AP - 111

LANDFARMS

2016

Western Refining
GALLUP

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2016 AUG -1 P 3:16

July 26, 2016

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:

Western Refining Company Southwest, Inc. (Western) 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 April 7, 2016 in accordance with 19.15.36.15.E NMAC (Rule 36). The April 7, 2016 data are summarized in Table 1. The laboratory analytical report and a Tier II data validation are included as Attachment A. 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 milligrams per kilogram (mg/kg), respectively. Baseline (background) values and action levels are shown in 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 Resource Conservation and Recovery Act (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 in 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 were submitted to OCD on September 12, 2011, along with the alternate beneficial reuse screening concentrations (ABRSCs). During August 2011 teleconferences, Western and OCD agreed that the ABRSCs (shown in 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.

April 7, 2016 Results

As shown in Table 1, analytical data from the April 7, 2016 sampling event indicate that chloride concentrations of one of the four vadose zone soil samples (CentralOCD-04-04072016) exceed the baseline concentration and the 500 mg/kg action level/ABRSC. TPH and chloride baseline concentrations were also exceeded in the other three vadose zone soil samples (CentralOCD-01-04072016, CentralOCD-02-04072016, and CentralOCD-03-04072016), however the action levels/ABRSCs were not exceeded.

June 16, 2016 Results

In response to the above-referenced chloride action level/ABRSC exceedance, in accordance with Rule 36, and as approved in NMED's May 31, 2016 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 [except for polychlorinated biphenyls (PCBs)]" on June 16, 2016. During a June 14, 2016 teleconference, Western, OCD, and Trihydro agreed that PCBs need not be analyzed for future OCD landfarm evaluations. The June 16, 2016 data are summarized in Tables 2 through 5. The laboratory analytical report and a Tier II data validation for the June 16, 2016 event are included as Attachment B. No data were rejected as a result of the Tier II data validation.

As shown in Table 5, the June 16, 2016 analytical data of the vadose zone samples indicate that the chloride concentration of one sample (CentralOCD-03-06162016) exceeds the 500 mg/kg action level/ABRSC. Additionally, as shown on Tables 4 and 5, baseline concentrations were exceeded for chloride, copper, cyanide, fluoride, sulfate, and TPH in one or more samples. However, since the respective ABRSCs were not exceeded for these analytes, no additional action is necessary.

Proposed Response Action Plan

Per Rule 36 and in response to the April 7, 2016 and June 16, 2016 chloride exceedances, Western is submitting this response action plan to OCD to "[provide] a plan for remediating existing contamination."

Western intends to excavate the areas where chloride concentrations exceeding the action level/ABRSC were identified during the April 7, 2016 and June 16, 2016 sampling events. The soil samples exceeding the action level/ABRSC were collected from approximately 6 feet (ft) below the current ground surface (bgs). At a minimum, the 6 ft x 6 ft grid cells where the original samples were 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).

In each 6 ft x 6ft grid cell, confirmation samples will be collected from the excavation floor as well as the excavation sidewalls in the four cardinal directions. Sidewall samples will be collected from the depth of the original exceedances (i.e., approximately 6 ft bgs). These confirmation samples will be used 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. If analytical results indicate chloride exceedances at the sidewalls, the excavation will be extended in the direction(s) of the exceedance.

Upon receipt of analytical data indicating that the chloride-contaminated soils have been removed, the excavation will be backfilled with clean fill material. Excavated soil will be disposed at an offsite facility permitted to receive chloride-contaminated soils.

Fieldwork will be scheduled pending OCD approval of this response action plan. 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 excavations and confirmation soil sampling. The report will include a diagram showing the location of the excavations, photo-documentation, the laboratory analytical report(s), and a copy of the waste manifest. If you have any questions or comments, please do not hesitate to call me at (505) 722-0217.

Sincerely,
Western Refining Company Southwest, Inc.

Ed Riege
Remediation Manager

697-052-003

Attachments

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

TABLES

TABLE 1. APRIL 2016 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-01-04072016	04/07/16	ND(0.023)	0.0065 J	ND(0.046)	ND(20) UJ	ND(0.093)	**180 J** [A.]
CentralOCD-02-04072016	04/07/16	ND(0.024)	ND(0.048)	ND(0.048)	**54 J** [A.]	ND(0.096)	**120 J** [A.]
CentralOCD-03-04072016	04/07/16	ND(0.023)	ND(0.047)	ND(0.047)	**190 J** [A.]	ND(0.094)	**160 J** [A.]
CentralOCD-04-04072016	04/07/16	ND(0.024)	ND(0.047)	ND(0.047)	**65 J** [A.]	ND(0.095)	**940 J** [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.
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram
J - Estimated concentration
UJ - Estimated reporting limit

TABLE 2. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, VOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Benzene (mg/kg)	Carbon Tetrachloride (mg/kg)	Chloroform (mg/kg)	Dibromomethane (mg/kg)	1,1-Dichloroethane (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.023)	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)
CentralOCD-02-06162016	06/16/16	ND(0.025)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
CentralOCD-03-06162016	06/16/16	ND(0.024)	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.048)
CentralOCD-04-06162016	06/16/16	ND(0.025)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
Baseline Concentration		0.05	0.1	0.05	0.1	0.1
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		0.2	199	671	0.002	6,880

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram
UJ - Estimated reporting limit

TABLE 2. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, VOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	1,2-Dichloroethane (mg/kg)	1,1-Dichloroethene (mg/kg)	Ethylbenzene (mg/kg)	Methylene Chloride (mg/kg)	1-Methylnaphthalene (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.046)	ND(0.046) UJ	ND(0.046)	ND(0.14)	ND(0.18)
CentralOCD-02-06162016	06/16/16	ND(0.05)	ND(0.05) UJ	ND(0.05)	ND(0.15)	ND(0.2)
CentralOCD-03-06162016	06/16/16	ND(0.048)	ND(0.048) UJ	ND(0.048)	ND(0.15)	ND(0.19)
CentralOCD-04-06162016	06/16/16	ND(0.05)	ND(0.05) UJ	ND(0.05)	ND(0.15)	ND(0.2)
Baseline Concentration		0.05	0.05	0.05	0.15	0.2
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		751	1,830	50	10,600	0.6

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram
UJ - Estimated reporting limit

TABLE 2. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, VOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	2-Methylnaphthalene (mg/kg)	Naphthalene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)	1,1,1-Trichloroethane (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.18)	ND(0.091)	ND(0.046)	ND(0.046)	ND(0.046)
CentralOCD-02-06162016	06/16/16	ND(0.2)	ND(0.1)	ND(0.05)	ND(0.05)	ND(0.05)
CentralOCD-03-06162016	06/16/16	ND(0.19)	ND(0.097)	ND(0.048)	ND(0.048)	ND(0.048)
CentralOCD-04-06162016	06/16/16	ND(0.2)	ND(0.1)	ND(0.05)	ND(0.05)	ND(0.05)
Baseline Concentration		0.2	0.2	0.05	0.05	0.05
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		0.6	702	338	50	64,300

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram
UJ - Estimated reporting limit

TABLE 2. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, VOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	1,1,2-Trichloroethane (mg/kg)	Trichloroethene (mg/kg)	Vinyl Chloride (mg/kg)	Xylenes, Total (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.091)
CentralOCD-02-06162016	06/16/16	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.1)
CentralOCD-03-06162016	06/16/16	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.097)
CentralOCD-04-06162016	06/16/16	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.1)
Baseline Concentration		0.05	0.05	0.05	0.1
Central Landfarm Action Level		NA	NA	NA	NA
ABRSC		1,240	4,600	248	50

Notes:
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram
UJ - Estimated reporting limit

TABLE 3. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.4)	ND(0.4)	ND(0.4)	ND(0.4)	ND(0.4)
CentralOCD-02-06162016	06/16/16	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
CentralOCD-03-06162016	06/16/16	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
CentralOCD-04-06162016	06/16/16	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Baseline Concentration		0.2	0.2	0.2	0.2	0.2
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		18,600	0.6	66,800	213	21.3

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

TABLE 3. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Benzo(b)fluoranthene (mg/kg)	Benzo(g,h,i)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	4-Chloro-3-methylphenol (mg/kg)	2-Chlorophenol (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.4)	ND(0.4)	ND(0.4)	ND(0.99)	ND(0.4)
CentralOCD-02-06162016	06/16/16	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.5)	ND(0.2)
CentralOCD-03-06162016	06/16/16	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.5)	ND(0.2)
CentralOCD-04-06162016	06/16/16	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.5)	ND(0.2)
Baseline Concentration		0.2	0.2	0.2	0.5	0.2
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		213	0.6	2,060	0.1	1,550

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

TABLE 3. JUNE 2016 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	Chrysene (mg/kg)	Dibenz(a,h)anthracene (mg/kg)	2,4-Dichlorophenol (mg/kg)	2,4-Dimethylphenol (mg/kg)	2-Methyl-4,6-dinitrophenol (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.4)	ND(0.4)	ND(0.79)	ND(0.6)	ND(0.79)
CentralOCD-02-06162016	06/16/16	ND(0.2)	ND(0.2)	ND(0.4)	ND(0.3)	ND(0.4)
CentralOCD-03-06162016	06/16/16	ND(0.2)	ND(0.2)	ND(0.4)	ND(0.3)	ND(0.4)
CentralOCD-04-06162016	06/16/16	ND(0.2)	ND(0.2)	ND(0.4)	ND(0.3)	ND(0.4)
Baseline Concentration		0.2	0.2	0.4	0.3	0.5
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		20,600	21.3	715	4,760	23.8

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

TABLE 3. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	2,4-Dinitrophenol (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno(1,2,3-cd)pyrene (mg/kg)	1-Methylnaphthalene (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.99)	ND(0.4)	ND(0.4)	ND(0.4)	ND(0.4)
CentralOCD-02-06162016	06/16/16	ND(0.5)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
CentralOCD-03-06162016	06/16/16	ND(0.5)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
CentralOCD-04-06162016	06/16/16	ND(0.5)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Baseline Concentration		0.4	0.2	0.2	0.2	0.2
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		476	8,910	8,910	213	0.6

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

TABLE 3. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	2-Methylnaphthalene (mg/kg)	2-Methylphenol (mg/kg)	3,4-Methylphenol (mg/kg)	Naphthalene (mg/kg)	2-Nitrophenol (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.4)	ND(0.79)	ND(0.4)	ND(0.4)	ND(0.4)
CentralOCD-02-06162016	06/16/16	ND(0.2)	ND(0.4)	ND(0.2)	ND(0.2)	ND(0.2)
CentralOCD-03-06162016	06/16/16	ND(0.2)	ND(0.4)	ND(0.2)	ND(0.2)	ND(0.2)
CentralOCD-04-06162016	06/16/16	ND(0.2)	ND(0.4)	ND(0.2)	ND(0.2)	ND(0.2)
Baseline Concentration		0.2	0.5	0.2	0.2	0.2
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		0.6	0.1	0.1	702	0.1

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

TABLE 3. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	4-Nitrophenol (mg/kg)	Pentachlorophenol (mg/kg)	Phenanthrene (mg/kg)	Phenol (mg/kg)	Pyrene (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.5)	ND(0.79)	ND(0.4)	ND(0.4)	ND(0.4)
CentralOCD-02-06162016	06/16/16	ND(0.25)	ND(0.4)	ND(0.2)	ND(0.2)	ND(0.2)
CentralOCD-03-06162016	06/16/16	ND(0.25)	ND(0.4)	ND(0.2)	ND(0.2)	ND(0.2)
CentralOCD-04-06162016	06/16/16	ND(0.25)	ND(0.4)	ND(0.2)	ND(0.2)	ND(0.2)
Baseline Concentration		0.225	0.4	0.2	0.2	0.2
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		0.1	1,030	7,150	68,800	6,680

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

TABLE 3. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	2,4,5-Trichlorophenol (mg/kg)	2,4,6-Trichlorophenol (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.4)	ND(0.4)
CentralOCD-02-06162016	06/16/16	ND(0.2)	ND(0.2)
CentralOCD-03-06162016	06/16/16	ND(0.2)	ND(0.2)
CentralOCD-04-06162016	06/16/16	ND(0.2)	ND(0.2)
Baseline Concentration		0.2	0.2
Central Landfarm Action Level		NA	NA
ABRSC		23,800	238

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

TABLE 4. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, METALS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Arsenic, Total (mg/kg)	Barium, Total (mg/kg)	Cadmium, Total (mg/kg)	Chromium, Total (mg/kg)	Copper, Total (mg/kg)	
CentralOCD-01-06162016	06/16/16	1.1 J	150	ND(0.096) UJ	8 J	**3.4 J**	A.
CentralOCD-02-06162016	06/16/16	0.88 J	170	ND(0.098) UJ	8.1 J	2.4 J	
CentralOCD-03-06162016	06/16/16	ND(5.1) UJ	220	ND(0.2) UJ	11 J	**3.4 J**	A.
CentralOCD-04-06162016	06/16/16	ND(4.8) UJ	200	ND(0.19) UJ	9.5 J	**3 J**	A.
A. Baseline Concentration		13	365	0.5	12.7	2.95	
B. Central Landfarm Action Level		NA	NA	NA	NA	NA	
C. ABRSC		65.4	4,350	309	447,000	12,400	

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram
J- - Estimated concentration, possibly biased low
J - Estimated concentration
UJ - Estimated reporting limit

TABLE 4. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, METALS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Iron, Total (mg/kg)	Lead, Total (mg/kg)	Manganese, Total (mg/kg)	Mercury, Total (mg/kg)	Selenium, Total (mg/kg)
CentralOCD-01-06162016	06/16/16	13000	3.2 J-	280	0.013 J	ND(2.4) UJ
CentralOCD-02-06162016	06/16/16	13000	3.6 J-	230	0.0033 J	ND(2.4) UJ
CentralOCD-03-06162016	06/16/16	17000	4.7 J-	290	0.0048 J	ND(5.1) UJ
CentralOCD-04-06162016	06/16/16	15000	5.2 J-	310	0.0042 J	ND(4.8) 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.
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram
J- - Estimated concentration, possibly biased low
J - Estimated concentration
UJ - Estimated reporting limit

TABLE 4. JUNE 2016 VADOSE ZONE SOIL ANALYTICAL SUMMARY, METALS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Silver, Total (mg/kg)	Uranium, Total (mg/kg)	Zinc, Total (mg/kg)
CentralOCD-01-06162016	06/16/16	ND(0.24) UJ	ND(4.8) UJ	14 J-
CentralOCD-02-06162016	06/16/16	ND(0.24) UJ	ND(4.9) UJ	13 J-
CentralOCD-03-06162016	06/16/16	ND(0.51) UJ	ND(10) UJ	18 J-
CentralOCD-04-06162016	06/16/16	ND(0.48) UJ	ND(9.6) UJ	15 J-
[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.
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram
J- - Estimated concentration, possibly biased low
J - Estimated concentration
UJ - Estimated reporting limit

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

Location ID	Date Sampled	Chloride (mg/kg)		Cyanide, Total (mg/kg)		DRO as Diesel (mg/kg)	Fluoride, Total (mg/kg)		GRO as Gasoline (mg/kg)	Motor Oil (mg/kg)
Central OCD-01-020515	02/05/15	**290**	A.	ND(0.31)		ND(10)	**3**	A.	ND(4.9)	ND(50)
Central OCD-02-020515	02/05/15	**110**	A.	ND(0.31)		ND(9.9)	**4.3**	A.	ND(4.6)	ND(49)
Central OCD-03-020515	02/05/15	**300**	A.	ND(0.29)		ND(9.9)	**3.4**	A.	ND(4.9)	ND(50)
Central OCD-04-020515	02/05/15	**260**	A.	**0.45**	A.	54	**5.9**	A.	ND(4.9)	100
A. Baseline Concentration		7.525		0.425		NA	2.95		NA	NA
B. Central Landfarm Action Level		500		NA		NA	NA		NA	NA
C. ABRSC		500		6,190		NA	18,600		NA	NA

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, possibly biased high
J - Estimated concentration

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

Location ID	Date Sampled	Nitrogen, Nitrate (mg/kg)	Radium 226 (pCi/L)	Radium 228 (pCi/L)	Sulfate (mg/kg)		Total Petroleum Hydrocarbon (mg/kg)	
Central OCD-01-020515	02/05/15	2.7 J+	0.586±0.338	1.561±0.449	**400**	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		NA	NA	NA	21.5		20	
B. Central Landfarm Action Level		NA	NA	NA	NA		2,500	
C. ABRSC		NA	NA	NA	12,000		2,500	

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram
pCi/L - picocuries per liter
J+ - Estimated concentration, possibly biased high
J - Estimated concentration

ATTACHMENT A

APRIL 7, 2016 ANALYTICAL DATA AND TIER II DATA VALIDATION

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

May 04, 2016

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.: 1604394

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 9 sample(s) on 4/8/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data 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
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-01-04072016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 4/7/2016 1:55:00 PM
Lab ID: 1604394-001 **Matrix:** SOIL
Received Date: 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Chloride	180	1.4	30		mg/Kg	20	4/21/2016 3:32:07 PM	24940
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **AG**	
Benzene	ND	0.019	0.023		mg/Kg	1	4/13/2016 12:23:50 AM	24727
Toluene	ND	0.0027	0.046		mg/Kg	1	4/13/2016 12:23:50 AM	24727
Ethylbenzene	0.0065	0.0038	0.046	J	mg/Kg	1	4/13/2016 12:23:50 AM	24727
Xylenes, Total	ND	0.0088	0.093		mg/Kg	1	4/13/2016 12:23:50 AM	24727
Surr: 1,2-Dichloroethane-d4	98.0		70-130		%Rec	1	4/13/2016 12:23:50 AM	24727
Surr: 4-Bromofluorobenzene	102		70-130		%Rec	1	4/13/2016 12:23:50 AM	24727
Surr: Dibromofluoromethane	120		70-130		%Rec	1	4/13/2016 12:23:50 AM	24727
Surr: Toluene-d8	92.6		70-130		%Rec	1	4/13/2016 12:23:50 AM	24727
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	ND	8.5	20		mg/Kg	1	4/18/2016	24821

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-02-04072016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 4/7/2016 2:30:00 PM
Lab ID: 1604394-002 **Matrix:** SOIL
Received Date: 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Chloride	120	1.4	30		mg/Kg	20	4/21/2016 3:44:32 PM	24940
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **AG**	
Benzene	ND	0.019	0.024		mg/Kg	1	4/13/2016 12:52:40 AM	24727
Toluene	ND	0.0028	0.048		mg/Kg	1	4/13/2016 12:52:40 AM	24727
Ethylbenzene	ND	0.0039	0.048		mg/Kg	1	4/13/2016 12:52:40 AM	24727
Xylenes, Total	ND	0.0091	0.096		mg/Kg	1	4/13/2016 12:52:40 AM	24727
Surr: 1,2-Dichloroethane-d4	98.8		70-130		%Rec	1	4/13/2016 12:52:40 AM	24727
Surr: 4-Bromofluorobenzene	101		70-130		%Rec	1	4/13/2016 12:52:40 AM	24727
Surr: Dibromofluoromethane	116		70-130		%Rec	1	4/13/2016 12:52:40 AM	24727
Surr: Toluene-d8	92.8		70-130		%Rec	1	4/13/2016 12:52:40 AM	24727
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	54	7.9	19		mg/Kg	1	4/18/2016	24821

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-03-04072016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 4/7/2016 1:00:00 PM
Lab ID: 1604394-003 **Matrix:** SOIL
Received Date: 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Chloride	160	1.4	30		mg/Kg	20	4/21/2016 3:56:56 PM	24940
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **AG**	
Benzene	ND	0.019	0.023		mg/Kg	1	4/13/2016 1:21:29 AM	24727
Toluene	ND	0.0028	0.047		mg/Kg	1	4/13/2016 1:21:29 AM	24727
Ethylbenzene	ND	0.0038	0.047		mg/Kg	1	4/13/2016 1:21:29 AM	24727
Xylenes, Total	ND	0.0089	0.094		mg/Kg	1	4/13/2016 1:21:29 AM	24727
Surr: 1,2-Dichloroethane-d4	102		70-130		%Rec	1	4/13/2016 1:21:29 AM	24727
Surr: 4-Bromofluorobenzene	102		70-130		%Rec	1	4/13/2016 1:21:29 AM	24727
Surr: Dibromofluoromethane	116		70-130		%Rec	1	4/13/2016 1:21:29 AM	24727
Surr: Toluene-d8	90.6		70-130		%Rec	1	4/13/2016 1:21:29 AM	24727
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	190	8.3	20		mg/Kg	1	4/18/2016	24821

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-04-04072016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 4/7/2016 12:15:00 PM
Lab ID: 1604394-004 **Matrix:** SOIL **Received Date:** 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Chloride	940	1.4	30		mg/Kg	20	4/21/2016 4:34:10 PM	24940
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **AG**	
Benzene	ND	0.019	0.024		mg/Kg	1	4/13/2016 2:47:42 AM	24727
Toluene	ND	0.0028	0.047		mg/Kg	1	4/13/2016 2:47:42 AM	24727
Ethylbenzene	ND	0.0039	0.047		mg/Kg	1	4/13/2016 2:47:42 AM	24727
Xylenes, Total	ND	0.0090	0.095		mg/Kg	1	4/13/2016 2:47:42 AM	24727
Surr: 1,2-Dichloroethane-d4	104		70-130		%Rec	1	4/13/2016 2:47:42 AM	24727
Surr: 4-Bromofluorobenzene	105		70-130		%Rec	1	4/13/2016 2:47:42 AM	24727
Surr: Dibromofluoromethane	119		70-130		%Rec	1	4/13/2016 2:47:42 AM	24727
Surr: Toluene-d8	95.7		70-130		%Rec	1	4/13/2016 2:47:42 AM	24727
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	65	8.3	20		mg/Kg	1	4/18/2016	24821

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-04072016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 4/7/2016
Lab ID: 1604394-005
Matrix: SOIL
Received Date: 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Chloride	190	1.4	30		mg/Kg	20	4/21/2016 5:11:25 PM	24940
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: **AG**	
Benzene	ND	0.019	0.024		mg/Kg	1	4/13/2016 3:16:27 AM	24727
Toluene	ND	0.0029	0.048		mg/Kg	1	4/13/2016 3:16:27 AM	24727
Ethylbenzene	ND	0.0040	0.048		mg/Kg	1	4/13/2016 3:16:27 AM	24727
Xylenes, Total	ND	0.0091	0.097		mg/Kg	1	4/13/2016 3:16:27 AM	24727
Surr: 1,2-Dichloroethane-d4	101		70-130		%Rec	1	4/13/2016 3:16:27 AM	24727
Surr: 4-Bromofluorobenzene	108		70-130		%Rec	1	4/13/2016 3:16:27 AM	24727
Surr: Dibromofluoromethane	117		70-130		%Rec	1	4/13/2016 3:16:27 AM	24727
Surr: Toluene-d8	93.6		70-130		%Rec	1	4/13/2016 3:16:27 AM	24727
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	150	8.1	19		mg/Kg	1	4/18/2016	24821

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ-04072016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 4/7/2016 11:30:00 AM
Lab ID: 1604394-006 **Matrix:** SOIL
Received Date: 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.012	0.020		mg/Kg	1	4/18/2016 11:09:56 AM	24743
Aroclor 1221	ND	0.0084	0.020		mg/Kg	1	4/18/2016 11:09:56 AM	24743
Aroclor 1232	ND	0.016	0.020		mg/Kg	1	4/18/2016 11:09:56 AM	24743
Aroclor 1242	ND	0.017	0.020		mg/Kg	1	4/18/2016 11:09:56 AM	24743
Aroclor 1248	ND	0.016	0.020		mg/Kg	1	4/18/2016 11:09:56 AM	24743
Aroclor 1254	ND	0.020	0.020		mg/Kg	1	4/18/2016 11:09:56 AM	24743
Aroclor 1260	ND	0.019	0.020		mg/Kg	1	4/18/2016 11:09:56 AM	24743
Surr: Decachlorobiphenyl	84.8	0	22.3-101		%Rec	1	4/18/2016 11:09:56 AM	24743
Surr: Tetrachloro-m-xylene	73.2	0	23.9-103		%Rec	1	4/18/2016 11:09:56 AM	24743
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **KJH**	
Diesel Range Organics (DRO)	ND	3.4	9.6		mg/Kg	1	4/12/2016 7:16:57 PM	24721
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	4/12/2016 7:16:57 PM	24721
Surr: DNOP	80.2	0	70-130		%Rec	1	4/12/2016 7:16:57 PM	24721
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.0	4.9		mg/Kg	1	4/12/2016 4:59:27 PM	24727
Surr: BFB	103	0	80-120		%Rec	1	4/12/2016 4:59:27 PM	24727
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	14	2.0	6.0		mg/Kg	20	4/21/2016 5:23:50 PM	24940
Chloride	260	1.4	30		mg/Kg	20	4/21/2016 5:23:50 PM	24940
Nitrogen, Nitrate (As N)	6.8	0.48	6.0		mg/Kg	20	4/21/2016 5:23:50 PM	24940
Sulfate	580	6.6	30		mg/Kg	20	4/21/2016 5:23:50 PM	24940
EPA METHOD 7471: MERCURY							Analyst: **pmf**	
Mercury	0.0046	0.00056	0.032	J	mg/Kg	1	4/13/2016 2:44:51 PM	24761
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	0.79	0.72	2.5	J	mg/Kg	1	4/13/2016 1:19:20 PM	24760
Barium	300	0.096	0.20		mg/Kg	2	4/13/2016 1:21:07 PM	24760
Cadmium	ND	0.063	0.099		mg/Kg	1	4/13/2016 1:19:20 PM	24760
Chromium	7.1	0.12	0.30		mg/Kg	1	4/13/2016 1:19:20 PM	24760
Copper	4.4	0.16	0.30		mg/Kg	1	4/13/2016 1:19:20 PM	24760
Iron	13000	97	250		mg/Kg	100	5/3/2016 2:43:41 PM	24760
Lead	4.4	0.17	0.25		mg/Kg	1	4/13/2016 1:19:20 PM	24760
Manganese	360	0.088	0.20		mg/Kg	2	4/13/2016 1:21:07 PM	24760
Selenium	ND	1.1	2.5		mg/Kg	1	5/3/2016 10:25:02 AM	24760
Silver	ND	0.031	0.25		mg/Kg	1	4/13/2016 1:19:20 PM	24760
Uranium	ND	0.98	5.0		mg/Kg	1	4/13/2016 1:19:20 PM	24760
Zinc	13	0.56	2.5		mg/Kg	1	4/13/2016 1:19:20 PM	24760

