AP-111

LANDFARMS

2013

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, March 25, 2015 7:58 AM
To: 'Grant Price'
Cc: Larsen, Thurman; Riege, Ed; Joey Waldmann
Subject: RE: Gallup Refinery AP-111 Land Farm Confirm. Sample Results by COB Today!

Mr. Price:

The New Mexico Oil Conservation Division (OCD) is in receipt of the "Chloride Exceedance Response Action Plan" (plan) for the central OCD Landfarm dated March 20, 2015.

OCD hereby approves the plan.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Drive, Santa Fe, New Mexico 87505
O: (505) 476-3490
E-mail: CarlJ.Chavez@State.NM.US
Web: http://www.emnrd.state.nm.us/ocd/
"Why Not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward With the Rest of the Nation?" To see how, please go to: "Pollution Prevention & Waste Minimization" at
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental

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

Hello Carl,

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

Thanks,

Grant Price

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

Ok. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Drive, Santa Fe, New Mexico 87505
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From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Thursday, March 05, 2015 10:03 AM
To: Chavez, Carl J, EMNRD
Cc: Grant Price
Subject: FW: AP-111 Land Farm Confirm. Sample Results by COB Today!

Hi Carl,
See response below from Grant.

Thanks
Ed

From: Grant Price [mailto:gprice@trihydro.com]
Sent: Thursday, March 05, 2015 9:36 AM
To: Riege, Ed
Subject: RE: AP-111 Land Farm Confirm. Sample Results by COB Today!

Hi Ed,

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

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

Thanks,
Grant

From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Thursday, March 05, 2015 9:30 AM
To: Grant Price
Subject: FW: AP-111 Land Farm Confirm. Sample Results by COB Today!

From: Chavez, Carl J, EMNRD [mailto:CarlJ.Chavez@state.nm.us]
Sent: Thursday, March 05, 2015 8:08 AM
To: Riege, Ed
Subject: FW: AP-111 Land Farm Confirm. Sample Results by COB Today!

Ed:

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

Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Department
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1220 South St. Francis Drive, Santa Fe, New Mexico 87505
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Sent: Friday, March 20, 2015 2:34 PM
To: Chavez, Carl J, EMNRD
Cc: Larsen, Thurman; Riege, Ed; Joey Waldmann
Subject: RE: AP-111 Land Farm Confirm. Sample Results by COB Today!
Attachments: 201503_ChlorideExceedance_LTRRPT.pdf

Hello Carl,

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

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March 20, 2015

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

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

Dear Mr. Chavez:

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

Background

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

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

Table 1, the data are actually being compared to the higher of the baseline data and the PQL (as required by Section 19.15.36.16.F NMAC).

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

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

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

September 2014 Results

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

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

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

Proposed Response Action Plan

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

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

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

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

Sincerely,
Trihydro Corporation

Grant Price, P.G.
Project Manager

697-039-007

Attachments

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

TABLES

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

Location ID	Date Sampled	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Toluene (mg/kg)	Total Petroleum Hydrocarbon (mg/kg)	Xylenes, Total (mg/kg)	Chloride (mg/kg)
CentralOCD-01_091614	09/16/14	ND(0.048)	ND(0.048)	ND(0.048)	ND(20) UJ	ND(0.097)	**230** [A.]
CentralOCD-02_091614	09/16/14	ND(0.05)	ND(0.05)	ND(0.05)	**1100 J+** [A.]	ND(0.099)	**93** [A.]
CentralOCD-03_091614	09/16/14	ND(0.048)	ND(0.048)	ND(0.048)	ND(20) UJ	ND(0.097)	**120** [A.]
CentralOCD-04_091614	09/16/14	ND(0.049)	ND(0.049)	ND(0.049)	**92 J+** [A.]	ND(0.098)	**870** [A.,B.,C.]
[A.] Baseline Concentration		0.05	0.05	0.05	20	0.1	7.525
[B.] Central Landfarm Action Level		NA	NA	NA	2,500	NA	500
[C.] ABRSC		0.2	50	50	2,500	50	500

Notes:
Bold concentration indicates exceedance of screening value.
J+ - The result is an estimated value that may be biased high
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

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

Location ID	Date Sampled	Benzene (mg/kg)	Carbon Tetrachloride (mg/kg)	Chloroform (mg/kg)	Dibromomethane (mg/kg)	1,1-Dichloroethane (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)
Central OCD-02-020515	02/05/15	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.046)
Central OCD-03-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)
Central OCD-04-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.049)
Baseline Concentration		0.05	0.1	0.05	0.1	0.1
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		0.2	199	671	0.002	6,880

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

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

Location ID	Date Sampled	1,2-Dichloroethane (mg/kg)	1,1-Dichloroethene (mg/kg)	Ethylbenzene (mg/kg)	Methylene Chloride (mg/kg)	1-Methylnaphthalene (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.15)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.14)	ND(0.18)
Central OCD-03-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.15)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.15)	ND(0.2)
Baseline Concentration		0.05	0.05	0.05	0.15	0.2
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		751	1,830	50	10,600	0.6

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

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

Location ID	Date Sampled	2-Methylnaphthalene (mg/kg)	Naphthalene (mg/kg)	Tetrachloroethene (mg/kg)	Toluene (mg/kg)	1,1,1-Trichloroethane (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.098)	ND(0.049)	ND(0.049)	ND(0.049)
Central OCD-02-020515	02/05/15	ND(0.18)	ND(0.092)	ND(0.046)	ND(0.046)	ND(0.046)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.099)	ND(0.049)	ND(0.049)	ND(0.049)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.099)	ND(0.049)	ND(0.049)	ND(0.049)
Baseline Concentration		0.2	0.2	0.05	0.05	0.05
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		0.6	702	338	50	64,300

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

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

Location ID	Date Sampled	1,1,2-Trichloroethane (mg/kg)	Trichloroethene (mg/kg)	Vinyl Chloride (mg/kg)	Xylenes, Total (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.098)
Central OCD-02-020515	02/05/15	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.092)
Central OCD-03-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.099)
Central OCD-04-020515	02/05/15	ND(0.049)	ND(0.049)	ND(0.049)	ND(0.099)
Baseline Concentration		0.05	0.05	0.05	0.1
Central Landfarm Action Level		NA	NA	NA	NA
ABRSC		1,240	4,600	248	50

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

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

Location ID	Date Sampled	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Anthracene (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.02)	ND(0.02)
Central OCD-02-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.02)	ND(0.02)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.02)	ND(0.02)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.1)	ND(0.1)
Baseline Concentration		0.2	0.2	0.2	0.02	0.02
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		18,600	0.6	66,800	15.3	71.3

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

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

Location ID	Date Sampled	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)
Central OCD-02-020515	02/05/15	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)
Central OCD-03-020515	02/05/15	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)
Central OCD-04-020515	02/05/15	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Baseline Concentration		0.02	0.02	0.02	0.02	0.02
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		71.3	75.8	75.8	4.36	75.8

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

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

Location ID	Date Sampled	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(g,h,i)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Baseline Concentration		0.2	0.2	0.2	0.2	0.2
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		213	21.3	213	0.6	2,060

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

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

Location ID	Date Sampled	4-Chloro-3-methylphenol (mg/kg)	2-Chlorophenol (mg/kg)	Chrysene (mg/kg)	Dibenz(a,h)anthracene (mg/kg)	2,4-Dichlorophenol (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.5)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)
Central OCD-02-020515	02/05/15	ND(0.49)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)
Central OCD-03-020515	02/05/15	ND(0.5)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)
Central OCD-04-020515	02/05/15	ND(0.5)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.4)
Baseline Concentration		0.5	0.2	0.2	0.2	0.4
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		0.1	1,550	20,600	21.3	715

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

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

Location ID	Date Sampled	2,4-Dimethylphenol (mg/kg)	2-Methyl-4,6-dinitrophenol (mg/kg)	2,4-Dinitrophenol (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.3)	ND(0.5)	ND(0.5)	ND(0.2)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.3)	ND(0.49)	ND(0.49)	ND(0.2)	ND(0.2)
Central OCD-03-020515	02/05/15	ND(0.3)	ND(0.5)	ND(0.5)	ND(0.2)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.3)	ND(0.5)	ND(0.5)	ND(0.2)	ND(0.2)
Baseline Concentration		0.3	0.5	0.4	0.2	0.2
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		4,760	23.8	476	8,910	8,910

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

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

Location ID	Date Sampled	Indeno(1,2,3-cd)pyrene (mg/kg)	1-Methylnaphthalene (mg/kg)	2-Methylnaphthalene (mg/kg)	2-Methylphenol (mg/kg)	3,4-Methylphenol (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.5)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.49)	ND(0.2)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.5)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.5)	ND(0.2)
Baseline Concentration		0.2	0.2	0.2	0.5	0.2
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		213	0.6	0.6	0.1	0.1

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

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

Location ID	Date Sampled	Naphthalene (mg/kg)	2-Nitrophenol (mg/kg)	4-Nitrophenol (mg/kg)	Pentachlorophenol (mg/kg)	Phenanthrene (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.25)	ND(0.4)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.25)	ND(0.4)	ND(0.2)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.25)	ND(0.4)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.25)	ND(0.4)	ND(0.2)
Baseline Concentration		0.2	0.2	0.225	0.4	0.2
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		702	0.1	0.1	1,030	7,150

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

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

Location ID	Date Sampled	Phenol (mg/kg)	Pyrene (mg/kg)	2,4,5-Trichlorophenol (mg/kg)	2,4,6-Trichlorophenol (mg/kg)
Central OCD-01-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-02-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-03-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Central OCD-04-020515	02/05/15	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
Baseline Concentration		0.2	0.2	0.2	0.2
Central Landfarm Action Level		NA	NA	NA	NA
ABRSC		68,800	6,680	23,800	238

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

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

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

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

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J- - The result is an estimated value that may be biased low
UJ - Estimated reporting limit
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

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

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

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

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J- - The result is an estimated value that may be biased low
UJ - Estimated reporting limit
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

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

Location ID	Date Sampled	Silver, Total (mg/kg)	Uranium, Total (mg/kg)	Zinc, Total (mg/kg)	
Central OCD-01-020515	02/05/15	ND(0.26)	ND(5.2)	17	
Central OCD-02-020515	02/05/15	ND(0.26)	ND(5.2)	14	
Central OCD-03-020515	02/05/15	ND(0.24)	ND(4.9)	19	
Central OCD-04-020515	02/05/15	ND(0.25)	ND(5.1)	**22**	A.
A. Baseline Concentration		1.3	43.75	21.333	
B. Central Landfarm Action Level		NA	NA	NA	
C. ABRSC		1,550	929	92,900	

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J- - The result is an estimated value that may be biased low
UJ - Estimated reporting limit
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram

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

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

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

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
J+ - The result is an estimated value that may be biased high
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram
pCi/L - picocuries per liter

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

Location ID	Date Sampled	Nitrogen, Nitrate (mg/kg)	Radium 226 (pCi/L)	Radium 228 (pCi/L)	Sulfate (mg/kg)		Total Petroleum Hydrocarbon (mg/kg)	
Central OCD-01-020515	02/05/15	2.7 J+	0.586±0.338	1.561±0.449	**400**	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.
J - Estimated concentration
J+ - The result is an estimated value that may be biased high
ABRSC - Alternate Beneficial Reuse Screening Concentration
mg/kg - milligrams per kilogram
pCi/L - picocuries per liter

ATTACHMENT A

SEPTEMBER 16, 2014 ANALYTICAL DATA AND TIER II DATA VALIDATION

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 21, 2014

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

RE: OCD Central Landfarm Semiannual Sampling OrderNo.: 1409874

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 8 sample(s) on 9/16/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-01-9/16/14
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 9/16/2014 11:10:00 AM
Lab ID: 1409874-001 **Matrix:** SOIL
Received Date: 9/16/2014 5:03:00 PM

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-02-9/16/14
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 9/16/2014 10:30:00 AM
Lab ID: 1409874-002 **Matrix:** SOIL **Received Date:** 9/16/2014 5:03:00 PM

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

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

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-04-9/16/14
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 9/16/2014 8:40:00 AM
Lab ID: 1409874-004 **Matrix:** SOIL **Received Date:** 9/16/2014 5:03:00 PM

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-9/16/14
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 9/16/2014
Lab ID: 1409874-005
Matrix: SOIL
Received Date: 9/16/2014 5:03:00 PM

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ-9/16/14
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 9/16/2014 10:55:00 AM
Lab ID: 1409874-006 **Matrix:** SOIL
Received Date: 9/16/2014 5:03:00 PM

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
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Project: OCD Central Landfarm Semiannual Sam
Collection Date: 9/16/2014 10:55:00 AM
Lab ID: 1409874-006 **Matrix:** SOIL
Received Date: 9/16/2014 5:03:00 PM

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

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Hall Environmental Analysis Laboratory, Inc.

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Lab ID: 1409874-006 **Matrix:** SOIL
Received Date: 9/16/2014 5:03:00 PM

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

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ-9/16/14
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 9/16/2014 10:55:00 AM
Lab ID: 1409874-006 **Matrix:** SOIL
Received Date: 9/16/2014 5:03:00 PM

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

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R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Lab ID: 1409874-006 **Matrix:** SOIL
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Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Hexachlorobutadiene	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
2-Hexanone	ND	0.46		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Isopropylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
4-Isopropyltoluene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
4-Methyl-2-pentanone	ND	0.46		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Methylene chloride	ND	0.14		mg/Kg	1	9/21/2014 1:00:56 AM	15378
n-Butylbenzene	ND	0.14		mg/Kg	1	9/21/2014 1:00:56 AM	15378
n-Propylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
sec-Butylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Styrene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
tert-Butylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,1,2-Tetrachloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,2,2-Tetrachloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Tetrachloroethene (PCE)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
trans-1,2-DCE	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
trans-1,3-Dichloropropene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2,3-Trichlorobenzene	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2,4-Trichlorobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,1-Trichloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,2-Trichloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Trichloroethene (TCE)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Trichlorofluoromethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2,3-Trichloropropane	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Vinyl chloride	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Xylenes, Total	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
mp-Xylenes	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
o-Xylene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Surr: Dibromofluoromethane	88.8	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
Surr: 1,2-Dichloroethane-d4	84.1	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
Surr: Toluene-d8	94.7	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
Surr: 4-Bromofluorobenzene	84.0	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
EPA METHOD 418.1: TPH						Analyst: **JME**	
Petroleum Hydrocarbons, TR	1400	200		mg/Kg	10	9/19/2014	15373

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Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EB-9/16/14
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 9/16/2014 12:10:00 PM
Lab ID: 1409874-007
Matrix: AQUEOUS
Received Date: 9/16/2014 5:03:00 PM

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: FB-9/16/14
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 9/16/2014 12:15:00 PM
Lab ID: 1409874-008 **Matrix:** AQUEOUS **Received Date:** 9/16/2014 5:03:00 PM

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

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

Qualifiers:

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

Anatek Labs, Inc.

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

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	140919029
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1409874
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	140919029-001	**Sampling Date**	9/16/2014	**Date/Time Received**	9/19/2014 12:10 PM
Client Sample ID	1409874-006C / CENTRALOCD-TZ-9/16/14			**Sampling Time**	10:55 AM
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.285	9/29/2014	CRW	EPA 335.4	
%moisture	11.9	Percent		9/30/2014	KJS	%moisture	

Authorized Signature

John Coddington, Lab Manager

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

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 #: 140919029
Project Name: 1409874

Analytical Results Report

Quality Control Data

Lab Control Sample

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

Matrix Spike

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

Matrix Spike Duplicate

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

Method Blank

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

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

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):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®
www.pacelabs.com

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1409874
Pace Project No.: 30129978

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

Results reported on a "dry-weight" basis

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1409874
Pace Project No.: 30129978

QC Batch:	RADC/21509	Analysis Method:	EPA 901.1
QC Batch Method:	EPA 901.1	Analysis Description:	901.1 Gamma Spec Ingrowth

Associated Lab Samples: 30129978001

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

REPORT OF LABORATORY ANALYSIS

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-15404**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **15404**	RunNo: **21343**
Prep Date: **9/19/2014**	Analysis Date: **9/19/2014**	SeqNo: **623059** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID **LCS-15404**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **15404**	RunNo: **21343**
Prep Date: **9/19/2014**	Analysis Date: **9/19/2014**	SeqNo: **623060** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	98.7	90	110			
Chloride	14	1.5	15.00	0	94.5	90	110			
Nitrogen, Nitrate (As N)	7.5	0.30	7.500	0	99.4	90	110			
Sulfate	29	1.5	30.00	0	97.1	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-15373**	SampType: **MBLK**	TestCode: **EPA Method 418.1: TPH**
Client ID: **PBS**	Batch ID: **15373**	RunNo: **21288**
Prep Date: **9/18/2014**	Analysis Date: **9/19/2014**	SeqNo: **621284** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID **LCS-15373**	SampType: **LCS**	TestCode: **EPA Method 418.1: TPH**
Client ID: **LCSS**	Batch ID: **15373**	RunNo: **21288**
Prep Date: **9/18/2014**	Analysis Date: **9/19/2014**	SeqNo: **621285** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	96	20	100.0	0	95.8	80	120			

Sample ID **1409874-004AMS**	SampType: **MS**	TestCode: **EPA Method 418.1: TPH**
Client ID: **CentralOCD-04-9/16/**	Batch ID: **15373**	RunNo: **21288**
Prep Date: **9/18/2014**	Analysis Date: **9/19/2014**	SeqNo: **621301** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	230	20	98.33	91.89	139	80	120			S

Sample ID **1409874-004AMSD**	SampType: **MSD**	TestCode: **EPA Method 418.1: TPH**
Client ID: **CentralOCD-04-9/16/**	Batch ID: **15373**	RunNo: **21288**
Prep Date: **9/18/2014**	Analysis Date: **9/19/2014**	SeqNo: **621302** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	330	20	98.72	91.89	237	80	120	35.2	20	RS

Qualifiers:

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- J Analyte detected below quantitation limits
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- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-15363**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **15363**	RunNo: **21269**
Prep Date: **9/18/2014**	Analysis Date: **9/18/2014**	SeqNo: **620601** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	10		10.00		100	57.9	140			

Sample ID **LCS-15363**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **15363**	RunNo: **21269**
Prep Date: **9/18/2014**	Analysis Date: **9/18/2014**	SeqNo: **620602** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	62	10	50.00	0	125	68.6	130			
Surr: DNOP	5.2		5.000		104	57.9	140			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-15378**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **15378**	RunNo: **21342**
Prep Date: **9/18/2014**	Analysis Date: **9/22/2014**	SeqNo: **623292** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		94.2	80	120			

Sample ID **LCS-15378**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **15378**	RunNo: **21342**
Prep Date: **9/18/2014**	Analysis Date: **9/22/2014**	SeqNo: **623293** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	65.8	139			
Surr: BFB	1000		1000		101	80	120			

Sample ID **1409874-006AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **CentralOCD-TZ-9/16**	Batch ID: **15378**	RunNo: **21342**
Prep Date: **9/18/2014**	Analysis Date: **9/22/2014**	SeqNo: **623304** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.6	23.08	0	101	71.8	132			
Surr: BFB	1000		923.4		110	80	120			

Sample ID **1409874-006AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **CentralOCD-TZ-9/16**	Batch ID: **15378**	RunNo: **21342**
Prep Date: **9/18/2014**	Analysis Date: **9/22/2014**	SeqNo: **623305** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.6	23.15	0	96.5	71.8	132	4.58	20	
Surr: BFB	1000		925.9		108	80	120	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-15379**	SampType: **MBLK**	TestCode: **EPA Method 8082: PCB's**
Client ID: **PBS**	Batch ID: **15379**	RunNo: **21397**
Prep Date: **9/18/2014**	Analysis Date: **9/24/2014**	SeqNo: **625113** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.041		0.06250		65.2	37.2	143			
Surr: Tetrachloro-m-xylene	0.034		0.06250		54.8	35.6	141			

Sample ID **LCS-15379**	SampType: **LCS**	TestCode: **EPA Method 8082: PCB's**
Client ID: **LCSS**	Batch ID: **15379**	RunNo: **21397**
Prep Date: **9/18/2014**	Analysis Date: **9/24/2014**	SeqNo: **625114** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.065	0.020	0.1250	0	52.1	34.7	146			
Aroclor 1260	0.085	0.020	0.1250	0	68.1	36.3	153			
Surr: Decachlorobiphenyl	0.040		0.06250		64.8	37.2	143			
Surr: Tetrachloro-m-xylene	0.035		0.06250		55.6	35.6	141			

Sample ID **LCS-15379 1221_12**	SampType: **LCS**	TestCode: **EPA Method 8082: PCB's**
Client ID: **LCSS**	Batch ID: **15379**	RunNo: **21397**
Prep Date: **9/18/2014**	Analysis Date: **9/24/2014**	SeqNo: **626901** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1221	0.044	0.020	0.1250	0	35.4	70	130			S
Aroclor 1248	0.068	0.020	0.1250	0	54.4	70	130			S
Surr: Decachlorobiphenyl	0.037		0.06250		59.6	37.2	143			
Surr: Tetrachloro-m-xylene	0.035		0.06250		55.6	35.6	141			

