	
Special Hand	lling (if applicable)							
16. Was client n	otified of all discrepancies with	this order?	Yes		No [NA 🗹	
Persor	n Notified:	Date						
By Wh	nom:	Via:] еМа	il 🗌 Pl	none 🔲 l	Fax	☐ In Person	
Regard	ding:	remains of the same and the sam						
Client	Instructions:							
17. Additional re	emarks:							
18. Cooler Info Cooler N	o Temp °C Condition %	Seal Intact (Seal No.) (4.5 es	eal Da	te	Signed By	y File		

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 *Radium-228	E901.1 E901.1	pCi/g	1.3950 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
Chromlum Copper	SW6010A SW6010A	mg/kg mg/kg	0.3000
Iron	SW6010A	mg/kg	500.0000
Lead	SW8010A	mg/kg	0.2500
Manganese	SW6010A	mg/kg	1.0000
Selenium	SW6010A SW6010A	mg/kg	2.5000
Silver Uranium	SW6010A	mg/kg mg/kg	0.2500 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 Aroclor 1242	SW8082 SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW-8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane 1,1-Dichloroethane	SW8260B SW8260B	mg/kg mg/kg	0.0480
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 Methylene chloride	SW8260B SW8260B	mg/kg	0.1000 0.1500
Tetrachloroethene	SW8260B	nig/kg 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-Trichtorophenol 2,4-Dichlorophenol	SW8270C SW8270C	mg/kg	0.2000
2,4-Dimethylphenol	SW8270C	mg/kg 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 3+4-Methylphenol	SW8270C SW8270C	mg/kg 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 1-Methylnaphthalene	SW8270C SW8260B	mg/kg 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 Benzo(a)pyrene	SW8270C SW8270C	mg/kg 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 Fluorene	SW8270C SW8270C	mg/kg 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 Diesel Range Organics (DRO)	EPA 335.4 SW8015	mg/kg mg/kg	0.3000
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

C	Chain-of-Custody Record		ustody Record	Turn-Around Time:			HALL ENVIRONMENTAL										
Client:	Western	Refining		∑Standard □ Rush					_	ANA							
		1.0		Project Name:					V	ww.halle				<i>,</i>	~	<i>-</i> 11	. -
Mailing Add	ress:	-W.717-	Route 3 Box 7	OCD Central Land	lfarm Semianr	nual Sampling		49		wkins N				/ 871	no		
Gallup, NM	87301			Project #:		<u> </u>									00		
Phone #:		505-722-	-3833	697-039-008			Tel. 505-345-3975 Fax 505-345-4107 Analysis Request										
email or Fax		505-722-		Project Manager:	·		eq	e.									
QA/QC Package:			☐ Level 4 (Full Validation)	Ed Riege		*	e attached	(peq									
Accreditation: □ NELAP □ Other				Sampler: On Ice:	, ZAC BI	itsine	List (see	e attached)	İ				i e				or N)
□ EDD (Ty	pe) _Ple	ase provi	ide EDD	Sample Temperate	yfe:∖	15	Zone I	(se	6								5
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservativ e Type	HEAL No.	Vadose Zo	NMAC List (see	BTEX (8260)			J.	1				Air Bubbles (Y or N)
2/5/2015	1330	soil	CentralOCD-01-2/5/2015	8ox - 3, 4oz - 1	none	001	Х	X.									
2/5/2015	iai5	soil	CentralOCD-02-2/5/2015	8ox - 3, 4oz - 1	none	702	Х	Х									
2/5/2015	1417	soil	CentralOCD-03-2/5/2015	8ox - 3, 4oz - 1	none	703	Х	Х									
2/5/2015	1135	soil	CentralOCD-04-2/5/2015	8ox - 3, 4oz - 1	none	-604	Х	Х								-	
2/5/2015		soil	BD-2/5/2015	8ox - 3, 4oz - 1	none	-05	Х	Х									
2/5/2015	1428	soil	CentralOCD- <u>03</u> -2/5/2015-MS	8ox - 3, 4oz - 1	none	-003	Х	Х									
2/5/2015	1441	soil	CentralOCD- <u>03</u> -2/5/2015-MSD	8ox - 3, 4oz - 1	none	-03	Х	Х									
2/5/2015	1458	water	EB-2/5/2015	VOA - 3	HCL	-colo			Х								
2/5/2015	1505	water	FB-2/5/2015	VOA - 3	HCL	-107			Х								
		water	Trip Blank	VOA - 3	HCL	-708			Х					1_		ightharpoonup	
															11	Ц	Ш
Date: 2 5 20 s	Time: 1720	Relinquish SZ	ed by.	Received by: Date Time Remarks: Please cc Grant Price (gprice@trihydro.com) verify results. Call Grant @ 307-745-7474 w/ questions. Verify Reporting limits comply with those shown on the atta						rify t	hat hed.						
Date: Time: Relinquished by:				Received by		Date Time				OL of 0.0							
				C A M	= NZ	lodin 185	pre	vent	low	D needed surrogat	e rec						

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.



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:

- 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





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.





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



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 (\checkmark) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (\otimes) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (\square 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)
\otimes	MS/MSD (Item 12)
✓	LCS/LCSD (Item 14)
✓	System Monitoring Compounds (i.e., Surrogates) (Item 16)
✓	Field, Equipment, and Trip Blanks (Item 17)
\otimes	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.





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.

Qualifier	<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.

Method 8082: Sample Central OCD-04-2/5/2015 was diluted x5, which elevates the PQL, because of the sample matrix.

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.

Method 6010B: 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)	<u>Batch</u>	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	Analyta	Dotob	<u>MS</u>	MSD MSD MS/	
ivietriou	Analyte Batch R		Recovery	Recovery	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: <u>CarlJ.Chavez@State.NM.US</u>
Web: <u>http://www.emnrd.state.nm.us/ocd/</u>

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