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ-04072016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 4/7/2016 11:30:00 AM
Lab ID: 1604394-006 **Matrix:** SOIL
Received Date: 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.086	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Acenaphthylene	ND	0.081	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Aniline	ND	0.095	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Anthracene	ND	0.066	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Azobenzene	ND	0.12	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Benz(a)anthracene	ND	0.086	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Benzo(a)pyrene	ND	0.076	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Benzo(b)fluoranthene	ND	0.090	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Benzo(g,h,i)perylene	ND	0.088	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Benzo(k)fluoranthene	ND	0.088	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Benzoic acid	ND	0.083	0.50		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Benzyl alcohol	ND	0.078	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Bis(2-chloroethoxy)methane	ND	0.11	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Bis(2-chloroethyl)ether	ND	0.074	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Bis(2-chloroisopropyl)ether	ND	0.089	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Bis(2-ethylhexyl)phthalate	ND	0.082	0.50		mg/Kg	1	4/13/2016 6:38:24 PM	24746
4-Bromophenyl phenyl ether	ND	0.096	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Butyl benzyl phthalate	ND	0.089	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Carbazole	ND	0.068	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
4-Chloro-3-methylphenol	ND	0.12	0.50		mg/Kg	1	4/13/2016 6:38:24 PM	24746
4-Chloroaniline	ND	0.11	0.50		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2-Chloronaphthalene	ND	0.079	0.25		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2-Chlorophenol	ND	0.079	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
4-Chlorophenyl phenyl ether	ND	0.11	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Chrysene	ND	0.085	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Di-n-butyl phthalate	ND	0.075	0.40		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Di-n-octyl phthalate	ND	0.085	0.40		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Dibenz(a,h)anthracene	ND	0.081	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Dibenzofuran	ND	0.10	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
1,2-Dichlorobenzene	ND	0.077	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
1,3-Dichlorobenzene	ND	0.077	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
1,4-Dichlorobenzene	ND	0.085	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
3,3'-Dichlorobenzidine	ND	0.074	0.25		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Diethyl phthalate	ND	0.10	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Dimethyl phthalate	ND	0.098	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2,4-Dichlorophenol	ND	0.093	0.40		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2,4-Dimethylphenol	ND	0.11	0.30		mg/Kg	1	4/13/2016 6:38:24 PM	24746
4,6-Dinitro-2-methylphenol	ND	0.061	0.40		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2,4-Dinitrophenol	ND	0.066	0.50		mg/Kg	1	4/13/2016 6:38:24 PM	24746

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ-04072016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 4/7/2016 11:30:00 AM
Lab ID: 1604394-006 **Matrix:** SOIL **Received Date:** 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.089	0.50		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2,6-Dinitrotoluene	ND	0.11	0.50		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Fluoranthene	ND	0.058	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Fluorene	ND	0.092	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Hexachlorobenzene	ND	0.079	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Hexachlorobutadiene	ND	0.11	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Hexachlorocyclopentadiene	ND	0.11	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Hexachloroethane	ND	0.086	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Indeno(1,2,3-cd)pyrene	ND	0.078	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Isophorone	ND	0.11	0.40		mg/Kg	1	4/13/2016 6:38:24 PM	24746
1-Methylnaphthalene	ND	0.10	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2-Methylnaphthalene	ND	0.12	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2-Methylphenol	ND	0.084	0.40		mg/Kg	1	4/13/2016 6:38:24 PM	24746
3+4-Methylphenol	ND	0.072	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
N-Nitrosodi-n-propylamine	ND	0.096	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
N-Nitrosodiphenylamine	ND	0.098	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Naphthalene	ND	0.096	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2-Nitroaniline	ND	0.11	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
3-Nitroaniline	ND	0.088	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
4-Nitroaniline	ND	0.071	0.40		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Nitrobenzene	ND	0.10	0.40		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2-Nitrophenol	ND	0.099	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
4-Nitrophenol	ND	0.076	0.25		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Pentachlorophenol	ND	0.064	0.40		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Phenanthrene	ND	0.068	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Phenol	ND	0.075	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Pyrene	ND	0.076	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Pyridine	ND	0.079	0.40		mg/Kg	1	4/13/2016 6:38:24 PM	24746
1,2,4-Trichlorobenzene	ND	0.11	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2,4,5-Trichlorophenol	ND	0.10	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
2,4,6-Trichlorophenol	ND	0.083	0.20		mg/Kg	1	4/13/2016 6:38:24 PM	24746
Surr: 2-Fluorophenol	60.2	0	28.3-102		%Rec	1	4/13/2016 6:38:24 PM	24746
Surr: Phenol-d5	65.9	0	35.7-103		%Rec	1	4/13/2016 6:38:24 PM	24746
Surr: 2,4,6-Tribromophenol	82.5	0	35.2-108		%Rec	1	4/13/2016 6:38:24 PM	24746
Surr: Nitrobenzene-d5	66.8		24-118		%Rec	1	4/13/2016 6:38:24 PM	24746
Surr: 2-Fluorobiphenyl	79.3		35.4-111		%Rec	1	4/13/2016 6:38:24 PM	24746
Surr: 4-Terphenyl-d14	65.7		15-91.7		%Rec	1	4/13/2016 6:38:24 PM	24746
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	ND	0.020	0.025		mg/Kg	1	4/13/2016 3:45:14 AM	24727

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ-04072016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 4/7/2016 11:30:00 AM
Lab ID: 1604394-006 **Matrix:** SOIL **Received Date:** 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Toluene	ND	0.0029	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Ethylbenzene	ND	0.0040	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Methyl tert-butyl ether (MTBE)	ND	0.015	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,2,4-Trimethylbenzene	ND	0.0036	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,3,5-Trimethylbenzene	ND	0.0036	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,2-Dichloroethane (EDC)	ND	0.013	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,2-Dibromoethane (EDB)	ND	0.0035	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Naphthalene	ND	0.0077	0.099		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1-Methylnaphthalene	ND	0.011	0.20		mg/Kg	1	4/13/2016 3:45:14 AM	24727
2-Methylnaphthalene	ND	0.011	0.20		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Acetone	0.17	0.064	0.74	J	mg/Kg	1	4/13/2016 3:45:14 AM	24727
Bromobenzene	ND	0.0040	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Bromodichloromethane	ND	0.0029	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Bromoform	ND	0.0060	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Bromomethane	ND	0.018	0.15		mg/Kg	1	4/13/2016 3:45:14 AM	24727
2-Butanone	ND	0.028	0.49		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Carbon disulfide	ND	0.016	0.49		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Carbon tetrachloride	ND	0.0032	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Chlorobenzene	ND	0.0040	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Chloroethane	ND	0.0098	0.099		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Chloroform	ND	0.0037	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Chloromethane	ND	0.0044	0.15		mg/Kg	1	4/13/2016 3:45:14 AM	24727
2-Chlorotoluene	ND	0.0036	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
4-Chlorotoluene	ND	0.0044	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
cis-1,2-DCE	ND	0.0029	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
cis-1,3-Dichloropropene	ND	0.0045	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,2-Dibromo-3-chloropropane	ND	0.015	0.099		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Dibromochloromethane	ND	0.0045	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Dibromomethane	ND	0.0043	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,2-Dichlorobenzene	ND	0.0043	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,3-Dichlorobenzene	ND	0.0040	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,4-Dichlorobenzene	ND	0.0061	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Dichlorodifluoromethane	ND	0.015	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,1-Dichloroethane	ND	0.0027	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,1-Dichloroethene	ND	0.016	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,2-Dichloropropane	ND	0.0041	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,3-Dichloropropane	ND	0.0056	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
2,2-Dichloropropane	ND	0.0028	0.099		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,1-Dichloropropene	ND	0.0039	0.099		mg/Kg	1	4/13/2016 3:45:14 AM	24727

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ-04072016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 4/7/2016 11:30:00 AM
Lab ID: 1604394-006 **Matrix:** SOIL **Received Date:** 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Hexachlorobutadiene	ND	0.0060	0.099		mg/Kg	1	4/13/2016 3:45:14 AM	24727
2-Hexanone	ND	0.027	0.49		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Isopropylbenzene	ND	0.0042	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
4-Isopropyltoluene	ND	0.0044	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
4-Methyl-2-pentanone	ND	0.014	0.49		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Methylene chloride	ND	0.014	0.15		mg/Kg	1	4/13/2016 3:45:14 AM	24727
n-Butylbenzene	ND	0.0044	0.15		mg/Kg	1	4/13/2016 3:45:14 AM	24727
n-Propylbenzene	ND	0.0038	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
sec-Butylbenzene	ND	0.0068	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Styrene	ND	0.0044	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
tert-Butylbenzene	ND	0.0041	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,1,1,2-Tetrachloroethane	ND	0.0047	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,1,2,2-Tetrachloroethane	ND	0.0080	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Tetrachloroethene (PCE)	ND	0.0041	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
trans-1,2-DCE	ND	0.014	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
trans-1,3-Dichloropropene	ND	0.0072	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,2,3-Trichlorobenzene	ND	0.0074	0.099		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,2,4-Trichlorobenzene	ND	0.0053	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,1,1-Trichloroethane	ND	0.0030	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,1,2-Trichloroethane	ND	0.0058	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Trichloroethene (TCE)	ND	0.0053	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Trichlorofluoromethane	ND	0.0037	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
1,2,3-Trichloropropane	ND	0.0085	0.099		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Vinyl chloride	ND	0.0040	0.049		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Xylenes, Total	ND	0.0093	0.099		mg/Kg	1	4/13/2016 3:45:14 AM	24727
Surr: Dibromofluoromethane	118		70-130		%Rec	1	4/13/2016 3:45:14 AM	24727
Surr: 1,2-Dichloroethane-d4	107		70-130		%Rec	1	4/13/2016 3:45:14 AM	24727
Surr: Toluene-d8	88.0		70-130		%Rec	1	4/13/2016 3:45:14 AM	24727
Surr: 4-Bromofluorobenzene	107		70-130		%Rec	1	4/13/2016 3:45:14 AM	24727
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	11	7.9	19	J	mg/Kg	1	4/18/2016	24821

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1604394-007 **Matrix:** AQUEOUS

Client Sample ID: EB-04072016
Collection Date: 4/7/2016 1:38:00 PM
Received Date: 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	4/13/2016 6:23:43 AM	E33475
Toluene	ND	0.089	1.0		µg/L	1	4/13/2016 6:23:43 AM	E33475
Ethylbenzene	ND	0.11	1.0		µg/L	1	4/13/2016 6:23:43 AM	E33475
Xylenes, Total	ND	0.32	1.5		µg/L	1	4/13/2016 6:23:43 AM	E33475
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	4/13/2016 6:23:43 AM	E33475
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	1	4/13/2016 6:23:43 AM	E33475
Surr: Dibromofluoromethane	99.6	0	70-130		%Rec	1	4/13/2016 6:23:43 AM	E33475
Surr: Toluene-d8	102	0	70-130		%Rec	1	4/13/2016 6:23:43 AM	E33475

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: FB-04072016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 4/7/2016 1:43:00 PM
Lab ID: 1604394-008 **Matrix:** AQUEOUS **Received Date:** 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	4/13/2016 6:51:47 AM	E33475
Toluene	ND	0.089	1.0		µg/L	1	4/13/2016 6:51:47 AM	E33475
Ethylbenzene	ND	0.11	1.0		µg/L	1	4/13/2016 6:51:47 AM	E33475
Xylenes, Total	ND	0.32	1.5		µg/L	1	4/13/2016 6:51:47 AM	E33475
Surr: 1,2-Dichloroethane-d4	97.3	0	70-130		%Rec	1	4/13/2016 6:51:47 AM	E33475
Surr: 4-Bromofluorobenzene	109	0	70-130		%Rec	1	4/13/2016 6:51:47 AM	E33475
Surr: Dibromofluoromethane	99.1	0	70-130		%Rec	1	4/13/2016 6:51:47 AM	E33475
Surr: Toluene-d8	98.1	0	70-130		%Rec	1	4/13/2016 6:51:47 AM	E33475

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: OCD Central Landfarm Semiannual Sam
Collection Date:
Lab ID: 1604394-009
Matrix: AQUEOUS
Received Date: 4/8/2016 3:20:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	4/13/2016 7:19:53 AM	E33475
Toluene	ND	0.089	1.0		µg/L	1	4/13/2016 7:19:53 AM	E33475
Ethylbenzene	ND	0.11	1.0		µg/L	1	4/13/2016 7:19:53 AM	E33475
Xylenes, Total	ND	0.32	1.5		µg/L	1	4/13/2016 7:19:53 AM	E33475
Surr: 1,2-Dichloroethane-d4	98.9	0	70-130		%Rec	1	4/13/2016 7:19:53 AM	E33475
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	1	4/13/2016 7:19:53 AM	E33475
Surr: Dibromofluoromethane	98.4	0	70-130		%Rec	1	4/13/2016 7:19:53 AM	E33475
Surr: Toluene-d8	99.5	0	70-130		%Rec	1	4/13/2016 7:19:53 AM	E33475

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-24940**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **24940**	RunNo: **33718**
Prep Date: **4/21/2016**	Analysis Date: **4/21/2016**	SeqNo: **1038598** 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)	0.14	0.30								J
Sulfate	ND	1.5								

Sample ID **LCS-24940**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **24940**	RunNo: **33718**
Prep Date: **4/21/2016**	Analysis Date: **4/21/2016**	SeqNo: **1038599** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	99.1	90	110			
Chloride	14	1.5	15.00	0	93.1	90	110			
Nitrogen, Nitrate (As N)	7.3	0.30	7.500	0	97.1	90	110			
Sulfate	28	1.5	30.00	0	94.7	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1604394-003AMS** SampType: **MS** TestCode: **EPA Method 418.1: TPH**

Client ID: **CentralOCD-03-0407** Batch ID: **24821** RunNo: **33621**

Prep Date: **4/15/2016** Analysis Date: **4/18/2016** SeqNo: **1035311** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	220	19	96.43	186.7	36.9	80	120			S

Sample ID **1604394-003AMSD** SampType: **MSD** TestCode: **EPA Method 418.1: TPH**

Client ID: **CentralOCD-03-0407** Batch ID: **24821** RunNo: **33621**

Prep Date: **4/15/2016** Analysis Date: **4/18/2016** SeqNo: **1035312** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	330	19	95.42	186.7	155	80	120	40.4	20	RS

Sample ID **1604394-006AMS** SampType: **MS** TestCode: **EPA Method 418.1: TPH**

Client ID: **CentralOCD-TZ-040** Batch ID: **24821** RunNo: **33621**

Prep Date: **4/15/2016** Analysis Date: **4/18/2016** SeqNo: **1035316** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	170	18	92.34	11.08	169	80	120			S

Sample ID **1604394-006AMSD** SampType: **MSD** TestCode: **EPA Method 418.1: TPH**

Client ID: **CentralOCD-TZ-040** Batch ID: **24821** RunNo: **33621**

Prep Date: **4/15/2016** Analysis Date: **4/18/2016** SeqNo: **1035317** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	480	19	95.33	11.08	490	80	120	96.5	20	RS

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **LCS-24721**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **24721**	RunNo: **33451**
Prep Date: **4/11/2016**	Analysis Date: **4/12/2016**	SeqNo: **1028810** 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	97.4	65.8	136			
Surr: DNOP	3.9		5.000		78.3	70	130			

Sample ID **MB-24721**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **24721**	RunNo: **33451**
Prep Date: **4/11/2016**	Analysis Date: **4/12/2016**	SeqNo: **1028811** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.1		10.00		80.7	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-24727**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **24727**	RunNo: **33470**
Prep Date: **4/11/2016**	Analysis Date: **4/12/2016**	SeqNo: **1029475** 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	1100		1000		106	80	120			

Sample ID **LCS-24727**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **24727**	RunNo: **33470**
Prep Date: **4/11/2016**	Analysis Date: **4/12/2016**	SeqNo: **1029476** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.8	80	120			
Surr: BFB	1100		1000		115	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-24743**	SampType: **MBLK**	TestCode: **EPA Method 8082: PCB's**
Client ID: **PBS**	Batch ID: **24743**	RunNo: **33583**
Prep Date: **4/12/2016**	Analysis Date: **4/18/2016**	SeqNo: **1033182** 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	0.077		0.06250		123	22.3	101			S
Surr: Tetrachloro-m-xylene	0.080		0.06250		128	23.9	103			S

Sample ID **LCS-24743**	SampType: **LCS**	TestCode: **EPA Method 8082: PCB's**
Client ID: **LCSS**	Batch ID: **24743**	RunNo: **33583**
Prep Date: **4/12/2016**	Analysis Date: **4/18/2016**	SeqNo: **1033183** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.063	0.020	0.1250	0	50.1	26.1	137			
Aroclor 1260	0.13	0.020	0.1250	0	102	20.8	167			
Surr: Decachlorobiphenyl	0.069		0.06250		110	22.3	101			S
Surr: Tetrachloro-m-xylene	0.068		0.06250		109	23.9	103			S

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-24727**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **24727**	RunNo: **33478**
Prep Date: **4/11/2016**	Analysis Date: **4/12/2016**	SeqNo: **1029854** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	1.000	0	116	70	130			
Toluene	0.90	0.050	1.000	0	90.1	70	130			
Chlorobenzene	0.96	0.050	1.000	0	95.7	70	130			
1,1-Dichloroethene	1.2	0.050	1.000	0	117	70	130			
Trichloroethene (TCE)	1.0	0.050	1.000	0	102	70	130			
Surr: Dibromofluoromethane	0.61		0.5000		123	70	130			
Surr: 1,2-Dichloroethane-d4	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.45		0.5000		90.7	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		106	70	130			

Sample ID **mb-24727**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **24727**	RunNo: **33478**
Prep Date: **4/11/2016**	Analysis Date: **4/12/2016**	SeqNo: **1029855** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
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)	0.016	0.050								J
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	0.19	0.75								J
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	0.061	0.15								J
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-24727**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **24727**	RunNo: **33478**
Prep Date: **4/11/2016**	Analysis Date: **4/12/2016**	SeqNo: **1029855** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	0.012	0.15								J
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	0.013	0.050								J
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								

Qualifiers:

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- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-24727**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **24727**	RunNo: **33478**
Prep Date: **4/11/2016**	Analysis Date: **4/12/2016**	SeqNo: **1029855** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.59		0.5000		119	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		100	70	130			
Surr: Toluene-d8	0.45		0.5000		90.3	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		105	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-24727**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **24727**	RunNo: **33478**
Prep Date: **4/11/2016**	Analysis Date: **4/12/2016**	SeqNo: **1029844** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	1.000	0	116	70	130			
Toluene	0.90	0.050	1.000	0	90.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.54		0.5000		108	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		106	70	130			
Surr: Dibromofluoromethane	0.61		0.5000		123	70	130			
Surr: Toluene-d8	0.45		0.5000		90.7	70	130			

Sample ID **mb-24727**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **24727**	RunNo: **33478**
Prep Date: **4/11/2016**	Analysis Date: **4/12/2016**	SeqNo: **1029845** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.050								
Benzene	ND	0.025								
1,2-Dichloroethane (EDC)	0.016	0.050								J
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
1,2-Dibromoethane (EDB)	ND	0.050								
1,2,4-Trimethylbenzene	0.0064	0.050								J
1,3,5-Trimethylbenzene	ND	0.050								
Naphthalene	ND	0.10								
2-Methylnaphthalene	0.018	0.20								J
1-Methylnaphthalene	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		100	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.59		0.5000		119	70	130			
Surr: Toluene-d8	0.45		0.5000		90.3	70	130			

Sample ID **1604394-003ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **CentralOCD-03-0407**	Batch ID: **24727**	RunNo: **33478**
Prep Date: **4/11/2016**	Analysis Date: **4/13/2016**	SeqNo: **1029849** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.024	0.9681	0	120	49.2	155			
Toluene	0.99	0.048	0.9681	0	102	52	154			
Surr: 1,2-Dichloroethane-d4	0.48		0.4840		98.5	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.4840		101	70	130			
Surr: Dibromofluoromethane	0.57		0.4840		117	70	130			
Surr: Toluene-d8	0.42		0.4840		86.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1604394-003amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **CentralOCD-03-0407** Batch ID: **24727** RunNo: **33478**

Prep Date: **4/11/2016** Analysis Date: **4/13/2016** SeqNo: **1029850** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.024	0.9709	0	119	49.2	155	0.317	20	
Toluene	0.90	0.049	0.9709	0	92.9	52	154	9.22	20	
Surr: 1,2-Dichloroethane-d4	0.51		0.4854		105	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4854		101	70	130	0	0	
Surr: Dibromofluoromethane	0.58		0.4854		119	70	130	0	0	
Surr: Toluene-d8	0.44		0.4854		90.6	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **E33475**	RunNo: **33475**
Prep Date:	Analysis Date: **4/12/2016**	SeqNo: **1029802** 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	9.5		10.00		94.8	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.5	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **E33475**	RunNo: **33475**
Prep Date:	Analysis Date: **4/12/2016**	SeqNo: **1029803** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.5	70	130			
Toluene	20	1.0	20.00	0	99.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.2	70	130			
Surr: Toluene-d8	9.9		10.00		98.6	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-24746**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**	
Client ID: **PBS**	Batch ID: **24746**	RunNo: **33505**	
Prep Date: **4/12/2016**	Analysis Date: **4/13/2016**	SeqNo: **1030914**	Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	0.18	0.20								J
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	0.10	0.50								J
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	0.14	0.40								J
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.40								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-24746**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **24746**	RunNo: **33505**
Prep Date: **4/12/2016**	Analysis Date: **4/13/2016**	SeqNo: **1030914** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.40								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.40								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.40								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.40								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	3.1		3.330		91.8	28.3	102			
Surr: Phenol-d5	3.3		3.330		99.1	35.7	103			
Surr: 2,4,6-Tribromophenol	2.9		3.330		86.9	35.2	108			
Surr: Nitrobenzene-d5	1.6		1.670		97.3	24	118			
Surr: 2-Fluorobiphenyl	1.5		1.670		89.3	35.4	111			
Surr: 4-Terphenyl-d14	1.4		1.670		84.2	15	91.7			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-24746**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **24746**	RunNo: **33505**
Prep Date: **4/12/2016**	Analysis Date: **4/13/2016**	SeqNo: **1030915** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.7	0.20	1.670	0	103	45.8	99.8			S
4-Chloro-3-methylphenol	3.6	0.50	3.330	0	108	51.5	103			S
2-Chlorophenol	3.6	0.20	3.330	0	108	46.5	105			S
1,4-Dichlorobenzene	1.7	0.20	1.670	0	102	45.5	103			
2,4-Dinitrotoluene	1.5	0.50	1.670	0	89.5	36	87.2			S
N-Nitrosodi-n-propylamine	1.8	0.20	1.670	0	106	47.3	104			S
4-Nitrophenol	3.2	0.25	3.330	0	96.5	47.3	95.3			S
Pentachlorophenol	3.0	0.40	3.330	0	90.9	38.7	89.3			S
Phenol	3.5	0.20	3.330	0	106	47.8	106			
Pyrene	1.5	0.20	1.670	0	87.9	33.4	105			
1,2,4-Trichlorobenzene	1.9	0.20	1.670	0	113	50.4	115			
Surr: 2-Fluorophenol	3.3		3.330		97.8	28.3	102			
Surr: Phenol-d5	3.6		3.330		109	35.7	103			S
Surr: 2,4,6-Tribromophenol	3.4		3.330		101	35.2	108			
Surr: Nitrobenzene-d5	1.8		1.670		105	24	118			
Surr: 2-Fluorobiphenyl	1.7		1.670		103	35.4	111			
Surr: 4-Terphenyl-d14	1.3		1.670		79.7	15	91.7			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-24761**	SampType: **MBLK**	TestCode: **EPA Method 7471: Mercury**
Client ID: **PBS**	Batch ID: **24761**	RunNo: **33501**
Prep Date: **4/12/2016**	Analysis Date: **4/13/2016**	SeqNo: **1030697** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID **LCS-24761**	SampType: **LCS**	TestCode: **EPA Method 7471: Mercury**
Client ID: **LCSS**	Batch ID: **24761**	RunNo: **33501**
Prep Date: **4/12/2016**	Analysis Date: **4/13/2016**	SeqNo: **1030698** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.18	0.033	0.1667	0	105	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-24760**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **24760**	RunNo: **33488**
Prep Date: **4/12/2016**	Analysis Date: **4/13/2016**	SeqNo: **1030286** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Copper	ND	0.30								
Iron	ND	2.5								
Lead	ND	0.25								
Manganese	0.098	0.10								J
Silver	ND	0.25								
Uranium	ND	5.0								
Zinc	ND	2.5								

Sample ID **LCS-24760**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **24760**	RunNo: **33488**
Prep Date: **4/12/2016**	Analysis Date: **4/13/2016**	SeqNo: **1030287** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	26	2.5	25.00	0	103	80	120			
Barium	25	0.10	25.00	0	102	80	120			
Cadmium	25	0.10	25.00	0	101	80	120			
Chromium	25	0.30	25.00	0	100	80	120			
Copper	26	0.30	25.00	0	103	80	120			
Iron	26	2.5	25.00	0	106	80	120			
Lead	25	0.25	25.00	0	100	80	120			
Manganese	25	0.10	25.00	0	100	80	120			
Silver	5.1	0.25	5.000	0	102	80	120			
Uranium	25	5.0	25.00	0	100	80	120			
Zinc	25	2.5	25.00	0	101	80	120			

Sample ID **MB-24760**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **24760**	RunNo: **33527**
Prep Date: **4/12/2016**	Analysis Date: **4/14/2016**	SeqNo: **1031479** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	2.5								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1604394**

04-May-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **LCS-24760**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **24760**	RunNo: **33527**
Prep Date: **4/12/2016**	Analysis Date: **4/14/2016**	SeqNo: **1031480** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	25	2.5	25.00	0	102	80	120			

Qualifiers:

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

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 #:**	160412018
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1604394
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160412018-001	**Sampling Date**	4/7/2016	**Date/Time Received**	4/12/2016 11:10 AM
Client Sample ID	1604394-006B / CENTRALOCD-TZ-04072016			**Sampling Time**	11:30 AM
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.241	4/14/2016	MER	EPA 335.4	
%moisture	13	Percent		4/13/2016	MER	%moisture	

Authorized Signature

John Coddington, Lab Manager

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

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

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

Anatek Labs, Inc.