Sample ID **LCSD-15379 1221_1**	SampType: **LCSD**	TestCode: **EPA Method 8082: PCB's**
Client ID: **LCSS02**	Batch ID: **15379**	RunNo: **21397**
Prep Date: **9/18/2014**	Analysis Date: **9/24/2014**	SeqNo: **626902** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1221	0.043	0.020	0.1250	0	34.2	70	130	3.45	20	S
Aroclor 1248	0.069	0.020	0.1250	0	55.0	70	130	1.17	20	S
Surr: Decachlorobiphenyl	0.037		0.06250		59.6	37.2	143	0	0	
Surr: Tetrachloro-m-xylene	0.034		0.06250		54.8	35.6	141	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**LCS-15379 1232_12**	SampType:	**LCS**		TestCode:	**EPA Method 8082: PCB's**				
Client ID:	**LCSS**	Batch ID:	**15379**		RunNo:	**21397**				
Prep Date:	**9/18/2014**	Analysis Date:	**9/24/2014**		SeqNo:	**626903**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1232	0.081	0.020	0.1250	0	64.9	70	130			S
Aroclor 1254	0.11	0.020	0.1250	0	86.7	70	130			
Surr: Decachlorobiphenyl	0.045		0.06250		71.6	37.2	143			
Surr: Tetrachloro-m-xylene	0.040		0.06250		63.2	35.6	141			

Sample ID	**LCSD-15379 1232_1**	SampType:	**LCSD**		TestCode:	**EPA Method 8082: PCB's**				
Client ID:	**LCSS02**	Batch ID:	**15379**		RunNo:	**21397**				
Prep Date:	**9/18/2014**	Analysis Date:	**9/24/2014**		SeqNo:	**626904**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1232	0.074	0.020	0.1250	0	59.0	70	130	9.49	20	S
Aroclor 1254	0.093	0.020	0.1250	0	74.3	70	130	15.4	20	
Surr: Decachlorobiphenyl	0.042		0.06250		68.0	37.2	143	0	0	
Surr: Tetrachloro-m-xylene	0.038		0.06250		61.2	35.6	141	0	0	

Sample ID	**LCS-15379 1242**	SampType:	**LCS**		TestCode:	**EPA Method 8082: PCB's**				
Client ID:	**LCSS**	Batch ID:	**15379**		RunNo:	**21397**				
Prep Date:	**9/18/2014**	Analysis Date:	**9/24/2014**		SeqNo:	**626905**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1242	0.079	0.020	0.1250	0	63.1	70	130			S
Surr: Decachlorobiphenyl	0.040		0.06250		64.4	37.2	143			
Surr: Tetrachloro-m-xylene	0.036		0.06250		56.8	35.6	141			

Sample ID	**LCSD-15379 1242**	SampType:	**LCSD**		TestCode:	**EPA Method 8082: PCB's**				
Client ID:	**LCSS02**	Batch ID:	**15379**		RunNo:	**21397**				
Prep Date:	**9/18/2014**	Analysis Date:	**9/24/2014**		SeqNo:	**626906**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1242	0.088	0.020	0.1250	0	70.5	70	130	11.1	20	
Surr: Decachlorobiphenyl	0.044		0.06250		70.8	37.2	143	0	0	
Surr: Tetrachloro-m-xylene	0.038		0.06250		61.6	35.6	141	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-15378**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **15378**	RunNo: **21355**
Prep Date: **9/18/2014**	Analysis Date: **9/20/2014**	SeqNo: **623843** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-15378**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **15378**	RunNo: **21355**
Prep Date: **9/18/2014**	Analysis Date: **9/20/2014**	SeqNo: **623843** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.42		0.5000		84.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.2	70	130			
Surr: Toluene-d8	0.47		0.5000		94.6	70	130			
Surr: 4-Bromofluorobenzene	0.37		0.5000		74.2	70	130			

Sample ID **lcs-15378**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **15378**	RunNo: **21355**
Prep Date: **9/18/2014**	Analysis Date: **9/20/2014**	SeqNo: **623844** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.0	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Chlorobenzene	1.0	0.050	1.000	0	101	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**lcs-15378**	SampType:	**LCS**	TestCode:	**EPA Method 8260B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**15378**	RunNo:	**21355**					
Prep Date:	**9/18/2014**	Analysis Date:	**9/20/2014**	SeqNo:	**623844**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.1	0.050	1.000	0	105	60.5	160			
Trichloroethene (TCE)	0.92	0.050	1.000	0	91.5	58.8	139			
Surr: Dibromofluoromethane	0.44		0.5000		88.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.0	70	130			
Surr: Toluene-d8	0.44		0.5000		87.5	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		84.7	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-15378**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **15378**	RunNo: **21355**
Prep Date: **9/18/2014**	Analysis Date: **9/20/2014**	SeqNo: **623834** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.050								
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
1,2-Dibromoethane (EDB)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
Naphthalene	ND	0.10								
2-Methylnaphthalene	ND	0.20								
1-Methylnaphthalene	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.2	70	130			
Surr: 4-Bromofluorobenzene	0.37		0.5000		74.2	70	130			
Surr: Dibromofluoromethane	0.42		0.5000		84.4	70	130			
Surr: Toluene-d8	0.47		0.5000		94.6	70	130			

Sample ID **1409874-004ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **CentralOCD-04-9/16/**	Batch ID: **15378**	RunNo: **21355**
Prep Date: **9/18/2014**	Analysis Date: **9/20/2014**	SeqNo: **623840** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.049	0.9794	0	104	32.2	145			
Toluene	0.98	0.049	0.9794	0	99.6	29.1	139			
Surr: 1,2-Dichloroethane-d4	0.43		0.4897		88.0	70	130			
Surr: 4-Bromofluorobenzene	0.38		0.4897		78.6	70	130			
Surr: Dibromofluoromethane	0.45		0.4897		92.3	70	130			
Surr: Toluene-d8	0.43		0.4897		87.0	70	130			

Sample ID **1409874-004amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **CentralOCD-04-9/16/**	Batch ID: **15378**	RunNo: **21355**
Prep Date: **9/18/2014**	Analysis Date: **9/21/2014**	SeqNo: **623841** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.049	0.9814	0	108	32.2	145	3.73	20	
Toluene	0.99	0.049	0.9814	0	100	29.1	139	1.05	20	
Surr: 1,2-Dichloroethane-d4	0.42		0.4907		85.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.40		0.4907		82.0	70	130	0	0	
Surr: Dibromofluoromethane	0.47		0.4907		95.0	70	130	0	0	
Surr: Toluene-d8	0.41		0.4907		84.2	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**lcs-15378**	SampType:	**LCS**	TestCode:	**EPA Method 8260B: Volatiles Short List**
Client ID:	**LCSS**	Batch ID:	**15378**	RunNo:	**21355**
Prep Date:	**9/18/2014**	Analysis Date:	**9/20/2014**	SeqNo:	**625670** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.0	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.0	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		84.7	70	130			
Surr: Dibromofluoromethane	0.44		0.5000		88.1	70	130			
Surr: Toluene-d8	0.44		0.5000		87.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **b3**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R21353**	RunNo: **21353**
Prep Date:	Analysis Date: **9/22/2014**	SeqNo: **623722** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
mp-Xylenes	ND	1.0								
o-Xylene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	9.0		10.00		89.5	70	130			
Surr: Toluene-d8	8.7		10.00		87.0	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R21353**	RunNo: **21353**
Prep Date:	Analysis Date: **9/22/2014**	SeqNo: **623723** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	18	1.0	20.00	0	91.1	80	120			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.2	70	130			
Surr: Toluene-d8	9.2		10.00		91.6	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**
21-Oct-14

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

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

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3´-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**
21-Oct-14

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

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

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	1.9		3.330		58.4	21	111			
Surr: Phenol-d5	2.3		3.330		69.7	23.1	117			
Surr: 2,4,6-Tribromophenol	2.4		3.330		70.8	22.7	88.9			
Surr: Nitrobenzene-d5	1.1		1.670		67.3	24.5	126			
Surr: 2-Fluorobiphenyl	1.2		1.670		74.2	21.2	129			
Surr: 4-Terphenyl-d14	1.4		1.670		81.0	39.4	107			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-15370**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **15370**	RunNo: **21328**
Prep Date: **9/18/2014**	Analysis Date: **9/19/2014**	SeqNo: **622394** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.93	0.20	1.670	0	55.4	50.7	110			
4-Chloro-3-methylphenol	2.2	0.50	3.330	0	66.9	47.8	107			
2-Chlorophenol	2.2	0.20	3.330	0	66.6	45.7	108			
1,4-Dichlorobenzene	0.88	0.20	1.670	0	52.7	46.1	112			
2,4-Dinitrotoluene	0.80	0.50	1.670	0	47.8	44.9	114			
N-Nitrosodi-n-propylamine	0.81	0.20	1.670	0	48.5	38.7	128			
4-Nitrophenol	1.8	0.25	3.330	0	54.3	40.2	103			
Pentachlorophenol	1.6	0.40	3.330	0	48.5	32.9	94			
Phenol	2.2	0.20	3.330	0	64.8	44.1	109			
Pyrene	1.1	0.20	1.670	0	64.3	51.9	109			
1,2,4-Trichlorobenzene	0.92	0.20	1.670	0	55.3	49.5	115			
Surr: 2-Fluorophenol	1.8		3.330		54.4	21	111			
Surr: Phenol-d5	2.2		3.330		65.8	23.1	117			
Surr: 2,4,6-Tribromophenol	1.8		3.330		53.1	22.7	88.9			
Surr: Nitrobenzene-d5	1.1		1.670		64.4	24.5	126			
Surr: 2-Fluorobiphenyl	0.96		1.670		57.7	21.2	129			
Surr: 4-Terphenyl-d14	1.1		1.670		63.7	39.4	107			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**MB-15505**	SampType:	**MBLK**	TestCode:	**EPA Method 7471: Mercury**					
Client ID:	**PBS**	Batch ID:	**15505**	RunNo:	**21480**					
Prep Date:	**9/25/2014**	Analysis Date:	**9/26/2014**	SeqNo:	**628099**	Units:	**mg/Kg**			

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

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

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	100	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

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

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

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

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

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

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409874**

21-Oct-14

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**LCS-15465**	SampType:	**LCS**	TestCode:	**EPA Method 6010B: Soil Metals**
Client ID:	**LCSS**	Batch ID:	**15465**	RunNo:	**21466**
Prep Date:	**9/23/2014**	Analysis Date:	**9/25/2014**	SeqNo:	**627398**

Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	24	5.0	25.00	0	97.1	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1409874 RcptNo: 1

Received by/date: CS 09/16/14

Logged By: **Lindsay Mangin** 9/16/2014 5:03:00 PM

Completed By: **Lindsay Mangin** 9/18/2014 8:26:23 AM

Reviewed By: CS 09/18/14

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Not Present			

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Western Refining	☐ Standard ☐ Rush
Mailing Address: Route 3 Box 7	Project Name: OCD Central Landfarm Semiannual Sampling
Gallup, NM 87301	Project #: 697-039-004
Phone #: 505-722-3833	Project Manager: Ed Riege
email or Fax#: 505-722-0210	Sampler:
QA/QC Package: ☐ Standard ☐ Level 4 (Full Validation)	On Ice: ☑ Yes ☐ No
Accreditation: ☐ NELAP ☐ Other	Sample Temperature: 1.1°
☐ EDD (Type) _Please provide EDD	

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No 1409874	Vadose Zone List (see attached)	NMAC List (see attached)	DRO and GRO by 8015D	BTEX (8260)	Air Bubbles (Y or N)
9/16/14	1110	soil	CentralOCD-01-9/16/14	4oz - 2	none	-001	X				
9/16/14	1030	soil	CentralOCD-02-9/16/14	4oz - 2	none	-002	X				
9/16/14	0955	soil	CentralOCD-03-9/16/14	4oz - 2	none	-003	X				
9/16/14	0840	soil	CentralOCD-04-9/16/14	4oz - 2	none	-004	X				
9/16/14		soil	BD-9/16/14	4oz - 2	none	-005	X				
9/16/14	0855	soil	CentralOCD-04-9/16/14-MS	4oz - 2	none	-004	X				
9/16/14	0900	soil	CentralOCD-04-9/16/14-MSD	4oz - 2	none	-004	X				
9/16/14	1055	soil	CentralOCD-TZ-9/16/14	8oz - 3, 4oz - 1	none	-006	X	X	X		
9/16/14	1210	water	EB-9/16/14	VOA - 3	HCL	-007				X	
9/16/14	1215	water	FB-9/16/14	VOA - 3	HCL	-008				X	
		water	~~Trip Blank~~	~~VOA - 3~~	~~HCL~~	-009				X	

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/16/14	1450			9/16/14	1450
Date:	Time:	Relinquished by:	Received by:	Date	Time
9/16/14	1703			09/16/14	1703

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

Did not recieve trip blank

09/18/14

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

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

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

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

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

Tier II Data Validation Report Summary

Client: Western Refining Southwest, Inc.	Laboratory: Hall Environmental Analysis Laboratory, Inc.
Project Name: OCD Central Landfarm Semiannual Sampling	Sample Matrix: Soil
Project Number: 697-039-005	Sample Start Date: 9/16/2014
Date Validated: 12/23/2014	Sample End Date: 9/16/2014
Parameters Included: • Inorganic Anions by Environmental Protection Agency (EPA) Method 300.0 • Volatile Organic Compounds (VOC) by Solid Waste 846 (SW-846) Method 8260B • Total Petroleum Hydrocarbons (TPH) by EPA Method 418.1 • Polychlorinated Biphenyls (PCBs) by EPA Method 8082 • Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) by EPA Method 8015D • Total Mercury by SW-846 Method 7471 • Total Metals by SW-846 Method 6010B • Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C • Total Cyanide by EPA Method 335.4 • Radium-226 and Radium-228 by EPA Method 901.1	
Laboratory Project ID: 1409874	
Data Validator: James Gianakon, Environmental Chemist	

DATA EVALUATION CRITERIA SUMMARY

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

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

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

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

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

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

- Field blanks
- Equipment blanks

Tier II Data Validation Report Summary

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

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

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Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
CentralOCD-01-9/16/14	1409874-001
CentralOCD-02-9/16/14	1409874-002
CentralOCD-03-9/16/14	1409874-003
CentralOCD-04-9/16/14	1409874-004
BD-9/16/14	1409874-005
CentralOCD-TZ-9/16/14	1409874-006/140919029-001/30129978001
EB-9/16/14	1409874-007
FB-9/16/14	1409874-008

Tier II Data Validation Report Summary

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

Validation Criteria

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

Guidance References

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

- Data for organic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Superfund Organic Methods Data Review, document number EPA-540-R-014-002, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Organic Data Review, document number EPA 540/R-99/008, October 1999.
- Data for inorganic analyses were evaluated according to validation criteria set forth in the USEPA CLP National Functional Guidelines for Inorganic Superfund Data Review, document number EPA-540-R-013-001, August 2014 with additional reference to the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number EPA 540-R-04-004, October 2004.
- Review of field duplicates was conducted according to the USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.
- The USEPA CLP National Functional Guidelines for Chlorinated Dibenzo-*p*-Dioxins (CDDs) and Chlorinated Dibenzofurans (CDFs) Data Review, document number EPA-540-R-11-016, September 2011, was referenced for review of CDDs and CDFs.
- Trihydro Data Validation Variance Documentation, September 2014.

Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

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

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

Text identified in **bold font** in the Validation Criteria Checklist indicates that further action and/or qualification of the data were required. Data were qualified with J data flags by the laboratory if the result was greater than or equal to the method detection limit (MDL) but less than the reporting limit (RL). Laboratory J flags were preserved in the data and included in the Data Qualification Summary table at the end of this report. Additional data validation qualifiers were added for the items noted with crossed circles in the Validation Criteria section above. Please see the Data Qualification Summary table at the end of this report for a complete list of samples and analytes qualified.

Data that would be qualified with more than one flag were assigned one qualifier based on the severity; however, all reasons for qualification were retained. The hierarchy of qualifiers from the most to least severe is as follows:

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

Data that would be qualified with both J+ and J- flags were assigned one or the other based on the validation criteria involved. The hierarchy of validation criteria from higher to lower precedence is as follows:

- Holding Time > Calibrations > Surrogates > LCS/LCSD > MS/MSD

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

Qualifier	Definition
J+	The result is an estimated concentration, but may be biased high
J-	The result is an estimated concentration, but may be biased low
UJ	Estimated reporting limit
R	Rejected, data not usable

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 198 data points excluding blank samples. Seventy-five data points were rejected. The data completeness measure for this data package is calculated to be 62.12% and is not acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	Yes
Comments: The laboratory did not report non-conformances related to this data set.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags in the laboratory report. S – Spike Recovery outside accepted recover limits. R – RPD outside accepted recovery limits.	
3. Were sample CoC forms and procedures complete?	Yes
Comments: The CoC record from the field to the laboratory was complete and custody was maintained as evidenced by the field and laboratory personnel signatures, dates, and times of receipt.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The detection limits appeared to be acceptable. The following dilutions were applied. Method 300.0: A dilution factor of 20 times was applied for the inorganic anions analyses of the soil samples. Method 418.1: A dilution factor of 10 times was applied for the TPH analysis of samples CentralOCD-02-9/16/14 and CentralOCD-TZ-9/16/14. Method 6010B: Dilution factors of 2 to 100 times were applied for the total metals analyses of sample CentralOCD-TZ-9/16/14. Method 8015D: A dilution factor of 10 times was applied for the DRO analysis of sample CentralOCD-TZ-9/16/14.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC? Were any analytes reported by more than one method?	Yes
Comments: The reported analytical methods and constituents were found to be in compliance with the CoC.	
6. Were samples received in good condition within method-specified requirements?	No
Comments: Samples were received on ice, intact, and in good condition, outside the temperature acceptance range of 4°C +/- 2°C at a temperature of 1.1°C as noted on the CoC and the Sample Log-In Checklist. The samples were not frozen and bottles were not broken; therefore, no further action was required. Custody seals were not present on the coolers or the sample containers because the samples were delivered directly to the laboratory by a member of the sampling team after sample collection and custody was maintained at all times.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	Yes
Comments: Samples were extracted/digested and analyzed within the method specified holding times.	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil.	Yes
Comments: The results were reported in concentration units of milligrams per kilogram (mg/kg), picocurie per gram (pCi/g), and micrograms per liter (µg/L) which were acceptable for the sample matrices and the analyses requested. Analytical results for the soil samples were reported on an as-received, wet weight basis.	
9. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	N/A
Comments: Initial and continuing calibration data were not included as part of this data set. However, there data were assumed to be acceptable as the laboratory did not note that any calibration verification results were outside the acceptable limits.	

VALIDATION CRITERIA CHECKLIST

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

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

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

Comments: The laboratory blank samples were reported to be free of target analyte contamination

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

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

Method	Analyte (s)	Batch	MS Sample Source
300.0	Inorganic Anions	24343	Not Prepared
418.1	TPH	15373	CentralOCD-04-9/16/14
8015D	DRO	15363	Not Prepared
8015D	GRO	15378	CentralOCD-TZ-9/16/14
8082	PCBs	15379	Not Prepared
8260B	VOCs	15378	CentralOCD-04-9/16/14
8260B	VOCs	R21353	Not Prepared
8270C	SVOCs	15370	Not Prepared
7471	Mercury	15505	Not Prepared
6010B	Total Metals	15465	Not Prepared
335.4	Cyanide	140919029	Not Associated

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

13. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory quality control (QC) limits? No

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

The recoveries for petroleum hydrocarbons in the MS and MSD for Method 418.1 batch 15373 were outside the laboratory acceptance limits of 80-120% at 139% and 237%, respectively. The MS/MSD RPD for petroleum hydrocarbons was outside of the laboratory acceptance limit of 20% at 35.2%. Associated detections were assigned J+ qualifiers due to evidence of high bias and non-detections in associated samples were qualified UJ due to evidence of poor precision.

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

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

VALIDATION CRITERIA CHECKLIST

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

Comments: The LCS/LCSD percent recoveries and LCS/LCSD RPDs were within data validation or laboratory QC limits with the following exceptions.

Method	Analyte	Batch	LCS Recovery	LCSD Recovery	LCS/LCSD QC Limits
8082	**Aroclor 1221**	**15379**	**35.4%**	**34.2%**	**70-130%**
8082	**Aroclor 1248**	**15379**	**54.4%**	**55.0%**	**70-130%**
8082	**Aroclor 1232**	**15379**	**64.9%**	**59.0%**	**70-130%**
8082	**Aroclor 1242**	**15379**	**53.1%**	**Acceptable**	**70-130%**

The identified target analytes were not detected in the associated sample in batch 15379, CentralOCD-TZ-9/16/14, and the results were assigned UJ qualifiers due to evidence of low bias.

16. Were surrogate recoveries within laboratory QC limits? No

Comments: Surrogate recoveries were within laboratory QC limits with the following exceptions.