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

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

Batch #: 160412018
Project Name: 1604394

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.512	mg/kg	0.5	102.4	90-110	4/14/2016	4/14/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
160413047-001	Cyanide	0.681	12.5	mg/kg	11.8	100.2	70-130	4/14/2016	4/14/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	11.9	mg/kg	11.8	95.1	4.9	0-25	4/14/2016	4/14/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	4/14/2016	4/14/2016

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

Comments:

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

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Radiologicals
Pace Project No.: 30179365

Sample: 1604394-006C **Lab ID: 30179365001** Collected: 04/07/16 11:30 Received: 04/12/16 09:35 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**2.690 ± 1.717 (2.037) C:NA T:NA**	pCi/g	04/26/16 15:33	13982-63-3	
Radium-228	EPA 901.1	**1.670 ± 0.455 (0.197) C:NA T:NA**	pCi/g	04/26/16 15:33	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: Radiologicals
Pace Project No.: 30179365

QC Batch: RADC/29090
QC Batch Method: EPA 901.1
Analysis Method: EPA 901.1
Analysis Description: 901.1 Gamma Spec
Associated Lab Samples: 30179365001

METHOD BLANK: 1063370
Matrix: Solid
Associated Lab Samples: 30179365001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.103 ± 1.338 (1.768) C:NA T:NA	pCi/g	04/22/16 15:15	
Radium-228	0.153 ± 0.417 (0.472) C:NA T:NA	pCi/g	04/22/16 15:15	

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

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

QUALIFIERS

Project: Radiologicals
Pace Project No.: 30179365

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1604394 RcptNo: 1

Received by/date: 04/08/16

Logged By: Ashley Gallegos 4/8/2016 3:20:00 PM

Completed By: Ashley Gallegos 4/11/2016 10:35:14 AM

Reviewed By:

Chain of Custody

1	Custody seals intact on sample bottles?	Yes	No	Not Present ✓
2	Is Chain of Custody complete?	Yes ✓	No	Not Present
3	How was the sample delivered?	Courier		

Log In

4	Was an attempt made to cool the samples?	Yes ✓	No	NA
5	Were all samples received at a temperature of >0° C to 6.0°C	Yes ✓	No	NA
6	Sample(s) in proper container(s)?	Yes ✓	No	
7	Sufficient sample volume for indicated test(s)?	Yes ✓	No	
8	Are samples (except VOA and ONG) properly preserved?	Yes ✓	No	
9	Was preservative added to bottles?	Yes	No ✓	NA
10	VOA vials have zero headspace?	Yes	No	No VOA Vials ✓
11	Were any sample containers received broken?	Yes	No ✓	
12	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✓	No	# of preserved bottles checked for pH (<2 or >12 unless noted)
13	Are matrices correctly identified on Chain of Custody?	Yes ✓	No	Adjusted?
14	Is it clear what analyses were requested?	Yes ✓	No	
15	Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✓	No	Checked by:

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks.

18. Cooler Information

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

Chain-of-Custody Record

Client: Western Refining

Mailing Address: Route 3 Box 7

Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-722-0210

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type) _Please provide EDD

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
OCD Central Landfarm Semiannual Sampling

Project #:
697-052-004

Project Manager:
Ed Riege

Sampler: Zac Bitsue

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1604394	Vadose Zone List (see attached)	NMAC List (see attached)	TPH-DRO and TPH-GRO by 8015M	BTEX (8260)	Air Bubbles (Y or N)
4/7/2016	1355	soil	CentralOCD-01-04072016	4oz - 2	none	-001	X				
4/7/2016	1430	soil	CentralOCD-02-04072016	4oz - 2	none	-002	X				
4/7/2016	1300	soil	CentralOCD-03-04072016	4oz - 2	none	-003	X				
4/7/2016	1215	soil	CentralOCD-04-04072016	4oz - 2	none	-004	X				
4/7/2016	—	soil	BD-04072016	4oz - 2	none	-005	X				
4/7/2016	1310	soil	CentralOCD-03-04072016-MS	4oz - 2	none	~~-003-006~~	X				
4/7/2016	1315	soil	CentralOCD-03-04072016-MSD	4oz - 2	none	~~-003-006~~	X				
4/7/2016	1130	soil	CentralOCD-TZ-04072016	8oz - 3, 4oz - 1	none	-007	X	X	X		
4/7/2016	1338	water	EB-04072016	VOA - 3	HCL	-008				X	
4/7/2016	1343	water	FB-04072016	VOA - 3	HCL	-009				X	
NA	NA	water	Trip Blank	VOA 2	HCL	-010				X	

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-7-16	1600			4/8/16	11:45
4/8/16	1520			04/08/16	1520

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

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

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.5000
*Radium-226	E901.1	pCi/g	1.3950
*Radium-228	E901.1	pCi/g	1.2500
*Radium-226+Radium-228	E901.1	pCi/g	2.6450
Arsenic	SW6010A	mg/kg	2.5000
Barium	SW6010A	mg/kg	1.0000
Cadmium	SW6010A	mg/kg	0.1000
Chromium	SW6010A	mg/kg	0.3000
Copper	SW6010A	mg/kg	0.6000
Iron	SW6010A	mg/kg	500.0000
Lead	SW6010A	mg/kg	0.2500
Manganese	SW6010A	mg/kg	1.0000
Selenium	SW6010A	mg/kg	2.5000
Silver	SW6010A	mg/kg	0.2500
Uranium	SW6010A	mg/kg	5.0000
Zinc	SW6010A	mg/kg	2.5000
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg	0.0200
Aroclor 1221	SW8082	mg/kg	0.0200
Aroclor 1232	SW8082	mg/kg	0.0200
Aroclor 1242	SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1,1-Dichloroethane	SW8260B	mg/kg	0.0870
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethane	SW8260B	mg/kg	0.0480
Carbon tetrachloride	SW8260B	mg/kg	0.0970
Chloroform	SW8260B	mg/kg	0.0480
Dibromomethane	SW8260B	mg/kg	0.1000
Methylene chloride	SW8260B	mg/kg	0.1500
Tetrachloroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4-Dichlorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg	0.3000
2,4-Dinitrophenol	SW8270C	mg/kg	0.4000
2-Chlorophenol	SW8270C	mg/kg	0.2000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol	SW8270C	mg/kg	0.1000
3+4-Methylphenol	SW8270C	mg/kg	0.1000
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachlorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	0.2000
Acenaphthene	SW8270C	mg/kg	0.2000
Acenaphthylene	SW8270C	mg/kg	0.2000
Anthracene	SW8270C	mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg	0.2000
Benzo(a)pyrene	SW8270C	mg/kg	0.2000
Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	mg/kg	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(a,h)anthracene	SW8270C	mg/kg	0.2000
Fluoranthene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Indeno(1,2,3-c,d)pyrene	SW8270C	mg/kg	0.2000
Naphthalene	SW8270C	mg/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyanide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gasoline Range Organics (GRO)	SW8015	mg/kg	1.0

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

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

Tier II Data Validation Report Summary

Client: Western Refining Southwest, Inc.	Laboratory: Hall Environmental Analysis Laboratory
Project Name: OCD Landfarm Sampling	Sample Matrix: Soil
Project Number: 697-052-003	Sample Start Date: 04/07/2016
Date Validated: 05/25/2016	Sample End Date: 04/07/2016
Parameters Included: ▪ Volatile Organic Compounds (VOC) by Test Methods for Evaluating Solid Waste (SW-846) Method 8260B ▪ Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C ▪ Total Petroleum Hydrocarbons (TPH) by US Environmental Protection Agency (EPA) Method 418.1 ▪ Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) by SW-846 Method 8015D ▪ Polychlorinated Biphenyls (PCB) by SW-846 Method 8082 ▪ Metals by SW-846 Method 6010B ▪ Mercury by SW-846 Method 7471 ▪ Anions by EPA Method 300.0 ▪ Cyanide by EPA Method 335.4 ▪ Moisture by Method % Moisture ▪ Radium-226 and Radium-228 by EPA Method 901.1	
Laboratory Project ID: 1604394	
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 accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

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

Tier II Data Validation Report Summary

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 percent recoveries against method-specific requirements.

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

Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
CentralOCD-01-04072016	1604394-001A
CentralOCD-02-04072016	1604394-002A
CentralOCD-03-04072016	1604394-003A
CentralOCD-04-04072016	1604394-004A
BD-04072016	1604394-005A
CentralOCD-TZ-04072016	1604394-006A/160412018-001/1604394-006C
EB-04072016	1604394-007A
FB-04072016	1604394-008A
Trip Blank	1604394-009A

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (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 11)
- ⊗ MS/MSD (Item 13)
- ✓ LCS/LCSD (Item 15)
- ✓ System Monitoring Compounds (i.e., Surrogates) (Item 17)
- ✓ Field, Equipment, and Trip Blanks (Item 18)
- ✓ Field Duplicates (Item 20)
- O Laboratory Duplicates (Item 22)

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.

Tier II Data Validation Report Summary

- 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.
- Trihydro Data Validation Variance Documentation, February 2016.
- Project-specific Quality Assurance Project Plans (QAPP) data validation requirements, as applicable.

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. 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. Data that would be qualified with both J+ and J- flags were evaluated based on validation criteria and assigned the appropriate flag. The hierarchy of qualifiers from the most to least severe is as follows:

- R > JB/U > NJ > J+/J- > J/UJ

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

Qualifier	Definition
J	Estimated concentration
J-	The result is an estimated concentration, but may be biased low
UJ	Estimated reporting limit
U	Evaluated to be undetected at the 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 195 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?	Yes
Comments: The laboratory did not report non-conformances related to this data set.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags in the laboratory report. J – Analyte detected below quantitation limits. R – RPD outside accepted recovery limits. S - % Recovery outside of range due to dilution or matrix.	
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 reporting limits for the data set were reviewed and appeared to be acceptable. The following dilutions were applied to the project samples. Method 6010B: A dilution factor of 2 times was applied to the analysis of barium and manganese in sample CentralOCD-TZ and a dilution factor of 100 times was applied to the analysis of iron in sample CentralOCD-TZ. Method 300.0: A dilution factor of 20 times was applied to the anions analyses of the submitted environmental samples.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC? Specify if any analytes were reported by more than one method.	Yes
Comments: The reported analytical methods and constituents were found to be in compliance with the CoC. Hexachlorobutadiene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trichlorobenzene, and naphthalene were reported by Methods 8260B and 8270C.	
6. Were samples received in good condition within method-specified requirements?	No
Comments: The samples were received in good condition, with the cooler temperature outside the recommended temperature range of 4.0°C ± 2.0°C at a temperature of 1.0°C as noted on the Sample Log-In Check List and the CoC. The cooler temperatures below 2.0°C was judged as acceptable since the laboratory did not report the sample containers as broken or frozen. 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?	No
Comments: The samples were extracted/digested and analyzed within method-specified holding times, with the following exceptions. **Sample CentralOCD-TZ was analyzed by Method 300.0 for nitrate approximately 12 days beyond the method-specified holding time of 48 hours. The nitrate result in sample CentralOCD-TZ was assigned a J- qualifier due to holding time exceedance.**	

VALIDATION CRITERIA CHECKLIST	
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 (µg/L), which were appropriate.	
9. Did the laboratory provide any specific initial and/or continuing calibration results?	No
Comments: Initial and continuing calibration data were not included as part of this data set.	
10. If initial and/or continuing calibration results were provided, were the results within acceptable limits?	N/A
Comments: Initial and continuing calibration data were not included as part of this data set.	
11. 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.	
12. Were target analytes reported as not detected in the laboratory blanks?	No

Comments: Target analytes were not reported above the MDL in the laboratory blank samples, with the following exceptions.

Method	Analyte	Batch	Concentration (mg/kg)
8260B	1,2-Dichloroethane	24727	0.016
8260B	**Acetone**	**24727**	**0.19**
8260B	Bromomethane	24727	0.061
8260B	n-Butylbenzene	24727	0.012
8260B	1,2,4-Trichlorobenzene	24727	0.013
8260B	1,2-Dichloroethane	24727	0.016
8260B	1,2,4-Trichlorobenzene	24727	0.0064
8260B	2-Methylnaphthalene	24727	0.018
8270C	Benzyl alcohol	24746	0.18
8270C	Bis(2-ethylhexyl)phthalate	24746	0.10
8270C	Di-n-butyl phthalate	24746	0.14
300.0	Nitrate	24940	0.14
6010B	Manganese	24760	0.098

Acetone was detected in the associated sample, CentralOCD-TZ, at a concentration below the reporting limit and the result was assigned a U qualifier due to evidence of possible blank contamination.

Associated non-detections of the identified analytes and detections that were above the reporting limit and greater than ten times the blank concentration did not require qualification.

VALIDATION CRITERIA CHECKLIST

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

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

Method	Analyte (s)	Batch	MS Sample Source
8260B	VOCs	24727	CentralOCD-03-04072016
8260B	VOCs	E33475	Not Prepared
8270C	SVOCs	24746	Not Prepared
418.1	TPH	24821	CentralOCD-03-04072016
418.1	TPH	24821	CentralOCD-TZ-04072016
8015D	DRO	24721	Not Prepared
8015D	GRO	24727	Not Prepared
8082	PCBs	24743	Not Prepared
7471	Mercury	24761	Not Prepared
6010B	Total Metals	24760	Not Prepared
300.0	Anions	24940	Not Prepared
335.4	Cyanide	160412018	Not Associated
901.1	Radium	RADC/29090	Not Prepared/Not Required

Not Associated – The MS sample source was not associated with this project.
Not Prepared – Matrix spikes were not prepared for this batch.

14. 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.

Method	Analyte	Batch	MS Recovery	MSD Recovery	MS/MSD QC Limits	MS/MSD RPD	RPD QC Limits
418.1	TPH	24821	36.9%	155%	80-120%	40.4%	20%
418.1	TPH	24821	169%	490%	80-120%	96.5%	20%

Detections of TPH in the associated samples were assigned J qualifiers since the direction of bias could not be determined due to evidence of high and low bias and poor precision. Non-detections of TPH in the associated samples were assigned UJ qualifiers to indicate estimated reporting limits.

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

Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples analyzed.

VALIDATION CRITERIA CHECKLIST

16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits? No

Comments: The LCS percent recoveries were within laboratory QC limits, with the following exceptions.

Method	Analyte	Batch	LCS Recovery	LCS QC Limits
8270C	Acenaphthene	24746	103%	45.8-99.8%
8270C	4-Chloro-3-methylphenol	24746	108%	51.5-103%
8270C	2-Chlorophenol	24746	108%	46.5-105%
8270C	2,4-Dinitrotoluene	24746	89.5%	36-87.2%
8270C	N-Nitrosodi-n-propylamine	24746	106%	47.3-104%
8270C	4-Nitrophenol	24746	96.5%	47.3-95.3%
8270C	Pentachlorophenol	24746	90.9%	38.7-89.3%

The identified analytes were not detected in the associated sample, CentralOCD-TZ-04072016, and qualification of data was not required.

17. Were surrogate recoveries within laboratory QC limits? Yes

Comments: Surrogate recoveries in the environmental samples were within laboratory QC limits.

The recoveries of Method 8270C surrogate phenol-d_5 in the LCS for Method 8270C batch 24746 and Method 8082 surrogates decachlorobiphenyl and tetrachloro-m-xylene in the MB and LCSS for Method 8082 batch 24743 were outside of laboratory control limits. Qualification of sample data was not required based on surrogate non-conformances in QC samples as the environmental samples were evaluated based on their specific surrogate recoveries.

18. 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, field, and equipment blanks collected was equal to at least 10% of the total number of samples. One trip blank sample, Trip Blank, one field blank sample, FB-04072016, and one equipment blank sample, EB-04072016, were collected as part of this sample set.

19. Were target analytes reported as not detected in the trip blank, field blank, and/or equipment blank samples? Yes

Comments: Target analytes were not reported above the MDL in the trip, field, and equipment blank samples.

20. 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 duplicates collected was equal to at least 10% of the number of samples. Sample BD-04072016 was collected as a field duplicate of sample CentralOCD-03-04072016.

21. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)? Yes

Comments: As indicated in the Field Duplicate Summary Table at the end of this report, field duplicate RPD values were within the data validation QC limits of 0-50% for soil samples.

22. For laboratory duplicates prepared from project samples, were RPDs within laboratory QC limits? N/A

Comments: Laboratory duplicates were not analyzed as part of this data set.

VALIDATION CRITERIA CHECKLIST

23. General Comments: **No precision QC measures were analyzed related to the methods and batches indicated below.**

Method	Analyte (s)	Batch
8260B	VOCs	E33475
8270C	**SVOCs**	**24746**
8015D	**DRO**	**24721**
8015D	**GRO**	**24727**
8082	**PCBs**	**24743**
7471	**Mercury**	**24761**
6010B	**Total Metals**	**24760**
300.0	**Anions**	**24940**

The associated detections were assigned J qualifiers to indicate estimated values and the non-detected results were assigned UJ qualifiers to indicate estimated reporting limits. The submitted samples were not analyzed as part of Method 8260B batch E33475.

FIELD DUPLICATE SUMMARY

Client Sample ID: CentralOCD-03-04072016 Field Duplicate Sample ID: BD-04072016				
Method	**Analyte**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
418.1	TPH	190	150	23.5%
300.0	Chloride	160	190	17.1%

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
HT-AN	Sample was analyzed outside of the method holding time.
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-MS	The MS/MSD RPD exceeded the upper acceptable limit indicating poor precision.
HZ-QAQC	Analysis of QA/QC samples was not performed at the required frequency.
MBD	Method blank detection
MDLRL	Flagged by the laboratory: The result was greater than the MDL but less than the RL.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,2,4-Trichlorobenzene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
1,2-Dichlorobenzene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
1,3-Dichlorobenzene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
1,4-Dichlorobenzene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
1-Methylnaphthalene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
2,2-oxybis(1-Chloropropane)	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
2,4,5-Trichlorophenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
2,4,6-Trichlorophenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
2,4-Dichlorophenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.4	mg/kg	UJ	HZ-QAQC
2,4-Dimethylphenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.3	mg/kg	UJ	HZ-QAQC
2,4-Dinitrophenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.5	mg/kg	UJ	HZ-QAQC
2,4-Dinitrotoluene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.5	mg/kg	UJ	HZ-QAQC
2,6-Dinitrotoluene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.5	mg/kg	UJ	HZ-QAQC
2-Chloronaphthalene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.25	mg/kg	UJ	HZ-QAQC
2-Chlorophenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
2-Methylnaphthalene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
2-Methylphenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.4	mg/kg	UJ	HZ-QAQC
2-Nitroaniline	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
2-Nitrophenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
3,3-Dichlorobenzidine	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.25	mg/kg	UJ	HZ-QAQC
3,4-Methylphenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
3-Nitroaniline	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
4,6-Dinitro-2-methylphenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.4	mg/kg	UJ	HZ-QAQC
4-Bromophenyl-phenylether	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
4-Chloro-3-Methylphenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.5	mg/kg	UJ	HZ-QAQC
4-Chloroaniline	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.5	mg/kg	UJ	HZ-QAQC
4-Chlorophenyl-phenylether	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
4-Nitroaniline	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.4	mg/kg	UJ	HZ-QAQC
4-Nitrophenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.25	mg/kg	UJ	HZ-QAQC
Acenaphthene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Acenaphthylene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Acetone	SW8260B	CentralOCD-TZ-04072016	1604394-006a	0.17	0.74	mg/kg	U	MBD, MDLRL
Aniline	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Anthracene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Arsenic, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	0.79	2.5	mg/kg	J	HZ-QAQC, MDLRL
Azobenzene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Barium, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	300	0.2	mg/kg	J	HZ-QAQC
Benzo(a)anthracene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Benzo(a)pyrene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Benzo(b)fluoranthene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Benzo(g,h,i)perylene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Benzo(k)fluoranthene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Benzoic Acid	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.5	mg/kg	UJ	HZ-QAQC

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Benzyl Alcohol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Bis(2-chloroethoxy)methane	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Bis(2-chloroethyl)ether	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Bis(2-ethylhexyl)phthalate	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.5	mg/kg	UJ	HZ-QAQC
Butylbenzylphthalate	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Cadmium, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	ND	0.099	mg/kg	UJ	HZ-QAQC
Carbazole	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Chloride	E300	CentralOCD-01-04072016	1604394-001A	180	30	mg/kg	J	HZ-QAQC
Chloride	E300	CentralOCD-02-04072016	1604394-002A	120	30	mg/kg	J	HZ-QAQC
Chloride	E300	CentralOCD-03-04072016	1604394-003A	160	30	mg/kg	J	HZ-QAQC
Chloride	E300	CentralOCD-04-04072016	1604394-004A	940	30	mg/kg	J	HZ-QAQC
Chloride	E300	BD-04072016	1604394-005A	190	30	mg/kg	J	HZ-QAQC
Chloride	E300	CentralOCD-TZ-04072016	1604394-006A	260	30	mg/kg	J	HZ-QAQC
Chromium, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	7.1	0.3	mg/kg	J	HZ-QAQC
Chrysene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Copper, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	4.4	0.3	mg/kg	J	HZ-QAQC
Dibenzo(a,h)anthracene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Dibenzofuran	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Diethylphthalate	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Dimethylphthalate	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Di-n-butylphthalate	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.4	mg/kg	UJ	HZ-QAQC
Di-n-octylphthalate	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.4	mg/kg	UJ	HZ-QAQC
Ethylbenzene	SW8260B	CentralOCD-01-04072016	1604394-001a	0.0065	0.046	mg/kg	J	MDLRL
Fluoranthene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Fluorene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Fluoride, Total	E300	CentralOCD-TZ-04072016	1604394-006A	14	6	mg/kg	J	HZ-QAQC
Hexachlorobenzene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Hexachlorobutadiene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Hexachlorocyclopentadiene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Hexachloroethane	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Indeno(1,2,3-cd)pyrene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Iron, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	13000	250	mg/kg	J	HZ-QAQC
Isophorone	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.4	mg/kg	UJ	HZ-QAQC
Lead, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	4.4	0.25	mg/kg	J	HZ-QAQC
Manganese, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	360	0.2	mg/kg	J	HZ-QAQC
Mercury, Total	SW7471	CentralOCD-TZ-04072016	1604394-006A	0.0046	0.032	mg/kg	J	HZ-QAQC, MDLRL
Naphthalene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Nitrobenzene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.4	mg/kg	UJ	HZ-QAQC
Nitrogen	E300	CentralOCD-TZ-04072016	1604394-006A	6.8	6	mg/kg	J-	HT-AN, HZ-QAQC
N-Nitrosodi-n-propylamine	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
N-Nitrosodiphenylamine	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
PCB-1016	SW8082	CentralOCD-TZ-04072016	1604394-006A	ND	0.02	mg/kg	UJ	HZ-QAQC
PCB-1221	SW8082	CentralOCD-TZ-04072016	1604394-006A	ND	0.02	mg/kg	UJ	HZ-QAQC
PCB-1232	SW8082	CentralOCD-TZ-04072016	1604394-006A	ND	0.02	mg/kg	UJ	HZ-QAQC
PCB-1242	SW8082	CentralOCD-TZ-04072016	1604394-006A	ND	0.02	mg/kg	UJ	HZ-QAQC
PCB-1248	SW8082	CentralOCD-TZ-04072016	1604394-006A	ND	0.02	mg/kg	UJ	HZ-QAQC
PCB-1254	SW8082	CentralOCD-TZ-04072016	1604394-006A	ND	0.02	mg/kg	UJ	HZ-QAQC
PCB-1260	SW8082	CentralOCD-TZ-04072016	1604394-006A	ND	0.02	mg/kg	UJ	HZ-QAQC
Pentachlorophenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.4	mg/kg	UJ	HZ-QAQC
Phenanthrene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Phenol	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Pyrene	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.2	mg/kg	UJ	HZ-QAQC
Pyridine	SW8270C	CentralOCD-TZ-04072016	1604394-006A	ND	0.4	mg/kg	UJ	HZ-QAQC

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Selenium, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	ND	2.5	mg/kg	UJ	HZ-QAQC
Silver, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	ND	0.25	mg/kg	UJ	HZ-QAQC
Sulfate	E300	CentralOCD-TZ-04072016	1604394-006A	580	30	mg/kg	J	HZ-QAQC
Total Petroleum Hydrocarbons	E418.1	CentralOCD-01-04072016	1604394-001A	ND	20	mg/kg	UJ	ERPD-MS, LR-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-02-04072016	1604394-002A	54	19	mg/kg	J	ERPD-MS, HR-MS, LR-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-03-04072016	1604394-003A	190	20	mg/kg	J	ERPD-MS, HR-MS, LR-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-04-04072016	1604394-004A	65	20	mg/kg	J	ERPD-MS, HR-MS, LR-MS
Total Petroleum Hydrocarbons	E418.1	BD-04072016	1604394-005A	150	19	mg/kg	J	ERPD-MS, HR-MS, LR-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-TZ-04072016	1604394-006A	11	19	mg/kg	J	ERPD-MS, HR-MS, LR-MS, MDLRL
TPH DRO	SW8015	CentralOCD-TZ-04072016	1604394-006A	ND	9.6	mg/kg	UJ	HZ-QAQC
TPH GRO	SW8015	CentralOCD-TZ-04072016	1604394-006A	ND	4.9	mg/kg	UJ	HZ-QAQC
Uranium, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	ND	5	mg/kg	UJ	HZ-QAQC
Zinc, Total	SW6010B	CentralOCD-TZ-04072016	1604394-006A	13	2.5	mg/kg	J	HZ-QAQC