Method	Surrogate	Sample	Surrogate Recovery	QC Limits
8082	**Decachlorobiphenyl**	**CentralOCD-TZ-9/16/14**	**0%**	**37.2-143%**
8082	**Tetrachloro-m-xylene**	**CentralOCD-TZ-9/16/14**	**0%**	**35.6-141%**
8015D	**DNOP**	**CentralOCD-TZ-9/16/14**	**0%**	**57.9-140%**
8270C	**2-Fluorophenol**	**CentralOCD-TZ-9/16/14**	**0%**	**21-111%**
8270C	**Phenol-d_5**	**CentralOCD-TZ-9/16/14**	**0%**	**23.1-117%**
8270C	**2,4,6-Tribromophenol**	**CentralOCD-TZ-9/16/14**	**0%**	**22.7-88.9%**
8270C	**Nitrobenzene-d_5**	**CentralOCD-TZ-9/16/14**	**0%**	**24.5-126%**
8270C	**2-Fluorobiphenyl**	**CentralOCD-TZ-9/16/14**	**0%**	**21.2-129%**
8270C	**4-Terphenyl-d_{14}**	**CentralOCD-TZ-9/16/14**	**0%**	**39.4-107%**

Sample CentralOCD-TZ-9/16/14 had a positive detection from TPH DRO, related to surrogate DNOP. The result was assigned a J- qualifier due to evidence of low bias.

The target analytes associated with the identified surrogates were not detected in the sample and the results were assigned R qualifiers due to evidence of low bias.

17. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of trip blank, field blank, and equipment blank samples collected was equal to at least 10% of the total samples. One field blank sample, FB-9/16/14, and one equipment blank sample, EB-9/16/14, were collected as a part of this data set.

18. Were the field blank and/or equipment blank samples reported to be free of target analyte contamination? Yes

Comments: The field blank and equipment blank samples were free of target analyte contamination.

19. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of field duplicate samples collected was equal to at least 10% of the total number of samples. The sample BD-9/16/14 was collected as a duplicate for CentralOCD-04-9/16/14.

VALIDATION CRITERIA CHECKLIST	
20. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	No
Comments: As detailed in the Field Duplicate Summary Tables below, the field duplicate RPD values were within QC limits with the following exception. **The RPD value for petroleum hydrocarbons was greater than 50% at 80.9% and the parent and duplicate samples, CentralOCD-04-9/16/14 and BD-9/16/14, would have been assigned J qualifiers due to high RPD, but had previously been assigned J+ qualifiers due to evidence of high bias.**	
21. Were laboratory duplicate RPD values within laboratory QC limits?	N/A
Comments: Laboratory duplicate samples were not prepared as a part of this data set.	

FIELD DUPLICATE SUMMARY

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

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.

The RPD value for total petroleum hydrocarbons was greater than 50% at 80.9% and the parent and duplicate samples, CentralOCD-04-9/16/14 and BD-9/16/14, would have been assigned J qualifiers due to high RPD, but had previously been assigned J+ qualifiers due to evidence of high bias.

DATA QUALIFICATION SUMMARY

Abbreviation	Reason
LR -SUR	The surrogate percent recovery was less than the lower acceptable limit indicating a possible low bias.
HR-MS	The MS and/or MSD percent recovery was greater than the upper acceptable limit indicating possible matrix interference.
LR-LCS	The LCS and/or LCSD percent recovery was less than the lower acceptable limit indicating a possible low bias.
ERPD-MS	The MS/MSD RPD exceeded the upper acceptable limit indicating poor precision.
ERPD-FD	High field duplicate RPD.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
1,2,4-Trichlorobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
1,2-Dichlorobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
1,3-Dichlorobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
1,4-Dichlorobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
1-Methylnaphthalene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2,2-oxybis(1-Chloropropane)	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2,4,5-Trichlorophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2,4,6-Trichlorophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2,4-Dichlorophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	4	mg/kg	R	LR -SUR
2,4-Dimethylphenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	3	mg/kg	R	LR -SUR
2,4-Dinitrophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
2,4-Dinitrotoluene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
2,6-Dinitrotoluene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
2-Chloronaphthalene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2.5	mg/kg	R	LR -SUR
2-Chlorophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2-Methylnaphthalene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2-Methylphenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
2-Nitroaniline	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
2-Nitrophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
3,3-Dichlorobenzidine	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2.5	mg/kg	R	LR -SUR
3,4-Dimethylphenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
3-Nitroaniline	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
4,6-Dinitro-2-methylphenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
4-Bromophenyl-phenylether	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
4-Chloro-3-Methylphenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
4-Chloroaniline	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
4-Chlorophenyl-phenylether	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
4-Nitroaniline	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	4	mg/kg	R	LR -SUR
4-Nitrophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2.5	mg/kg	R	LR -SUR
Acenaphthene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Acenaphthylene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Aniline	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Anthracene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Azobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzo(a)anthracene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzo(a)pyrene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzo(b)fluoranthene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzo(g,h,i)perylene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzo(k)fluoranthene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Benzoic Acid	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
Benzyl Alcohol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Bis(2-chloroethoxy)methane	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Bis(2-chloroethyl)ether	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Bis(2-ethylhexyl)phthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
Butylbenzylphthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Carbazole	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Chrysene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Dibenzo(a,h)anthracene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Dibenzofuran	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Diethylphthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Dimethylphthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Di-n-butylphthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
Di-n-octylphthalate	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	4	mg/kg	R	LR -SUR
Fluoranthene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Fluorene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Hexachlorobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Hexachlorobutadiene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Hexachlorocyclopentadiene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Hexachloroethane	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Indeno(1,2,3-cd)pyrene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Isophorone	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
Naphthalene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Nitrobenzene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
N-Nitrosodi-n-propylamine	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
N-Nitrosodiphenylamine	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
PCB-1016	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR
PCB-1221	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR, LR-LCS
PCB-1232	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR, LR-LCS
PCB-1242	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR, LR-LCS
PCB-1248	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR, LR-LCS
PCB-1254	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR
PCB-1260	SW8082	CentralOCD-TZ-9/16/14	1409874-006A	ND	0.2	mg/kg	R	LR -SUR
Pentachlorophenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	4	mg/kg	R	LR -SUR

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Phenanthrene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Phenol	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Pyrene	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	2	mg/kg	R	LR -SUR
Pyridine	SW8270C	CentralOCD-TZ-9/16/14	1409874-006a	ND	5	mg/kg	R	LR -SUR
Total Petroleum Hydrocarbons	E418.1	CentralOCD-02-9/16/14	1409874-002A	1100	200	mg/kg	J+	ERPD-MS, HR-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-TZ-9/16/14	1409874-006A	1400	200	mg/kg	J+	ERPD-MS, HR-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-01-9/16/14	1409874-001A	ND	20	mg/kg	UJ	ERPD-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-03-9/16/14	1409874-003A	ND	20	mg/kg	UJ	ERPD-MS
Total Petroleum Hydrocarbons	E418.1	CentralOCD-04-9/16/14	1409874-004A	92	20	mg/kg	J+	ERPD-FD, ERPD-MS, HR-MS
Total Petroleum Hydrocarbons	E418.1	BD-9/16/14	1409874-005A	39	20	mg/kg	J+	ERPD-FD, ERPD-MS, HR-MS
TPH DRO	SW8015	CentralOCD-TZ-9/16/14	1409874-006A	1100	98	mg/kg	J-	LR -SUR

ATTACHMENT B

FEBRUARY 5, 2015 ANALYTICAL DATA AND TIER II DATA VALIDATION

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 09, 2015

Ed Riege

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

RE: OCD Central Landfarm Semiannual Sampling OrderNo.: 1502324

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 8 sample(s) on 2/6/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-01-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 1:30:00 PM
Lab ID: 1502324-001 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S						Analyst: **SCC**	
Aroclor 1016	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1221	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1232	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1242	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1248	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1254	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Aroclor 1260	ND	0.020		mg/Kg	1	2/12/2015 3:20:56 PM	17661
Surr: Decachlorobiphenyl	65.2	37.5-161		%REC	1	2/12/2015 3:20:56 PM	17661
Surr: Tetrachloro-m-xylene	56.8	28.1-149		%REC	1	2/12/2015 3:20:56 PM	17661
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/10/2015 2:06:15 PM	17621
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/10/2015 2:06:15 PM	17621
Surr: DNOP	103	63.5-128		%REC	1	2/10/2015 2:06:15 PM	17621
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/10/2015 5:44:45 PM	17626
Surr: BFB	90.4	80-120		%REC	1	2/10/2015 5:44:45 PM	17626
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Fluoride	3.0	0.30		mg/Kg	1	2/11/2015 5:21:36 PM	17685
Chloride	290	30		mg/Kg	20	2/11/2015 5:34:01 PM	17685
Nitrogen, Nitrate (As N)	2.7	0.30		mg/Kg	1	2/11/2015 5:21:36 PM	17685
Sulfate	400	30		mg/Kg	20	2/11/2015 5:34:01 PM	17685
EPA METHOD 7471: MERCURY						Analyst: **MMD**	
Mercury	ND	0.032		mg/Kg	1	2/11/2015 1:44:04 PM	17645
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**	
Arsenic	ND	2.6		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Barium	210	0.10		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Cadmium	ND	0.10		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Chromium	13	0.31		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Copper	3.7	0.31		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Iron	20000	100		mg/Kg	100	2/12/2015 8:49:00 AM	17644
Lead	2.5	0.26		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Manganese	360	0.21		mg/Kg	2	2/11/2015 11:05:57 AM	17644
Selenium	ND	2.6		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Silver	ND	0.26		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Uranium	ND	5.2		mg/Kg	1	2/11/2015 11:04:27 AM	17644
Zinc	17	2.6		mg/Kg	1	2/11/2015 11:04:27 AM	17644

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J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-01-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 1:30:00 PM
Lab ID: 1502324-001 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **DAM**	
Acenaphthene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Acenaphthylene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Aniline	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Azobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benz(a)anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzo(a)pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzoic acid	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Benzyl alcohol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Carbazole	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Chloroaniline	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Chloronaphthalene	ND	0.25		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Chlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Chrysene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Di-n-octyl phthalate	ND	0.40		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Dibenzofuran	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
3,3´-Dichlorobenzidine	ND	0.25		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Diethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Dimethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,4-Dinitrophenol	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635

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Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-01-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 1:30:00 PM
Lab ID: 1502324-001 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Fluorene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Hexachlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Hexachlorobutadiene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Hexachloroethane	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Isophorone	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Methylphenol	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
3+4-Methylphenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Naphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
3-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Nitroaniline	ND	0.40		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Nitrobenzene	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2-Nitrophenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
4-Nitrophenol	ND	0.25		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Pentachlorophenol	ND	0.40		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Phenanthrene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Phenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Pyridine	ND	0.50		mg/Kg	1	2/11/2015 10:18:36 AM	17635
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:18:36 AM	17635
Surr: 2-Fluorophenol	85.1	26.4-129		%REC	1	2/11/2015 10:18:36 AM	17635
Surr: Phenol-d5	77.5	34.8-118		%REC	1	2/11/2015 10:18:36 AM	17635
Surr: 2,4,6-Tribromophenol	78.8	26.8-128		%REC	1	2/11/2015 10:18:36 AM	17635
Surr: Nitrobenzene-d5	86.9	35.8-124		%REC	1	2/11/2015 10:18:36 AM	17635
Surr: 2-Fluorobiphenyl	84.8	24.5-139		%REC	1	2/11/2015 10:18:36 AM	17635
Surr: 4-Terphenyl-d14	67.1	29.4-129		%REC	1	2/11/2015 10:18:36 AM	17635
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-01-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 1:30:00 PM
Lab ID: 1502324-001 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Toluene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Ethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2,4-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,3,5-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2-Dichloroethane (EDC)	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2-Dibromoethane (EDB)	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Naphthalene	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 2:07:20 PM	17626
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Acetone	ND	0.74		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Bromobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Bromodichloromethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Bromoform	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Bromomethane	ND	0.15		mg/Kg	1	2/10/2015 2:07:20 PM	17626
2-Butanone	ND	0.49		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Carbon disulfide	ND	0.49		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Carbon tetrachloride	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Chlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Chloroethane	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Chloroform	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Chloromethane	ND	0.15		mg/Kg	1	2/10/2015 2:07:20 PM	17626
2-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
4-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
cis-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
cis-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2-Dibromo-3-chloropropane	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Dibromochloromethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Dibromomethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,3-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,4-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Dichlorodifluoromethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1-Dichloroethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1-Dichloroethene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,3-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
2,2-Dichloropropane	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1-Dichloropropene	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626

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J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-01-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 1:30:00 PM
Lab ID: 1502324-001 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Hexachlorobutadiene	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
2-Hexanone	ND	0.49		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Isopropylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
4-Isopropyltoluene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
4-Methyl-2-pentanone	ND	0.49		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Methylene chloride	ND	0.15		mg/Kg	1	2/10/2015 2:07:20 PM	17626
n-Butylbenzene	ND	0.15		mg/Kg	1	2/10/2015 2:07:20 PM	17626
n-Propylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
sec-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Styrene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
tert-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1,1,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1,2,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Tetrachloroethene (PCE)	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
trans-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
trans-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2,3-Trichlorobenzene	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2,4-Trichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1,1-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,1,2-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Trichloroethene (TCE)	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Trichlorofluoromethane	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
1,2,3-Trichloropropane	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Vinyl chloride	ND	0.049		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Xylenes, Total	ND	0.098		mg/Kg	1	2/10/2015 2:07:20 PM	17626
Surr: Dibromofluoromethane	89.5	70-130		%REC	1	2/10/2015 2:07:20 PM	17626
Surr: 1,2-Dichloroethane-d4	81.5	70-130		%REC	1	2/10/2015 2:07:20 PM	17626
Surr: Toluene-d8	88.1	70-130		%REC	1	2/10/2015 2:07:20 PM	17626
Surr: 4-Bromofluorobenzene	85.5	70-130		%REC	1	2/10/2015 2:07:20 PM	17626
EPA METHOD 418.1: TPH						Analyst: **BCN**	
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	2/10/2015 2:00:00 PM	17630
CYANIDE-TOTAL						Analyst: **SUB**	
Cyanide	ND	0.31		mg/Kg	1	2/16/2015	R24387

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Qualifiers:

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E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-02-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 12:15:00 PM
Lab ID: 1502324-002 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S						Analyst: **SCC**	
Aroclor 1016	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1221	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1232	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1242	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1248	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1254	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Aroclor 1260	ND	0.020		mg/Kg	1	2/12/2015 5:38:58 PM	17661
Surr: Decachlorobiphenyl	73.2	37.5-161		%REC	1	2/12/2015 5:38:58 PM	17661
Surr: Tetrachloro-m-xylene	65.6	28.1-149		%REC	1	2/12/2015 5:38:58 PM	17661
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/10/2015 2:50:05 PM	17621
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	2/10/2015 2:50:05 PM	17621
Surr: DNOP	98.1	63.5-128		%REC	1	2/10/2015 2:50:05 PM	17621
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/10/2015 11:00:26 PM	17626
Surr: BFB	89.6	80-120		%REC	1	2/10/2015 11:00:26 PM	17626
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Fluoride	4.3	0.30		mg/Kg	1	2/11/2015 6:11:15 PM	17685
Chloride	110	30		mg/Kg	20	2/11/2015 6:23:40 PM	17685
Nitrogen, Nitrate (As N)	1.6	0.30		mg/Kg	1	2/11/2015 6:11:15 PM	17685
Sulfate	700	30		mg/Kg	20	2/11/2015 6:23:40 PM	17685
EPA METHOD 7471: MERCURY						Analyst: **MMD**	
Mercury	ND	0.032		mg/Kg	1	2/11/2015 1:45:52 PM	17645
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**	
Arsenic	ND	2.6		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Barium	760	0.52		mg/Kg	5	2/12/2015 9:01:20 AM	17644
Cadmium	ND	0.10		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Chromium	10	0.31		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Copper	3.3	0.31		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Iron	16000	100		mg/Kg	100	2/12/2015 8:50:20 AM	17644
Lead	2.7	0.26		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Manganese	370	0.21		mg/Kg	2	2/11/2015 11:08:53 AM	17644
Selenium	ND	2.6		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Silver	ND	0.26		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Uranium	ND	5.2		mg/Kg	1	2/11/2015 11:07:21 AM	17644
Zinc	14	2.6		mg/Kg	1	2/11/2015 11:07:21 AM	17644

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Qualifiers:

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E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-02-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 12:15:00 PM
Lab ID: 1502324-002 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **DAM**	
Acenaphthene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Acenaphthylene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Aniline	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Azobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benz(a)anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzo(a)pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzoic acid	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Benzyl alcohol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Bis(2-ethylhexyl)phthalate	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Carbazole	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Chloro-3-methylphenol	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Chloroaniline	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Chloronaphthalene	ND	0.25		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Chlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Chrysene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Di-n-butyl phthalate	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Di-n-octyl phthalate	ND	0.40		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Dibenzofuran	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
3,3´-Dichlorobenzidine	ND	0.25		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Diethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Dimethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4,6-Dinitro-2-methylphenol	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,4-Dinitrophenol	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-02-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 12:15:00 PM
Lab ID: 1502324-002 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,6-Dinitrotoluene	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Fluorene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Hexachlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Hexachlorobutadiene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Hexachloroethane	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Isophorone	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Methylphenol	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
3+4-Methylphenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Naphthalene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
3-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Nitroaniline	ND	0.40		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Nitrobenzene	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2-Nitrophenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
4-Nitrophenol	ND	0.25		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Pentachlorophenol	ND	0.40		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Phenanthrene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Phenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Pyrene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Pyridine	ND	0.49		mg/Kg	1	2/11/2015 10:46:31 AM	17635
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 10:46:31 AM	17635
Surr: 2-Fluorophenol	88.4	26.4-129		%REC	1	2/11/2015 10:46:31 AM	17635
Surr: Phenol-d5	77.2	34.8-118		%REC	1	2/11/2015 10:46:31 AM	17635
Surr: 2,4,6-Tribromophenol	73.6	26.8-128		%REC	1	2/11/2015 10:46:31 AM	17635
Surr: Nitrobenzene-d5	81.5	35.8-124		%REC	1	2/11/2015 10:46:31 AM	17635
Surr: 2-Fluorobiphenyl	79.1	24.5-139		%REC	1	2/11/2015 10:46:31 AM	17635
Surr: 4-Terphenyl-d14	62.0	29.4-129		%REC	1	2/11/2015 10:46:31 AM	17635
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626

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Qualifiers:

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E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-02-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 12:15:00 PM
Lab ID: 1502324-002 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Toluene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Ethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Methyl tert-butyl ether (MTBE)	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2,4-Trimethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,3,5-Trimethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2-Dichloroethane (EDC)	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2-Dibromoethane (EDB)	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Naphthalene	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1-Methylnaphthalene	ND	0.18		mg/Kg	1	2/10/2015 2:34:51 PM	17626
2-Methylnaphthalene	ND	0.18		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Acetone	ND	0.69		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Bromobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Bromodichloromethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Bromoform	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Bromomethane	ND	0.14		mg/Kg	1	2/10/2015 2:34:51 PM	17626
2-Butanone	ND	0.46		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Carbon disulfide	ND	0.46		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Carbon tetrachloride	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Chlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Chloroethane	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Chloroform	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Chloromethane	ND	0.14		mg/Kg	1	2/10/2015 2:34:51 PM	17626
2-Chlorotoluene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
4-Chlorotoluene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
cis-1,2-DCE	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
cis-1,3-Dichloropropene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2-Dibromo-3-chloropropane	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Dibromochloromethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Dibromomethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,3-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,4-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Dichlorodifluoromethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1-Dichloroethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1-Dichloroethene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2-Dichloropropane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,3-Dichloropropane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
2,2-Dichloropropane	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1-Dichloropropene	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626

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J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-02-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 12:15:00 PM
Lab ID: 1502324-002 **Matrix:** SOIL **Received Date:** 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Hexachlorobutadiene	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
2-Hexanone	ND	0.46		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Isopropylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
4-Isopropyltoluene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
4-Methyl-2-pentanone	ND	0.46		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Methylene chloride	ND	0.14		mg/Kg	1	2/10/2015 2:34:51 PM	17626
n-Butylbenzene	ND	0.14		mg/Kg	1	2/10/2015 2:34:51 PM	17626
n-Propylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
sec-Butylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Styrene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
tert-Butylbenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1,1,2-Tetrachloroethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1,2,2-Tetrachloroethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Tetrachloroethene (PCE)	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
trans-1,2-DCE	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
trans-1,3-Dichloropropene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2,3-Trichlorobenzene	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2,4-Trichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1,1-Trichloroethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,1,2-Trichloroethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Trichloroethene (TCE)	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Trichlorofluoromethane	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
1,2,3-Trichloropropane	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Vinyl chloride	ND	0.046		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Xylenes, Total	ND	0.092		mg/Kg	1	2/10/2015 2:34:51 PM	17626
Surr: Dibromofluoromethane	90.7	70-130		%REC	1	2/10/2015 2:34:51 PM	17626
Surr: 1,2-Dichloroethane-d4	83.7	70-130		%REC	1	2/10/2015 2:34:51 PM	17626
Surr: Toluene-d8	86.5	70-130		%REC	1	2/10/2015 2:34:51 PM	17626
Surr: 4-Bromofluorobenzene	84.1	70-130		%REC	1	2/10/2015 2:34:51 PM	17626
EPA METHOD 418.1: TPH						Analyst: **BCN**	
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	2/10/2015 2:00:00 PM	17630
CYANIDE-TOTAL						Analyst: **SUB**	
Cyanide	ND	0.31		mg/Kg	1	2/16/2015	R24387

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Qualifiers:

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E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-03-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 2:17:00 PM
Lab ID: 1502324-003 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S						Analyst: **SCC**	
Aroclor 1016	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1221	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1232	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1242	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1248	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1254	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Aroclor 1260	ND	0.020		mg/Kg	1	2/12/2015 8:41:10 PM	17661
Surr: Decachlorobiphenyl	81.6	37.5-161		%REC	1	2/12/2015 8:41:10 PM	17661
Surr: Tetrachloro-m-xylene	67.2	28.1-149		%REC	1	2/12/2015 8:41:10 PM	17661
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/10/2015 3:11:57 PM	17621
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/10/2015 3:11:57 PM	17621
Surr: DNOP	99.6	63.5-128		%REC	1	2/10/2015 3:11:57 PM	17621
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/10/2015 11:29:05 PM	17626
Surr: BFB	90.0	80-120		%REC	1	2/10/2015 11:29:05 PM	17626
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Fluoride	3.4	0.30		mg/Kg	1	2/11/2015 6:36:04 PM	17685
Chloride	300	30		mg/Kg	20	2/11/2015 7:13:19 PM	17685
Nitrogen, Nitrate (As N)	16	0.30		mg/Kg	1	2/11/2015 6:36:04 PM	17685
Sulfate	570	30		mg/Kg	20	2/11/2015 7:13:19 PM	17685
EPA METHOD 7471: MERCURY						Analyst: **MMD**	
Mercury	ND	0.035		mg/Kg	1	2/11/2015 1:51:23 PM	17645
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**	
Arsenic	ND	2.4		mg/Kg	1	2/12/2015 9:05:14 AM	17644
Barium	220	0.097		mg/Kg	1	2/12/2015 9:05:14 AM	17644
Cadmium	ND	0.097		mg/Kg	1	2/11/2015 11:10:17 AM	17644
Chromium	12	0.29		mg/Kg	1	2/11/2015 11:10:17 AM	17644
Copper	3.6	0.29		mg/Kg	1	2/11/2015 11:10:17 AM	17644
Iron	18000	97		mg/Kg	100	2/12/2015 8:51:40 AM	17644
Lead	3.2	0.24		mg/Kg	1	2/12/2015 9:05:14 AM	17644
Manganese	340	0.19		mg/Kg	2	2/11/2015 11:14:55 AM	17644
Selenium	ND	2.4		mg/Kg	1	2/12/2015 9:05:14 AM	17644
Silver	ND	0.24		mg/Kg	1	2/11/2015 11:10:17 AM	17644
Uranium	ND	4.9		mg/Kg	1	2/11/2015 11:10:17 AM	17644
Zinc	19	4.9		mg/Kg	2	2/11/2015 11:14:55 AM	17644

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O	RSD is greater than RSDlimit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
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Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 2:17:00 PM
Lab ID: 1502324-003 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **DAM**	
Acenaphthene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Acenaphthylene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Aniline	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Anthracene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Azobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benz(a)anthracene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzo(a)pyrene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzoic acid	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Benzyl alcohol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Carbazole	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Chloroaniline	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Chloronaphthalene	ND	0.25		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Chlorophenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Chrysene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Di-n-octyl phthalate	ND	0.40		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Dibenzofuran	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
3,3´-Dichlorobenzidine	ND	0.25		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Diethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Dimethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,4-Dinitrophenol	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635

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

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Fluorene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Hexachlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Hexachlorobutadiene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Hexachloroethane	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Isophorone	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Methylphenol	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
3+4-Methylphenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Naphthalene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
3-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Nitroaniline	ND	0.40		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Nitrobenzene	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2-Nitrophenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
4-Nitrophenol	ND	0.25		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Pentachlorophenol	ND	0.40		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Phenanthrene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Phenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Pyrene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Pyridine	ND	0.50		mg/Kg	1	2/11/2015 2:00:51 PM	17635
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 2:00:51 PM	17635
Surr: 2-Fluorophenol	82.7	26.4-129		%REC	1	2/11/2015 2:00:51 PM	17635
Surr: Phenol-d5	73.0	34.8-118		%REC	1	2/11/2015 2:00:51 PM	17635
Surr: 2,4,6-Tribromophenol	75.6	26.8-128		%REC	1	2/11/2015 2:00:51 PM	17635
Surr: Nitrobenzene-d5	80.8	35.8-124		%REC	1	2/11/2015 2:00:51 PM	17635
Surr: 2-Fluorobiphenyl	79.3	24.5-139		%REC	1	2/11/2015 2:00:51 PM	17635
Surr: 4-Terphenyl-d14	64.8	29.4-129		%REC	1	2/11/2015 2:00:51 PM	17635
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626

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Client Sample ID: Central OCD-03-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 2:17:00 PM
Lab ID: 1502324-003 **Matrix:** SOIL **Received Date:** 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Toluene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Ethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2,4-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,3,5-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2-Dichloroethane (EDC)	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2-Dibromoethane (EDB)	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Naphthalene	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 3:02:24 PM	17626
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Acetone	ND	0.74		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Bromobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Bromodichloromethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Bromoform	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Bromomethane	ND	0.15		mg/Kg	1	2/10/2015 3:02:24 PM	17626
2-Butanone	ND	0.49		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Carbon disulfide	ND	0.49		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Carbon tetrachloride	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Chlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Chloroethane	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Chloroform	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Chloromethane	ND	0.15		mg/Kg	1	2/10/2015 3:02:24 PM	17626
2-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
4-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
cis-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
cis-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2-Dibromo-3-chloropropane	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Dibromochloromethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Dibromomethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,3-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,4-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Dichlorodifluoromethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1-Dichloroethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1-Dichloroethene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,3-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
2,2-Dichloropropane	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1-Dichloropropene	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626

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

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Hexachlorobutadiene	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
2-Hexanone	ND	0.49		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Isopropylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
4-Isopropyltoluene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
4-Methyl-2-pentanone	ND	0.49		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Methylene chloride	ND	0.15		mg/Kg	1	2/10/2015 3:02:24 PM	17626
n-Butylbenzene	ND	0.15		mg/Kg	1	2/10/2015 3:02:24 PM	17626
n-Propylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
sec-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Styrene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
tert-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1,1,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1,2,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Tetrachloroethene (PCE)	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
trans-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
trans-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2,3-Trichlorobenzene	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2,4-Trichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1,1-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,1,2-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Trichloroethene (TCE)	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Trichlorofluoromethane	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
1,2,3-Trichloropropane	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Vinyl chloride	ND	0.049		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Xylenes, Total	ND	0.099		mg/Kg	1	2/10/2015 3:02:24 PM	17626
Surr: Dibromofluoromethane	93.0	70-130		%REC	1	2/10/2015 3:02:24 PM	17626
Surr: 1,2-Dichloroethane-d4	81.8	70-130		%REC	1	2/10/2015 3:02:24 PM	17626
Surr: Toluene-d8	85.1	70-130		%REC	1	2/10/2015 3:02:24 PM	17626
Surr: 4-Bromofluorobenzene	83.3	70-130		%REC	1	2/10/2015 3:02:24 PM	17626
EPA METHOD 418.1: TPH						Analyst: **BCN**	
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	2/10/2015 2:00:00 PM	17630
CYANIDE-TOTAL						Analyst: **SUB**	
Cyanide	ND	0.29		mg/Kg	1	2/16/2015	R24387

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Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-04-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 11:35:00 AM
Lab ID: 1502324-004 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S						Analyst: **SCC**	
Aroclor 1016	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1221	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1232	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1242	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1248	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1254	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Aroclor 1260	ND	0.10		mg/Kg	1	2/13/2015 4:17:43 AM	17661
Surr: Decachlorobiphenyl	116	37.5-161		%REC	1	2/13/2015 4:17:43 AM	17661
Surr: Tetrachloro-m-xylene	84.0	28.1-149		%REC	1	2/13/2015 4:17:43 AM	17661
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	54	10		mg/Kg	1	2/11/2015 9:16:02 AM	17621
Motor Oil Range Organics (MRO)	100	50		mg/Kg	1	2/11/2015 9:16:02 AM	17621
Surr: DNOP	103	63.5-128		%REC	1	2/11/2015 9:16:02 AM	17621
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/13/2015 2:57:09 PM	17626
Surr: BFB	88.1	80-120		%REC	1	2/13/2015 2:57:09 PM	17626
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Fluoride	5.9	0.30		mg/Kg	1	2/11/2015 7:25:44 PM	17685
Chloride	260	30		mg/Kg	20	2/11/2015 7:38:09 PM	17685
Nitrogen, Nitrate (As N)	7.5	0.30		mg/Kg	1	2/11/2015 7:25:44 PM	17685
Sulfate	750	30		mg/Kg	20	2/11/2015 7:38:09 PM	17685
EPA METHOD 7471: MERCURY						Analyst: **MMD**	
Mercury	ND	0.032		mg/Kg	1	2/11/2015 1:56:54 PM	17645
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**	
Arsenic	ND	2.5		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Barium	250	0.10		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Cadmium	ND	0.10		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Chromium	12	0.30		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Copper	3.8	0.30		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Iron	17000	100		mg/Kg	100	2/12/2015 8:53:00 AM	17644
Lead	6.2	0.25		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Manganese	340	0.20		mg/Kg	2	2/11/2015 11:26:05 AM	17644
Selenium	ND	2.5		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Silver	ND	0.25		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Uranium	ND	5.1		mg/Kg	1	2/11/2015 11:24:29 AM	17644
Zinc	22	2.5		mg/Kg	1	2/11/2015 11:24:29 AM	17644

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Hall Environmental Analysis Laboratory, Inc.

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Collection Date: 2/5/2015 11:35:00 AM
Lab ID: 1502324-004 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **DAM**	
Acenaphthene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Acenaphthylene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Aniline	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Anthracene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Azobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benz(a)anthracene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzo(a)pyrene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzoic acid	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Benzyl alcohol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Carbazole	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Chloroaniline	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Chloronaphthalene	ND	0.25		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Chlorophenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Chrysene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Di-n-octyl phthalate	ND	0.40		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Dibenzofuran	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
3,3´-Dichlorobenzidine	ND	0.25		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Diethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Dimethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,4-Dinitrophenol	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635

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Collection Date: 2/5/2015 11:35:00 AM
Lab ID: 1502324-004 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Fluorene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Hexachlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Hexachlorobutadiene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Hexachloroethane	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Isophorone	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Methylphenol	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
3+4-Methylphenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Naphthalene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
3-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Nitroaniline	ND	0.40		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Nitrobenzene	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2-Nitrophenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
4-Nitrophenol	ND	0.25		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Pentachlorophenol	ND	0.40		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Phenanthrene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Phenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Pyrene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Pyridine	ND	0.50		mg/Kg	1	2/11/2015 3:24:31 PM	17635
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 3:24:31 PM	17635
Surr: 2-Fluorophenol	82.2	26.4-129		%REC	1	2/11/2015 3:24:31 PM	17635
Surr: Phenol-d5	68.0	34.8-118		%REC	1	2/11/2015 3:24:31 PM	17635
Surr: 2,4,6-Tribromophenol	73.5	26.8-128		%REC	1	2/11/2015 3:24:31 PM	17635
Surr: Nitrobenzene-d5	80.0	35.8-124		%REC	1	2/11/2015 3:24:31 PM	17635
Surr: 2-Fluorobiphenyl	83.2	24.5-139		%REC	1	2/11/2015 3:24:31 PM	17635
Surr: 4-Terphenyl-d14	59.3	29.4-129		%REC	1	2/11/2015 3:24:31 PM	17635
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626

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Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 11:35:00 AM
Lab ID: 1502324-004 **Matrix:** SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Toluene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Ethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Methyl tert-butyl ether (MTBE)	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2,4-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,3,5-Trimethylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2-Dichloroethane (EDC)	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2-Dibromoethane (EDB)	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Naphthalene	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 4:25:04 PM	17626
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Acetone	ND	0.74		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Bromobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Bromodichloromethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Bromoform	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Bromomethane	ND	0.15		mg/Kg	1	2/10/2015 4:25:04 PM	17626
2-Butanone	ND	0.49		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Carbon disulfide	ND	0.49		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Carbon tetrachloride	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Chlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Chloroethane	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Chloroform	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Chloromethane	ND	0.15		mg/Kg	1	2/10/2015 4:25:04 PM	17626
2-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
4-Chlorotoluene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
cis-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
cis-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2-Dibromo-3-chloropropane	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Dibromochloromethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Dibromomethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,3-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,4-Dichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Dichlorodifluoromethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1-Dichloroethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1-Dichloroethene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,3-Dichloropropane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
2,2-Dichloropropane	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1-Dichloropropene	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626

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Lab ID: 1502324-004 **Matrix:** SOIL **Received Date:** 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Hexachlorobutadiene	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
2-Hexanone	ND	0.49		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Isopropylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
4-Isopropyltoluene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
4-Methyl-2-pentanone	ND	0.49		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Methylene chloride	ND	0.15		mg/Kg	1	2/10/2015 4:25:04 PM	17626
n-Butylbenzene	ND	0.15		mg/Kg	1	2/10/2015 4:25:04 PM	17626
n-Propylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
sec-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Styrene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
tert-Butylbenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1,1,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1,2,2-Tetrachloroethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Tetrachloroethene (PCE)	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
trans-1,2-DCE	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
trans-1,3-Dichloropropene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2,3-Trichlorobenzene	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2,4-Trichlorobenzene	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1,1-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,1,2-Trichloroethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Trichloroethene (TCE)	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Trichlorofluoromethane	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
1,2,3-Trichloropropane	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Vinyl chloride	ND	0.049		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Xylenes, Total	ND	0.099		mg/Kg	1	2/10/2015 4:25:04 PM	17626
Surr: Dibromofluoromethane	87.8	70-130		%REC	1	2/10/2015 4:25:04 PM	17626
Surr: 1,2-Dichloroethane-d4	75.9	70-130		%REC	1	2/10/2015 4:25:04 PM	17626
Surr: Toluene-d8	86.0	70-130		%REC	1	2/10/2015 4:25:04 PM	17626
Surr: 4-Bromofluorobenzene	84.2	70-130		%REC	1	2/10/2015 4:25:04 PM	17626
EPA METHOD 418.1: TPH						Analyst: **BCN**	
Petroleum Hydrocarbons, TR	59	20		mg/Kg	1	2/10/2015 2:00:00 PM	17630
CYANIDE-TOTAL						Analyst: **SUB**	
Cyanide	0.45	0.29		mg/Kg	1	2/16/2015	R24387

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Qualifiers:

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E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015
Lab ID: 1502324-005
Matrix: SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S						Analyst: **SCC**	
Aroclor 1016	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1221	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1232	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1242	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1248	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1254	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Aroclor 1260	ND	0.020		mg/Kg	1	2/13/2015 6:34:18 AM	17661
Surr: Decachlorobiphenyl	79.2	37.5-161		%REC	1	2/13/2015 6:34:18 AM	17661
Surr: Tetrachloro-m-xylene	60.8	28.1-149		%REC	1	2/13/2015 6:34:18 AM	17661
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/10/2015 4:39:34 PM	17621
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	2/10/2015 4:39:34 PM	17621
Surr: DNOP	98.8	63.5-128		%REC	1	2/10/2015 4:39:34 PM	17621
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	2/13/2015 3:25:48 PM	17626
Surr: BFB	88.6	80-120		%REC	1	2/13/2015 3:25:48 PM	17626
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Fluoride	6.0	1.5		mg/Kg	5	2/11/2015 7:50:33 PM	17685
Chloride	170	7.5		mg/Kg	5	2/11/2015 7:50:33 PM	17685
Nitrogen, Nitrate (As N)	3.4	1.5		mg/Kg	5	2/11/2015 7:50:33 PM	17685
Sulfate	370	7.5		mg/Kg	5	2/11/2015 7:50:33 PM	17685
EPA METHOD 7471: MERCURY						Analyst: **MMD**	
Mercury	ND	0.031		mg/Kg	1	2/11/2015 1:58:45 PM	17645
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**	
Arsenic	ND	5.0		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Barium	200	0.20		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Cadmium	ND	0.20		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Chromium	15	0.60		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Copper	4.1	0.60		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Iron	20000	100		mg/Kg	100	2/12/2015 8:54:20 AM	17644
Lead	3.0	0.50		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Manganese	290	0.20		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Selenium	ND	5.0		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Silver	ND	0.50		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Uranium	ND	10		mg/Kg	2	2/11/2015 11:29:02 AM	17644
Zinc	20	5.0		mg/Kg	2	2/11/2015 11:29:02 AM	17644

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015
Lab ID: 1502324-005 **Matrix:** SOIL **Received Date:** 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **DAM**	
Acenaphthene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Acenaphthylene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Aniline	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Anthracene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Azobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benz(a)anthracene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzo(a)pyrene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzo(b)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzo(g,h,i)perylene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzo(k)fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzoic acid	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Benzyl alcohol	0.23	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Bis(2-chloroisopropyl)ether	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Bis(2-ethylhexyl)phthalate	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Butyl benzyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Carbazole	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Chloroaniline	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Chloronaphthalene	ND	0.25		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Chlorophenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Chrysene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Di-n-butyl phthalate	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Di-n-octyl phthalate	ND	0.40		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Dibenz(a,h)anthracene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Dibenzofuran	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
1,2-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
1,3-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
1,4-Dichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
3,3´-Dichlorobenzidine	ND	0.25		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Diethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Dimethyl phthalate	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,4-Dinitrophenol	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015
Lab ID: 1502324-005 **Matrix:** SOIL **Received Date:** 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,6-Dinitrotoluene	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Fluoranthene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Fluorene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Hexachlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Hexachlorobutadiene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Hexachlorocyclopentadiene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Hexachloroethane	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Indeno(1,2,3-cd)pyrene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Isophorone	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
1-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Methylnaphthalene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Methylphenol	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
3+4-Methylphenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
N-Nitrosodi-n-propylamine	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
N-Nitrosodiphenylamine	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Naphthalene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
3-Nitroaniline	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Nitroaniline	ND	0.40		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Nitrobenzene	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2-Nitrophenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
4-Nitrophenol	ND	0.25		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Pentachlorophenol	ND	0.40		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Phenanthrene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Phenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Pyrene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Pyridine	ND	0.50		mg/Kg	1	2/11/2015 11:14:30 AM	17635
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	2/11/2015 11:14:30 AM	17635
Surr: 2-Fluorophenol	86.0	26.4-129		%REC	1	2/11/2015 11:14:30 AM	17635
Surr: Phenol-d5	76.8	34.8-118		%REC	1	2/11/2015 11:14:30 AM	17635
Surr: 2,4,6-Tribromophenol	79.4	26.8-128		%REC	1	2/11/2015 11:14:30 AM	17635
Surr: Nitrobenzene-d5	80.6	35.8-124		%REC	1	2/11/2015 11:14:30 AM	17635
Surr: 2-Fluorobiphenyl	85.2	24.5-139		%REC	1	2/11/2015 11:14:30 AM	17635
Surr: 4-Terphenyl-d14	64.8	29.4-129		%REC	1	2/11/2015 11:14:30 AM	17635
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015
Lab ID: 1502324-005
Matrix: SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Toluene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Ethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Methyl tert-butyl ether (MTBE)	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2,4-Trimethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,3,5-Trimethylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2-Dichloroethane (EDC)	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2-Dibromoethane (EDB)	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Naphthalene	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1-Methylnaphthalene	ND	0.18		mg/Kg	1	2/10/2015 4:52:38 PM	17626
2-Methylnaphthalene	ND	0.18		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Acetone	ND	0.69		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Bromobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Bromodichloromethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Bromoform	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Bromomethane	ND	0.14		mg/Kg	1	2/10/2015 4:52:38 PM	17626
2-Butanone	ND	0.46		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Carbon disulfide	ND	0.46		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Carbon tetrachloride	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Chlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Chloroethane	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Chloroform	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Chloromethane	ND	0.14		mg/Kg	1	2/10/2015 4:52:38 PM	17626
2-Chlorotoluene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
4-Chlorotoluene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
cis-1,2-DCE	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
cis-1,3-Dichloropropene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2-Dibromo-3-chloropropane	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Dibromochloromethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Dibromomethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,3-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,4-Dichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Dichlorodifluoromethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1-Dichloroethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1-Dichloroethene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2-Dichloropropane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,3-Dichloropropane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
2,2-Dichloropropane	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1-Dichloropropene	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015
Lab ID: 1502324-005
Matrix: SOIL
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Hexachlorobutadiene	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
2-Hexanone	ND	0.46		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Isopropylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
4-Isopropyltoluene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
4-Methyl-2-pentanone	ND	0.46		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Methylene chloride	ND	0.14		mg/Kg	1	2/10/2015 4:52:38 PM	17626
n-Butylbenzene	ND	0.14		mg/Kg	1	2/10/2015 4:52:38 PM	17626
n-Propylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
sec-Butylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Styrene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
tert-Butylbenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1,1,2-Tetrachloroethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1,2,2-Tetrachloroethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Tetrachloroethene (PCE)	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
trans-1,2-DCE	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
trans-1,3-Dichloropropene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2,3-Trichlorobenzene	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2,4-Trichlorobenzene	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1,1-Trichloroethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,1,2-Trichloroethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Trichloroethene (TCE)	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Trichlorofluoromethane	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
1,2,3-Trichloropropane	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Vinyl chloride	ND	0.046		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Xylenes, Total	ND	0.092		mg/Kg	1	2/10/2015 4:52:38 PM	17626
Surr: Dibromofluoromethane	91.3	70-130		%REC	1	2/10/2015 4:52:38 PM	17626
Surr: 1,2-Dichloroethane-d4	81.9	70-130		%REC	1	2/10/2015 4:52:38 PM	17626
Surr: Toluene-d8	85.8	70-130		%REC	1	2/10/2015 4:52:38 PM	17626
Surr: 4-Bromofluorobenzene	85.8	70-130		%REC	1	2/10/2015 4:52:38 PM	17626
EPA METHOD 418.1: TPH						Analyst: **BCN**	
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	2/10/2015 2:00:00 PM	17630
CYANIDE-TOTAL						Analyst: **SUB**	
Cyanide	ND	0.30		mg/Kg	1	2/16/2015	R24387

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EB-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 2:58:00 PM
Lab ID: 1502324-006
Matrix: AQUEOUS
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **KJH**	
Benzene	ND	1.0		µg/L	1	2/12/2015 6:57:01 AM	R24238
Toluene	ND	1.0		µg/L	1	2/12/2015 6:57:01 AM	R24238
Ethylbenzene	ND	1.0		µg/L	1	2/12/2015 6:57:01 AM	R24238
Xylenes, Total	ND	1.5		µg/L	1	2/12/2015 6:57:01 AM	R24238
Surr: 1,2-Dichloroethane-d4	82.4	70-130		%REC	1	2/12/2015 6:57:01 AM	R24238
Surr: 4-Bromofluorobenzene	94.2	70-130		%REC	1	2/12/2015 6:57:01 AM	R24238
Surr: Dibromofluoromethane	86.6	70-130		%REC	1	2/12/2015 6:57:01 AM	R24238
Surr: Toluene-d8	84.8	70-130		%REC	1	2/12/2015 6:57:01 AM	R24238

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: FB-2/5/2015
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 2/5/2015 3:05:00 PM
Lab ID: 1502324-007
Matrix: AQUEOUS
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **KJH**	
Benzene	ND	1.0		µg/L	1	2/12/2015 7:25:27 AM	R24238
Toluene	ND	1.0		µg/L	1	2/12/2015 7:25:27 AM	R24238
Ethylbenzene	ND	1.0		µg/L	1	2/12/2015 7:25:27 AM	R24238
Xylenes, Total	ND	1.5		µg/L	1	2/12/2015 7:25:27 AM	R24238
Surr: 1,2-Dichloroethane-d4	91.2	70-130		%REC	1	2/12/2015 7:25:27 AM	R24238
Surr: 4-Bromofluorobenzene	97.9	70-130		%REC	1	2/12/2015 7:25:27 AM	R24238
Surr: Dibromofluoromethane	94.2	70-130		%REC	1	2/12/2015 7:25:27 AM	R24238
Surr: Toluene-d8	94.5	70-130		%REC	1	2/12/2015 7:25:27 AM	R24238

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: OCD Central Landfarm Semiannual Sam
Collection Date:
Lab ID: 1502324-008
Matrix: AQUEOUS
Received Date: 2/6/2015 4:35:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **KJH**	
Benzene	ND	1.0		µg/L	1	2/12/2015 7:54:03 AM	R24238
Toluene	ND	1.0		µg/L	1	2/12/2015 7:54:03 AM	R24238
Ethylbenzene	ND	1.0		µg/L	1	2/12/2015 7:54:03 AM	R24238
Xylenes, Total	ND	1.5		µg/L	1	2/12/2015 7:54:03 AM	R24238
Surr: 1,2-Dichloroethane-d4	82.1	70-130		%REC	1	2/12/2015 7:54:03 AM	R24238
Surr: 4-Bromofluorobenzene	88.7	70-130		%REC	1	2/12/2015 7:54:03 AM	R24238
Surr: Dibromofluoromethane	85.8	70-130		%REC	1	2/12/2015 7:54:03 AM	R24238
Surr: Toluene-d8	87.2	70-130		%REC	1	2/12/2015 7:54:03 AM	R24238

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

Qualifiers:

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

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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 #: 150210026
Project Name: 1502324

Analytical Results Report

Sample Number 150210026-001 **Sampling Date** 2/5/2015 **Date/Time Received** 2/10/2015 10:40 AM
Client Sample ID 1502324-001D / CENTRAL OCD-01-2/5/2015 **Sampling Time** 1:30 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.31	2/16/2015	CRW	EPA 335.4	
%moisture	19.4	Percent		2/17/2015	CRW	%moisture	

Sample Number 150210026-002 **Sampling Date** 2/5/2015 **Date/Time Received** 2/10/2015 10:40 AM
Client Sample ID 1502324-002D / CENTRAL OCD-02-2/5/2015 **Sampling Time** 12:15 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.312	2/16/2015	CRW	EPA 335.4	
%moisture	20.5	Percent		2/17/2015	CRW	%moisture	

Sample Number 150210026-003 **Sampling Date** 2/5/2015 **Date/Time Received** 2/10/2015 10:40 AM
Client Sample ID 1502324-003D / CENTRAL OCD-03-2/5/2015 **Sampling Time** 2:17 PM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.289	2/16/2015	CRW	EPA 335.4	
%moisture	17	Percent		2/17/2015	CRW	%moisture	

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

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	150210026
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1502324
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number 150210026-004 **Sampling Date** 2/5/2015 **Date/Time Received** 2/10/2015 10:40 AM
Client Sample ID 1502324-004D / CENTRAL OCD-04-2/5/2015 **Sampling Time** 11:35 AM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.451	mg/Kg	0.293	2/16/2015	CRW	EPA 335.4	
%moisture	14.7	Percent		2/17/2015	CRW	%moisture	

Sample Number 150210026-005 **Sampling Date** 2/5/2015 **Date/Time Received** 2/10/2015 10:40 AM
Client Sample ID 1502324-005D / BD-2/5/2015 **Sampling Time**
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.302	2/16/2015	CRW	EPA 335.4	
%moisture	19.9	Percent		2/17/2015	CRW	%moisture	

Authorized Signature

John Coddington, Lab Manager

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

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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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 #: 150210026
Project Name: 1502324

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.494	mg/kg	0.5	98.8	90-110	2/16/2015	2/16/2015

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
150210026-001	Cyanide	ND	15.3	mg/kg	15.5	98.7	90-110	2/16/2015	2/16/2015

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	15.1	mg/kg	15.5	97.4	1.3	0-25	2/16/2015	2/16/2015

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	2/16/2015	2/16/2015

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

Comments:

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

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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1502324
Pace Project No.: 30140414

Sample: 1502324-001C Central OCD-01-2/ **Lab ID: 30140414001** Collected: 02/05/15 13:30 Received: 02/10/15 10:00 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.586 ± 0.338 (0.126) C:NA T:NA**	pCi/g	03/05/15 10:36	13982-63-3	
Radium-228	EPA 901.1	**1.561 ± 0.449 (0.589) C:NA T:NA**	pCi/g	03/05/15 10:36	15262-20-1	

Sample: 1502324-002C Central OCD-02-2/ **Lab ID: 30140414002** Collected: 02/05/15 12:15 Received: 02/10/15 10:00 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.240 ± 0.264 (0.257) C:NA T:NA**	pCi/g	03/05/15 10:35	13982-63-3	
Radium-228	EPA 901.1	**1.514 ± 0.382 (0.425) C:NA T:NA**	pCi/g	03/05/15 10:35	15262-20-1	

Sample: 1502324-003C Central OCD-03-2/ **Lab ID: 30140414003** Collected: 02/05/15 14:17 Received: 02/10/15 10:00 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.467 ± 0.265 (0.189) C:NA T:NA**	pCi/g	03/05/15 11:01	13982-63-3	
Radium-228	EPA 901.1	**2.207 ± 0.494 (0.131) C:NA T:NA**	pCi/g	03/05/15 11:01	15262-20-1	

Sample: 1502324-004C Central OCD-04-2/ **Lab ID: 30140414004** Collected: 02/05/15 11:35 Received: 02/10/15 10:00 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.480 ± 0.372 (0.214) C:NA T:NA**	pCi/g	03/05/15 11:02	13982-63-3	
Radium-228	EPA 901.1	**1.854 ± 0.591 (0.424) C:NA T:NA**	pCi/g	03/05/15 11:02	15262-20-1	

Sample: 1502324-005C BD-2/5/2015 **Lab ID: 30140414005** Collected: 02/05/15 00:01 Received: 02/10/15 10:00 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.602 ± 0.379 (0.141) C:NA T:NA**	pCi/g	03/05/15 11:19	13982-63-3	
Radium-228	EPA 901.1	**2.233 ± 0.499 (0.432) C:NA T:NA**	pCi/g	03/05/15 11:19	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1502324
Pace Project No.: 30140414

QC Batch:	RADC/23382	Analysis Method:	EPA 901.1
QC Batch Method:	EPA 901.1	Analysis Description:	901.1 Gamma Spec Ingrowth

Associated Lab Samples: 30140414001, 30140414002

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1502324
Pace Project No.: 30140414

QC Batch:	RADC/23383	Analysis Method:	EPA 901.1
QC Batch Method:	EPA 901.1	Analysis Description:	901.1 Gamma Spec Ingrowth

Associated Lab Samples: 30140414003, 30140414004, 30140414005

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

REPORT OF LABORATORY ANALYSIS

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**
09-Mar-15

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

Sample ID **MB-17685**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **17685**	RunNo: **24256**
Prep Date: **2/11/2015**	Analysis Date: **2/11/2015**	SeqNo: **714901** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID **LCS-17685**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **17685**	RunNo: **24256**
Prep Date: **2/11/2015**	Analysis Date: **2/11/2015**	SeqNo: **714902** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	99.9	90	110			
Chloride	14	1.5	15.00	0	91.8	90	110			
Nitrogen, Nitrate (As N)	7.2	0.30	7.500	0	96.4	90	110			
Sulfate	28	1.5	30.00	0	92.9	90	110			

Sample ID **1502324-003BMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17685**	RunNo: **24256**
Prep Date: **2/11/2015**	Analysis Date: **2/11/2015**	SeqNo: **714940** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.0	0.30	1.500	3.363	39.8	13.6	100			
Nitrogen, Nitrate (As N)	25	0.30	7.500	16.15	117	85.3	110			S

Sample ID **1502324-003BMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17685**	RunNo: **24256**
Prep Date: **2/11/2015**	Analysis Date: **2/11/2015**	SeqNo: **714941** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.1	0.30	1.500	3.363	46.2	13.6	100	2.38	20	
Nitrogen, Nitrate (As N)	25	0.30	7.500	16.15	118	85.3	110	0.329	20	S

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-17630**	SampType: **MBLK**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **PBS**	Batch ID: **17630**	RunNo: **24217**							
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **713807**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID **LCS-17630**	SampType: **LCS**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **LCSS**	Batch ID: **17630**	RunNo: **24217**							
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **713808**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	100.0	0	104	86.7	126			

Sample ID **LCSD-17630**	SampType: **LCSD**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **LCSS02**	Batch ID: **17630**	RunNo: **24217**							
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **713809**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	100.0	0	101	86.7	126	3.76	20	

Sample ID **1502324-003AMS**	SampType: **MS**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **Central OCD-03-2/5/**	Batch ID: **17630**	RunNo: **24217**							
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **713814**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	99	20	99.60	8.639	90.6	80	120			

Sample ID **1502324-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **Central OCD-03-2/5/**	Batch ID: **17630**	RunNo: **24217**							
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **713815**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	98.14	8.639	94.3	80	120	2.32	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-17621**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **17621**	RunNo: **24202**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **713699** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		93.7	63.5	128			

Sample ID **LCS-17621**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **17621**	RunNo: **24202**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **713700** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	67.8	130			
Surr: DNOP	4.4		5.000		88.3	63.5	128			

Sample ID **1502324-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17621**	RunNo: **24202**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **713952** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	49.75	0	106	29.2	176	200	0	
Surr: DNOP	5.1		4.975		102	63.5	128	0	0	

Sample ID **1502324-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17621**	RunNo: **24202**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **713953** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.9	49.26	0	102	29.2	176	4.12	23	
Surr: DNOP	4.9		4.926		99.4	63.5	128	0	0	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**
09-Mar-15

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

Sample ID **MB-17626**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **17626**	RunNo: **24212**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **714085** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.8	80	120			

Sample ID **LCS-17626**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **17626**	RunNo: **24212**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **714086** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	98.0	64	130			
Surr: BFB	990		1000		99.1	80	120			

Sample ID **1502324-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17626**	RunNo: **24212**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **714095** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.9	24.68	0	112	47.9	144			
Surr: BFB	950		987.2		96.0	80	120			

Sample ID **1502324-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17626**	RunNo: **24212**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **714096** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.9	24.68	0	115	47.9	144	3.25	29.9	
Surr: BFB	950		987.2		96.3	80	120	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-17661**	SampType: **MBLK**	TestCode: **EPA Method 8082: PCB's**
Client ID: **PBS**	Batch ID: **17661**	RunNo: **24309**
Prep Date: **2/10/2015**	Analysis Date: **2/12/2015**	SeqNo: **716406** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.040		0.06250		63.2	37.5	161			
Surr: Tetrachloro-m-xylene	0.036		0.06250		58.0	28.1	149			

Sample ID **LCS-17661**	SampType: **LCS**	TestCode: **EPA Method 8082: PCB's**
Client ID: **LCSS**	Batch ID: **17661**	RunNo: **24309**
Prep Date: **2/10/2015**	Analysis Date: **2/12/2015**	SeqNo: **716407** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.092	0.020	0.1250	0	73.8	26.2	127			
Aroclor 1260	0.12	0.020	0.1250	0	93.9	36.6	122			
Surr: Decachlorobiphenyl	0.058		0.06250		92.8	37.5	161			
Surr: Tetrachloro-m-xylene	0.067		0.06250		108	28.1	149			

Sample ID **1502324-003BMS**	SampType: **MS**	TestCode: **EPA Method 8082: PCB's**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17661**	RunNo: **24309**
Prep Date: **2/10/2015**	Analysis Date: **2/12/2015**	SeqNo: **716419** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.056	0.020	0.1254	0	44.5	15.8	111			
Aroclor 1260	0.090	0.020	0.1254	0	71.6	6.14	135			
Surr: Decachlorobiphenyl	0.054		0.06272		86.4	37.5	161			
Surr: Tetrachloro-m-xylene	0.042		0.06272		66.8	28.1	149			

Sample ID **1502324-003BMSD**	SampType: **MSD**	TestCode: **EPA Method 8082: PCB's**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17661**	RunNo: **24309**
Prep Date: **2/10/2015**	Analysis Date: **2/13/2015**	SeqNo: **716420** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.062	0.020	0.1252	0	49.6	15.8	111	10.8	20	
Aroclor 1260	0.10	0.020	0.1252	0	83.6	6.14	135	15.3	32.8	
Surr: Decachlorobiphenyl	0.060		0.06259		96.0	37.5	161	0	0	
Surr: Tetrachloro-m-xylene	0.048		0.06259		77.2	28.1	149	0	0	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**
09-Mar-15

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

Sample ID **mb-17626**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **17626**	RunNo: **24224**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **714046** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-17626**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **17626**	RunNo: **24224**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **714046** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.47		0.5000		94.3	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		81.2	70	130			
Surr: Toluene-d8	0.42		0.5000		83.0	70	130			
Surr: 4-Bromofluorobenzene	0.41		0.5000		81.3	70	130			

Sample ID **lcs-17626**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **17626**	RunNo: **24224**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **714047** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	107	70	130			
Toluene	0.94	0.050	1.000	0	93.7	70	130			
Chlorobenzene	0.92	0.050	1.000	0	91.7	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-17626**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **17626**	RunNo: **24224**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **714047** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.2	0.050	1.000	0	118	60.6	134			
Trichloroethene (TCE)	1.0	0.050	1.000	0	104	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		97.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		88.0	70	130			
Surr: Toluene-d8	0.43		0.5000		86.3	70	130			
Surr: 4-Bromofluorobenzene	0.43		0.5000		85.1	70	130			

Sample ID **1502324-003ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17626**	RunNo: **24224**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **714051** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.049	0.9872	0	99.5	57.8	132			
Toluene	0.95	0.049	0.9872	0	95.7	54.8	139			
Chlorobenzene	0.95	0.049	0.9872	0	95.9	63.5	134			
1,1-Dichloroethene	1.0	0.049	0.9872	0	105	26.4	145			
Trichloroethene (TCE)	0.95	0.049	0.9872	0	95.7	54.9	125			
Surr: Dibromofluoromethane	0.44		0.4936		88.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.39		0.4936		79.2	70	130			
Surr: Toluene-d8	0.44		0.4936		89.3	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.4936		84.6	70	130			

Sample ID **1502324-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17626**	RunNo: **24224**
Prep Date: **2/9/2015**	Analysis Date: **2/10/2015**	SeqNo: **714052** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.049	0.9872	0	99.7	57.8	132	0.159	20	
Toluene	0.91	0.049	0.9872	0	91.9	54.8	139	4.14	20	
Chlorobenzene	0.89	0.049	0.9872	0	90.6	63.5	134	5.65	20	
1,1-Dichloroethene	1.0	0.049	0.9872	0	105	26.4	145	0.516	20	
Trichloroethene (TCE)	0.98	0.049	0.9872	0	99.0	54.9	125	3.33	20	
Surr: Dibromofluoromethane	0.45		0.4936		90.5	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.40		0.4936		80.0	70	130	0	0	
Surr: Toluene-d8	0.42		0.4936		85.0	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.43		0.4936		86.9	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**
09-Mar-15

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

Sample ID **5mL-rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R24238**	RunNo: **24238**
Prep Date:	Analysis Date: **2/11/2015**	SeqNo: **714516** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.4		10.00		83.9	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.3	70	130			
Surr: Dibromofluoromethane	8.4		10.00		83.7	70	130			
Surr: Toluene-d8	9.8		10.00		97.5	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R24238**	RunNo: **24238**
Prep Date:	Analysis Date: **2/11/2015**	SeqNo: **714517** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	112	70	130			
Toluene	19	1.0	20.00	0	96.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.3	70	130			
Surr: Toluene-d8	8.8		10.00		88.1	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**
09-Mar-15

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

Sample ID **mb-17635**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **17635**	RunNo: **24253**
Prep Date: **2/9/2015**	Analysis Date: **2/11/2015**	SeqNo: **714838** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.40								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3´-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.40								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**
09-Mar-15

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

Sample ID **mb-17635**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **17635**	RunNo: **24253**
Prep Date: **2/9/2015**	Analysis Date: **2/11/2015**	SeqNo: **714838** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.40								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.40								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.40								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.40								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	3.1		3.330		92.6	26.4	129			
Surr: Phenol-d5	2.9		3.330		86.7	34.8	118			
Surr: 2,4,6-Tribromophenol	3.0		3.330		90.4	26.8	128			
Surr: Nitrobenzene-d5	1.5		1.670		87.3	35.8	124			
Surr: 2-Fluorobiphenyl	1.5		1.670		91.0	24.5	139			
Surr: 4-Terphenyl-d14	1.2		1.670		73.3	29.4	129			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**
09-Mar-15

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

Sample ID **lcs-17635**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **17635**	RunNo: **24253**
Prep Date: **2/9/2015**	Analysis Date: **2/11/2015**	SeqNo: **714839** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.5	0.20	1.670	0	87.6	45.8	114			
4-Chloro-3-methylphenol	2.8	0.50	3.330	0	84.8	52.3	122			
2-Chlorophenol	2.6	0.20	3.330	0	77.6	49.9	115			
1,4-Dichlorobenzene	1.2	0.20	1.670	0	71.4	43.7	107			
2,4-Dinitrotoluene	1.1	0.50	1.670	0	66.7	36	106			
N-Nitrosodi-n-propylamine	1.3	0.20	1.670	0	75.5	39.5	110			
4-Nitrophenol	2.6	0.25	3.330	0	78.3	45.1	121			
Pentachlorophenol	2.4	0.40	3.330	0	72.2	23.7	111			
Phenol	2.8	0.20	3.330	0	84.3	52.7	119			
Pyrene	1.2	0.20	1.670	0	71.6	50.4	116			
1,2,4-Trichlorobenzene	1.3	0.20	1.670	0	77.9	40.1	114			
Surr: 2-Fluorophenol	2.8		3.330		83.7	26.4	129			
Surr: Phenol-d5	2.7		3.330		82.0	34.8	118			
Surr: 2,4,6-Tribromophenol	3.0		3.330		91.5	26.8	128			
Surr: Nitrobenzene-d5	1.4		1.670		83.8	35.8	124			
Surr: 2-Fluorobiphenyl	1.5		1.670		90.3	24.5	139			
Surr: 4-Terphenyl-d14	1.3		1.670		74.9	29.4	129			