ATTACHMENT B

JUNE 16, 2016 ANALYTICAL DATA AND TIER II DATA VALIDATION

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 19, 2016

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.: 1606995

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 9 sample(s) on 6/17/2016 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued July 15, 2016.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-01-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 12:20:00 PM
Lab ID: 1606995-001 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	4.4	0.042	0.30		mg/Kg	1	6/27/2016 10:00:56 PM	26092
Chloride	330	12	30		mg/Kg	20	6/27/2016 10:13:21 PM	26092
Nitrogen, Nitrate (As N)	2.9	0.016	0.30		mg/Kg	1	6/27/2016 10:00:56 PM	26092
Sulfate	550	5.4	30		mg/Kg	20	6/27/2016 10:13:21 PM	26092
EPA METHOD 7471: MERCURY							Analyst: **DBD**	
Mercury	0.013	0.00053	0.031	J	mg/Kg	1	6/28/2016 9:21:40 AM	26093
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	1.1	0.70	2.4	J	mg/Kg	1	6/30/2016 10:50:31 AM	26123
Barium	150	0.046	0.096		mg/Kg	1	6/30/2016 10:50:31 AM	26123
Cadmium	ND	0.061	0.096		mg/Kg	1	6/30/2016 10:50:31 AM	26123
Chromium	8.0	0.12	0.29		mg/Kg	1	6/30/2016 10:50:31 AM	26123
Copper	3.4	0.15	0.29		mg/Kg	1	6/30/2016 10:50:31 AM	26123
Iron	13000	93	240		mg/Kg	100	6/30/2016 10:31:34 AM	26123
Lead	3.2	0.17	0.24		mg/Kg	1	6/30/2016 10:50:31 AM	26123
Manganese	280	0.085	0.19		mg/Kg	2	6/30/2016 11:28:12 AM	26123
Selenium	ND	1.0	2.4		mg/Kg	1	6/30/2016 10:50:31 AM	26123
Silver	ND	0.030	0.24		mg/Kg	1	6/30/2016 10:50:31 AM	26123
Uranium	ND	0.95	4.8		mg/Kg	1	6/30/2016 10:50:31 AM	26123
Zinc	14	0.54	2.4		mg/Kg	1	6/30/2016 10:50:31 AM	26123
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Acenaphthylene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Aniline	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Anthracene	ND	0.13	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Azobenzene	ND	0.24	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Benz(a)anthracene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Benzo(a)pyrene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Benzo(b)fluoranthene	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Benzo(g,h,i)perylene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Benzo(k)fluoranthene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Benzoic acid	ND	0.16	0.99	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Benzyl alcohol	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Bis(2-chloroethoxy)methane	ND	0.22	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Bis(2-chloroethyl)ether	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Bis(2-chloroisopropyl)ether	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Bis(2-ethylhexyl)phthalate	0.19	0.16	0.99	JD	mg/Kg	1	6/30/2016 2:11:19 PM	26116
4-Bromophenyl phenyl ether	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Butyl benzyl phthalate	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-01-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 12:20:00 PM
Lab ID: 1606995-001 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Carbazole	ND	0.13	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
4-Chloro-3-methylphenol	ND	0.24	0.99	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
4-Chloroaniline	ND	0.22	0.99	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2-Chloronaphthalene	ND	0.16	0.50	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2-Chlorophenol	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
4-Chlorophenyl phenyl ether	ND	0.23	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Chrysene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Di-n-butyl phthalate	0.17	0.15	0.79	JD	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Di-n-octyl phthalate	ND	0.17	0.79	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Dibenz(a,h)anthracene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Dibenzofuran	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
1,2-Dichlorobenzene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
1,3-Dichlorobenzene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
1,4-Dichlorobenzene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
3,3'-Dichlorobenzidine	ND	0.15	0.50	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Diethyl phthalate	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Dimethyl phthalate	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2,4-Dichlorophenol	ND	0.18	0.79	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2,4-Dimethylphenol	ND	0.22	0.60	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
4,6-Dinitro-2-methylphenol	ND	0.12	0.79	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2,4-Dinitrophenol	ND	0.13	0.99	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2,4-Dinitrotoluene	ND	0.18	0.99	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2,6-Dinitrotoluene	ND	0.21	0.99	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Fluoranthene	ND	0.11	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Fluorene	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Hexachlorobenzene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Hexachlorobutadiene	ND	0.22	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Hexachlorocyclopentadiene	ND	0.23	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Hexachloroethane	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Indeno(1,2,3-cd)pyrene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
1-Methylnaphthalene	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2-Methylnaphthalene	ND	0.24	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2-Methylphenol	ND	0.17	0.79	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
3+4-Methylphenol	ND	0.14	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
N-Nitrosodi-n-propylamine	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
N-Nitrosodiphenylamine	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Naphthalene	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2-Nitroaniline	ND	0.21	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
3-Nitroaniline	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Lab ID: 1606995-001 **Matrix:** SOIL

Client Sample ID: CentralOCD-01-6/16/2016
Collection Date: 6/16/2016 12:20:00 PM
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
4-Nitroaniline	ND	0.14	0.79	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Nitrobenzene	ND	0.20	0.79	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2-Nitrophenol	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
4-Nitrophenol	ND	0.15	0.50	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Pentachlorophenol	ND	0.13	0.79	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Phenanthrene	ND	0.13	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Phenol	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Pyrene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Pyridine	ND	0.16	0.79	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
1,2,4-Trichlorobenzene	ND	0.21	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2,4,5-Trichlorophenol	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
2,4,6-Trichlorophenol	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 2:11:19 PM	26116
Surr: 2-Fluorophenol	63.8	0	28.3-102	D	%Rec	1	6/30/2016 2:11:19 PM	26116
Surr: Phenol-d5	69.5	0	35.7-103	D	%Rec	1	6/30/2016 2:11:19 PM	26116
Surr: 2,4,6-Tribromophenol	80.0	0	35.2-108	D	%Rec	1	6/30/2016 2:11:19 PM	26116
Surr: Nitrobenzene-d5	75.2		24-118	D	%Rec	1	6/30/2016 2:11:19 PM	26116
Surr: 2-Fluorobiphenyl	86.6		35.4-111	D	%Rec	1	6/30/2016 2:11:19 PM	26116
Surr: 4-Terphenyl-d14	65.6		15-91.7	D	%Rec	1	6/30/2016 2:11:19 PM	26116
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.018	0.023		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Toluene	ND	0.0027	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Ethylbenzene	ND	0.0037	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Methyl tert-butyl ether (MTBE)	ND	0.014	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,2,4-Trimethylbenzene	ND	0.0034	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,3,5-Trimethylbenzene	ND	0.0033	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,2-Dichloroethane (EDC)	ND	0.012	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,2-Dibromoethane (EDB)	ND	0.0032	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Naphthalene	ND	0.0071	0.091		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1-Methylnaphthalene	ND	0.010	0.18		mg/Kg	1	6/20/2016 8:01:30 PM	25923
2-Methylnaphthalene	ND	0.0098	0.18		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Acetone	ND	0.059	0.68		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Bromobenzene	ND	0.0037	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Bromodichloromethane	ND	0.0027	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Bromoform	ND	0.0056	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Bromomethane	0.019	0.017	0.14	J	mg/Kg	1	6/20/2016 8:01:30 PM	25923
2-Butanone	ND	0.026	0.46		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Carbon disulfide	ND	0.015	0.46		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Carbon tetrachloride	ND	0.0030	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Chlorobenzene	ND	0.0037	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923

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Client Sample ID: CentralOCD-01-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 12:20:00 PM
Lab ID: 1606995-001 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Chloroethane	ND	0.0091	0.091		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Chloroform	ND	0.0034	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Chloromethane	0.081	0.0041	0.14	J	mg/Kg	1	6/20/2016 8:01:30 PM	25923
2-Chlorotoluene	ND	0.0034	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
4-Chlorotoluene	ND	0.0040	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
cis-1,2-DCE	ND	0.0027	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
cis-1,3-Dichloropropene	ND	0.0042	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,2-Dibromo-3-chloropropane	ND	0.014	0.091		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Dibromochloromethane	ND	0.0041	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Dibromomethane	ND	0.0040	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,2-Dichlorobenzene	ND	0.0040	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,3-Dichlorobenzene	ND	0.0037	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,4-Dichlorobenzene	ND	0.0057	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Dichlorodifluoromethane	ND	0.014	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,1-Dichloroethane	ND	0.0025	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,1-Dichloroethene	ND	0.015	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,2-Dichloropropane	ND	0.0038	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,3-Dichloropropane	ND	0.0052	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
2,2-Dichloropropane	ND	0.0026	0.091		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,1-Dichloropropene	ND	0.0036	0.091		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Hexachlorobutadiene	ND	0.0056	0.091		mg/Kg	1	6/20/2016 8:01:30 PM	25923
2-Hexanone	ND	0.025	0.46		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Isopropylbenzene	ND	0.0039	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
4-Isopropyltoluene	ND	0.0041	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
4-Methyl-2-pentanone	ND	0.013	0.46		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Methylene chloride	ND	0.013	0.14		mg/Kg	1	6/20/2016 8:01:30 PM	25923
n-Butylbenzene	ND	0.0040	0.14		mg/Kg	1	6/20/2016 8:01:30 PM	25923
n-Propylbenzene	ND	0.0035	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
sec-Butylbenzene	ND	0.0063	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Styrene	ND	0.0041	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
tert-Butylbenzene	ND	0.0038	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,1,1,2-Tetrachloroethane	ND	0.0044	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,1,2,2-Tetrachloroethane	ND	0.0074	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Tetrachloroethene (PCE)	ND	0.0038	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
trans-1,2-DCE	ND	0.013	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
trans-1,3-Dichloropropene	ND	0.0067	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,2,3-Trichlorobenzene	ND	0.0068	0.091		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,2,4-Trichlorobenzene	ND	0.0049	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,1,1-Trichloroethane	ND	0.0028	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923

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Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 12:20:00 PM
Lab ID: 1606995-001 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1,2-Trichloroethane	ND	0.0054	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Trichloroethene (TCE)	ND	0.0049	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Trichlorofluoromethane	ND	0.0034	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
1,2,3-Trichloropropane	ND	0.0079	0.091		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Vinyl chloride	ND	0.0037	0.046		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Xylenes, Total	ND	0.0086	0.091		mg/Kg	1	6/20/2016 8:01:30 PM	25923
Surr: Dibromofluoromethane	108		70-130		%Rec	1	6/20/2016 8:01:30 PM	25923
Surr: 1,2-Dichloroethane-d4	106		70-130		%Rec	1	6/20/2016 8:01:30 PM	25923
Surr: Toluene-d8	95.3		70-130		%Rec	1	6/20/2016 8:01:30 PM	25923
Surr: 4-Bromofluorobenzene	98.7		70-130		%Rec	1	6/20/2016 8:01:30 PM	25923
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	33	8.5	20		mg/Kg	1	6/23/2016	25996

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-02-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 12:50:00 PM
Lab ID: 1606995-002 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	3.4	0.042	0.30		mg/Kg	1	6/27/2016 10:25:45 PM	26092
Chloride	350	12	30		mg/Kg	20	6/27/2016 10:38:10 PM	26092
Nitrogen, Nitrate (As N)	8.8	0.016	0.30		mg/Kg	1	6/27/2016 10:25:45 PM	26092
Sulfate	400	5.4	30		mg/Kg	20	6/27/2016 10:38:10 PM	26092
EPA METHOD 7471: MERCURY							Analyst: **DBD**	
Mercury	0.0033	0.00057	0.033	J	mg/Kg	1	6/28/2016 9:25:13 AM	26093
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	0.88	0.71	2.4	J	mg/Kg	1	6/30/2016 3:45:33 PM	26123
Barium	170	0.047	0.098		mg/Kg	1	6/30/2016 3:45:33 PM	26123
Cadmium	ND	0.062	0.098		mg/Kg	1	6/30/2016 3:45:33 PM	26123
Chromium	8.1	0.12	0.29		mg/Kg	1	6/30/2016 3:45:33 PM	26123
Copper	2.4	0.15	0.29		mg/Kg	1	6/30/2016 3:45:33 PM	26123
Iron	13000	95	240		mg/Kg	100	6/30/2016 10:33:05 AM	26123
Lead	3.6	0.17	0.24		mg/Kg	1	6/30/2016 3:45:33 PM	26123
Manganese	230	0.043	0.098		mg/Kg	1	6/30/2016 3:45:33 PM	26123
Selenium	ND	1.1	2.4		mg/Kg	1	6/30/2016 3:45:33 PM	26123
Silver	ND	0.031	0.24		mg/Kg	1	6/30/2016 3:45:33 PM	26123
Uranium	ND	0.97	4.9		mg/Kg	1	6/30/2016 3:45:33 PM	26123
Zinc	13	0.56	2.4		mg/Kg	1	6/30/2016 3:45:33 PM	26123
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.085	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Acenaphthylene	ND	0.081	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Aniline	ND	0.094	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Anthracene	ND	0.066	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Azobenzene	ND	0.12	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Benz(a)anthracene	ND	0.086	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Benzo(a)pyrene	ND	0.075	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Benzo(b)fluoranthene	ND	0.090	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Benzo(g,h,i)perylene	ND	0.088	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Benzo(k)fluoranthene	ND	0.088	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Benzoic acid	ND	0.082	0.50		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Benzyl alcohol	ND	0.078	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Bis(2-chloroethoxy)methane	ND	0.11	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Bis(2-chloroethyl)ether	ND	0.073	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Bis(2-chloroisopropyl)ether	ND	0.089	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Bis(2-ethylhexyl)phthalate	0.10	0.081	0.50	J	mg/Kg	1	6/30/2016 2:39:19 PM	26116
4-Bromophenyl phenyl ether	ND	0.095	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Butyl benzyl phthalate	ND	0.088	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-02-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 12:50:00 PM
Lab ID: 1606995-002 **Matrix:** SOIL **Received Date:** 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Carbazole	ND	0.067	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
4-Chloro-3-methylphenol	ND	0.12	0.50		mg/Kg	1	6/30/2016 2:39:19 PM	26116
4-Chloroaniline	ND	0.11	0.50		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2-Chloronaphthalene	ND	0.078	0.25		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2-Chlorophenol	ND	0.078	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
4-Chlorophenyl phenyl ether	ND	0.11	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Chrysene	ND	0.085	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Di-n-butyl phthalate	0.092	0.074	0.40	J	mg/Kg	1	6/30/2016 2:39:19 PM	26116
Di-n-octyl phthalate	ND	0.085	0.40		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Dibenz(a,h)anthracene	ND	0.080	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Dibenzofuran	ND	0.10	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
1,2-Dichlorobenzene	ND	0.076	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
1,3-Dichlorobenzene	ND	0.077	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
1,4-Dichlorobenzene	ND	0.084	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
3,3´-Dichlorobenzidine	ND	0.073	0.25		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Diethyl phthalate	ND	0.10	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Dimethyl phthalate	ND	0.097	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2,4-Dichlorophenol	ND	0.093	0.40		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2,4-Dimethylphenol	ND	0.11	0.30		mg/Kg	1	6/30/2016 2:39:19 PM	26116
4,6-Dinitro-2-methylphenol	ND	0.060	0.40		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2,4-Dinitrophenol	ND	0.066	0.50		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2,4-Dinitrotoluene	ND	0.089	0.50		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2,6-Dinitrotoluene	ND	0.11	0.50		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Fluoranthene	ND	0.057	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Fluorene	ND	0.091	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Hexachlorobenzene	ND	0.078	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Hexachlorobutadiene	ND	0.11	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Hexachlorocyclopentadiene	ND	0.11	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Hexachloroethane	ND	0.085	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Indeno(1,2,3-cd)pyrene	ND	0.078	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
1-Methylnaphthalene	ND	0.10	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2-Methylnaphthalene	ND	0.12	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2-Methylphenol	ND	0.083	0.40		mg/Kg	1	6/30/2016 2:39:19 PM	26116
3+4-Methylphenol	ND	0.072	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
N-Nitrosodi-n-propylamine	ND	0.096	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
N-Nitrosodiphenylamine	ND	0.097	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Naphthalene	ND	0.095	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2-Nitroaniline	ND	0.11	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
3-Nitroaniline	ND	0.088	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-02-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 12:50:00 PM
Lab ID: 1606995-002 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
4-Nitroaniline	ND	0.070	0.40		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Nitrobenzene	ND	0.10	0.40		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2-Nitrophenol	ND	0.099	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
4-Nitrophenol	ND	0.076	0.25		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Pentachlorophenol	ND	0.064	0.40		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Phenanthrene	ND	0.068	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Phenol	ND	0.075	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Pyrene	ND	0.075	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Pyridine	ND	0.079	0.40		mg/Kg	1	6/30/2016 2:39:19 PM	26116
1,2,4-Trichlorobenzene	ND	0.11	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2,4,5-Trichlorophenol	ND	0.10	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
2,4,6-Trichlorophenol	ND	0.083	0.20		mg/Kg	1	6/30/2016 2:39:19 PM	26116
Surr: 2-Fluorophenol	59.5	0	28.3-102		%Rec	1	6/30/2016 2:39:19 PM	26116
Surr: Phenol-d5	69.6	0	35.7-103		%Rec	1	6/30/2016 2:39:19 PM	26116
Surr: 2,4,6-Tribromophenol	80.2	0	35.2-108		%Rec	1	6/30/2016 2:39:19 PM	26116
Surr: Nitrobenzene-d5	68.1		24-118		%Rec	1	6/30/2016 2:39:19 PM	26116
Surr: 2-Fluorobiphenyl	75.7		35.4-111		%Rec	1	6/30/2016 2:39:19 PM	26116
Surr: 4-Terphenyl-d14	58.0		15-91.7		%Rec	1	6/30/2016 2:39:19 PM	26116
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.020	0.025		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Toluene	ND	0.0030	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Ethylbenzene	ND	0.0041	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Methyl tert-butyl ether (MTBE)	ND	0.016	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,2,4-Trimethylbenzene	ND	0.0037	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,3,5-Trimethylbenzene	ND	0.0036	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,2-Dichloroethane (EDC)	ND	0.013	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,2-Dibromoethane (EDB)	ND	0.0035	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Naphthalene	ND	0.0078	0.10		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1-Methylnaphthalene	ND	0.011	0.20		mg/Kg	1	6/20/2016 8:29:59 PM	25923
2-Methylnaphthalene	ND	0.011	0.20		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Acetone	ND	0.064	0.75		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Bromobenzene	ND	0.0040	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Bromodichloromethane	ND	0.0029	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Bromoform	ND	0.0061	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Bromomethane	ND	0.018	0.15		mg/Kg	1	6/20/2016 8:29:59 PM	25923
2-Butanone	ND	0.028	0.50		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Carbon disulfide	ND	0.016	0.50		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Carbon tetrachloride	ND	0.0033	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Chlorobenzene	ND	0.0041	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1606995-002 **Matrix:** SOIL

Client Sample ID: CentralOCD-02-6/16/2016
Collection Date: 6/16/2016 12:50:00 PM
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Chloroethane	ND	0.0099	0.10		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Chloroform	ND	0.0038	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Chloromethane	0.080	0.0044	0.15	J	mg/Kg	1	6/20/2016 8:29:59 PM	25923
2-Chlorotoluene	ND	0.0037	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
4-Chlorotoluene	ND	0.0044	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
cis-1,2-DCE	ND	0.0029	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
cis-1,3-Dichloropropene	ND	0.0046	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,2-Dibromo-3-chloropropane	ND	0.015	0.10		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Dibromochloromethane	ND	0.0045	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Dibromomethane	ND	0.0043	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,2-Dichlorobenzene	ND	0.0043	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,3-Dichlorobenzene	ND	0.0041	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,4-Dichlorobenzene	ND	0.0062	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Dichlorodifluoromethane	ND	0.015	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,1-Dichloroethane	ND	0.0027	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,1-Dichloroethene	ND	0.016	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,2-Dichloropropane	ND	0.0042	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,3-Dichloropropane	ND	0.0057	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
2,2-Dichloropropane	ND	0.0029	0.10		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,1-Dichloropropene	ND	0.0040	0.10		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Hexachlorobutadiene	ND	0.0061	0.10		mg/Kg	1	6/20/2016 8:29:59 PM	25923
2-Hexanone	ND	0.027	0.50		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Isopropylbenzene	ND	0.0043	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
4-Isopropyltoluene	ND	0.0045	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
4-Methyl-2-pentanone	ND	0.015	0.50		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Methylene chloride	ND	0.014	0.15		mg/Kg	1	6/20/2016 8:29:59 PM	25923
n-Butylbenzene	ND	0.0044	0.15		mg/Kg	1	6/20/2016 8:29:59 PM	25923
n-Propylbenzene	ND	0.0038	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
sec-Butylbenzene	ND	0.0069	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Styrene	ND	0.0045	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
tert-Butylbenzene	ND	0.0041	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,1,1,2-Tetrachloroethane	ND	0.0048	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,1,2,2-Tetrachloroethane	ND	0.0081	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Tetrachloroethene (PCE)	ND	0.0041	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
trans-1,2-DCE	ND	0.014	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
trans-1,3-Dichloropropene	ND	0.0073	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,2,3-Trichlorobenzene	ND	0.0075	0.10		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,2,4-Trichlorobenzene	ND	0.0053	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,1,1-Trichloroethane	ND	0.0030	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923

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

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-02-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 12:50:00 PM
Lab ID: 1606995-002 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1,2-Trichloroethane	ND	0.0059	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Trichloroethene (TCE)	ND	0.0053	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Trichlorofluoromethane	ND	0.0037	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
1,2,3-Trichloropropane	ND	0.0086	0.10		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Vinyl chloride	ND	0.0041	0.050		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Xylenes, Total	ND	0.0094	0.10		mg/Kg	1	6/20/2016 8:29:59 PM	25923
Surr: Dibromofluoromethane	105		70-130		%Rec	1	6/20/2016 8:29:59 PM	25923
Surr: 1,2-Dichloroethane-d4	97.2		70-130		%Rec	1	6/20/2016 8:29:59 PM	25923
Surr: Toluene-d8	95.7		70-130		%Rec	1	6/20/2016 8:29:59 PM	25923
Surr: 4-Bromofluorobenzene	101		70-130		%Rec	1	6/20/2016 8:29:59 PM	25923
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	ND	8.0	19		mg/Kg	1	6/23/2016	25996

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Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-03-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 1:20:00 PM
Lab ID: 1606995-003 **Matrix:** SOIL **Received Date:** 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	2.6	0.042	0.30		mg/Kg	1	6/27/2016 10:50:35 PM	26092
Chloride	570	12	30		mg/Kg	20	6/27/2016 11:02:59 PM	26092
Nitrogen, Nitrate (As N)	21	0.32	6.0		mg/Kg	20	6/27/2016 11:02:59 PM	26092
Sulfate	540	5.4	30		mg/Kg	20	6/27/2016 11:02:59 PM	26092
EPA METHOD 7471: MERCURY							Analyst: **DBD**	
Mercury	0.0048	0.00058	0.034	J	mg/Kg	1	6/28/2016 9:34:18 AM	26093
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	1.5	5.1		mg/Kg	2	6/30/2016 11:41:01 AM	26123
Barium	220	0.099	0.20		mg/Kg	2	6/30/2016 11:41:01 AM	26123
Cadmium	ND	0.13	0.20		mg/Kg	2	6/30/2016 11:41:01 AM	26123
Chromium	11	0.26	0.61		mg/Kg	2	6/30/2016 11:41:01 AM	26123
Copper	3.4	0.32	0.61		mg/Kg	2	6/30/2016 11:41:01 AM	26123
Iron	17000	100	260		mg/Kg	100	6/30/2016 10:34:35 AM	26123
Lead	4.7	0.36	0.51		mg/Kg	2	6/30/2016 11:41:01 AM	26123
Manganese	290	0.091	0.20		mg/Kg	2	6/30/2016 11:41:01 AM	26123
Selenium	ND	2.2	5.1		mg/Kg	2	6/30/2016 11:41:01 AM	26123
Silver	ND	0.065	0.51		mg/Kg	2	6/30/2016 11:41:01 AM	26123
Uranium	ND	2.0	10		mg/Kg	2	6/30/2016 11:41:01 AM	26123
Zinc	18	1.2	5.1		mg/Kg	2	6/30/2016 11:41:01 AM	26123
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.086	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Acenaphthylene	ND	0.081	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Aniline	ND	0.095	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Anthracene	ND	0.066	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Azobenzene	ND	0.12	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Benz(a)anthracene	ND	0.086	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Benzo(a)pyrene	ND	0.076	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Benzo(b)fluoranthene	ND	0.090	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Benzo(g,h,i)perylene	ND	0.088	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Benzo(k)fluoranthene	ND	0.088	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Benzoic acid	ND	0.083	0.50		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Benzyl alcohol	ND	0.078	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Bis(2-chloroethoxy)methane	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Bis(2-chloroethyl)ether	ND	0.074	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Bis(2-chloroisopropyl)ether	ND	0.089	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Bis(2-ethylhexyl)phthalate	0.11	0.082	0.50	J	mg/Kg	1	6/30/2016 4:03:22 PM	26116
4-Bromophenyl phenyl ether	ND	0.096	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Butyl benzyl phthalate	ND	0.089	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-03-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 1:20:00 PM
Lab ID: 1606995-003 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Carbazole	ND	0.068	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
4-Chloro-3-methylphenol	ND	0.12	0.50		mg/Kg	1	6/30/2016 4:03:22 PM	26116
4-Chloroaniline	ND	0.11	0.50		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2-Chloronaphthalene	ND	0.079	0.25		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2-Chlorophenol	ND	0.079	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
4-Chlorophenyl phenyl ether	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Chrysene	ND	0.085	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Di-n-butyl phthalate	ND	0.075	0.40		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Di-n-octyl phthalate	ND	0.085	0.40		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Dibenz(a,h)anthracene	ND	0.081	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Dibenzofuran	ND	0.10	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
1,2-Dichlorobenzene	ND	0.077	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
1,3-Dichlorobenzene	ND	0.077	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
1,4-Dichlorobenzene	ND	0.085	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
3,3'-Dichlorobenzidine	ND	0.074	0.25		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Diethyl phthalate	ND	0.10	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Dimethyl phthalate	ND	0.098	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2,4-Dichlorophenol	ND	0.093	0.40		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2,4-Dimethylphenol	ND	0.11	0.30		mg/Kg	1	6/30/2016 4:03:22 PM	26116
4,6-Dinitro-2-methylphenol	ND	0.060	0.40		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2,4-Dinitrophenol	ND	0.066	0.50		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2,4-Dinitrotoluene	ND	0.089	0.50		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2,6-Dinitrotoluene	ND	0.11	0.50		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Fluoranthene	ND	0.058	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Fluorene	ND	0.092	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Hexachlorobenzene	ND	0.079	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Hexachlorobutadiene	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Hexachlorocyclopentadiene	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Hexachloroethane	ND	0.086	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Indeno(1,2,3-cd)pyrene	ND	0.078	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
1-Methylnaphthalene	ND	0.10	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2-Methylnaphthalene	ND	0.12	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2-Methylphenol	ND	0.084	0.40		mg/Kg	1	6/30/2016 4:03:22 PM	26116
3+4-Methylphenol	ND	0.072	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
N-Nitrosodi-n-propylamine	ND	0.096	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
N-Nitrosodiphenylamine	ND	0.098	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Naphthalene	ND	0.096	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2-Nitroaniline	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
3-Nitroaniline	ND	0.088	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1606995-003 **Matrix:** SOIL