Sample ID **1502324-003bms**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17635**	RunNo: **24253**
Prep Date: **2/9/2015**	Analysis Date: **2/11/2015**	SeqNo: **714845** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.5	0.20	1.675	0	86.7	36.3	121			
4-Chloro-3-methylphenol	2.7	0.50	3.340	0	81.0	48.2	119			
2-Chlorophenol	2.7	0.20	3.340	0	81.1	37.2	114			
1,4-Dichlorobenzene	1.3	0.20	1.675	0	76.1	28.8	106			
2,4-Dinitrotoluene	1.1	0.50	1.675	0	68.4	34.6	111			
N-Nitrosodi-n-propylamine	1.4	0.20	1.675	0	81.5	32.7	117			
4-Nitrophenol	2.5	0.25	3.340	0	75.8	30.1	134			
Pentachlorophenol	2.3	0.40	3.340	0.1365	65.9	24	120			
Phenol	2.8	0.20	3.340	0	84.4	38.3	118			
Pyrene	1.3	0.20	1.675	0	78.7	38.3	134			
1,2,4-Trichlorobenzene	1.3	0.20	1.675	0	76.1	31.8	110			
Surr: 2-Fluorophenol	2.7		3.340		81.9	26.4	129			
Surr: Phenol-d5	2.8		3.340		82.7	34.8	118			
Surr: 2,4,6-Tribromophenol	2.7		3.340		80.0	26.8	128			
Surr: Nitrobenzene-d5	1.4		1.675		82.7	35.8	124			
Surr: 2-Fluorobiphenyl	1.5		1.675		89.2	24.5	139			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1502324-003bms**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17635**	RunNo: **24253**
Prep Date: **2/9/2015**	Analysis Date: **2/11/2015**	SeqNo: **714845** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	1.2		1.675		74.2	29.4	129			

Sample ID **1502324-003bmsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17635**	RunNo: **24253**
Prep Date: **2/9/2015**	Analysis Date: **2/11/2015**	SeqNo: **714846** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.20	1.674	0	85.7	36.3	121	1.21	25.4	
4-Chloro-3-methylphenol	2.8	0.50	3.339	0	82.5	48.2	119	1.79	30.4	
2-Chlorophenol	2.5	0.20	3.339	0	76.0	37.2	114	6.52	33.4	
1,4-Dichlorobenzene	1.2	0.20	1.674	0	69.8	28.8	106	8.76	20.9	
2,4-Dinitrotoluene	1.2	0.50	1.674	0	69.3	34.6	111	1.30	27.9	
N-Nitrosodi-n-propylamine	1.3	0.20	1.674	0	75.1	32.7	117	8.24	27.5	
4-Nitrophenol	2.8	0.25	3.339	0	83.7	30.1	134	9.87	33.7	
Pentachlorophenol	2.5	0.40	3.339	0.1365	71.4	24	120	7.59	39.7	
Phenol	2.7	0.20	3.339	0	80.2	38.3	118	5.19	30.1	
Pyrene	1.3	0.20	1.674	0	76.3	38.3	134	3.05	22.7	
1,2,4-Trichlorobenzene	1.3	0.20	1.674	0	77.4	31.8	110	1.68	27.8	
Surr: 2-Fluorophenol	2.5		3.339		76.2	26.4	129	0	0	
Surr: Phenol-d5	2.6		3.339		77.5	34.8	118	0	0	
Surr: 2,4,6-Tribromophenol	2.8		3.339		84.0	26.8	128	0	0	
Surr: Nitrobenzene-d5	1.3		1.674		78.0	35.8	124	0	0	
Surr: 2-Fluorobiphenyl	1.4		1.674		84.8	24.5	139	0	0	
Surr: 4-Terphenyl-d14	1.2		1.674		71.0	29.4	129	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**MB-R24387**	SampType:	**MBLK**	TestCode:	**CYANIDE-TOTAL**					
Client ID:	**PBS**	Batch ID:	**R24387**	RunNo:	**24387**					
Prep Date:		Analysis Date:	**2/16/2015**	SeqNo:	**718598**	Units:	**mg/Kg**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cyanide		ND	0.50								

Sample ID	**LCS-R24387**	SampType:	**LCS**	TestCode:	**CYANIDE-TOTAL**					
Client ID:	**LCSS**	Batch ID:	**R24387**	RunNo:	**24387**					
Prep Date:		Analysis Date:	**2/16/2015**	SeqNo:	**718599**	Units:	**mg/Kg**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cyanide		0.49		0.5000	0	98.8	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**MB-17645**	SampType: **MBLK**			TestCode: **EPA Method 7471: Mercury**					
Client ID:	**PBS**	Batch ID: **17645**			RunNo: **24243**					
Prep Date:	**2/9/2015**	Analysis Date: **2/11/2015**			SeqNo: **714587**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	**LCS-17645**	SampType: **LCS**			TestCode: **EPA Method 7471: Mercury**					
Client ID:	**LCSS**	Batch ID: **17645**			RunNo: **24243**					
Prep Date:	**2/9/2015**	Analysis Date: **2/11/2015**			SeqNo: **714588**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	99.9	80	120			

Sample ID	**1502324-003BMS**	SampType: **MS**			TestCode: **EPA Method 7471: Mercury**					
Client ID:	**Central OCD-03-2/5/**	Batch ID: **17645**			RunNo: **24243**					
Prep Date:	**2/9/2015**	Analysis Date: **2/11/2015**			SeqNo: **714600**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.035	0.1753	0	99.0	75	125			

Sample ID	**1502324-003BMSD**	SampType: **MSD**			TestCode: **EPA Method 7471: Mercury**					
Client ID:	**Central OCD-03-2/5/**	Batch ID: **17645**			RunNo: **24243**					
Prep Date:	**2/9/2015**	Analysis Date: **2/11/2015**			SeqNo: **714601**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1665	0	98.2	75	125	5.93	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-17644**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **17644**	RunNo: **24235**
Prep Date: **2/9/2015**	Analysis Date: **2/11/2015**	SeqNo: **714437** Units: **mg/Kg**

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

Sample ID **LCS-17644**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **17644**	RunNo: **24235**
Prep Date: **2/9/2015**	Analysis Date: **2/11/2015**	SeqNo: **714438** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	26	2.5	25.00	0	104	80	120			
Barium	25	0.10	25.00	0	99.6	80	120			
Cadmium	25	0.10	25.00	0	99.1	80	120			
Chromium	26	0.30	25.00	0	102	80	120			
Copper	26	0.30	25.00	0	104	80	120			
Iron	26	2.5	25.00	0	102	80	120			
Lead	24	0.25	25.00	0	95.5	80	120			
Manganese	25	0.10	25.00	0	98.3	80	120			
Selenium	24	2.5	25.00	0	94.6	80	120			
Silver	5.2	0.25	5.000	0	104	80	120			
Uranium	24	5.0	25.00	0	96.9	80	120			
Zinc	25	2.5	25.00	0	99.6	80	120			

Sample ID **1502324-003BMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **Central OCD-03-2/5/**	Batch ID: **17644**	RunNo: **24235**
Prep Date: **2/9/2015**	Analysis Date: **2/11/2015**	SeqNo: **714462** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	18	0.097	24.31	0	75.3	75	125			
Chromium	32	0.29	24.31	11.82	81.9	75	125			
Copper	24	0.29	24.31	3.564	82.9	75	125			
Silver	3.9	0.24	4.863	0	80.4	75	125			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**

09-Mar-15

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**1502324-003BMS**	SampType: **MS**			TestCode: **EPA Method 6010B: Soil Metals**					
Client ID:	**Central OCD-03-2/5/**	Batch ID: **17644**			RunNo: **24235**					
Prep Date:	**2/9/2015**	Analysis Date: **2/11/2015**			SeqNo: **714462**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	19	4.9	24.31	0	76.6	75	125			

Sample ID	**1502324-003BMSD**	SampType: **MSD**			TestCode: **EPA Method 6010B: Soil Metals**					
Client ID:	**Central OCD-03-2/5/**	Batch ID: **17644**			RunNo: **24235**					
Prep Date:	**2/9/2015**	Analysis Date: **2/11/2015**			SeqNo: **714463**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	19	0.10	25.73	0	75.5	75	125	5.87	20	
Chromium	32	0.31	25.73	11.82	80.1	75	125	2.17	20	
Copper	25	0.31	25.73	3.564	83.4	75	125	5.36	20	
Silver	4.2	0.26	5.147	0	81.2	75	125	6.61	20	
Uranium	20	5.1	25.73	0	76.4	75	125	5.41	20	

Sample ID	**1502324-003BMS**	SampType: **MS**			TestCode: **EPA Method 6010B: Soil Metals**					
Client ID:	**Central OCD-03-2/5/**	Batch ID: **17644**			RunNo: **24235**					
Prep Date:	**2/9/2015**	Analysis Date: **2/11/2015**			SeqNo: **714465**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	41	4.9	24.31	18.77	90.0	75	125			

Sample ID	**1502324-003BMSD**	SampType: **MSD**			TestCode: **EPA Method 6010B: Soil Metals**					
Client ID:	**Central OCD-03-2/5/**	Batch ID: **17644**			RunNo: **24235**					
Prep Date:	**2/9/2015**	Analysis Date: **2/11/2015**			SeqNo: **714469**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	44	5.1	25.73	18.77	97.6	75	125	7.65	20	

Sample ID	**1502324-003BMS**	SampType: **MS**			TestCode: **EPA Method 6010B: Soil Metals**					
Client ID:	**Central OCD-03-2/5/**	Batch ID: **17644**			RunNo: **24254**					
Prep Date:	**2/9/2015**	Analysis Date: **2/12/2015**			SeqNo: **714888**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	20	2.4	24.31	1.641	76.1	75	125			
Barium	230	0.097	24.31	219.3	48.1	75	125			S
Lead	18	0.24	24.31	3.197	62.1	75	125			S
Selenium	9.8	2.4	24.31	0	40.2	75	125			S

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1502324**
09-Mar-15

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

Sample ID **1502324-003BMSD**	SampType: **MSD**		TestCode: **EPA Method 6010B: Soil Metals**		
Client ID: **Central OCD-03-2/5/**	Batch ID: **17644**		RunNo: **24254**		
Prep Date: **2/9/2015**	Analysis Date: **2/12/2015**		SeqNo: **714889**	Units: **mg/Kg**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	21	2.6	25.73	1.641	76.5	75	125	5.71	20	
Barium	240	0.10	25.73	219.3	73.9	75	125	3.13	20	S
Lead	20	0.26	25.73	3.197	63.4	75	125	6.40	20	S
Selenium	11	2.6	25.73	0	41.7	75	125	9.33	20	S

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1502324** RcptNo: **1**

Received by/date: CM 02/04/15

Logged By: **Anne Thorne** 2/6/2015 4:35:00 PM Anne Thorne

Completed By: **Anne Thorne** 2/9/2015 Anne Thorne

Reviewed By: CS 02/09/15

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° 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
3	1.5	Good	Yes			

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

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

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

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

Chain-of-Custody Record

Client: Western Refining

Mailing Address: Route 3 Box 7

Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-722-0210

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

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type) _Please provide EDD

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
OCD Central Landfarm Semiannual Sampling

Project #:
697-039-008

Project Manager:
Ed Riege

Sampler: Zac Bitsue
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No 1502324	Vadose Zone List (see attached)	NMAC List (see attached)	BTEX (8260)										Air Bubbles (Y or N)
							Analysis Request												
2/5/2015	1330	soil	CentralOCD-01-2/5/2015	8ox - 3, 4oz - 1	none	001	X	X											
2/5/2015	1215	soil	CentralOCD-02-2/5/2015	8ox - 3, 4oz - 1	none	-002	X	X											
2/5/2015	1417	soil	CentralOCD-03-2/5/2015	8ox - 3, 4oz - 1	none	-003	X	X											
2/5/2015	1135	soil	CentralOCD-04-2/5/2015	8ox - 3, 4oz - 1	none	-004	X	X											
2/5/2015	—	soil	BD-2/5/2015	8ox - 3, 4oz - 1	none	-005	X	X											
2/5/2015	1420	soil	CentralOCD-03-2/5/2015-MS	8ox - 3, 4oz - 1	none	-003	X	X											
2/5/2015	1441	soil	CentralOCD-03-2/5/2015-MSD	8ox - 3, 4oz - 1	none	-003	X	X											
2/5/2015	1458	water	EB-2/5/2015	VOA - 3	HCL	-006			X										
2/5/2015	1505	water	FB-2/5/2015	VOA - 3	HCL	-007			X										
		water	Trip Blank	VOA - 3	HCL	-008			X										

Date	Time	Relinquished by	Received by	Date	Time
2/5/2015	1720			2/6/15	1:00
				02/06/15	1635

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**

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

Tier II Data Validation Report Summary

Client: Western Refining Southwest, Inc.	Laboratory: Hall Environmental Laboratory
Project Name: OCD Central Landfarm Semiannual Sampling	Sample Matrix: Soil
Project Number: 697-039-007	Sample Start Date: 02/05/2015
Date Validated: 02/26/2015	Sample End Date: 02/05/2015
Parameters Included: • Polychlorinated Biphenyls (PCBs) by Environmental Protection Agency (EPA) Method 8082 • Diesel Range Organics (DRO) and Gasoline Range Organics (GRO) by Solid Waste 846 (SW-846) Method 8015D • Anions by EPA Method 300.0 • Total Mercury by SW-846 Method 7471 • Total Metals by SW-846 Method 6010B • Semivolatile Organic Compounds (SVOC) by SW-846 Method 8270C • Volatile Organic Compounds (VOC) by SW-846 Method 8260B • Total Petroleum Hydrocarbons (TPH) by EPA Method 418.1 • Total Cyanide by SW-846 Method 9012 • Radium-226 and Radium-228 by EPA Method 901.1	
Laboratory Project ID: 1502324	
Data Validator: James Gianakon, Environmental Chemist	

DATA EVALUATION CRITERIA SUMMARY

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

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

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

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

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

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

- Trip blanks
- Field blanks
- Equipment blanks

Tier II Data Validation Report Summary

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

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

Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
Central OCD-01-2/5/2015	1502324-001
Central OCD-02-2/5/2015	1502324-002
Central OCD-03-2/5/2015	1502324-003
Central OCD-04-2/5/2015	1502324-004
BD-2/5/2015	1502324-005
EB-2/5/1015	1502324-006
FB-2/5/2015	1502324-007
Trip Blank	1502324-008

Tier II Data Validation Report Summary

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

Validation Criteria

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

Guidance References

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

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

Tier II Data Validation Report Summary

OVERALL DATA PACKAGE ASSESSMENT

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

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

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

Data that would be qualified with more than one flag were assigned one qualifier based on the severity; however, all reasons for qualification were retained. The hierarchy of qualifiers from the most to least severe is as follows:

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

Data that would be qualified with both J+ and J- flags were assigned one or the other based on the validation criteria involved. The hierarchy of validation criteria from higher to lower precedence is as follows:

- Holding Time > Calibrations > Surrogates > LCS/LCSD > MS/MSD

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

Qualifier	Definition
J	Estimated concentration
J+	The result is an estimated concentration, but may be biased high
J-	The result is an estimated concentration, but may be biased low
UJ	Estimated reporting limit

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly unless otherwise noted in the Criteria Checklist below. The complete data package consisted of 820 data points excluding blank samples. No data points were rejected. The data completeness measure for this data package is calculated to be 100% and is acceptable.

VALIDATION CRITERIA CHECKLIST	
1. Was the report free of non-conformances identified by the laboratory?	No
Comments: The laboratory reported the following non-conformance related to this data set. Method 8082: Sample Central OCD-04-2/5/2015 was diluted x5, which elevates the PQL, because of the sample matrix.	
2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define.	No
Comments: The laboratory used the following data qualification flags in the laboratory report. S – Spike Recovery outside accepted recover limits.	
3. Were sample CoC forms and procedures complete?	Yes
Comments: The CoC record from the field to the laboratory was complete and custody was maintained as evidenced by the field and laboratory personnel signatures, dates, and times of receipt.	
4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable?	Yes
Comments: The detection limits appeared to be acceptable. The following dilutions were applied. Method 300.0: Sample BD-2/5/2015 was diluted by a factor of 5 times for anion analysis. Dilution factors of 20 times were applied for the analyses of chloride and sulfate for samples Central OCD-01-2/5/2015, Central OCD-02-2/5/2015, Central OCD-03-2/5/2015, and Central OCD-04-2/5/2015. Method 6010B: Dilution factors of 2 to 100 times were applied for the total metals analyses of the soil samples.	
5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC? Were any analytes reported by more than one method?	Yes
Comments: The reported analytical methods and constituents were found to be in compliance with the CoC.	
6. Were samples received in good condition within method-specified requirements?	No
Comments: Samples were received on ice, intact, and in good condition, outside the temperature acceptance range of 4°C +/- 2°C at a temperature of 1.5°C as noted on the CoC and the Sample Log-In Checklist. The samples were not frozen and bottles were not broken; therefore, no further action was required. Custody seals were noted to be present and intact on the coolers upon receipt by the laboratory.	
7. Were samples extracted/digested and analyzed within method-specified or technical holding times?	No
Comments: Samples were extracted/digested and analyzed within the method specified holding times.	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Specify if wet or dry units were used for soil.	Yes
Comments: The results were reported in concentration units of milligrams per kilogram (mg/kg), percent (%), and picocuries per gram (pCi/g) which were acceptable for the sample matrices and the analyses requested. Analytical results for the soil samples were reported on an as-received, wet weight basis. The analytical results for the field, equipment, and trip blank samples were reported in units of micrograms per liter which were appropriate.	
9. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	Yes
Comments: Initial and continuing calibration data were not included as part of this data set. However, there data were assumed to be acceptable as the laboratory did not note that any calibration verification results were outside the acceptable limits.	

VALIDATION CRITERIA CHECKLIST

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

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

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

Comments: The laboratory blank samples were reported to be free of target analyte contamination.

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

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

Method	Analyte (s)	Batch	MS Sample Source
300.0	Anions	17685	Central OCD-03-2/5/2015
418.1	TPH	17630	Central OCD-03-2/5/2015
8015D	DRO	17621	Central OCD-03-2/5-2015
8015D	GRO	17626	Central OCD-03-2/5/2015
8082	PCBs	17661	Central OCD-03-2/5/2015
8260B	VOCs	17626	Central OCD-03-2/5/2015
8260B	VOCs	R24238	Not Prepared
8270C	SVOCs	17635	Central OCD-03-2/5/2015
7471	Mercury	17645	Central OCD-03-2/5/2015
6010B	Total Metals	17644	Central OCD-03-2/5/2015
9012	Cyanide	R24387	Not Prepared
901.1	Radium	RADC/23382	Not Prepared/Not Required
901.1	Radium	RADC/23383	Not Prepared/Not Required

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

13. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory quality control (QC) limits? No

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

Method	Analyte	Batch	MS Recovery	MSD Recovery	MS/MSD QC Limits
300.0	**Nitrogen, Nitrate**	**17685**	**117%**	**118%**	**85.3-110%**
6010B	**Barium**	**17644**	**48.1%**	**73.9%**	**75-125%**
6010B	**Lead**	**17644**	**62.1%**	**63.4%**	**75-125%**
6010B	**Selenium**	**17644**	**40.2%**	**41.7%**	**75-125%**

Nitrogen, nitrate was detected in the associated samples and the results were assigned J+ qualifiers due to evidence of high bias.

Barium and lead were detected in the associated samples and the results were assigned J- qualifiers due to evidence of low bias.

Selenium was not detected in the associated samples and the results were assigned UJ qualifiers due to evidence of low bias.

VALIDATION CRITERIA CHECKLIST	
14. Was the total number of LCSs analyzed equal to at least 5% of the total number of samples or analyzed as required by the method?	Yes
Comments: The total number of LCS samples analyzed was equal to at least 5% of the total number of samples analyzed.	
15. Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within data validation or laboratory QC limits?	Yes
Comments: The LCS/LCSD percent recoveries and LCS/LCSD RPDs were within data validation and laboratory QC limits.	
16. Were surrogate recoveries within laboratory QC limits?	Yes
Comments: Surrogate recoveries were within laboratory QC limits.	
17. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	Yes
Comments: The number of trip blank, field blank, and equipment blank samples collected was equal to at least 10% of the total samples. One trip blank sample, Trip Blank, one field blank sample, FB-2/5/2015, and one equipment blank sample, EB-2/5/2015, were collected as a part of this data set.	
18. Were the trip blank, field blank, and/or equipment blank samples reported to be free of target analyte contamination?	Yes
Comments: The trip blank, field blank, and equipment blank samples were reported to be free of target analyte contamination.	
19. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	Yes
Comments: The number of field duplicate samples collected was equal to at least 10% of the total number of samples. The sample BD-2/5/2015 was collected as a duplicate for CentralOCD-02-2/5/2015.	
20. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	No
Comments: As detailed in the Field Duplicate Summary Tables below, the field duplicate RPD values were within QC limits with the following exceptions. **The RPD values for nitrogen (nitrate), sulfate, and barium were greater than the limit of 50% at 72.0%, 61.7%, and 116.7%, respectively. Results in the parent and duplicate sample, Central OCD-02-2/5/2015 and BD-2/5/2015 were assigned J qualifiers due to poor precision.** **Additionally, the barium results for the associated samples were also qualified and would have been assigned J qualifiers due to evidence of extremely poor precision (RPD > 100%), but the results had previously been assigned J- qualifiers due to evidence of low bias. The J- qualifiers were retained but the additional flag reason was included in the qualification results.**	
21. Were laboratory duplicate RPD values within laboratory QC limits?	Yes
Comments: Laboratory duplicate samples were not prepared as a part of this data set.	