Client Sample ID: CentralOCD-03-6/16/2016
Collection Date: 6/16/2016 1:20:00 PM
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
4-Nitroaniline	ND	0.071	0.40		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Nitrobenzene	ND	0.10	0.40		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2-Nitrophenol	ND	0.099	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
4-Nitrophenol	ND	0.076	0.25		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Pentachlorophenol	ND	0.064	0.40		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Phenanthrene	ND	0.068	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Phenol	ND	0.075	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Pyrene	ND	0.076	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Pyridine	ND	0.079	0.40		mg/Kg	1	6/30/2016 4:03:22 PM	26116
1,2,4-Trichlorobenzene	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2,4,5-Trichlorophenol	ND	0.10	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
2,4,6-Trichlorophenol	ND	0.083	0.20		mg/Kg	1	6/30/2016 4:03:22 PM	26116
Surr: 2-Fluorophenol	50.9	0	28.3-102		%Rec	1	6/30/2016 4:03:22 PM	26116
Surr: Phenol-d5	59.5	0	35.7-103		%Rec	1	6/30/2016 4:03:22 PM	26116
Surr: 2,4,6-Tribromophenol	73.1	0	35.2-108		%Rec	1	6/30/2016 4:03:22 PM	26116
Surr: Nitrobenzene-d5	59.0		24-118		%Rec	1	6/30/2016 4:03:22 PM	26116
Surr: 2-Fluorobiphenyl	72.0		35.4-111		%Rec	1	6/30/2016 4:03:22 PM	26116
Surr: 4-Terphenyl-d14	59.7		15-91.7		%Rec	1	6/30/2016 4:03:22 PM	26116
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.019	0.024		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Toluene	ND	0.0029	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Ethylbenzene	ND	0.0040	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Methyl tert-butyl ether (MTBE)	ND	0.015	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,2,4-Trimethylbenzene	ND	0.0036	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,3,5-Trimethylbenzene	ND	0.0035	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,2-Dichloroethane (EDC)	ND	0.013	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,2-Dibromoethane (EDB)	ND	0.0034	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Naphthalene	ND	0.0076	0.097		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1-Methylnaphthalene	ND	0.011	0.19		mg/Kg	1	6/20/2016 9:55:03 PM	25923
2-Methylnaphthalene	ND	0.010	0.19		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Acetone	ND	0.063	0.73		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Bromobenzene	ND	0.0039	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Bromodichloromethane	ND	0.0028	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Bromoform	ND	0.0059	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Bromomethane	0.018	0.018	0.15	J	mg/Kg	1	6/20/2016 9:55:03 PM	25923
2-Butanone	ND	0.028	0.48		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Carbon disulfide	ND	0.016	0.48		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Carbon tetrachloride	ND	0.0032	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Chlorobenzene	ND	0.0039	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-03-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 1:20:00 PM
Lab ID: 1606995-003 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Chloroethane	ND	0.0096	0.097		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Chloroform	ND	0.0036	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Chloromethane	0.070	0.0043	0.15	J	mg/Kg	1	6/20/2016 9:55:03 PM	25923
2-Chlorotoluene	ND	0.0036	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
4-Chlorotoluene	ND	0.0043	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
cis-1,2-DCE	ND	0.0028	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
cis-1,3-Dichloropropene	ND	0.0045	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,2-Dibromo-3-chloropropane	ND	0.015	0.097		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Dibromochloromethane	ND	0.0044	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Dibromomethane	ND	0.0042	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,2-Dichlorobenzene	ND	0.0042	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,3-Dichlorobenzene	ND	0.0040	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,4-Dichlorobenzene	ND	0.0060	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Dichlorodifluoromethane	ND	0.015	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,1-Dichloroethane	ND	0.0026	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,1-Dichloroethene	ND	0.016	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,2-Dichloropropane	ND	0.0041	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,3-Dichloropropane	ND	0.0055	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
2,2-Dichloropropane	ND	0.0028	0.097		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,1-Dichloropropene	ND	0.0038	0.097		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Hexachlorobutadiene	ND	0.0059	0.097		mg/Kg	1	6/20/2016 9:55:03 PM	25923
2-Hexanone	ND	0.026	0.48		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Isopropylbenzene	ND	0.0042	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
4-Isopropyltoluene	ND	0.0043	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
4-Methyl-2-pentanone	ND	0.014	0.48		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Methylene chloride	ND	0.014	0.15		mg/Kg	1	6/20/2016 9:55:03 PM	25923
n-Butylbenzene	ND	0.0043	0.15		mg/Kg	1	6/20/2016 9:55:03 PM	25923
n-Propylbenzene	ND	0.0037	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
sec-Butylbenzene	ND	0.0067	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Styrene	ND	0.0043	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
tert-Butylbenzene	ND	0.0040	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,1,1,2-Tetrachloroethane	ND	0.0046	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,1,2,2-Tetrachloroethane	ND	0.0078	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Tetrachloroethene (PCE)	ND	0.0040	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
trans-1,2-DCE	ND	0.014	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
trans-1,3-Dichloropropene	ND	0.0071	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,2,3-Trichlorobenzene	ND	0.0072	0.097		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,2,4-Trichlorobenzene	ND	0.0052	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,1,1-Trichloroethane	ND	0.0030	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1606995-003 **Matrix:** SOIL

Client Sample ID: CentralOCD-03-6/16/2016
Collection Date: 6/16/2016 1:20:00 PM
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1,2-Trichloroethane	ND	0.0057	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Trichloroethene (TCE)	ND	0.0052	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Trichlorofluoromethane	ND	0.0036	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
1,2,3-Trichloropropane	ND	0.0084	0.097		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Vinyl chloride	ND	0.0040	0.048		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Xylenes, Total	ND	0.0092	0.097		mg/Kg	1	6/20/2016 9:55:03 PM	25923
Surr: Dibromofluoromethane	105		70-130		%Rec	1	6/20/2016 9:55:03 PM	25923
Surr: 1,2-Dichloroethane-d4	99.5		70-130		%Rec	1	6/20/2016 9:55:03 PM	25923
Surr: Toluene-d8	97.5		70-130		%Rec	1	6/20/2016 9:55:03 PM	25923
Surr: 4-Bromofluorobenzene	103		70-130		%Rec	1	6/20/2016 9:55:03 PM	25923
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	ND	8.6	20		mg/Kg	1	6/23/2016	25996

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Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-04-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 11:45:00 AM
Lab ID: 1606995-004 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	2.9	0.042	0.30		mg/Kg	1	6/27/2016 11:40:14 PM	26092
Chloride	170	12	30		mg/Kg	20	6/27/2016 11:52:38 PM	26092
Nitrogen, Nitrate (As N)	7.1	0.016	0.30		mg/Kg	1	6/27/2016 11:40:14 PM	26092
Sulfate	630	5.4	30		mg/Kg	20	6/27/2016 11:52:38 PM	26092
EPA METHOD 7471: MERCURY							Analyst: **DBD**	
Mercury	0.0042	0.00054	0.031	J	mg/Kg	1	6/28/2016 9:36:06 AM	26093
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	1.4	4.8		mg/Kg	2	6/30/2016 11:42:53 AM	26123
Barium	200	0.093	0.19		mg/Kg	2	6/30/2016 11:42:53 AM	26123
Cadmium	ND	0.12	0.19		mg/Kg	2	6/30/2016 11:42:53 AM	26123
Chromium	9.5	0.24	0.57		mg/Kg	2	6/30/2016 11:42:53 AM	26123
Copper	3.0	0.30	0.57		mg/Kg	2	6/30/2016 11:42:53 AM	26123
Iron	15000	93	240		mg/Kg	100	6/30/2016 10:36:09 AM	26123
Lead	5.2	0.33	0.48		mg/Kg	2	6/30/2016 11:42:53 AM	26123
Manganese	310	0.085	0.19		mg/Kg	2	6/30/2016 11:42:53 AM	26123
Selenium	ND	2.1	4.8		mg/Kg	2	6/30/2016 11:42:53 AM	26123
Silver	ND	0.061	0.48		mg/Kg	2	6/30/2016 11:42:53 AM	26123
Uranium	ND	1.9	9.6		mg/Kg	2	6/30/2016 11:42:53 AM	26123
Zinc	15	1.1	4.8		mg/Kg	2	6/30/2016 11:42:53 AM	26123
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.085	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Acenaphthylene	ND	0.081	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Aniline	ND	0.094	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Anthracene	ND	0.066	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Azobenzene	ND	0.12	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Benz(a)anthracene	ND	0.086	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Benzo(a)pyrene	ND	0.075	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Benzo(b)fluoranthene	ND	0.090	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Benzo(g,h,i)perylene	ND	0.088	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Benzo(k)fluoranthene	ND	0.088	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Benzoic acid	ND	0.083	0.50		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Benzyl alcohol	ND	0.078	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Bis(2-chloroethoxy)methane	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Bis(2-chloroethyl)ether	ND	0.073	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Bis(2-chloroisopropyl)ether	ND	0.089	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Bis(2-ethylhexyl)phthalate	0.099	0.081	0.50	J	mg/Kg	1	6/30/2016 4:31:23 PM	26116
4-Bromophenyl phenyl ether	ND	0.095	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Butyl benzyl phthalate	ND	0.088	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1606995-004 **Matrix:** SOIL

Client Sample ID: CentralOCD-04-6/16/2016
Collection Date: 6/16/2016 11:45:00 AM
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Carbazole	ND	0.067	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
4-Chloro-3-methylphenol	ND	0.12	0.50		mg/Kg	1	6/30/2016 4:31:23 PM	26116
4-Chloroaniline	ND	0.11	0.50		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2-Chloronaphthalene	ND	0.078	0.25		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2-Chlorophenol	ND	0.078	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
4-Chlorophenyl phenyl ether	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Chrysene	ND	0.085	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Di-n-butyl phthalate	ND	0.074	0.40		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Di-n-octyl phthalate	ND	0.085	0.40		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Dibenz(a,h)anthracene	ND	0.080	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Dibenzofuran	ND	0.10	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
1,2-Dichlorobenzene	ND	0.076	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
1,3-Dichlorobenzene	ND	0.077	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
1,4-Dichlorobenzene	ND	0.084	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
3,3'-Dichlorobenzidine	ND	0.073	0.25		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Diethyl phthalate	ND	0.10	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Dimethyl phthalate	ND	0.097	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2,4-Dichlorophenol	ND	0.093	0.40		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2,4-Dimethylphenol	ND	0.11	0.30		mg/Kg	1	6/30/2016 4:31:23 PM	26116
4,6-Dinitro-2-methylphenol	ND	0.060	0.40		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2,4-Dinitrophenol	ND	0.066	0.50		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2,4-Dinitrotoluene	ND	0.089	0.50		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2,6-Dinitrotoluene	ND	0.11	0.50		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Fluoranthene	ND	0.057	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Fluorene	ND	0.091	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Hexachlorobenzene	ND	0.078	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Hexachlorobutadiene	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Hexachlorocyclopentadiene	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Hexachloroethane	ND	0.086	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Indeno(1,2,3-cd)pyrene	ND	0.078	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
1-Methylnaphthalene	ND	0.10	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2-Methylnaphthalene	ND	0.12	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2-Methylphenol	ND	0.083	0.40		mg/Kg	1	6/30/2016 4:31:23 PM	26116
3+4-Methylphenol	ND	0.072	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
N-Nitrosodi-n-propylamine	ND	0.096	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
N-Nitrosodiphenylamine	ND	0.097	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Naphthalene	ND	0.096	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2-Nitroaniline	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
3-Nitroaniline	ND	0.088	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-04-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 11:45:00 AM
Lab ID: 1606995-004 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
4-Nitroaniline	ND	0.070	0.40		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Nitrobenzene	ND	0.10	0.40		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2-Nitrophenol	ND	0.099	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
4-Nitrophenol	ND	0.076	0.25		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Pentachlorophenol	ND	0.064	0.40		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Phenanthrene	ND	0.068	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Phenol	ND	0.075	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Pyrene	ND	0.075	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Pyridine	ND	0.079	0.40		mg/Kg	1	6/30/2016 4:31:23 PM	26116
1,2,4-Trichlorobenzene	ND	0.11	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2,4,5-Trichlorophenol	ND	0.10	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
2,4,6-Trichlorophenol	ND	0.083	0.20		mg/Kg	1	6/30/2016 4:31:23 PM	26116
Surr: 2-Fluorophenol	69.7	0	28.3-102		%Rec	1	6/30/2016 4:31:23 PM	26116
Surr: Phenol-d5	76.7	0	35.7-103		%Rec	1	6/30/2016 4:31:23 PM	26116
Surr: 2,4,6-Tribromophenol	84.1	0	35.2-108		%Rec	1	6/30/2016 4:31:23 PM	26116
Surr: Nitrobenzene-d5	81.5		24-118		%Rec	1	6/30/2016 4:31:23 PM	26116
Surr: 2-Fluorobiphenyl	84.2		35.4-111		%Rec	1	6/30/2016 4:31:23 PM	26116
Surr: 4-Terphenyl-d14	71.3		15-91.7		%Rec	1	6/30/2016 4:31:23 PM	26116
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.020	0.025		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Toluene	ND	0.0029	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Ethylbenzene	ND	0.0041	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Methyl tert-butyl ether (MTBE)	ND	0.016	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,2,4-Trimethylbenzene	ND	0.0037	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,3,5-Trimethylbenzene	ND	0.0036	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,2-Dichloroethane (EDC)	ND	0.013	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,2-Dibromoethane (EDB)	ND	0.0035	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Naphthalene	ND	0.0078	0.10		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1-Methylnaphthalene	ND	0.011	0.20		mg/Kg	1	6/23/2016 12:50:04 PM	25923
2-Methylnaphthalene	ND	0.011	0.20		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Acetone	ND	0.064	0.75		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Bromobenzene	ND	0.0040	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Bromodichloromethane	ND	0.0029	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Bromoform	ND	0.0061	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Bromomethane	0.023	0.018	0.15	J	mg/Kg	1	6/23/2016 12:50:04 PM	25923
2-Butanone	ND	0.028	0.50		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Carbon disulfide	ND	0.016	0.50		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Carbon tetrachloride	ND	0.0033	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Chlorobenzene	ND	0.0040	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1606995-004 **Matrix:** SOIL

Client Sample ID: CentralOCD-04-6/16/2016
Collection Date: 6/16/2016 11:45:00 AM
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Chloroethane	ND	0.0099	0.10		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Chloroform	ND	0.0038	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Chloromethane	0.065	0.0044	0.15	J	mg/Kg	1	6/23/2016 12:50:04 PM	25923
2-Chlorotoluene	ND	0.0037	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
4-Chlorotoluene	ND	0.0044	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
cis-1,2-DCE	ND	0.0029	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
cis-1,3-Dichloropropene	ND	0.0046	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,2-Dibromo-3-chloropropane	ND	0.015	0.10		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Dibromochloromethane	ND	0.0045	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Dibromomethane	ND	0.0043	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,2-Dichlorobenzene	ND	0.0043	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,3-Dichlorobenzene	ND	0.0041	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,4-Dichlorobenzene	ND	0.0062	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Dichlorodifluoromethane	ND	0.015	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,1-Dichloroethane	ND	0.0027	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,1-Dichloroethene	ND	0.016	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,2-Dichloropropane	ND	0.0042	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,3-Dichloropropane	ND	0.0056	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
2,2-Dichloropropane	ND	0.0028	0.10		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,1-Dichloropropene	ND	0.0039	0.10		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Hexachlorobutadiene	ND	0.0061	0.10		mg/Kg	1	6/23/2016 12:50:04 PM	25923
2-Hexanone	ND	0.027	0.50		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Isopropylbenzene	ND	0.0043	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
4-Isopropyltoluene	ND	0.0045	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
4-Methyl-2-pentanone	ND	0.014	0.50		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Methylene chloride	ND	0.014	0.15		mg/Kg	1	6/23/2016 12:50:04 PM	25923
n-Butylbenzene	ND	0.0044	0.15		mg/Kg	1	6/23/2016 12:50:04 PM	25923
n-Propylbenzene	ND	0.0038	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
sec-Butylbenzene	ND	0.0069	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Styrene	ND	0.0044	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
tert-Butylbenzene	ND	0.0041	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,1,1,2-Tetrachloroethane	ND	0.0048	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,1,2,2-Tetrachloroethane	ND	0.0081	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Tetrachloroethene (PCE)	ND	0.0041	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
trans-1,2-DCE	ND	0.014	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
trans-1,3-Dichloropropene	ND	0.0073	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,2,3-Trichlorobenzene	ND	0.0074	0.10		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,2,4-Trichlorobenzene	ND	0.0053	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,1,1-Trichloroethane	ND	0.0030	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-04-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 11:45:00 AM
Lab ID: 1606995-004 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1,2-Trichloroethane	ND	0.0059	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Trichloroethene (TCE)	ND	0.0053	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Trichlorofluoromethane	ND	0.0037	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
1,2,3-Trichloropropane	ND	0.0086	0.10		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Vinyl chloride	ND	0.0041	0.050		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Xylenes, Total	ND	0.0094	0.10		mg/Kg	1	6/23/2016 12:50:04 PM	25923
Surr: Dibromofluoromethane	99.8		70-130		%Rec	1	6/23/2016 12:50:04 PM	25923
Surr: 1,2-Dichloroethane-d4	102		70-130		%Rec	1	6/23/2016 12:50:04 PM	25923
Surr: Toluene-d8	92.8		70-130		%Rec	1	6/23/2016 12:50:04 PM	25923
Surr: 4-Bromofluorobenzene	103		70-130		%Rec	1	6/23/2016 12:50:04 PM	25923
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	ND	8.0	19		mg/Kg	1	6/23/2016	25996

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

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016
Lab ID: 1606995-005
Matrix: SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	2.7	0.042	0.30		mg/Kg	1	6/28/2016 12:05:03 AM	26092
Chloride	360	12	30		mg/Kg	20	6/28/2016 12:17:27 AM	26092
Nitrogen, Nitrate (As N)	3.0	0.016	0.30		mg/Kg	1	6/28/2016 12:05:03 AM	26092
Sulfate	770	5.4	30		mg/Kg	20	6/28/2016 12:17:27 AM	26092
EPA METHOD 7471: MERCURY							Analyst: **DBD**	
Mercury	0.0054	0.00053	0.031	J	mg/Kg	1	6/28/2016 9:37:56 AM	26093
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	1.4	4.8		mg/Kg	2	6/30/2016 11:45:00 AM	26123
Barium	190	0.094	0.19		mg/Kg	2	6/30/2016 11:45:00 AM	26123
Cadmium	ND	0.12	0.19		mg/Kg	2	6/30/2016 11:45:00 AM	26123
Chromium	11	0.24	0.58		mg/Kg	2	6/30/2016 11:45:00 AM	26123
Copper	3.8	0.30	0.58		mg/Kg	2	6/30/2016 11:45:00 AM	26123
Iron	15000	94	240		mg/Kg	100	6/30/2016 10:45:16 AM	26123
Lead	3.6	0.34	0.48		mg/Kg	2	6/30/2016 11:45:00 AM	26123
Manganese	240	0.086	0.19		mg/Kg	2	6/30/2016 11:45:00 AM	26123
Selenium	ND	2.1	4.8		mg/Kg	2	6/30/2016 11:45:00 AM	26123
Silver	ND	0.061	0.48		mg/Kg	2	6/30/2016 11:45:00 AM	26123
Uranium	ND	1.9	9.7		mg/Kg	2	6/30/2016 11:45:00 AM	26123
Zinc	17	1.1	4.8		mg/Kg	2	6/30/2016 11:45:00 AM	26123
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Acenaphthylene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Aniline	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Anthracene	ND	0.13	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Azobenzene	ND	0.24	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Benz(a)anthracene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Benzo(a)pyrene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Benzo(b)fluoranthene	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Benzo(g,h,i)perylene	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Benzo(k)fluoranthene	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Benzoic acid	ND	0.17	1.0	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Benzyl alcohol	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Bis(2-chloroethoxy)methane	ND	0.22	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Bis(2-chloroethyl)ether	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Bis(2-chloroisopropyl)ether	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Bis(2-ethylhexyl)phthalate	ND	0.16	1.0	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
4-Bromophenyl phenyl ether	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Butyl benzyl phthalate	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016
Lab ID: 1606995-005
Matrix: SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Carbazole	ND	0.14	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
4-Chloro-3-methylphenol	ND	0.24	1.0	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
4-Chloroaniline	ND	0.22	1.0	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2-Chloronaphthalene	ND	0.16	0.50	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2-Chlorophenol	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
4-Chlorophenyl phenyl ether	ND	0.23	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Chrysene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Di-n-butyl phthalate	0.16	0.15	0.80	JD	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Di-n-octyl phthalate	ND	0.17	0.80	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Dibenz(a,h)anthracene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Dibenzofuran	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
1,2-Dichlorobenzene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
1,3-Dichlorobenzene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
1,4-Dichlorobenzene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
3,3'-Dichlorobenzidine	ND	0.15	0.50	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Diethyl phthalate	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Dimethyl phthalate	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2,4-Dichlorophenol	ND	0.19	0.80	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2,4-Dimethylphenol	ND	0.22	0.60	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
4,6-Dinitro-2-methylphenol	ND	0.12	0.80	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2,4-Dinitrophenol	ND	0.13	1.0	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2,4-Dinitrotoluene	ND	0.18	1.0	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2,6-Dinitrotoluene	ND	0.21	1.0	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Fluoranthene	ND	0.12	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Fluorene	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Hexachlorobenzene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Hexachlorobutadiene	ND	0.23	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Hexachlorocyclopentadiene	ND	0.23	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Hexachloroethane	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Indeno(1,2,3-cd)pyrene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
1-Methylnaphthalene	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2-Methylnaphthalene	ND	0.24	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2-Methylphenol	ND	0.17	0.80	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
3+4-Methylphenol	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
N-Nitrosodi-n-propylamine	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
N-Nitrosodiphenylamine	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Naphthalene	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2-Nitroaniline	ND	0.22	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
3-Nitroaniline	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016
Lab ID: 1606995-005
Matrix: SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
4-Nitroaniline	ND	0.14	0.80	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Nitrobenzene	ND	0.21	0.80	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2-Nitrophenol	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
4-Nitrophenol	ND	0.15	0.50	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Pentachlorophenol	ND	0.13	0.80	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Phenanthrene	ND	0.14	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Phenol	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Pyrene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Pyridine	ND	0.16	0.80	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
1,2,4-Trichlorobenzene	ND	0.22	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2,4,5-Trichlorophenol	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
2,4,6-Trichlorophenol	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 4:59:04 PM	26116
Surr: 2-Fluorophenol	63.7	0	28.3-102	D	%Rec	1	6/30/2016 4:59:04 PM	26116
Surr: Phenol-d5	66.9	0	35.7-103	D	%Rec	1	6/30/2016 4:59:04 PM	26116
Surr: 2,4,6-Tribromophenol	79.4	0	35.2-108	D	%Rec	1	6/30/2016 4:59:04 PM	26116
Surr: Nitrobenzene-d5	68.2		24-118	D	%Rec	1	6/30/2016 4:59:04 PM	26116
Surr: 2-Fluorobiphenyl	73.5		35.4-111	D	%Rec	1	6/30/2016 4:59:04 PM	26116
Surr: 4-Terphenyl-d14	102		15-91.7	SD	%Rec	1	6/30/2016 4:59:04 PM	26116
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.019	0.023		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Toluene	ND	0.0028	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Ethylbenzene	ND	0.0038	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Methyl tert-butyl ether (MTBE)	ND	0.015	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,2,4-Trimethylbenzene	ND	0.0034	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,3,5-Trimethylbenzene	ND	0.0034	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,2-Dichloroethane (EDC)	ND	0.012	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,2-Dibromoethane (EDB)	ND	0.0033	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Naphthalene	ND	0.0073	0.093		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1-Methylnaphthalene	ND	0.010	0.19		mg/Kg	1	6/23/2016 1:18:39 PM	25923
2-Methylnaphthalene	ND	0.010	0.19		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Acetone	ND	0.060	0.70		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Bromobenzene	ND	0.0038	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Bromodichloromethane	ND	0.0027	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Bromoform	ND	0.0057	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Bromomethane	0.021	0.017	0.14	J	mg/Kg	1	6/23/2016 1:18:39 PM	25923
2-Butanone	ND	0.027	0.47		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Carbon disulfide	ND	0.015	0.47		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Carbon tetrachloride	ND	0.0031	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Chlorobenzene	ND	0.0038	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923