FIELD DUPLICATE SUMMARY

Client Sample ID: Central OCD-02-2/5/2015 Field Duplicate Sample ID: BD-2/5/2015				
Method	**Analyte**	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
300.0	Fluoride	4.3	6.0	33.0%
300.0	Chloride	110	170	42.9%
300.0	**Nitrogen, Nitrate**	**1.6**	**3.4**	**72.0%**
300.0	**Sulfate**	**700**	**370**	**61.7%**
6010B	**Barium**	**760**	**200**	**116.7%**
6010B	Chromium	10	15	40%
6010B	Copper	3.3	4.1	21.6%
6010B	Iron	16000	20000	22.2%
6010B	Lead	2.7	3.0	10.5%
6010B	Manganese	370	290	24.2%
6010B	Zinc	14	20	35.3%
8270C	Benzyl alcohol	ND (0.20)	0.23	DL
901.1	Radium-226	1.240 ± 0.264 pCi/g	1.602 ± 0.379 pCi/g	26.6%
901.1	Radium-228	1.514 ± 0.382 pCi/g	2.233 ± 0.499 pCi/g	38.4%

Field duplicate RPD control limits are not to exceed 50% for soil as established by USEPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures, EQADR-Supplement0, April 2013.

DL – Indicates that the analyte was detected in one of the duplicate samples and was undetected in the other sample, and therefore an RPD could not be calculated. Data were not qualified since the detection was within two times the reporting limit.

The RPD values for nitrogen (nitrate), sulfate, and barium were greater than the limit of 50% at 72.0%, 61.7%, and 116.7%, respectively. Results in the parent and duplicate sample, Central OCD-02-2/5/2015 and BD-2/5/2015 were assigned J qualifiers due to poor precision.

Additionally, the barium results for the associated samples were also qualified and would have been assigned J qualifiers due to evidence of extremely poor precision (RPD > 100%), but the results had previously been assigned J- qualifiers due to evidence of low bias. The J- qualifiers were retained but the additional flag reason was included in the qualification results.

DATA QUALIFICATION SUMMARY

Abbreviation	Reason
HR-MS	The MS and/or MSD percent recovery was greater than the upper acceptable limit indicating possible matrix interference.
LR-MS	The MS and/or MSD percent recovery was less than the lower acceptable limit indicating possible matrix interference.
ERPD-FD	High field duplicate RPD.

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Nitrogen	E300	Central OCD-01-2/5/2015	1502324-001B	2.7	0.3	mg/kg	J+	HR-MS
Nitrogen	E300	Central OCD-03-2/5/2015	1502324-003B	16	0.3	mg/kg	J+	HR-MS
Nitrogen	E300	Central OCD-04-2/5/2015	1502324-004B	7.5	0.3	mg/kg	J+	HR-MS
Nitrogen	E300	Central OCD-02-2/5/2015	1502324-002B	1.6	0.3	mg/kg	J+	ERPD-FD, HR-MS
Nitrogen	E300	BD-2/5/2015	1502324-005B	3.4	1.5	mg/kg	J+	ERPD-FD, HR-MS
Sulfate	E300	Central OCD-02-2/5/2015	1502324-002B	700	30	mg/kg	J	ERPD-FD
Sulfate	E300	BD-2/5/2015	1502324-005B	370	7.5	mg/kg	J	ERPD-FD
Barium, Total	SW6010B	Central OCD-01-2/5/2015	1502324-001B	210	0.1	mg/kg	J-	ERPD-FD, LR-MS
Barium, Total	SW6010B	Central OCD-02-2/5/2015	1502324-002B	760	0.52	mg/kg	J-	ERPD-FD, LR-MS
Barium, Total	SW6010B	Central OCD-03-2/5/2015	1502324-003B	220	0.097	mg/kg	J-	ERPD-FD, LR-MS
Barium, Total	SW6010B	Central OCD-04-2/5/2015	1502324-004B	250	0.1	mg/kg	J-	ERPD-FD, LR-MS
Barium, Total	SW6010B	BD-2/5/2015	1502324-005B	200	0.2	mg/kg	J-	ERPD-FD, LR-MS
Lead, Total	SW6010B	Central OCD-01-2/5/2015	1502324-001B	2.5	0.26	mg/kg	J-	LR-MS
Lead, Total	SW6010B	Central OCD-02-2/5/2015	1502324-002B	2.7	0.26	mg/kg	J-	LR-MS
Lead, Total	SW6010B	Central OCD-03-2/5/2015	1502324-003B	3.2	0.24	mg/kg	J-	LR-MS
Lead, Total	SW6010B	Central OCD-04-2/5/2015	1502324-004B	6.2	0.25	mg/kg	J-	LR-MS
Lead, Total	SW6010B	BD-2/5/2015	1502324-005B	3	0.5	mg/kg	J-	LR-MS
Selenium, Total	SW6010B	Central OCD-01-2/5/2015	1502324-001B	ND	2.6	mg/kg	UJ	LR-MS
Selenium, Total	SW6010B	Central OCD-02-2/5/2015	1502324-002B	ND	2.6	mg/kg	UJ	LR-MS
Selenium, Total	SW6010B	Central OCD-03-2/5/2015	1502324-003B	ND	2.4	mg/kg	UJ	LR-MS
Selenium, Total	SW6010B	Central OCD-04-2/5/2015	1502324-004B	ND	2.5	mg/kg	UJ	LR-MS

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	DV Flag Reasons
Selenium, Total	SW6010B	BD-2/5/2015	1502324-005B	ND	5	mg/kg	UJ	LR-MS

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, September 12, 2013 1:36 PM
To: 'Grant Price'
Cc: Riege, Ed; VanHorn, Kristen, NMENV
Subject: RE: Action Plan, OCD Landfarm

Mr. Price:

The New Mexico Oil Conservation Division (OCD) has reviewed your comments in red text below.

The action plan is **hereby** approved by the OCD with the following conditions:

1) Adherence to EPA QA/QC and DQOs during environmental sample and environmental laboratory analyses;
2) Implementation of Best Professional Judgment (BPJ) at the base of the excavation areas to remove stained soils and/or soils where olfactory senses suggests the presence of contamination;
3) Provide photos of each excavation areas where sampling is conducted. If soil staining is evident at the base of the excavation, BTEX sampling should also be conducted; and
4) Follow-up with NMED in the event there are any RCRA related land treatment issues that need to be addressed.

Regarding the inquiry into procedures for ensuring each lift of landfarm soils is properly analyzed for chlorides to assess placement of hydrocarbon contaminated soils into the landfarm, OCD requires: Collection with analytical for a minimum of one composite soil sample per maximum of 3000 cubic yards per acre, consisting of four discrete samples. This is consistent with 19.15.36.15(F). The data should be handled similar to 19.15.36(E)4 NMAC below. The operator may propose an alternate method for OCD consideration.

19.15.36.15(F) NMAC *Treatment zone closure performance standards. After the operator has filled a landfarm cell to the maximum thickness of two feet or approximately 3000 cubic yards per acre, the operator shall continue treatment until the contaminated soil has been remediated to the higher of the background concentrations or the following closure performance standards. The operator shall demonstrate compliance with the closure performance standards by collecting and analyzing a minimum of one composite soil sample, consisting of four discrete samples.*
(4) *Chlorides, as determined by EPA method 300.1, shall not exceed 500 mg/kg if the landfarm is located where ground water is less than 100 feet but at least 50 feet below the lowest elevation at which the operator will place oil field waste or 1000 mg/kg if the landfarm is located where ground water is 100 feet or more below the lowest elevation at which the operator will place oil field waste.*

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Drive, Santa Fe, New Mexico 87505
Office: (505) 476-3490
E-mail: CarlJ.Chavez@State.NM.US
Website: http://www.emnrd.state.nm.us/ocd/
"Why Not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward With the Rest of the Nation?" To see how, please go to: "Pollution Prevention & Waste Minimization" at
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental

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From: Grant Price [mailto:gprice@trihydro.com]
Sent: Wednesday, September 04, 2013 11:06 AM

To: Chavez, Carl J, EMNRD
Cc: Riege, Ed; VanHorn, Kristen, NMENV
Subject: RE: Action Plan, OCD Landfarm

Hello Carl,

I've added responses to your comments in the email below to document the conversation that we had yesterday regarding Western's Central OCD Landfarm and to verify that everyone is on the same page moving forward. Responses are provided below in red. Also, as a bit of background information…

The Central Landfarm is currently at capacity and has been for some time. Additional lifts have not been added since the May 2013 sampling event, and Western has no intent to add additional lifts in the immediate future. Treated soil will need to be removed prior to adding additional lifts. Recent treatment zone soil samples (collected from approximately 1 foot below the current ground surface) suggest that treated soils may be eligible for reuse with OCD's approval. The chloride exceedances referenced in the email below are vadose zone exceedances (collected from approximately 4 feet below the cell's original ground surface). Currently, Western has no urgent reuse needs for the soil. Additionally, Western has no urgent need to "re-open" the landfarm for the treatment of additional soils. As such, Western is not currently seeking approval to remove or reuse the treated soil. In the meantime, Western proposes to remove soils with elevated chloride concentrations (detailed in the responses below) and continue disking the landfarm and conducting semiannual vadose zone sampling until such time when Western wishes to reuse the treated soils/re-open the landfarm. At that time, Western will verify that treated soils meet Rule 36 standards for reuse, and will seek OCD approval prior to reusing the soils.

Ed:

Good afternoon.

The New Mexico Oil Conservation Division (OCD) has completed its review of Western Refining SW, Inc.(Western)- Gallup Refinery's June 21, 2013 OCD Central Landfarm and "No Further Action" request with a change to the operating procedure to analyze potential landfarm candidate soils for chlorides before placement into the landfarm. The OCD appreciates Western's rationale for the "No Further Action" request with modification of its standard landfarm operating procedures to "Not" accept hydrocarbon contaminated soils into its landfarm that exceed the limit specified in the OCD Regulations.

Unfortunately, Western is already required under Rule 36 (19.15.36.15 et. seq NMAC) to not emplace hydrocarbon contaminated soils with chlorides exceeding the specified chloride limit as a function of depth to the water table. In Western's landfill operations, the chloride limit is 500 mg/kg. Similarly, this is the limit that must be met before adding another lift into the landfarm. Western understands that Rule 36 requires that soils be analyzed for chloride concentrations prior to landfarm treatment. However, Rule 36 does not specify the frequency that soils should be analyzed or what chloride analysis documentation should be retained. Please advise.

The OCD Central Landfarm Closure, when and/or if, Western ever closes the landfarm also has criteria to meet. The OCD notices that some PAHs except for Naphthalene and Phenol exceeded all of the established limits. Some Phenol isomers exceeded OCD's Data Quality Objectives when it used "ND" limits above the established limits; therefore, Western must ensure that the laboratory that it selects for analytical laboratory data has equipment that is able to achieve a "ND" that meets the OCD limits in the future. Western understands that the detection limits of PAHs exceeded screening standards during the May 2013 confirmation sampling event. Western will verify that the laboratory will meet detection limits equal to or less than the screening standards for future sampling events.

Therefore, based on Western's intent to continue use of the OCD Central Landfarm, Western's "No Further Action" request is denied. Western shall undertake to remove soils exceeding the 500 mg/kg Chlorides (Method 300.1) and 2,500 mg/kg TPH (Method 418.1) using a acceptable field kit and/or OCD prescribed PID Method, etc. before adding another lift into its landfarm. If soils are allowed to exceed the OCD limits, this would be a violation of Rule 36, in which case the OCD and operator will be dealing with a much larger volume of soils for disposition at point and time that Western requests closure of its Central Landfarm. Western intends to excavate the 3 areas where elevated chloride concentrations were observed during the March and May 2013 sampling events. The exceeding samples were collected from approximately 6 feet below the current ground surface. The 6' X 6' grid cell where the original sample was collected will be excavated to a depth greater than 6 ft bgs and a confirmation sample will be collected from the bottom of each grid to confirm that soils with elevated chloride concentrations (i.e. > 500 mg/kg) have been removed. Due to TPH detections, confirmation samples will be analyzed for

chlorides and TPH. However, there were no TPH exceedances of the 2,500 mg/kg standard during the March and May sampling events. Field screening may be utilized at Western's discretion to help determine how deep the excavation should extend, however, the terminal depth of the excavation will ultimately be based on analytical data (chloride < 500 mg/kg, TPH < 2,500 mg/kg). Should analytical results indicate chloride or TPH exceedances at the bottom of the excavation, the depth of the excavation will be extended and additional confirmation samples will be collected. Excavated soil will be disposed of at an off Site facility permitted to receive chloride contaminated soils. Upon receipt of laboratory data indicating that the chloride contaminated soils have been removed, the excavations will be backfilled with clean fill material.

Western shall provide adequate notice to the OCD and NMED when field work will begin. Western will begin field work preparation pending OCD approval of the above approach. A tentative field work schedule will be provided to OCD at that time. Within 30-days of completion of work described above, Western shall provide a diagram to the OCD and NMED displaying the locations within the landfarm where soils exceeded the above with concentrations. Western will provide the requested diagram within 30 days of receipt of complete and accurate laboratory data indicating that chloride contaminated soils have been excavated. A C-138 Manifest(s) shall be submitted verifying the OCD permitted facility that the soils were removed for disposal. Western agrees.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Department Oil Conservation Division, Environmental Bureau
1220 South St. Francis Drive, Santa Fe, New Mexico 87505
Office: (505) 476-3490
E-mail: CarlJ.Chavez@State.NM.US
Website: http://www.emnrd.state.nm.us/ocd/ "Why Not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward With the Rest of the Nation?" To see how, please go to: "Pollution Prevention & Waste Minimization" at http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental

-----Original Message-----
From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Monday, June 24, 2013 8:24 AM
To: Chavez, Carl J, EMNRD; VanHorn, Kristen, NMENV
Cc: Johnson, Cheryl; Grant Price
Subject: Action Plan, OCD Landfarm

Carl,
Please see the attached action plan due to action level exceedances of chloride in vadose zone soil samples collected from OCD landfarm. Hard copy is in the US mail.

Thanks,
Ed

Ed Riege MPH
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, July 23, 2013 3:24 PM
To: 'Riege, Ed'; VanHorn, Kristen, NMENV; VonGonten, Glenn, EMNRD
Cc: Johnson, Cheryl; Grant Price
Subject: RE: Action Plan, OCD Landfarm

Ed:

Good afternoon.

The New Mexico Oil Conservation Division (OCD) has completed its review of Western Refining SW, Inc.(Western)- Gallup Refinery's June 21, 2013 OCD Central Landfarm and "No Further Action" request with a change to the operating procedure to analyze potential landfarm candidate soils for chlorides before placement into the landfarm. The OCD appreciates Western's rationale for the "No Further Action" request with modification of its standard landfarm operating procedures to "Not" accept hydrocarbon contaminated soils into its landfarm that exceed the limit specified in the OCD Regulations.

Unfortunately, Western is already required under Rule 36 (19.15.36.15 et. seq NMAC) to not emplace hydrocarbon contaminated soils with chlorides exceeding the specified chloride limit as a function of depth to the water table. In Western's landfill operations, the chloride limit is 500 mg/kg. Similarly, this is the limit that must be met before adding another lift into the landfarm.

The OCD Central Landfarm Closure, when and/or if, Western ever closes the landfarm also has criteria to meet. The OCD notices that some PAHs except for Naphthalene and Phenol exceeded all of the established limits. Some Phenol isomers exceeded OCD's Data Quality Objectives when it used "ND" limits above the established limits; therefore, Western must ensure that the laboratory that it selects for analytical laboratory data has equipment that is able to achieve a "ND" that meets the OCD limits in the future.

Therefore, based on Western's intent to continue use of the OCD Central Landfarm, Western's "No Further Action" request is denied. Western shall undertake to remove soils exceeding the 500 mg/kg Chlorides (Method 300.1) and 2,500 mg/kg TPH (Method 418.1) using a acceptable field kit and/or OCD prescribed PID Method, etc. before adding another lift into its landfarm. If soils are allowed to exceed the OCD limits, this would be a violation of Rule 36, in which case the OCD and operator will be dealing with a much larger volume of soils for disposition at point and time that Western requests closure of its Central Landfarm.

Western shall provide adequate notice to the OCD and NMED when field work will begin. Within 30-days of completion of work described above, Western shall provide a diagram to the OCD and NMED displaying the locations within the landfarm where soils exceeded the above with concentrations. A C-138 Manifest(s) shall be submitted verifying the OCD permitted facility that the soils were removed for disposal.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Department Oil Conservation Division, Environmental Bureau
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-----Original Message-----
From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Monday, June 24, 2013 8:24 AM
To: Chavez, Carl J, EMNRD; VanHorn, Kristen, NMENV
Cc: Johnson, Cheryl; Grant Price
Subject: Action Plan, OCD Landfarm

Carl,
Please see the attached action plan due to action level exceedances of chloride in vadose zone soil samples collected from OCD landfarm. Hard copy is in the US mail.

Thanks,
Ed

Ed Riege MPH
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com

June 21, 2013

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 action level exceedances of chloride in vadose zone soil samples 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 March 27, 2013 in accordance with 19.15.36.15.E NMAC (Rule 36). A summary of the March 27, 2013 data is provided as Table 1. The March 27, 2013 analytical data and a Tier II data validation are included as Attachment A. No data were rejected as a result of the Tier II data validation.

The referenced NMAC 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 higher of the practical quantitation limit (PQL) or background soil concentrations to determine whether a release has occurred. However, as agreed to in an OCD email dated April 30, 2013, action levels for Western's Central OCD Landfarm for chloride and TPH are 500 and 2,500 mg/kg, respectively. Baseline values and action levels are shown on Table 1.

Baseline values were established for the specific purpose of comparing background concentrations to OCD landfarm soil at the Gallup refinery. Western worked collaboratively with OCD to determine the appropriate processes for establishing concentrations. The concentrations are referred to as baseline instead of background at OCD's request to avoid potential confusion with RCRA background samples. In regards to Western's OCD landfarm and Rule 36, the terms baseline and background should be considered synonymous. Note that, for baseline sampling, the reporting limit was set to equal the PQL. If a constituent was not detected during baseline sampling, the reporting limit (the PQL) was used as the baseline concentration. Therefore, by comparing soil data to the baseline concentrations shown on 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 on Table 1) may be used to determine whether landfarm soil may be beneficially reused in the event that the baseline concentrations are exceeded. ABRSCs are the highest of:

- NMED Construction Worker Soil Screening Standards
- 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.

As shown on Table 1, analytical data from the March 27, 2013 sampling event indicate that chloride concentrations of two of the four vadose zone soil samples (CentralOCD-01_032713 and CentralOCD-04_032713) exceed the baseline concentration and the 500 mg/kg action level/ABRSC. Baseline TPH concentrations were also exceeded in the same samples, but the 2,500 mg/kg TPH action level/ABRSC was not exceeded. Baseline chloride concentrations were also exceeded in samples CentralOCD-02_032713 and CentralOCD-03_032713. However, the action level/ABRSC was not exceeded. No further action is required due to the above referenced baseline exceedances, because the action levels/ABSRCs were not exceeded.

In response to the above-referenced chloride action level/ABRSC exceedances, in accordance with Rule 36, and as approved in NMED's April 30, 2013 email, Western collected and analyzed an additional "four randomly selected, independent samples for TPH, BTEX, chlorides and the constituents listed in Subsections A and B of 20.6.2.3103 NMAC" on May 8, 2013. These data are summarized on Tables 2 through 5. Analytical data and a Tier II data validation for the May 8, 2013 event are included as Attachment B. As shown on Table 5, the May 8, 2013 analytical data indicate that the chloride concentration of one vadose zone soil sample (Central OCD-02_05082013) exceeds the 500 mg/kg action level/ABRSC. Baseline concentrations were also exceeded for chloride, fluoride, nitrogen (nitrate[as N]), sulfate, chromium, copper, iron, lead, manganese, zinc, chrysene, phenanthrene, and TPH. However, with the exception of manganese, the concentrations of these constituents do not exceed the respective ABRSCs, as indicated on Tables 2 through 5. Manganese was detected in sample Central OCD-04-05082013 at a concentration of 560 mg/kg. The baseline concentration and the ABRSC for manganese are 520 mg/kg and 463 mg/kg, respectively. Since this is the first baseline/ABRSC manganese exceedance in Central OCD Landfarm soil samples, and since the detected concentration is comparable to the baseline value, Western does not believe that additional action is warranted at this time due to the manganese exceedance.

Per Rule 36, in response to the May 8, 2013 chloride exceedance, Western is submitting this response action plan to OCD to "address changes in the landfarm's operation to prevent further contamination and, if necessary, [provide] a plan for remediating existing contamination."

Due to the relatively low risks associated with chloride at the concentrations detected in the Central OCD Landfarm samples, Western does not believe that further action to address the existing chloride concentrations is necessary at this time. However, Western will continue semiannual landfarm sampling and will modify the landfarm's operational procedures to assess chloride concentrations of soils that may be placed into the landfarm.

Per 19.15.36.15.D NMAC, treatment zone soils are currently monitored prior to adding additional lifts to confirm that chloride concentrations are less than 500 mg/kg. However, this monitoring is conducted in soils that have already been placed in the landfarm. Western proposes that representative samples of soil that may potentially be treated in the Central OCD Landfarm be analyzed for chloride prior to placement in the landfarm. If analytical data indicates that the chloride concentrations of the representative samples exceed the 500 mg/kg action level, the soil will not be treated in the landfarm. Alternate appropriate disposal methods will be required.