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Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016
Lab ID: 1606995-005
Matrix: SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Chloroethane	ND	0.0093	0.093		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Chloroform	ND	0.0035	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Chloromethane	0.058	0.0041	0.14	J	mg/Kg	1	6/23/2016 1:18:39 PM	25923
2-Chlorotoluene	ND	0.0034	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
4-Chlorotoluene	ND	0.0041	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
cis-1,2-DCE	ND	0.0027	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
cis-1,3-Dichloropropene	ND	0.0043	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,2-Dibromo-3-chloropropane	ND	0.014	0.093		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Dibromochloromethane	ND	0.0042	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Dibromomethane	ND	0.0040	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,2-Dichlorobenzene	ND	0.0041	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,3-Dichlorobenzene	ND	0.0038	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,4-Dichlorobenzene	ND	0.0058	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Dichlorodifluoromethane	ND	0.014	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,1-Dichloroethane	ND	0.0025	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,1-Dichloroethene	ND	0.015	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,2-Dichloropropane	ND	0.0039	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,3-Dichloropropane	ND	0.0053	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
2,2-Dichloropropane	ND	0.0027	0.093		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,1-Dichloropropene	ND	0.0037	0.093		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Hexachlorobutadiene	ND	0.0057	0.093		mg/Kg	1	6/23/2016 1:18:39 PM	25923
2-Hexanone	ND	0.025	0.47		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Isopropylbenzene	ND	0.0040	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
4-Isopropyltoluene	ND	0.0042	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
4-Methyl-2-pentanone	ND	0.014	0.47		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Methylene chloride	ND	0.013	0.14		mg/Kg	1	6/23/2016 1:18:39 PM	25923
n-Butylbenzene	ND	0.0041	0.14		mg/Kg	1	6/23/2016 1:18:39 PM	25923
n-Propylbenzene	ND	0.0036	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
sec-Butylbenzene	ND	0.0065	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Styrene	ND	0.0042	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
tert-Butylbenzene	ND	0.0039	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,1,1,2-Tetrachloroethane	ND	0.0045	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,1,2,2-Tetrachloroethane	ND	0.0076	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Tetrachloroethene (PCE)	ND	0.0039	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
trans-1,2-DCE	ND	0.013	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
trans-1,3-Dichloropropene	ND	0.0068	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,2,3-Trichlorobenzene	ND	0.0070	0.093		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,2,4-Trichlorobenzene	ND	0.0050	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,1,1-Trichloroethane	ND	0.0028	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016
Lab ID: 1606995-005
Matrix: SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1,2-Trichloroethane	ND	0.0055	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Trichloroethene (TCE)	ND	0.0050	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Trichlorofluoromethane	ND	0.0035	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
1,2,3-Trichloropropane	ND	0.0081	0.093		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Vinyl chloride	ND	0.0038	0.047		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Xylenes, Total	ND	0.0088	0.093		mg/Kg	1	6/23/2016 1:18:39 PM	25923
Surr: Dibromofluoromethane	102		70-130		%Rec	1	6/23/2016 1:18:39 PM	25923
Surr: 1,2-Dichloroethane-d4	100		70-130		%Rec	1	6/23/2016 1:18:39 PM	25923
Surr: Toluene-d8	91.6		70-130		%Rec	1	6/23/2016 1:18:39 PM	25923
Surr: 4-Bromofluorobenzene	103		70-130		%Rec	1	6/23/2016 1:18:39 PM	25923
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	ND	8.7	21		mg/Kg	1	6/23/2016	25996

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 1:40:00 PM
Lab ID: 1606995-006 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**	
Diesel Range Organics (DRO)	180	1.8	9.6		mg/Kg	1	6/23/2016 6:14:17 PM	25944
Motor Oil Range Organics (MRO)	200	48	48		mg/Kg	1	6/23/2016 6:14:17 PM	25944
Surr: DNOP	115	0	70-130		%Rec	1	6/23/2016 6:14:17 PM	25944
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	0.96	4.6		mg/Kg	1	6/24/2016 7:46:24 PM	25923
Surr: BFB	86.5	0	80-120		%Rec	1	6/24/2016 7:46:24 PM	25923
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	9.4	0.84	6.0		mg/Kg	20	6/28/2016 12:42:17 AM	26092
Chloride	290	12	30		mg/Kg	20	6/28/2016 12:42:17 AM	26092
Nitrogen, Nitrate (As N)	5.2	0.016	0.30		mg/Kg	1	6/28/2016 12:29:52 AM	26092
Sulfate	860	5.4	30		mg/Kg	20	6/28/2016 12:42:17 AM	26092
EPA METHOD 7471: MERCURY							Analyst: **DBD**	
Mercury	0.35	0.0011	0.064		mg/Kg	2	6/28/2016 9:45:27 AM	26093
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	1.4	0.71	2.4	J	mg/Kg	1	6/30/2016 11:12:22 AM	26123
Barium	170	0.047	0.097		mg/Kg	1	6/30/2016 11:12:22 AM	26123
Cadmium	ND	0.062	0.097		mg/Kg	1	6/30/2016 11:12:22 AM	26123
Chromium	10	0.12	0.29		mg/Kg	1	6/30/2016 11:12:22 AM	26123
Copper	8.9	0.15	0.29		mg/Kg	1	6/30/2016 11:12:22 AM	26123
Iron	15000	95	240		mg/Kg	100	6/30/2016 10:46:51 AM	26123
Lead	9.0	0.17	0.24		mg/Kg	1	6/30/2016 11:12:22 AM	26123
Manganese	280	0.086	0.19		mg/Kg	2	6/30/2016 11:46:55 AM	26123
Selenium	ND	1.1	2.4		mg/Kg	1	6/30/2016 11:12:22 AM	26123
Silver	ND	0.031	0.24		mg/Kg	1	6/30/2016 11:12:22 AM	26123
Uranium	ND	0.96	4.9		mg/Kg	1	6/30/2016 11:12:22 AM	26123
Zinc	38	0.55	2.4		mg/Kg	1	6/30/2016 11:12:22 AM	26123
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Acenaphthylene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Aniline	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Anthracene	ND	0.13	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Azobenzene	ND	0.24	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Benz(a)anthracene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Benzo(a)pyrene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Benzo(b)fluoranthene	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Benzo(g,h,i)perylene	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Benzo(k)fluoranthene	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1606995-006 **Matrix:** SOIL

Client Sample ID: CentralOCD-TZ-6/16/2016
Collection Date: 6/16/2016 1:40:00 PM
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Benzoic acid	ND	0.17	1.0	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Benzyl alcohol	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Bis(2-chloroethoxy)methane	ND	0.22	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Bis(2-chloroethyl)ether	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Bis(2-chloroisopropyl)ether	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Bis(2-ethylhexyl)phthalate	0.18	0.16	1.0	JD	mg/Kg	1	6/30/2016 5:26:58 PM	26116
4-Bromophenyl phenyl ether	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Butyl benzyl phthalate	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Carbazole	ND	0.13	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
4-Chloro-3-methylphenol	ND	0.24	1.0	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
4-Chloroaniline	ND	0.22	1.0	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2-Chloronaphthalene	ND	0.16	0.50	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2-Chlorophenol	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
4-Chlorophenyl phenyl ether	ND	0.23	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Chrysene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Di-n-butyl phthalate	0.15	0.15	0.80	JD	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Di-n-octyl phthalate	ND	0.17	0.80	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Dibenz(a,h)anthracene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Dibenzofuran	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
1,2-Dichlorobenzene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
1,3-Dichlorobenzene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
1,4-Dichlorobenzene	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
3,3'-Dichlorobenzidine	ND	0.15	0.50	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Diethyl phthalate	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Dimethyl phthalate	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2,4-Dichlorophenol	ND	0.19	0.80	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2,4-Dimethylphenol	ND	0.22	0.60	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
4,6-Dinitro-2-methylphenol	ND	0.12	0.80	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2,4-Dinitrophenol	ND	0.13	1.0	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2,4-Dinitrotoluene	ND	0.18	1.0	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2,6-Dinitrotoluene	ND	0.21	1.0	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Fluoranthene	ND	0.11	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Fluorene	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Hexachlorobenzene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Hexachlorobutadiene	ND	0.22	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Hexachlorocyclopentadiene	ND	0.23	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Hexachloroethane	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Indeno(1,2,3-cd)pyrene	ND	0.16	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
1-Methylnaphthalene	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 1:40:00 PM
Lab ID: 1606995-006 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2-Methylnaphthalene	ND	0.24	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2-Methylphenol	ND	0.17	0.80	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
3+4-Methylphenol	ND	0.14	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
N-Nitrosodi-n-propylamine	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
N-Nitrosodiphenylamine	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Naphthalene	ND	0.19	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2-Nitroaniline	ND	0.21	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
3-Nitroaniline	ND	0.18	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
4-Nitroaniline	ND	0.14	0.80	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Nitrobenzene	ND	0.21	0.80	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2-Nitrophenol	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
4-Nitrophenol	ND	0.15	0.50	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Pentachlorophenol	ND	0.13	0.80	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Phenanthrene	ND	0.14	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Phenol	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Pyrene	ND	0.15	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Pyridine	ND	0.16	0.80	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
1,2,4-Trichlorobenzene	ND	0.22	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2,4,5-Trichlorophenol	ND	0.20	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
2,4,6-Trichlorophenol	ND	0.17	0.40	D	mg/Kg	1	6/30/2016 5:26:58 PM	26116
Surr: 2-Fluorophenol	67.1	0	28.3-102	D	%Rec	1	6/30/2016 5:26:58 PM	26116
Surr: Phenol-d5	71.9	0	35.7-103	D	%Rec	1	6/30/2016 5:26:58 PM	26116
Surr: 2,4,6-Tribromophenol	80.0	0	35.2-108	D	%Rec	1	6/30/2016 5:26:58 PM	26116
Surr: Nitrobenzene-d5	75.6		24-118	D	%Rec	1	6/30/2016 5:26:58 PM	26116
Surr: 2-Fluorobiphenyl	86.3		35.4-111	D	%Rec	1	6/30/2016 5:26:58 PM	26116
Surr: 4-Terphenyl-d14	73.4		15-91.7	D	%Rec	1	6/30/2016 5:26:58 PM	26116
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.019	0.023		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Toluene	0.0090	0.0027	0.046	J	mg/Kg	1	6/23/2016 1:47:16 PM	25923
Ethylbenzene	ND	0.0038	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Methyl tert-butyl ether (MTBE)	ND	0.015	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,2,4-Trimethylbenzene	ND	0.0034	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,3,5-Trimethylbenzene	ND	0.0034	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,2-Dichloroethane (EDC)	ND	0.012	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,2-Dibromoethane (EDB)	ND	0.0033	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Naphthalene	ND	0.0073	0.093		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1-Methylnaphthalene	ND	0.010	0.19		mg/Kg	1	6/23/2016 1:47:16 PM	25923
2-Methylnaphthalene	ND	0.0099	0.19		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Acetone	ND	0.060	0.70		mg/Kg	1	6/23/2016 1:47:16 PM	25923

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Client Sample ID: CentralOCD-TZ-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 1:40:00 PM
Lab ID: 1606995-006 **Matrix:** SOIL
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Bromobenzene	ND	0.0037	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Bromodichloromethane	ND	0.0027	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Bromoform	ND	0.0057	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Bromomethane	0.024	0.017	0.14	J	mg/Kg	1	6/23/2016 1:47:16 PM	25923
2-Butanone	0.070	0.027	0.46	J	mg/Kg	1	6/23/2016 1:47:16 PM	25923
Carbon disulfide	ND	0.015	0.46		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Carbon tetrachloride	ND	0.0030	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Chlorobenzene	ND	0.0038	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Chloroethane	ND	0.0093	0.093		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Chloroform	ND	0.0035	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Chloromethane	0.056	0.0041	0.14	J	mg/Kg	1	6/23/2016 1:47:16 PM	25923
2-Chlorotoluene	ND	0.0034	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
4-Chlorotoluene	ND	0.0041	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
cis-1,2-DCE	ND	0.0027	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
cis-1,3-Dichloropropene	ND	0.0043	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,2-Dibromo-3-chloropropane	ND	0.014	0.093		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Dibromochloromethane	ND	0.0042	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Dibromomethane	ND	0.0040	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,2-Dichlorobenzene	ND	0.0041	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,3-Dichlorobenzene	ND	0.0038	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,4-Dichlorobenzene	ND	0.0058	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Dichlorodifluoromethane	ND	0.014	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,1-Dichloroethane	ND	0.0025	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,1-Dichloroethene	ND	0.015	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,2-Dichloropropane	ND	0.0039	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,3-Dichloropropane	ND	0.0053	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
2,2-Dichloropropane	ND	0.0027	0.093		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,1-Dichloropropene	ND	0.0037	0.093		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Hexachlorobutadiene	ND	0.0057	0.093		mg/Kg	1	6/23/2016 1:47:16 PM	25923
2-Hexanone	ND	0.025	0.46		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Isopropylbenzene	ND	0.0040	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
4-Isopropyltoluene	ND	0.0042	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
4-Methyl-2-pentanone	ND	0.014	0.46		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Methylene chloride	ND	0.013	0.14		mg/Kg	1	6/23/2016 1:47:16 PM	25923
n-Butylbenzene	ND	0.0041	0.14		mg/Kg	1	6/23/2016 1:47:16 PM	25923
n-Propylbenzene	ND	0.0036	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
sec-Butylbenzene	ND	0.0064	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Styrene	ND	0.0041	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
tert-Butylbenzene	ND	0.0038	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 1:40:00 PM
Lab ID: 1606995-006 **Matrix:** SOIL **Received Date:** 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1,1,2-Tetrachloroethane	ND	0.0044	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,1,2,2-Tetrachloroethane	ND	0.0075	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Tetrachloroethene (PCE)	ND	0.0038	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
trans-1,2-DCE	ND	0.013	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
trans-1,3-Dichloropropene	ND	0.0068	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,2,3-Trichlorobenzene	ND	0.0069	0.093		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,2,4-Trichlorobenzene	ND	0.0050	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,1,1-Trichloroethane	ND	0.0028	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,1,2-Trichloroethane	ND	0.0055	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Trichloroethene (TCE)	ND	0.0050	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Trichlorofluoromethane	ND	0.0035	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
1,2,3-Trichloropropane	ND	0.0080	0.093		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Vinyl chloride	ND	0.0038	0.046		mg/Kg	1	6/23/2016 1:47:16 PM	25923
Xylenes, Total	0.010	0.0088	0.093	J	mg/Kg	1	6/23/2016 1:47:16 PM	25923
Surr: Dibromofluoromethane	103		70-130		%Rec	1	6/23/2016 1:47:16 PM	25923
Surr: 1,2-Dichloroethane-d4	105		70-130		%Rec	1	6/23/2016 1:47:16 PM	25923
Surr: Toluene-d8	93.7		70-130		%Rec	1	6/23/2016 1:47:16 PM	25923
Surr: 4-Bromofluorobenzene	100		70-130		%Rec	1	6/23/2016 1:47:16 PM	25923
EPA METHOD 418.1: TPH							Analyst: **TOM**	
Petroleum Hydrocarbons, TR	610	83	200		mg/Kg	10	6/23/2016	25996

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EB-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 2:00:00 PM
Lab ID: 1606995-007
Matrix: AQUEOUS
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **BCN**	
Benzene	ND	0.096	1.0		µg/L	1	6/28/2016 2:06:00 AM	A35246
Toluene	ND	0.12	1.0		µg/L	1	6/28/2016 2:06:00 AM	A35246
Ethylbenzene	ND	0.11	1.0		µg/L	1	6/28/2016 2:06:00 AM	A35246
Xylenes, Total	ND	0.37	1.5		µg/L	1	6/28/2016 2:06:00 AM	A35246
Surr: 1,2-Dichloroethane-d4	86.2	0	70-130		%Rec	1	6/28/2016 2:06:00 AM	A35246
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	6/28/2016 2:06:00 AM	A35246
Surr: Dibromofluoromethane	95.3	0	70-130		%Rec	1	6/28/2016 2:06:00 AM	A35246
Surr: Toluene-d8	101	0	70-130		%Rec	1	6/28/2016 2:06:00 AM	A35246

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: FB-6/16/2016
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/16/2016 2:15:00 PM
Lab ID: 1606995-008
Matrix: AQUEOUS
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **BCN**	
Benzene	ND	0.096	1.0		µg/L	1	6/28/2016 2:29:00 AM	A35246
Toluene	ND	0.12	1.0		µg/L	1	6/28/2016 2:29:00 AM	A35246
Ethylbenzene	ND	0.11	1.0		µg/L	1	6/28/2016 2:29:00 AM	A35246
Xylenes, Total	ND	0.37	1.5		µg/L	1	6/28/2016 2:29:00 AM	A35246
Surr: 1,2-Dichloroethane-d4	88.0	0	70-130		%Rec	1	6/28/2016 2:29:00 AM	A35246
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	6/28/2016 2:29:00 AM	A35246
Surr: Dibromofluoromethane	92.7	0	70-130		%Rec	1	6/28/2016 2:29:00 AM	A35246
Surr: Toluene-d8	98.7	0	70-130		%Rec	1	6/28/2016 2:29:00 AM	A35246

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1606995-009 **Matrix:** AQUEOUS

Client Sample ID: Trip Blank
Collection Date:
Received Date: 6/17/2016 10:00:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **BCN**	
Benzene	ND	0.096	1.0		µg/L	1	6/28/2016 3:40:00 AM	A35246
Toluene	ND	0.12	1.0		µg/L	1	6/28/2016 3:40:00 AM	A35246
Ethylbenzene	ND	0.11	1.0		µg/L	1	6/28/2016 3:40:00 AM	A35246
Xylenes, Total	ND	0.37	1.5		µg/L	1	6/28/2016 3:40:00 AM	A35246
Surr: 1,2-Dichloroethane-d4	86.1	0	70-130		%Rec	1	6/28/2016 3:40:00 AM	A35246
Surr: 4-Bromofluorobenzene	99.5	0	70-130		%Rec	1	6/28/2016 3:40:00 AM	A35246
Surr: Dibromofluoromethane	91.7	0	70-130		%Rec	1	6/28/2016 3:40:00 AM	A35246
Surr: Toluene-d8	99.0	0	70-130		%Rec	1	6/28/2016 3:40:00 AM	A35246

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-26092**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **26092**	RunNo: **35241**
Prep Date: **6/27/2016**	Analysis Date: **6/27/2016**	SeqNo: **1089804** 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	0.48	1.5								J

Sample ID **LCS-26092**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **26092**	RunNo: **35241**
Prep Date: **6/27/2016**	Analysis Date: **6/27/2016**	SeqNo: **1089805** 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	102	90	110			
Chloride	14	1.5	15.00	0	94.7	90	110			
Nitrogen, Nitrate (As N)	7.4	0.30	7.500	0	98.3	90	110			
Sulfate	29	1.5	30.00	0	97.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-25996** SampType: **MBLK** TestCode: **EPA Method 418.1: TPH**

Client ID: **PBS** Batch ID: **25996** RunNo: **35151**

Prep Date: **6/22/2016** Analysis Date: **6/23/2016** SeqNo: **1087694** 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-25996** SampType: **LCS** TestCode: **EPA Method 418.1: TPH**

Client ID: **LCSS** Batch ID: **25996** RunNo: **35151**

Prep Date: **6/22/2016** Analysis Date: **6/23/2016** SeqNo: **1087695** 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	95.7	83.4	127			

Sample ID **1606995-002AMS** SampType: **MS** TestCode: **EPA Method 418.1: TPH**

Client ID: **CentralOCD-02-6/16/** Batch ID: **25996** RunNo: **35151**

Prep Date: **6/22/2016** Analysis Date: **6/23/2016** SeqNo: **1087698** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	89	19	96.99	0	91.7	80	120			

Sample ID **1606995-002AMSD** SampType: **MSD** TestCode: **EPA Method 418.1: TPH**

Client ID: **CentralOCD-02-6/16/** Batch ID: **25996** RunNo: **35151**

Prep Date: **6/22/2016** Analysis Date: **6/23/2016** SeqNo: **1087699** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	93	20	100.3	0	93.0	80	120	4.79	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-25944**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **25944**	RunNo: **35116**
Prep Date: **6/20/2016**	Analysis Date: **6/23/2016**	SeqNo: **1086562** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		88.1	70	130			

Sample ID **LCS-25944**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **25944**	RunNo: **35116**
Prep Date: **6/20/2016**	Analysis Date: **6/23/2016**	SeqNo: **1086657** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	10	50.00	0	75.2	62.6	124			
Surr: DNOP	4.4		5.000		87.1	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1606995-006AMS** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **CentralOCD-TZ-6/16** Batch ID: **25923** RunNo: **35159**

Prep Date: **6/17/2016** Analysis Date: **6/24/2016** SeqNo: **1088051** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.6	23.02	0	93.3	59.3	143			
Surr: BFB	840		920.8		90.9	80	120			

Sample ID **1606995-006AMSD** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **CentralOCD-TZ-6/16** Batch ID: **25923** RunNo: **35159**

Prep Date: **6/17/2016** Analysis Date: **6/24/2016** SeqNo: **1088052** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	24.90	0	107	59.3	143	21.1	20	R
Surr: BFB	950		996.0		95.2	80	120	0	0	

Sample ID **LCS-25923** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **25923** RunNo: **35159**

Prep Date: **6/17/2016** Analysis Date: **6/24/2016** SeqNo: **1088059** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	80	120			
Surr: BFB	910		1000		90.9	80	120			

Sample ID **MB-25923** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **25923** RunNo: **35159**

Prep Date: **6/17/2016** Analysis Date: **6/24/2016** SeqNo: **1088060** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.3	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-25923**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **25923**	RunNo: **35020**
Prep Date: **6/17/2016**	Analysis Date: **6/20/2016**	SeqNo: **1083254** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
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)	0.020	0.050								J
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	0.028	0.15								J
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	0.10	0.15								J
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-25923**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **25923**	RunNo: **35020**
Prep Date: **6/17/2016**	Analysis Date: **6/20/2016**	SeqNo: **1083254** 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	0.49		0.5000		97.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.9	70	130			
Surr: Toluene-d8	0.47		0.5000		94.5	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		101	70	130			

Sample ID **lcs-25923**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **25923**	RunNo: **35020**
Prep Date: **6/17/2016**	Analysis Date: **6/20/2016**	SeqNo: **1083256** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	108	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Chlorobenzene	0.96	0.050	1.000	0	96.4	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-25923**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **25923**	RunNo: **35020**
Prep Date: **6/17/2016**	Analysis Date: **6/20/2016**	SeqNo: **1083256** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.1	0.050	1.000	0	109	70	130			
Trichloroethene (TCE)	1.1	0.050	1.000	0	110	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		101	70	130			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		96.4	70	130			
Surr: Toluene-d8	0.49		0.5000		97.5	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		101	70	130			

Sample ID **1606995-002ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **CentralOCD-02-6/16/**	Batch ID: **25923**	RunNo: **35020**
Prep Date: **6/17/2016**	Analysis Date: **6/20/2016**	SeqNo: **1083261** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.84	0.023	0.9302	0	90.1	49.2	155			
Toluene	0.75	0.047	0.9302	0	80.3	52	154			
Chlorobenzene	0.78	0.047	0.9302	0	84.0	53.2	150			
1,1-Dichloroethene	0.72	0.047	0.9302	0	77.5	34.2	163			
Trichloroethene (TCE)	0.84	0.047	0.9302	0	90.6	48.2	151			
Surr: Dibromofluoromethane	0.48		0.4651		103	70	130			
Surr: 1,2-Dichloroethane-d4	0.46		0.4651		97.9	70	130			
Surr: Toluene-d8	0.44		0.4651		95.7	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.4651		99.8	70	130			

Sample ID **1606995-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **CentralOCD-02-6/16/**	Batch ID: **25923**	RunNo: **35020**
Prep Date: **6/17/2016**	Analysis Date: **6/20/2016**	SeqNo: **1083262** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.024	0.9506	0	101	49.2	155	13.6	20	
Toluene	0.86	0.048	0.9506	0	90.3	52	154	13.9	20	
Chlorobenzene	0.82	0.048	0.9506	0	86.2	53.2	150	4.81	20	
1,1-Dichloroethene	0.94	0.048	0.9506	0	98.7	34.2	163	26.2	20	R
Trichloroethene (TCE)	0.98	0.048	0.9506	0	103	48.2	151	15.1	20	
Surr: Dibromofluoromethane	0.50		0.4753		104	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.46		0.4753		97.1	70	130	0	0	
Surr: Toluene-d8	0.44		0.4753		93.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.48		0.4753		100	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **A35246**	RunNo: **35246**
Prep Date:	Analysis Date: **6/27/2016**	SeqNo: **1090124** 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	8.9		10.00		88.6	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.6	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **A35246**	RunNo: **35246**
Prep Date:	Analysis Date: **6/27/2016**	SeqNo: **1090133** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	83.2	70	130			
Toluene	19	1.0	20.00	0	95.3	70	130			
Surr: 1,2-Dichloroethane-d4	8.1		10.00		80.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.8	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **1606995-008ams**	SampType: **MS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **FB-6/16/2016**	Batch ID: **A35246**	RunNo: **35246**
Prep Date:	Analysis Date: **6/28/2016**	SeqNo: **1090146** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	89.9	70	130			
Toluene	19	1.0	20.00	0	94.1	70	130			
Surr: 1,2-Dichloroethane-d4	8.4		10.00		84.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.9	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID **1606995-008amsd**	SampType: **MSD**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **FB-6/16/2016**	Batch ID: **A35246**	RunNo: **35246**
Prep Date:	Analysis Date: **6/28/2016**	SeqNo: **1090147** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	83.9	70	130	6.95	20	
Toluene	19	1.0	20.00	0	94.1	70	130	0.0106	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1606995-008amsd**	SampType: **MSD**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **FB-6/16/2016**	Batch ID: **A35246**	RunNo: **35246**
Prep Date:	Analysis Date: **6/28/2016**	SeqNo: **1090147** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	8.3		10.00		83.3	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130	0	0	
Surr: Dibromofluoromethane	8.9		10.00		88.7	70	130	0	0	
Surr: Toluene-d8	10		10.00		104	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-26116**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **26116**	RunNo: **35339**
Prep Date: **6/28/2016**	Analysis Date: **6/30/2016**	SeqNo: **1093291** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	0.088	0.50								J
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	0.11	0.50								J
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	0.11	0.40								J
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	0.086	0.40								J
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-26116**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **26116**	RunNo: **35339**
Prep Date: **6/28/2016**	Analysis Date: **6/30/2016**	SeqNo: **1093291** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
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	2.8		3.330		83.4	28.3	102			
Surr: Phenol-d5	3.0		3.330		89.4	35.7	103			
Surr: 2,4,6-Tribromophenol	3.0		3.330		89.0	35.2	108			
Surr: Nitrobenzene-d5	1.4		1.670		83.8	24	118			
Surr: 2-Fluorobiphenyl	1.6		1.670		95.1	35.4	111			
Surr: 4-Terphenyl-d14	1.1		1.670		65.6	15	91.7			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-26116**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **26116**	RunNo: **35339**
Prep Date: **6/28/2016**	Analysis Date: **6/30/2016**	SeqNo: **1093292** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.5	0.20	1.670	0	87.1	45.8	99.8			
4-Chloro-3-methylphenol	2.9	0.50	3.330	0	88.2	51.5	103			
2-Chlorophenol	2.8	0.20	3.330	0	82.6	46.5	105			
1,4-Dichlorobenzene	1.3	0.20	1.670	0	79.5	45.5	103			
2,4-Dinitrotoluene	1.3	0.50	1.670	0	80.3	36	87.2			
N-Nitrosodi-n-propylamine	1.1	0.20	1.670	0	63.4	47.3	104			
4-Nitrophenol	2.8	0.25	3.330	0	84.6	47.3	95.3			
Pentachlorophenol	2.6	0.40	3.330	0	79.1	38.7	89.3			
Phenol	2.7	0.20	3.330	0	82.2	47.8	106			
Pyrene	1.4	0.20	1.670	0	83.1	33.4	105			
1,2,4-Trichlorobenzene	1.5	0.20	1.670	0	90.9	50.4	115			
Surr: 2-Fluorophenol	2.5		3.330		75.9	28.3	102			
Surr: Phenol-d5	2.7		3.330		79.7	35.7	103			
Surr: 2,4,6-Tribromophenol	3.0		3.330		89.0	35.2	108			
Surr: Nitrobenzene-d5	1.5		1.670		88.9	24	118			
Surr: 2-Fluorobiphenyl	1.5		1.670		87.5	35.4	111			
Surr: 4-Terphenyl-d14	1.3		1.670		75.7	15	91.7			

Sample ID **1606995-002ams**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **CentralOCD-02-6/16/**	Batch ID: **26116**	RunNo: **35369**
Prep Date: **6/28/2016**	Analysis Date: **6/30/2016**	SeqNo: **1094093** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.2	0.20	1.651	0	70.1	39.3	86.4			
4-Chloro-3-methylphenol	2.4	0.49	3.292	0	71.8	37.5	96.4			
2-Chlorophenol	2.4	0.20	3.292	0	71.6	37.4	90.6			
1,4-Dichlorobenzene	0.91	0.20	1.651	0	55.4	31.7	85			
2,4-Dinitrotoluene	0.98	0.49	1.651	0	59.3	26.4	86			
N-Nitrosodi-n-propylamine	1.0	0.20	1.651	0	61.2	43.5	83			
4-Nitrophenol	2.1	0.25	3.292	0	65.2	32.7	98			
Pentachlorophenol	1.9	0.40	3.292	0	57.5	26.6	87.4			
Phenol	2.3	0.20	3.292	0	69.9	40.5	85.3			
Pyrene	1.0	0.20	1.651	0	61.9	23.2	93.9			
1,2,4-Trichlorobenzene	1.2	0.20	1.651	0	70.6	38.7	99			
Surr: 2-Fluorophenol	2.1		3.292		63.6	28.3	102			
Surr: Phenol-d5	2.3		3.292		69.3	35.7	103			
Surr: 2,4,6-Tribromophenol	2.1		3.292		63.6	35.2	108			
Surr: Nitrobenzene-d5	1.2		1.651		71.4	24	118			
Surr: 2-Fluorobiphenyl	1.2		1.651		69.9	35.4	111			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1606995-002ams**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **CentralOCD-02-6/16/**	Batch ID: **26116**	RunNo: **35369**
Prep Date: **6/28/2016**	Analysis Date: **6/30/2016**	SeqNo: **1094093** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	0.91		1.651		55.1	15	91.7			

Sample ID **1606995-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **CentralOCD-02-6/16/**	Batch ID: **26116**	RunNo: **35369**
Prep Date: **6/28/2016**	Analysis Date: **6/30/2016**	SeqNo: **1094094** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.1	0.20	1.653	0	64.2	39.3	86.4	8.70	30.2	
4-Chloro-3-methylphenol	2.2	0.49	3.296	0	65.3	37.5	96.4	9.36	37.2	
2-Chlorophenol	2.1	0.20	3.296	0	62.3	37.4	90.6	13.7	48	
1,4-Dichlorobenzene	0.80	0.20	1.653	0	48.1	31.7	85	13.9	40.6	
2,4-Dinitrotoluene	0.92	0.49	1.653	0	55.8	26.4	86	5.97	47.7	
N-Nitrosodi-n-propylamine	0.92	0.20	1.653	0	55.6	43.5	83	9.40	52.5	
4-Nitrophenol	2.1	0.25	3.296	0	62.7	32.7	98	3.78	36.6	
Pentachlorophenol	1.9	0.40	3.296	0	57.6	26.6	87.4	0.375	65.5	
Phenol	1.9	0.20	3.296	0	58.8	40.5	85.3	17.2	44	
Pyrene	0.94	0.20	1.653	0	56.9	23.2	93.9	8.27	42.1	
1,2,4-Trichlorobenzene	1.0	0.20	1.653	0	60.9	38.7	99	14.6	31.5	
Surr: 2-Fluorophenol	1.8		3.296		54.8	28.3	102	0	0	
Surr: Phenol-d5	2.0		3.296		61.9	35.7	103	0	0	
Surr: 2,4,6-Tribromophenol	2.1		3.296		64.3	35.2	108	0	0	
Surr: Nitrobenzene-d5	1.0		1.653		61.0	24	118	0	0	
Surr: 2-Fluorobiphenyl	1.1		1.653		66.3	35.4	111	0	0	
Surr: 4-Terphenyl-d14	0.87		1.653		52.6	15	91.7	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

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

Sample ID	MB-26093	SampType:	MBLK		TestCode:	EPA Method 7471: Mercury				
Client ID:	PBS	Batch ID:	26093		RunNo:	35255				
Prep Date:	6/27/2016	Analysis Date:	6/28/2016		SeqNo:	1090434	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	LCS-26093	SampType:	LCS		TestCode:	EPA Method 7471: Mercury				
Client ID:	LCSS	Batch ID:	26093		RunNo:	35255				
Prep Date:	6/27/2016	Analysis Date:	6/28/2016		SeqNo:	1090435	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	105	80	120			

Sample ID	1606995-002AMS	SampType:	MS		TestCode:	EPA Method 7471: Mercury				
Client ID:	CentralOCD-02-6/16/	Batch ID:	26093		RunNo:	35255				
Prep Date:	6/27/2016	Analysis Date:	6/28/2016		SeqNo:	1090442	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.031	0.1548	0.003335	99.7	75	125			

Sample ID	1606995-002AMSD	SampType:	MSD		TestCode:	EPA Method 7471: Mercury				
Client ID:	CentralOCD-02-6/16/	Batch ID:	26093		RunNo:	35255				
Prep Date:	6/27/2016	Analysis Date:	6/28/2016		SeqNo:	1090443	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.18	0.033	0.1683	0.003335	103	75	125	11.4	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-26123**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **26123**	RunNo: **35332**
Prep Date: **6/28/2016**	Analysis Date: **6/30/2016**	SeqNo: **1093114** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Copper	ND	0.30								
Iron	ND	2.5								
Lead	ND	0.25								
Manganese	ND	0.10								
Selenium	ND	2.5								
Silver	ND	0.25								
Uranium	ND	5.0								
Zinc	ND	2.5								

Sample ID **LCS-26123**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **26123**	RunNo: **35332**
Prep Date: **6/28/2016**	Analysis Date: **6/30/2016**	SeqNo: **1093115** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	23	2.5	25.00	0	93.0	80	120			
Barium	24	0.10	25.00	0	94.8	80	120			
Cadmium	24	0.10	25.00	0	94.4	80	120			
Chromium	23	0.30	25.00	0	93.9	80	120			
Copper	25	0.30	25.00	0	98.1	80	120			
Iron	24	2.5	25.00	0	94.8	80	120			
Lead	22	0.25	25.00	0	88.1	80	120			
Manganese	23	0.10	25.00	0	92.3	80	120			
Selenium	23	2.5	25.00	0	92.1	80	120			
Silver	4.7	0.25	5.000	0	93.1	80	120			
Uranium	24	5.0	25.00	0	98.0	80	120			
Zinc	24	2.5	25.00	0	94.2	80	120			

Sample ID **1606995-002AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **CentralOCD-02-6/16/**	Batch ID: **26123**	RunNo: **35362**
Prep Date: **6/28/2016**	Analysis Date: **6/30/2016**	SeqNo: **1093792** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	15	2.4	24.42	0.8789	57.7	75	125			S
Barium	160	0.098	24.42	165.2	-4.64	75	125			S
Cadmium	16	0.098	24.42	0	64.2	75	125			S
Chromium	24	0.29	24.42	8.131	66.6	75	125			S

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606995**

19-Jul-16

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1606995-002AMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **CentralOCD-02-6/16/** Batch ID: **26123** RunNo: **35362**

Prep Date: **6/28/2016** Analysis Date: **6/30/2016** SeqNo: **1093792** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	19	0.29	24.42	2.413	67.0	75	125			S
Lead	17	0.24	24.42	3.606	52.9	75	125			S
Selenium	12	2.4	24.42	0	50.2	75	125			S
Silver	3.2	0.24	4.885	0	65.0	75	125			S
Uranium	14	4.9	24.42	0	58.6	75	125			S
Zinc	28	2.4	24.42	12.53	62.3	75	125			S

Sample ID **1606995-002AMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **CentralOCD-02-6/16/** Batch ID: **26123** RunNo: **35362**

Prep Date: **6/28/2016** Analysis Date: **6/30/2016** SeqNo: **1093793** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	17	2.5	25.41	0.8789	63.0	75	125	11.9	20	S
Barium	210	0.10	25.41	165.2	157	75	125	22.2	20	RS
Cadmium	17	0.10	25.41	0	65.5	75	125	6.02	20	S
Chromium	26	0.30	25.41	8.131	70.2	75	125	6.27	20	S
Copper	21	0.30	25.41	2.413	71.9	75	125	9.71	20	S
Lead	18	0.25	25.41	3.606	55.0	75	125	6.18	20	S
Selenium	11	2.5	25.41	0	44.7	75	125	7.71	20	S
Silver	3.4	0.25	5.082	0	67.5	75	125	7.68	20	S
Uranium	15	5.1	25.41	0	60.3	75	125	6.96	20	S
Zinc	30	2.5	25.41	12.53	69.5	75	125	8.40	20	S

Sample ID **1606995-002APS** SampType: **PS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **CentralOCD-02-6/16/** Batch ID: **26123** RunNo: **35362**

Prep Date: Analysis Date: **6/30/2016** SeqNo: **1093794** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	21	2.4	24.44	0.8789	82.8	80	120			
Barium	200	0.098	24.44	165.2	133	80	120			S
Cadmium	20	0.098	24.44	0	81.9	80	120			
Chromium	28	0.29	24.44	8.131	81.1	80	120			
Copper	24	0.29	24.44	2.413	89.9	80	120			
Lead	22	0.24	24.44	3.606	74.9	80	120			S
Selenium	19	2.4	24.44	0	76.3	80	120			S
Silver	3.9	0.24	4.888	0	80.3	80	120			
Uranium	18	4.9	24.44	0	75.5	80	120			S
Zinc	32	2.4	24.44	12.53	79.8	80	120			S

Qualifiers:

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

Anatek Labs, Inc.

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

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

Batch #: 160622057
Project Name: 1606995

Analytical Results Report

Sample Number 160622057-001 **Sampling Date** 6/16/2016 **Date/Time Received** 6/22/2016 10:45 AM
Client Sample ID 1606995-001B / CENTRALOCD-01-6/16/2016 **Sampling Time** 12:20 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.283	6/30/2016 5:55:00 PM	MER	EPA 335.4	
%moisture	15.5	Percent		6/29/2016	ETL	%moisture	

Sample Number 160622057-002 **Sampling Date** 6/16/2016 **Date/Time Received** 6/22/2016 10:45 AM
Client Sample ID 1606995-002B / CENTRALOCD-02-6/16/2016 **Sampling Time** 12:50 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.297	6/30/2016 5:51:00 PM	MER	EPA 335.4	
%moisture	17.2	Percent		6/29/2016	ETL	%moisture	

Sample Number 160622057-003 **Sampling Date** 6/16/2016 **Date/Time Received** 6/22/2016 10:45 AM
Client Sample ID 1606995-003B / CENTRALOCD-03-6/16/2016 **Sampling Time** 1:20 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	6/30/2016 5:57:00 PM	MER	EPA 335.4	
%moisture	16.8	Percent		6/29/2016	ETL	%moisture	

Sample Number 160622057-004 **Sampling Date** 6/16/2016 **Date/Time Received** 6/22/2016 10:45 AM
Client Sample ID 1606995-004B / CENTRALOCD-04-6/16/2016 **Sampling Time** 11:45 AM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.295	6/30/2016 6:05:00 PM	MER	EPA 335.4	
%moisture	17.4	Percent		6/29/2016	ETL	%moisture	

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

Batch #: 160622057
Project Name: 1606995

Analytical Results Report

Sample Number	160622057-005	**Sampling Date**	6/16/2016	**Date/Time Received**	6/22/2016 10:45 AM
Client Sample ID	1606995-005B / BD-6/16/2016			**Sampling Time**	
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.29	6/30/2016 6:06:00 PM	MER	EPA 335.4	
%moisture	17.6	Percent		6/29/2016	ETL	%moisture	

Sample Number	160622057-006	**Sampling Date**	6/16/2016	**Date/Time Received**	6/22/2016 10:45 AM
Client Sample ID	1606995-006B / CENTRALOCD-TZ-6/16/2016			**Sampling Time**	1:40 PM
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.487	mg/Kg	0.25	6/30/2016 6:08:00 PM	MER	EPA 335.4	
%moisture	8.6	Percent		6/29/2016	ETL	%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.

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

Batch #: 160622057
Project Name: 1606995

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/kg	0.5	100.2	90-110	6/30/2016	6/30/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
160622057-002	Cyanide	ND	14.6	mg/kg	15.1	96.7	70-130	6/30/2016	6/30/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	14.7	mg/kg	14.9	98.7	0.7	0-25	6/30/2016	6/30/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	5	6/30/2016	6/30/2016

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

Comments:

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

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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1606995
Pace Project No.: 30187563

Sample: 1606995-001C CentralOCD-01-6/1 **Lab ID: 30187563001** Collected: 06/16/16 12:20 Received: 06/23/16 10:50 Matrix: Solid
PWS: Site ID: Sample Type:
Results reported on a "dry-weight" basis
Comments: • Sample Acceptance Policy Waiver on file from the client.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.255 ± 2.582 (3.112) C:NA T:NA**	pCi/g	07/14/16 12:06	13982-63-3	
Radium-228	EPA 901.1	**2.152 ± 0.446 (0.252) C:NA T:NA**	pCi/g	07/14/16 12:06	15262-20-1	

Sample: 1606995-002C CentralOCD-02-6/1 **Lab ID: 30187563002** Collected: 06/16/16 12:50 Received: 06/23/16 10:50 Matrix: Solid
PWS: Site ID: Sample Type:
Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**4.070 ± 2.123 (2.252) C:NA T:NA**	pCi/g	07/14/16 12:22	13982-63-3	
Radium-228	EPA 901.1	**1.806 ± 0.441 (0.138) C:NA T:NA**	pCi/g	07/14/16 12:22	15262-20-1	

Sample: 1606995-003C CentralOCD-03-6/1 **Lab ID: 30187563003** Collected: 06/16/16 13:20 Received: 06/23/16 10:50 Matrix: Solid
PWS: Site ID: Sample Type:
Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**2.237 ± 2.544 (3.016) C:NA T:NA**	pCi/g	07/14/16 12:39	13982-63-3	
Radium-228	EPA 901.1	**2.290 ± 0.514 (0.145) C:NA T:NA**	pCi/g	07/14/16 12:39	15262-20-1	

Sample: 1606995-004C CentralOCD-06-6/1 **Lab ID: 30187563004** Collected: 06/16/16 11:45 Received: 06/23/16 10:50 Matrix: Solid
PWS: Site ID: Sample Type:
Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.888 ± 2.288 (2.754) C:NA T:NA**	pCi/g	07/14/16 12:40	13982-63-3	
Radium-228	EPA 901.1	**1.553 ± 0.446 (0.391) C:NA T:NA**	pCi/g	07/14/16 12:40	15262-20-1	

Sample: 1606995-005C BD-6/16/2016 **Lab ID: 30187563005** Collected: 06/16/16 00:01 Received: 06/23/16 10:50 Matrix: Solid
PWS: Site ID: Sample Type:
Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**0.721 ± 2.612 (3.200) C:NA T:NA**	pCi/g	07/14/16 12:56	13982-63-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1606995
Pace Project No.: 30187563

Sample: 1606995-005C BD-6/16/2016 **Lab ID: 30187563005** Collected: 06/16/16 00:01 Received: 06/23/16 10:50 Matrix: Solid
PWS: Site ID: Sample Type:
Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**2.102 ± 0.475 (0.295) C:NA T:NA**	pCi/g	07/14/16 12:56	15262-20-1	

Sample: 1606995-006C CentralOCD-TZ-6/1 **Lab ID: 30187563006** Collected: 06/16/16 13:40 Received: 06/23/16 10:50 Matrix: Solid
PWS: Site ID: Sample Type:
Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.237 ± 1.946 (2.382) C:NA T:NA**	pCi/g	07/14/16 12:57	13982-63-3	
Radium-228	EPA 901.1	**1.210 ± 0.397 (0.240) C:NA T:NA**	pCi/g	07/14/16 12:57	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1606995
Pace Project No.: 30187563

QC Batch: 225883 Analysis Method: EPA 901.1
QC Batch Method: EPA 901.1 Analysis Description: 901.1 Gamma Spec
Associated Lab Samples: 30187563001, 30187563002, 30187563003, 30187563004, 30187563005, 30187563006

METHOD BLANK: 1106602 Matrix: Solid
Associated Lab Samples: 30187563001, 30187563002, 30187563003, 30187563004, 30187563005, 30187563006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.249 ± 1.401 (1.846) C:NA T:NA	pCi/g	07/11/16 20:46	
Radium-228	0.000 ± 0.066 (0.290) C:NA T:NA	pCi/g	07/11/16 20:46	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1606995
Pace Project No.: 30187563

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1606995 RcptNo: 1

Received by/date: AG 06/17/16

Logged By: Anne Thorne 6/17/2016 10:00:00 AM Anne Thorne

Completed By: Anne Thorne 6/17/2016 Anne Thorne

Reviewed By: AJ 6/17/16

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.4	Good				

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Western Refining

Mailing Address: Route 3 Box 7

Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-722-0210

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type) _Please provide EDD

Turnaround Time:

☒ Standard ☐ Rush

Project Name: OCD Central Landfarm Semiannual Sampling

Project #: 697-052-004

Project Manager: Ed Riege

Sampler: Joey Waldmann

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.4

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1606995	Vadose Zone List (see attached)	NMAC List (see attached)	TPH-DRO, GRO, and MRO by 8015M	BTEX (8260)	Air Bubbles (Y or N)
6/16/2016	1220	soil	CentralOCD-01-6/16/2016	8ox - 3, 4oz - 1	none	001	X	X			
6/16/2016	1250	soil	CentralOCD-02-6/16/2016	8ox - 3, 4oz - 1	none	002	X	X			
6/16/2016	1320	soil	CentralOCD-03-6/16/2016	8ox - 3, 4oz - 1	none	003	X	X			
6/16/2016	1145	soil	CentralOCD-04-6/16/2016	8ox - 3, 4oz - 1	none	004	X	X			
6/16/2016	——	soil	BD-6/16/2016	8ox - 3, 4oz - 1	none	005	X	X			
6/16/2016	1250	soil	CentralOCD-02-6/16/2016-MS	8ox - 3, 4oz - 1	none	002	X	X			
6/16/2016	1250	soil	CentralOCD-02-6/16/2016-MSD	8ox - 3, 4oz - 1	none	002	X	X			
6/16/2016	1340	soil	CentralOCD-TZ-6/16/2016	8oz - 3, 4oz - 1	none	006	X	X	X		
6/16/2016	1400	water	EB-6/16/2016	VOA - 3	HCL	007				X	
6/16/2016	1415	water	FB-6/16/2016	VOA - 3	HCL	008				X	
		water	Trip Blank	VOA - 3	HCL	009				X	

Analysis Request

Date	Time	Relinquished by:	Received by:	Date Time
6/17/2016	10:00	Joey Waldmann		
Date:	Time:	Relinquished by:	Received by:	Date Time 06/17/16 1000

Remarks: Please cc Grant Price (gprice@trihydro.com) with results. Call Grant @ 307-745-7474 w/ questions. **Verify that Reporting limits comply with those shown on the attached. PCBs need DL of 0.02 mg/kg. Data report and package w/ Trihydro EDD needed within 10 days of reciept. Any way to prevent low surrogate recoveries as w/ Sept. 2014 data package (Rpt 1409874)?**

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

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

20.6.2.3103 NMAC (6/9/2016)

A. **Human Health Standards**-Ground water shall meet the standards of Subsection A and B of this section unless otherwise provided. If more than one water contaminant affecting human health is present, the toxic pollutant criteria as set forth in the definition of toxic pollutant in Section 20.6.2.1101 NMAC for the combination of contaminants, or the Human Health Standard of Subsection A of Section 20.6.2.3103 NMAC for each contaminant shall apply, whichever is more stringent. Non-aqueous phase liquid shall not be present floating atop of or immersed within ground water, as can be reasonably measured.

-1	Arsenic (As)	0.1 mg/l
-2	Barium (Ba)	1.0 mg/l
-3	Cadmium (Cd)	0.01 mg/l
-4	Chromium (Cr)	0.05 mg/l
-5	Cyanide (CN)	0.2 mg/l
-6	Fluoride (F)	1.6 mg/l
-7	Lead (Pb)	0.05 mg/l
-8	Total Mercury (Hg)	0.002 mg/l
-9	Nitrate (NO_3 as N)	10.0 mg/l
-10	Selenium (Se)	0.05 mg/l
-11	Silver (Ag)	0.05 mg/l
-12	Uranium (U)	0.03 mg/l
-13	Radioactivity: Combined Radium-226 & Radium-228	30 pCi/l
-14	Benzene	0.01 mg/l
~~-15~~	~~Polychlorinated biphenyls (PCB's)~~	~~0.001 mg/l~~
-16	Toluene	0.75 mg/l
-17	Carbon Tetrachloride	0.01 mg/l
-18	1,2-dichloroethane (EDC)	0.01 mg/l
-19	1,1-dichloroethylene (1,1-DCE)	0.005 mg/l
-20	1,1,2,2-tetrachloroethylene (PCE)	0.02 mg/l
-21	1,1,2-trichloroethylene (TCE)	0.1 mg/l
-22	ethylbenzene	0.75 mg/l
-23	total xylenes	0.62 mg/l
-24	methylene chloride	0.1 mg/l
-25	chloroform	0.1 mg/l
-26	1,1-dichloroethane	0.025 mg/l
-27	ethylene dibromide (EDB)	0.0001 mg/l
-28	1,1,1-trichloroethane	0.06 mg/l
-29	1,1,2-trichloroethane	0.01 mg/l
-30	1,1,2,2-tetrachloroethane	0.01 mg/l
-31	vinyl chloride	0.001 mg/l
-32	PAHs: total naphthalene plus monomethylnaphthalenes	0.03 mg/l
-33	benzo-a-pyrene	0.0007 mg/l

B. **Other Standards for Domestic Water Supply**

-1	Chloride (Cl)	250.0 mg/l
-2	Copper (Cu)	1.0 mg/l
-3	Iron (Fe)	1.0 mg/l
-4	Manganese (Mn)	0.2 mg/l
-6	Phenols	0.005 mg/l
-7	Sulfate (SO_4)	600.0 mg/l
-8	Total Dissolved Solids (TDS)	1000.0 mg/l
-9	Zinc (Zn)	10.0 mg/l
-10	pH	between 6 and 9

Tier II Data Validation Report Summary

Client: Western Refining Southwest, Inc.	Laboratory: Hall Environmental Analysis Laboratory
Project Name: OCD Landfarm Semiannual Sampling	Sample Matrix: Soil
Project Number: 697-052-003	Sample Start Date: 06/16/2016
Date Validated: 07/20/2016	Sample End Date: 06/16/2016
Parameters Included: • Volatile Organic Compounds (VOC) by Test Methods for Evaluating Solid Waste (SW846) Method 8260B • Semivolatile Organic Compounds (SVOC) by SW846 Method 8270C • Total Petroleum Hydrocarbons (TPH) by US Environmental Protection Agency (EPA) Method 418.1 • Gasoline Range Organics (GRO), Diesel Range Organics (DRO), and Motor Oil Range Organics (MRO) by SW846 Method 8015D • Metals by SW-846 Method 6010B • Mercury by SW-846 Method 7471 • Anions by EPA Method 300.0 • Cyanide by EPA Method 335.4 • Moisture by Method % Moisture • Radium-226 and Radium-228 by EPA Method 901.1	
Laboratory Project ID: 1606995	
Data Validator: Kyle Power, 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 accuracy was established by reviewing the demonstrated percent recoveries (%R) of the following items to verify that data are not biased.

- MS/MSD samples
- Laboratory control sample (LCS)
- Organic system monitoring compounds (surrogates)

Tier II Data Validation Report Summary

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

- Trip blank
- Field blank
- Equipment blank

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

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

Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
CentralOCD-01-6/16/2016	1606995-001
CentralOCD-02-6/16/2016	1606995-002
CentralOCD-03-6/16/2016	1606995-003
CentralOCD-04-6/16/2016	1606995-004
BD-6/16/2016	1606995-005
CentralOCD-TZ-6/16/2016	1606995-006
EB-6/16/2016	1606995-007
FB-6/16/2016	1606995-008
Trip Blank	1606995-009

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. An empty circle (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 11)
- ⊗ MS/MSD (Item 13)
- ✓ LCS (Item 15)
- ✓ System Monitoring Compounds (i.e., Surrogates) (Item 17)
- ✓ Field, Equipment, and Trip Blanks (Item 18)
- ✓ Field Duplicate (Item 20)
- O Laboratory Duplicates (Item 22)

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, February 2016.
- Project-specific Quality Assurance Project Plans (QAPP) data validation requirements, as applicable.

Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

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

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

Text identified in **bold font** in the Validation Criteria Checklist indicates that further action and/or qualification of the data were required. Data were qualified with J data flags by the laboratory if the result was greater than or equal to the method detection limit (MDL) but less than the reporting limit (RL). Laboratory J flags were preserved in the data and included in the Data Qualification Summary table at the end of this report. 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. Data that would be qualified with both J+ and J- flags were evaluated based on validation criteria and assigned the appropriate flag. The hierarchy of qualifiers from the most to least severe is as follows:

- R > JB/U > NJ > J+/J- > J/UJ

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

Qualifier	Definition
J	Estimated concentration
J-	The result is an estimated concentration, but may be biased low
UJ	Estimated reporting limit
U	Evaluated to be undetected at the 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 933 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?	Yes
Comments: The laboratory did not identify non-conformances regarding the analytical data.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags with this data set. D – Sample diluted due to matrix J – Analyte detected below quantitation limits R – RPD outside accepted recovery limits S – % recovery outside of range due to dilution or matrix	
3. Were sample CoC forms and procedures complete?	Yes
Comments: The CoC records from field to laboratory were complete and custody was maintained as evidenced by 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 6010B: Dilutions of 2 to 100 times were applied for the metals analyses of samples. Method 7471: Sample CentralOCD-TZ06/16/2016 was diluted by a factor of 2 times for the mercury analysis. Method 300.0: Dilutions of 20 times were applied for the anion analyses of the samples. Method 418.1: Sample CentralOCD-TZ06/16/2016 was diluted by a factor of 10 times for the TPH analysis.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC? Specify if any analytes reported by more than one method?	Yes
Comments: The reported analytical methods were in compliance with the CoC and the laboratory reported the requested constituents in accordance with the CoC.	
6. Were samples received in good condition within method-specified requirements?	Yes
Comments: Samples were received on ice, in good condition, and with the cooler temperature within the recommended temperature range of 4°C ± 2°C at 4.4°C as noted on the Sample Log-In Check List. The laboratory noted that the shipping containers were sealed and custody seals were present.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	No
Comments: The samples were extracted/digested and analyzed within method-specific holding times, with the following exceptions. **Method 300.0: The samples were analyzed for nitrate outside the method-specific holding time of 48 hours by approximately 9 days. The nitrate results were qualified as J to indicate estimated concentrations.** **Method 335.4: The samples were analyzed for cyanide outside the method-specific holding time of 14 days by approximately 4.5 to 6.5 hours. The cyanide results were qualified as J if detected and UJ if not detected due to the holding time exceedances.**	

VALIDATION CRITERIA CHECKLIST

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, with exception to the cyanide, radium-266, and radium-228 results, which 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 (µg/L), which were appropriate.

9. Did the laboratory provide any specific initial and/or continuing calibration results? — No

Comments: Initial and continuing calibration data were not included as part of this data set.

10. If initial and/or continuing calibration results were provided, were the results within acceptable limits? — N/A

Comments: Initial and continuing calibration data were not included as part of this data set.

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

12. Were target analytes reported as not detected in the laboratory blanks? — No

Comments: Target analytes were reported as not detected in the laboratory blanks, with the exceptions listed in the following table.

Method	Analyte	Batch	Concentration (mg/kg)
8260B	1,2-Dichloroethane	25923	0.020
8260B	**Bromomethane**	**25923**	**0.028**
8260B	**Chloromethane**	**25923**	**0.10**
8270C	Benzoic Acid	26116	0.088
8270C	**Bis(2-ethylhexyl)phthalate**	**26116**	**0.11**
8270C	**Di-n-butylphthalate**	**26116**	**0.11**
8270C	4,6-Dinitro-2-methylphenol	26116	0.086
300.0	Sulfate	26092	0.48

Detections of the identified analytes in the associated samples that were less than the reporting limits were qualified as U. Non-detections of the identified analytes and detections greater than 10 times the blank concentrations in the associated samples did not require qualification.

VALIDATION CRITERIA CHECKLIST

13. 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? No

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

Method	Analyte (s)	Batch	MS Sample Source
8260B	VOC	25923	CentralOCD-02-6/16/2016
8260B	VOC	A35246	FB-6/16/2016
8270C	SVOC	26116	CentralOCD-02-6/16/2016
418.1	TPH	25996	CentralOCD-02-6/16/2016
8015D	GRO	25923	CentralOCD-TZ-6/16/2016
8015D	DRO and MRO	25944	Not Prepared
7471	Mercury	26093	CentralOCD-02-6/16/2016
6010B	Total Metals	26123	CentralOCD-02-6/16/2016
300.0	Anions	26092	Not Prepared
335.4	Cyanide	160622057	CentralOCD-02-6/16/2016
901.1	Radium	225883	Not Prepared

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

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

Comments: The MS/MSD percent recoveries and RPDs for project samples were within data validation or laboratory QC limits or were not applicable because the original result was greater than four times the amount spiked, with the exceptions listed in the following table.

Method	Analyte	Batch	MS Recovery	MSD Recovery	MS/MSD QC Limits	MS/MSD RPD	RPD QC Limits
8260B	**1,1-Dichloroethene**	**25923**	**Acceptable**	**Acceptable**	**34.2-163%**	**26.2%**	**20%**
8015D	**GRO**	**25923**	**Acceptable**	**Acceptable**	**59.3-143%**	**21.1%**	**20%**
6010B	**Arsenic**	**26123**	**57.7%**	**63.0%**	**75-125%**	**Acceptable**	**20%**
6010B	**Cadmium**	**26123**	**64.2%**	**65.5%**	**75-125%**	**Acceptable**	**20%**
6010B	**Chromium**	**26123**	**66.6%**	**70.2%**	**75-125%**	**Acceptable**	**20%**
6010B	**Copper**	**26123**	**67.0%**	**71.9%**	**75-125%**	**Acceptable**	**20%**
6010B	**Lead**	**26123**	**52.9%**	**55.0%**	**75-125%**	**Acceptable**	**20%**
6010B	**Selenium**	**26123**	**50.2%**	**44.7%**	**75-125%**	**Acceptable**	**20%**
6010B	**Silver**	**26123**	**65.0%**	**67.5%**	**75-125%**	**Acceptable**	**20%**
6010B	**Uranium**	**26123**	**58.6%**	**60.3%**	**75-125%**	**Acceptable**	**20%**
6010B	**Zinc**	**26123**	**62.3%**	**69.5%**	**75-125%**	**Acceptable**	**20%**

Analytes with MS/MSD RPD values exceeding laboratory QC limits were not detected in associated samples and the results were qualified as UJ to indicate estimated reporting limits.

Analytes with MS and MSD percent recoveries less than data validation QC limits were qualified as J if detected in the associated samples and UJ if not detected.

The post digestion spike (PDS) recoveries for lead, selenium, uranium, and zinc were outside the data validation limits and the associated results for those analytes were qualified as J- if detected or UJ in not detected in the associated samples.

VALIDATION CRITERIA CHECKLIST	
15. 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.	
16. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits?	Yes
Comments: The LCS percent recoveries were within data validation or laboratory QC limits.	
17. Were surrogate recoveries within laboratory QC limits?	No
Comments: Surrogate recoveries were within laboratory QC limits, with the following exception. Method 8270C: The surrogate percent recovery for 4-terphenyl-d_{14} from sample BD-6/16/2016 was outside laboratory QC limits of 15-91.7% at 102%. Qualification was not required as analytes associated with 4-terphenyl-d_{14} were not detected in sample BD-6/16/2016.	
18. 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, field, and equipment blanks collected was equal to at least 10% of the number of samples. One trip blank sample, Trip Blank, one field blank sample, FB-6/16/2016, and one equipment blank sample, EB-6/16/2016, were collected as part of this sample set.	
19. Were target analytes reported as not detected in the trip blank, field blank, and/or equipment blank samples?	Yes
Comments: Target analytes were reported as not detected in the trip, field, and equipment blanks.	
20. 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 duplicates collected was equal to at least 10% of the number of samples. Sample BD-6/16/2016 was collected as a field duplicate of sample CentralOCD-01-6/16/2016.	
21. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	Yes
Comments: As indicated in the Field Duplicate Summary Table at the end of this report, field duplicate RPD values were within data validation QC limits of 0-50% for soil samples.	
22. For laboratory duplicates prepared from project samples, were RPDs within laboratory QC limits?	N/A
Comments: Laboratory duplicate samples were not prepared for this sample set.	

FIELD DUPLICATE SUMMARY

Client Sample ID: CentralOCD-01-6/16/2016 Field Duplicate Sample ID: BD-6/16/2016				
Analyte	**Method**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Arsenic	6010B	1.1	ND (4.8)	DL
Barium	6010B	150	190	23.5%
Chromium	6010B	8.0	11	31.6%
Copper	6010B	3.4	3.8	11.1%
Iron	6010B	13,000	15,000	14.3%
Lead	6010B	3.2	3.6	11.8%
Manganese	6010B	280	240	15.4%
Zinc	6010B	14	17	19.4%
TPH	418.1	33	ND (21)	DL
Mercury	7471	0.013	0.0054	82.6% +/-RL
Chloride	300.0	330	360	8.7%
Fluoride	300.0	4.4	2.7	47.9%
Nitrate as Nitrogen	300.0	2.9	3.0	3.4%
Sulfate	300.0	550	770	33.3%

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. Non-detected results are indicated above with the applicable reporting limit as ND (RL).

+/-RL = Indicates that the detections in the samples were within two times the applicable reporting limits. Qualification of data was not required.

DATA QUALIFICATION SUMMARY

Abbreviation	Reason
HT-AN	Sample was analyzed outside of the method holding time.
LR-MS	The MS and/or MSD percent recovery was less than the lower acceptable limit indicating possible matrix interference.
ERPD-MS	The MS/MSD RPD exceeded the upper acceptable limit indicating poor precision.
MBD	Method blank detection
MDLRL	Flagged by the laboratory: The result was greater than the MDL but less than the RL.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,1-Dichloroethene	SW8260B	CentralOCD-01-6/16/2016	1606995-001a	ND	0.046	mg/kg	UJ	ERPD-MS
1,1-Dichloroethene	SW8260B	CentralOCD-02-6/16/2016	1606995-002a	ND	0.05	mg/kg	UJ	ERPD-MS
1,1-Dichloroethene	SW8260B	CentralOCD-03-6/16/2016	1606995-003a	ND	0.048	mg/kg	UJ	ERPD-MS
1,1-Dichloroethene	SW8260B	CentralOCD-04-6/16/2016	1606995-004a	ND	0.05	mg/kg	UJ	ERPD-MS
1,1-Dichloroethene	SW8260B	BD-6/16/2016	1606995-005a	ND	0.047	mg/kg	UJ	ERPD-MS
1,1-Dichloroethene	SW8260B	CentralOCD-TZ-6/16/2016	1606995-006a	ND	0.046	mg/kg	UJ	ERPD-MS
2-Butanone	SW8260B	CentralOCD-TZ-6/16/2016	1606995-006a	0.07	0.46	mg/kg	J	MDLRL
Arsenic, Total	SW6010B	CentralOCD-03-6/16/2016	1606995-003A	ND	5.1	mg/kg	UJ	LR-MS
Arsenic, Total	SW6010B	CentralOCD-04-6/16/2016	1606995-004A	ND	4.8	mg/kg	UJ	LR-MS
Arsenic, Total	SW6010B	BD-6/16/2016	1606995-005A	ND	4.8	mg/kg	UJ	LR-MS
Arsenic, Total	SW6010B	CentralOCD-01-6/16/2016	1606995-001A	1.1	2.4	mg/kg	J	LR-MS, MDLRL
Arsenic, Total	SW6010B	CentralOCD-02-6/16/2016	1606995-002A	0.88	2.4	mg/kg	J	LR-MS, MDLRL
Arsenic, Total	SW6010B	CentralOCD-TZ-6/16/2016	1606995-006A	1.4	2.4	mg/kg	J	LR-MS, MDLRL
Bis(2-ethylhexyl)phthalate	SW8270C	CentralOCD-01-6/16/2016	1606995-001A	0.19	0.99	mg/kg	U	MBD, MDLRL
Bis(2-ethylhexyl)phthalate	SW8270C	CentralOCD-02-6/16/2016	1606995-002a	0.1	0.5	mg/kg	U	MBD, MDLRL
Bis(2-ethylhexyl)phthalate	SW8270C	CentralOCD-03-6/16/2016	1606995-003a	0.11	0.5	mg/kg	U	MBD, MDLRL
Bis(2-ethylhexyl)phthalate	SW8270C	CentralOCD-04-6/16/2016	1606995-004a	0.099	0.5	mg/kg	U	MBD, MDLRL
Bis(2-ethylhexyl)phthalate	SW8270C	CentralOCD-TZ-6/16/2016	1606995-006A	0.18	1	mg/kg	U	MBD, MDLRL
Bromomethane	SW8260B	CentralOCD-01-6/16/2016	1606995-001a	0.019	0.14	mg/kg	U	MBD, MDLRL
Bromomethane	SW8260B	CentralOCD-03-6/16/2016	1606995-003a	0.018	0.15	mg/kg	U	MBD, MDLRL
Bromomethane	SW8260B	CentralOCD-04-6/16/2016	1606995-004a	0.023	0.15	mg/kg	U	MBD, MDLRL
Bromomethane	SW8260B	BD-6/16/2016	1606995-005a	0.021	0.14	mg/kg	U	MBD, MDLRL
Bromomethane	SW8260B	CentralOCD-TZ-6/16/2016	1606995-006a	0.024	0.14	mg/kg	U	MBD, MDLRL
Cadmium, Total	SW6010B	CentralOCD-01-6/16/2016	1606995-001A	ND	0.096	mg/kg	UJ	LR-MS
Cadmium, Total	SW6010B	CentralOCD-02-6/16/2016	1606995-002A	ND	0.098	mg/kg	UJ	LR-MS
Cadmium, Total	SW6010B	CentralOCD-03-6/16/2016	1606995-003A	ND	0.2	mg/kg	UJ	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Cadmium, Total	SW6010B	CentralOCD-04-6/16/2016	1606995-004A	ND	0.19	mg/kg	UJ	LR-MS
Cadmium, Total	SW6010B	BD-6/16/2016	1606995-005A	ND	0.19	mg/kg	UJ	LR-MS
Cadmium, Total	SW6010B	CentralOCD-TZ-6/16/2016	1606995-006A	ND	0.097	mg/kg	UJ	LR-MS
Chloromethane	SW8260B	CentralOCD-01-6/16/2016	1606995-001a	0.081	0.14	mg/kg	U	MBD, MDLRL
Chloromethane	SW8260B	CentralOCD-02-6/16/2016	1606995-002a	0.08	0.15	mg/kg	U	MBD, MDLRL
Chloromethane	SW8260B	CentralOCD-03-6/16/2016	1606995-003a	0.07	0.15	mg/kg	U	MBD, MDLRL
Chloromethane	SW8260B	CentralOCD-04-6/16/2016	1606995-004a	0.065	0.15	mg/kg	U	MBD, MDLRL
Chloromethane	SW8260B	BD-6/16/2016	1606995-005a	0.058	0.14	mg/kg	U	MBD, MDLRL
Chloromethane	SW8260B	CentralOCD-TZ-6/16/2016	1606995-006a	0.056	0.14	mg/kg	U	MBD, MDLRL
Chromium, Total	SW6010B	CentralOCD-01-6/16/2016	1606995-001A	8	0.29	mg/kg	J	LR-MS
Chromium, Total	SW6010B	CentralOCD-02-6/16/2016	1606995-002A	8.1	0.29	mg/kg	J	LR-MS
Chromium, Total	SW6010B	CentralOCD-03-6/16/2016	1606995-003A	11	0.61	mg/kg	J	LR-MS
Chromium, Total	SW6010B	CentralOCD-04-6/16/2016	1606995-004A	9.5	0.57	mg/kg	J	LR-MS
Chromium, Total	SW6010B	BD-6/16/2016	1606995-005A	11	0.58	mg/kg	J	LR-MS
Chromium, Total	SW6010B	CentralOCD-TZ-6/16/2016	1606995-006A	10	0.29	mg/kg	J	LR-MS
Copper, Total	SW6010B	CentralOCD-01-6/16/2016	1606995-001A	3.4	0.29	mg/kg	J	LR-MS
Copper, Total	SW6010B	CentralOCD-02-6/16/2016	1606995-002A	2.4	0.29	mg/kg	J	LR-MS
Copper, Total	SW6010B	CentralOCD-03-6/16/2016	1606995-003A	3.4	0.61	mg/kg	J	LR-MS
Copper, Total	SW6010B	CentralOCD-04-6/16/2016	1606995-004A	3	0.57	mg/kg	J	LR-MS
Copper, Total	SW6010B	BD-6/16/2016	1606995-005A	3.8	0.58	mg/kg	J	LR-MS
Copper, Total	SW6010B	CentralOCD-TZ-6/16/2016	1606995-006A	8.9	0.29	mg/kg	J	LR-MS
Cyanide, Total	SW9012	CentralOCD-01-6/16/2016	1606995-001B	ND	0.28	mg/kg	UJ	HT-AN
Cyanide, Total	SW9012	CentralOCD-02-6/16/2016	1606995-002B	ND	0.30	mg/kg	UJ	HT-AN
Cyanide, Total	SW9012	CentralOCD-03-6/16/2016	1606995-003B	ND	0.30	mg/kg	UJ	HT-AN
Cyanide, Total	SW9012	CentralOCD-04-6/16/2016	1606995-004B	ND	0.30	mg/kg	UJ	HT-AN
Cyanide, Total	SW9012	BD-6/16/2016	1606995-005B	ND	0.29	mg/kg	UJ	HT-AN
Cyanide, Total	SW9012	CentralOCD-TZ-6/16/2016	1606995-006B	0.49	0.25	mg/kg	J	HT-AN
Di-n-butylphthalate	SW8270C	CentralOCD-01-6/16/2016	1606995-001A	0.17	0.79	mg/kg	U	MBD, MDLRL
Di-n-butylphthalate	SW8270C	CentralOCD-02-6/16/2016	1606995-002a	0.092	0.40	mg/kg	U	MBD, MDLRL
Di-n-butylphthalate	SW8270C	BD-6/16/2016	1606995-005A	0.16	0.80	mg/kg	U	MBD, MDLRL
Di-n-butylphthalate	SW8270C	CentralOCD-TZ-6/16/2016	1606995-006A	0.15	0.80	mg/kg	U	MBD, MDLRL
Lead, Total	SW6010B	CentralOCD-01-6/16/2016	1606995-001A	3.2	0.24	mg/kg	J-	LR-MS
Lead, Total	SW6010B	CentralOCD-02-6/16/2016	1606995-002A	3.6	0.24	mg/kg	J-	LR-MS
Lead, Total	SW6010B	CentralOCD-03-6/16/2016	1606995-003A	4.7	0.51	mg/kg	J-	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Lead, Total	SW6010B	CentralOCD-04-6/16/2016	1606995-004A	5.2	0.48	mg/kg	J-	LR-MS
Lead, Total	SW6010B	BD-6/16/2016	1606995-005A	3.6	0.48	mg/kg	J-	LR-MS
Lead, Total	SW6010B	CentralOCD-TZ-6/16/2016	1606995-006A	9	0.24	mg/kg	J-	LR-MS
Mercury, Total	SW7471	CentralOCD-01-6/16/2016	1606995-001A	0.013	0.031	mg/kg	J	MDLRL
Mercury, Total	SW7471	CentralOCD-02-6/16/2016	1606995-002A	0.0033	0.033	mg/kg	J	MDLRL
Mercury, Total	SW7471	CentralOCD-03-6/16/2016	1606995-003A	0.0048	0.034	mg/kg	J	MDLRL
Mercury, Total	SW7471	CentralOCD-04-6/16/2016	1606995-004A	0.0042	0.031	mg/kg	J	MDLRL
Mercury, Total	SW7471	BD-6/16/2016	1606995-005A	0.0054	0.031	mg/kg	J	MDLRL
Nitrogen	E300	CentralOCD-01-6/16/2016	1606995-001A	2.9	0.3	mg/kg	J	HT-AN
Nitrogen	E300	CentralOCD-02-6/16/2016	1606995-002A	8.8	0.3	mg/kg	J	HT-AN
Nitrogen	E300	CentralOCD-03-6/16/2016	1606995-003A	21	6	mg/kg	J	HT-AN
Nitrogen	E300	CentralOCD-04-6/16/2016	1606995-004A	7.1	0.3	mg/kg	J	HT-AN
Nitrogen	E300	BD-6/16/2016	1606995-005A	3	0.3	mg/kg	J	HT-AN
Nitrogen	E300	CentralOCD-TZ-6/16/2016	1606995-006A	5.2	0.3	mg/kg	J	HT-AN
Selenium, Total	SW6010B	CentralOCD-01-6/16/2016	1606995-001A	ND	2.4	mg/kg	UJ	LR-MS
Selenium, Total	SW6010B	CentralOCD-02-6/16/2016	1606995-002A	ND	2.4	mg/kg	UJ	LR-MS
Selenium, Total	SW6010B	CentralOCD-03-6/16/2016	1606995-003A	ND	5.1	mg/kg	UJ	LR-MS
Selenium, Total	SW6010B	CentralOCD-04-6/16/2016	1606995-004A	ND	4.8	mg/kg	UJ	LR-MS
Selenium, Total	SW6010B	BD-6/16/2016	1606995-005A	ND	4.8	mg/kg	UJ	LR-MS
Selenium, Total	SW6010B	CentralOCD-TZ-6/16/2016	1606995-006A	ND	2.4	mg/kg	UJ	LR-MS
Silver, Total	SW6010B	CentralOCD-01-6/16/2016	1606995-001A	ND	0.24	mg/kg	UJ	LR-MS
Silver, Total	SW6010B	CentralOCD-02-6/16/2016	1606995-002A	ND	0.24	mg/kg	UJ	LR-MS
Silver, Total	SW6010B	CentralOCD-03-6/16/2016	1606995-003A	ND	0.51	mg/kg	UJ	LR-MS
Silver, Total	SW6010B	CentralOCD-04-6/16/2016	1606995-004A	ND	0.48	mg/kg	UJ	LR-MS
Silver, Total	SW6010B	BD-6/16/2016	1606995-005A	ND	0.48	mg/kg	UJ	LR-MS
Silver, Total	SW6010B	CentralOCD-TZ-6/16/2016	1606995-006A	ND	0.24	mg/kg	UJ	LR-MS
Toluene	SW8260B	CentralOCD-TZ-6/16/2016	1606995-006a	0.009	0.046	mg/kg	J	MDLRL
TPH GRO	SW8015	CentralOCD-TZ-6/16/2016	1606995-006A	ND	4.6	mg/kg	UJ	ERPD-MS
Uranium, Total	SW6010B	CentralOCD-01-6/16/2016	1606995-001A	ND	4.8	mg/kg	UJ	LR-MS
Uranium, Total	SW6010B	CentralOCD-02-6/16/2016	1606995-002A	ND	4.9	mg/kg	UJ	LR-MS
Uranium, Total	SW6010B	CentralOCD-03-6/16/2016	1606995-003A	ND	10	mg/kg	UJ	LR-MS
Uranium, Total	SW6010B	CentralOCD-04-6/16/2016	1606995-004A	ND	9.6	mg/kg	UJ	LR-MS
Uranium, Total	SW6010B	BD-6/16/2016	1606995-005A	ND	9.7	mg/kg	UJ	LR-MS
Uranium, Total	SW6010B	CentralOCD-TZ-6/16/2016	1606995-006A	ND	4.9	mg/kg	UJ	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Xylenes, Total	SW8260B	CentralOCD-TZ-6/16/2016	1606995-006a	0.01	0.093	mg/kg	J	MDLRL
Zinc, Total	SW6010B	CentralOCD-01-6/16/2016	1606995-001A	14	2.4	mg/kg	J-	LR-MS
Zinc, Total	SW6010B	CentralOCD-02-6/16/2016	1606995-002A	13	2.4	mg/kg	J-	LR-MS
Zinc, Total	SW6010B	CentralOCD-03-6/16/2016	1606995-003A	18	5.1	mg/kg	J-	LR-MS
Zinc, Total	SW6010B	CentralOCD-04-6/16/2016	1606995-004A	15	4.8	mg/kg	J-	LR-MS
Zinc, Total	SW6010B	BD-6/16/2016	1606995-005A	17	4.8	mg/kg	J-	LR-MS
Zinc, Total	SW6010B	CentralOCD-TZ-6/16/2016	1606995-006A	38	2.4	mg/kg	J-	LR-MS