At this time, soil treatment is limited to periodic disking of the landfarm soils. However, in the future, should Western decide to apply additional remediation techniques (the application of moisture or, with division approval, microbes to enhance bioremediation), the new techniques will be evaluated for their potential to increase vadose zone chloride concentrations. Should the evaluation determine that the new technique is likely to increase vadose zone chloride concentrations, the technique will not be used.

Pending OCD's approval, Western will implement the above-referenced changes in the Central OCD Landfarm's operation. If you have any questions or comments, please do not hesitate to call me at (505) 722-0217.

Sincerely,
Western Refining Company

Ed Riege
Environmental Manager

697-039-004

Attachments

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

TABLES

TABLE 1. FIRST QUARTER 2013 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)	Ethyl- benzene (mg/kg)	Toluene (mg/kg)	Total Petroleum Hydrocarbon (mg/kg)	Xylenes, Total (mg/kg)	Chloride (mg/kg)
CentralOCD-01_032713	03/27/13	ND(0.05)	ND(0.05)	ND(0.05)	**66** [A.]	ND(0.1)	**1,200** [A.,B.,C.]
CentralOCD-02_032713	03/27/13	ND(0.05)	ND(0.05)	ND(0.05)	ND(19.92)	ND(0.09)	**210 J** [A.]
CentralOCD-03_032713	03/27/13	ND(0.05)	ND(0.05)	ND(0.05)	ND(19.86)	ND(0.1)	**460** [A.]
CentralOCD-04_032713	03/27/13	ND(0.05)	ND(0.05)	ND(0.05)	**140** [A.]	ND(0.09)	**510** [A.,B.,C.]

A.	Baseline Concentration	0.05	0.05	0.05	20	0.1	7.53
B.	Central Landfarm Action Level	NA	NA	NA	2,500	NA	500
C.	ABRSC	0.2	50	50	2,500	50	500

Notes:
Bold concentration indicates exceedance of screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

ProjectDirect: 1stQTR2013VZ PK:87 RK:14205

TABLE 2. MAY 2013 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-Dichloro-ethane (mg/kg)
Central OCD-01-05082013	05/08/13	ND(0.049)	ND(0.093)	ND(0.046)	ND(0.093)	ND(0.093)
Central OCD-02-05082013	05/08/13	ND(0.049)	ND(0.095)	ND(0.048)	ND(0.095)	ND(0.095)
Central OCD-03-05082013	05/08/13	ND(0.048)	ND(0.093)	ND(0.046)	ND(0.093)	ND(0.093)
Central OCD-04-05082013	05/08/13	ND(0.049)	ND(0.093)	ND(0.046)	ND(0.093)	ND(0.093)
Baseline Concentration		0.05	0.1	0.05	0.1	0.01
Central Landfarm Action Level		NA	NA	NA	NA	NA
ABRSC		0.2	199	671	0.002	6,880

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 2. MAY 2013 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-Dichloro-ethane (mg/kg)	1,1-Dichloro-ethene (mg/kg)	Ethyl-benzene (mg/kg)	Methylene Chloride (mg/kg)	1-Methyl-naphthalene (mg/kg)
Central OCD-01-05082013	05/08/13	ND(0.046)	ND(0.046)	ND(0.049)	ND(0.14)	ND(0.19)
Central OCD-02-05082013	05/08/13	ND(0.048)	ND(0.048)	ND(0.049)	ND(0.14)	ND(0.19)
Central OCD-03-05082013	05/08/13	ND(0.046)	ND(0.046)	ND(0.048)	ND(0.14)	ND(0.19)
Central OCD-04-05082013	05/08/13	ND(0.046)	ND(0.046)	ND(0.049)	ND(0.14)	ND(0.19)
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:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 2. MAY 2013 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-Methyl-naphthalene (mg/kg)	Naphthalene (mg/kg)	Tetrachloro-ethene (mg/kg)	Toluene (mg/kg)	1,1,1-Trichloro-ethane (mg/kg)
Central OCD-01-05082013	05/08/13	ND(0.19)	ND(0.093)	ND(0.046)	ND(0.049)	ND(0.046)
Central OCD-02-05082013	05/08/13	ND(0.19)	ND(0.095)	ND(0.048)	ND(0.049)	ND(0.048)
Central OCD-03-05082013	05/08/13	ND(0.19)	ND(0.093)	ND(0.046)	ND(0.048)	ND(0.046)
Central OCD-04-05082013	05/08/13	ND(0.19)	ND(0.093)	ND(0.046)	ND(0.049)	ND(0.046)
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:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 2. MAY 2013 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-Trichloro-ethane (mg/kg)	Trichloro-ethene (mg/kg)	Vinyl Chloride (mg/kg)	Xylenes, Total (mg/kg)
Central OCD-01-05082013	05/08/13	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.098)
Central OCD-02-05082013	05/08/13	ND(0.048)	ND(0.048)	ND(0.048)	ND(0.098)
Central OCD-03-05082013	05/08/13	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.095)
Central OCD-04-05082013	05/08/13	ND(0.046)	ND(0.046)	ND(0.046)	ND(0.097)
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:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 3. MAY 2013 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	Acenaph-thene (mg/kg)	Acenaph-thylene (mg/kg)	Anthracene (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)
Central OCD-01-05082013	05/08/13	ND(2.5)	ND(2.5)	ND(0.15)	ND(0.04)	ND(0.04)
Central OCD-02-05082013	05/08/13	ND(2.5)	ND(2.5)	ND(0.15)	ND(0.1)	ND(0.1)
Central OCD-03-05082013	05/08/13	ND(1.3)	ND(1.3)	ND(0.075)	ND(0.02)	ND(0.02)
Central OCD-04-05082013	05/08/13	ND(1.3)	ND(1.3)	ND(0.075)	ND(0.02)	ND(0.02)
[A] Baseline Concentration		0.2	0.2	0.2	0.02	0.02
[B] Central Landfarm Action Level		NA	NA	NA	NA	NA
[C] ABRSC		18,600	0.6	66,800	15.3	71.3

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 3. MAY 2013 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)
Central OCD-01-05082013	05/08/13	ND(0.04)	ND(0.04)	ND(0.04)	ND(0.04)	ND(0.04)
Central OCD-02-05082013	05/08/13	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Central OCD-03-05082013	05/08/13	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)
Central OCD-04-05082013	05/08/13	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)	ND(0.02)
A. Baseline Concentration		0.02	0.02	0.02	0.02	0.02
B. Central Landfarm Action Level		NA	NA	NA	NA	NA
C. ABRSC		71.3	75.8	75.8	4.36	75.8

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 3. MAY 2013 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Benzo(a)-anthracene (mg/kg)	Benzo(a)-pyrene (mg/kg)	Benzo(b)-fluor-anthene (mg/kg)	Benzo(ghi)-perylene (mg/kg)	Benzo(k) fluor-anthene (mg/kg)
Central OCD-01-05082013	05/08/13	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
Central OCD-02-05082013	05/08/13	ND(0.1)	ND(0.1)	0.1	0.13	ND(0.1)
Central OCD-03-05082013	05/08/13	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
Central OCD-04-05082013	05/08/13	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A. Baseline Concentration		0.2	0.2	0.2	0.2	0.2
B. Central Landfarm Action Level		NA	NA	NA	NA	NA
C. ABRSC		213	21.3	213	0.6	2,060

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

ProjectDirect: 1stQTR2013VZResampleSVOCs PK:87 RK:14239

TABLE 3. MAY 2013 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	4-Chloro-3-Methyl phenol (mg/kg)	2-Chloro-phenol (mg/kg)	Chrysene (mg/kg)		Dibenz (a,h) anthracene (mg/kg)	2,4-Dichloro-phenol (mg/kg)
Central OCD-01-05082013	05/08/13	ND(1)	ND(0.4)	0.13 J		ND(0.1)	ND(0.8)
Central OCD-02-05082013	05/08/13	ND(1)	ND(0.4)	**0.44 J**	A.	ND(0.1)	ND(0.8)
Central OCD-03-05082013	05/08/13	ND(0.5)	ND(0.2)	ND(0.05)		ND(0.05)	ND(0.4)
Central OCD-04-05082013	05/08/13	ND(0.5)	ND(0.2)	ND(0.05)		ND(0.05)	ND(0.4)
A. Baseline Concentration		0.5	0.2	0.2		0.2	0.4
B. Central Landfarm Action Level		NA	NA	NA		NA	NA
C. ABRSC		0.1	1,550	20,600		21.3	715

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 3. MAY 2013 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-Dimethyl-phenol (mg/kg)	2-Methyl-4,6-dinitro phenol (mg/kg)	2,4-Dinitro-phenol (mg/kg)	Fluor-anthene (mg/kg)	Fluorene (mg/kg)
Central OCD-01-05082013	05/08/13	ND(0.6)	ND(1)	ND(0.8)	ND(0.2)	ND(0.3)
Central OCD-02-05082013	05/08/13	ND(0.6)	ND(1)	ND(0.8)	ND(0.2)	ND(0.3)
Central OCD-03-05082013	05/08/13	ND(0.3)	ND(0.5)	ND(0.4)	ND(0.1)	ND(0.15)
Central OCD-04-05082013	05/08/13	ND(0.3)	ND(0.5)	ND(0.4)	ND(0.1)	ND(0.15)
A. Baseline Concentration		0.3	0.5	0.4	0.2	0.2
B. Central Landfarm Action Level		NA	NA	NA	NA	NA
C. ABRSC		4,760	23.8	476	8,910	8,910

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 3. MAY 2013 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Indeno-(1,2,3-cd) pyrene (mg/kg)	1-Methyl-naphthalene (mg/kg)	2-Methyl-naphthalene (mg/kg)	2-Methyl phenol (mg/kg)	3,4-Methyl phenol (mg/kg)
Central OCD-01-05082013	05/08/13	ND(0.1)	ND(2.5)	ND(2.5)	ND(1)	ND(0.4)
Central OCD-02-05082013	05/08/13	0.13	ND(2.5)	ND(2.5)	ND(1)	ND(0.4)
Central OCD-03-05082013	05/08/13	ND(0.05)	ND(1.3)	ND(1.3)	ND(0.5)	ND(0.2)
Central OCD-04-05082013	05/08/13	ND(0.05)	ND(1.3)	ND(1.3)	ND(0.5)	ND(0.2)
A. Baseline Concentration		0.2	0.2	0.2	0.5	0.2
B. Central Landfarm Action Level		NA	NA	NA	NA	NA
C. ABRSC		213	0.6	0.6	0.1	0.1

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 3. MAY 2013 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Naphthalene (mg/kg)	2-Nitro-phenol (mg/kg)	4-Nitro-phenol (mg/kg)	Penta-chloro-phenol (mg/kg)	Phen-anthrene (mg/kg)	
Central OCD-01-05082013	05/08/13	ND(2.5)	ND(0.4)	ND(0.5)	ND(0.8)	ND(0.15)	
Central OCD-02-05082013	05/08/13	ND(2.5)	ND(0.4)	ND(0.5)	ND(0.8)	**0.26 J**	A.
Central OCD-03-05082013	05/08/13	ND(1.3)	ND(0.2)	ND(0.25)	ND(0.4)	ND(0.075)	
Central OCD-04-05082013	05/08/13	ND(1.3)	ND(0.2)	ND(0.25)	ND(0.4)	ND(0.075)	
A. Baseline Concentration		0.2	0.2	0.23	0.4	0.2	
B. Central Landfarm Action Level		NA	NA	NA	NA	NA	
C. ABRSC		702	0.1	0.1	1,030	7,150	

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 3. MAY 2013 VADOSE ZONE SOIL ANALYTICAL SUMMARY, SEMIVOLATILE ORGANIC COMPOUNDS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Phenol (mg/kg)	Pyrene (mg/kg)	2,4,5-Tri-chloro-phenol (mg/kg)	2,4,6-Tri-chloro-phenol (mg/kg)
Central OCD-01-05082013	05/08/13	ND(0.4)	ND(0.25)	ND(0.4)	ND(0.4)
Central OCD-02-05082013	05/08/13	ND(0.4)	ND(0.25)	ND(0.4)	ND(0.4)
Central OCD-03-05082013	05/08/13	ND(0.2)	ND(0.13)	ND(0.2)	ND(0.2)
Central OCD-04-05082013	05/08/13	ND(0.2)	ND(0.13)	ND(0.2)	ND(0.2)
[A] Baseline Concentration		0.2	0.2	0.2	0.2
[B] Central Landfarm Action Level		NA	NA	NA	NA
[C] ABRSC		68,800	6,680	23,800	238

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 4. MAY 2013 VADOSE ZONE SOIL ANALYTICAL SUMMARY, METALS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Arsenic, Total (mg/kg)	Barium, Total (mg/kg)	Cadmium, Total (mg/kg)	Chromium, Total (mg/kg)	Copper, Total (mg/kg)
Central OCD-01-05082013	05/08/13	ND(12)	270	ND(0.5)	**19** [A.]	**4.6** [A.]
Central OCD-02-05082013	05/08/13	ND(12)	280	ND(0.5)	**19** [A.]	2.8
Central OCD-03-05082013	05/08/13	ND(12)	290	ND(0.5)	**18** [A.]	**4.6** [A.]
Central OCD-04-05082013	05/08/13	ND(12)	140 J	ND(0.5)	**14** [A.]	**3.7** [A.]
A. Baseline Concentration		13	365	0.5	12.7	2.95
B. Central Landfarm Action Level		NA	NA	NA	NA	NA
C. ABRSC		65.4	4,350	309	447,000	12,400

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 4. MAY 2013 VADOSE ZONE SOIL ANALYTICAL SUMMARY, METALS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Iron, Total (mg/kg)		Lead, Total (mg/kg)		Manganese, Total (mg/kg)		Mercury, Total (mg/kg)	Selenium, Total (mg/kg)
Central OCD-01-05082013	05/08/13	**22000**	A.	**5.6**	A.	390		ND(0.033)	ND(12) UJ
Central OCD-02-05082013	05/08/13	**22000**	A.	**9.6**	A.	380		ND(0.033)	ND(12) UJ
Central OCD-03-05082013	05/08/13	**21000**	A.	3.2		380		ND(0.033)	ND(12) UJ
Central OCD-04-05082013	05/08/13	17000		1.8		**560**	A,C.	ND(0.033)	ND(12) UJ

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

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 4. MAY 2013 VADOSE ZONE SOIL ANALYTICAL SUMMARY, METALS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Silver, Total (mg/kg)	Uranium, Total (mg/kg)	Zinc, Total (mg/kg)	
Central OCD-01-05082013	05/08/13	ND(1.2)	ND(25)	**77**	A.
Central OCD-02-05082013	05/08/13	ND(1.2)	ND(25)	**33**	A.
Central OCD-03-05082013	05/08/13	ND(1.2)	ND(25)	**31**	A.
Central OCD-04-05082013	05/08/13	ND(1.2)	ND(25)	21	
A. Baseline Concentration		1.3	43.75	21.333	
B. Central Landfarm Action Level		NA	NA	NA	
C. ABRSC		1,550	929	92,900	

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 5. MAY 2013 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)	Fluoride, Total (mg/kg)	Nitrogen, Nitrate (mg/kg)	Radium 226 (pCi/L)
Central OCD-01-05082013	05/08/13	**150** [A.]	ND(0.3)	**5.2** [A.]	**14** [A.]	1.069±0.236
Central OCD-02-05082013	05/08/13	**670** [A.,B.,C.]	ND(0.3)	**4.5** [A.]	**13** [A.]	1.197±0.275
Central OCD-03-05082013	05/08/13	**280** [A.]	ND(0.3)	2.7	0.34	1.168±0.259
Central OCD-04-05082013	05/08/13	**180** [A.]	ND(0.3)	**3.7** [A.]	**14 J** [A.]	1.007±0.21

A.	Baseline Concentration	7.525	0.425	2.95	2.2	NA
B.	Central Landfarm Action Level	500	NA	NA	NA	NA
C.	ABRSC	500	6,190	18,600	496,000	NA

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

TABLE 5. MAY 2013 VADOSE ZONE SOIL ANALYTICAL SUMMARY, GENERAL PARAMETERS, CENTRAL OCD LANDFARM
WESTERN REFINING COMPANY SOUTHWEST, INC.
GALLUP REFINERY, GALLUP, NEW MEXICO

Location ID	Date Sampled	Radium 228 (pCi/L)	Sulfate (mg/kg)	Total Petroleum Hydrocarbon (mg/kg)
Central OCD-01-05082013	05/08/13	1.27±0.37	**650** A.	**94** A.
Central OCD-02-05082013	05/08/13	1.883±0.427	**450** A.	**740** A.
Central OCD-03-05082013	05/08/13	2.033±0.456	**530** A.	ND(20)
Central OCD-04-05082013	05/08/13	1.483±0.33	**570** A.	ND(20)

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

Notes:
Bold concentration indicates that the detected value exceeds the screening value.
J - Estimated concentration
ABRSC - Alternate Beneficial Reuse Screening Concentration

ATTACHMENT A

MARCH 27, 2013 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

April 15, 2013

Ed Riege
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: OCD Central Landfarm Semiannual Sampling OrderNo.: 1303A89

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 10 sample(s) on 3/27/2013 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. 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. 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.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1303A89**
Date Reported: **4/15/2013**

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1303A89-001 **Matrix:** SOIL

Client Sample ID: CentralOCD-01
Collection Date: 3/27/2013 11:40:00 AM
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.049		mg/Kg	1	3/29/2013 12:33:48 PM
Toluene	ND	0.049		mg/Kg	1	3/29/2013 12:33:48 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/29/2013 12:33:48 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/29/2013 12:33:48 PM
Surr: 4-Bromofluorobenzene	96.7	80-120		%REC	1	3/29/2013 12:33:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	1200	30		mg/Kg	20	3/29/2013 11:44:25 AM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	66	20		mg/Kg	1	3/29/2013

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 3/27/2013 12:30:00 PM
Lab ID: 1303A89-002
Matrix: SOIL
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.047		mg/Kg	1	3/29/2013 1:04:06 PM
Toluene	ND	0.047		mg/Kg	1	3/29/2013 1:04:06 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/29/2013 1:04:06 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/29/2013 1:04:06 PM
Surr: 4-Bromofluorobenzene	97.5	80-120		%REC	1	3/29/2013 1:04:06 PM
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	210	30		mg/Kg	20	3/29/2013 12:09:14 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	3/29/2013

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 3/27/2013 12:50:00 PM
Lab ID: 1303A89-003 **Matrix:** SOIL
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.048		mg/Kg	1	3/29/2013 1:34:14 PM
Toluene	ND	0.048		mg/Kg	1	3/29/2013 1:34:14 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/29/2013 1:34:14 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/29/2013 1:34:14 PM
Surr: 4-Bromofluorobenzene	98.2	80-120		%REC	1	3/29/2013 1:34:14 PM
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	460	30		mg/Kg	20	3/29/2013 12:34:03 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	3/29/2013

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 3/27/2013 1:40:00 PM
Lab ID: 1303A89-004 **Matrix:** SOIL
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.046		mg/Kg	1	3/29/2013 2:04:24 PM
Toluene	ND	0.046		mg/Kg	1	3/29/2013 2:04:24 PM
Ethylbenzene	ND	0.046		mg/Kg	1	3/29/2013 2:04:24 PM
Xylenes, Total	ND	0.092		mg/Kg	1	3/29/2013 2:04:24 PM
Surr: 4-Bromofluorobenzene	96.6	80-120		%REC	1	3/29/2013 2:04:24 PM
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	510	30		mg/Kg	20	3/29/2013 12:58:51 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	140	40		mg/Kg	2	3/29/2013

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 3/27/2013
Lab ID: 1303A89-005
Matrix: SOIL
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.047		mg/Kg	1	3/29/2013 2:34:24 PM
Toluene	ND	0.047		mg/Kg	1	3/29/2013 2:34:24 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/29/2013 2:34:24 PM
Xylenes, Total	ND	0.094		mg/Kg	1	3/29/2013 2:34:24 PM
Surr: 4-Bromofluorobenzene	95.8	80-120		%REC	1	3/29/2013 2:34:24 PM
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	400	30		mg/Kg	20	3/29/2013 1:48:29 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	3/29/2013

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1303A89-006 **Matrix:** SOIL

Client Sample ID: CentralOCD-02-MS/MSD
Collection Date: 3/27/2013 12:30:00 PM
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.048		mg/Kg	1	3/29/2013 3:04:29 PM
Toluene	ND	0.048		mg/Kg	1	3/29/2013 3:04:29 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/29/2013 3:04:29 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/29/2013 3:04:29 PM
Surr: 4-Bromofluorobenzene	95.3	80-120		%REC	1	3/29/2013 3:04:29 PM
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	250	30		mg/Kg	20	3/29/2013 2:13:18 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	3/29/2013

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 3/27/2013 1:15:00 PM
Lab ID: 1303A89-008 **Matrix:** SOIL
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8082: PCB'S						Analyst: **SCC**
Aroclor 1016	ND	1.0		mg/Kg	10	4/1/2013 12:50:09 PM
Aroclor 1221	ND	1.0		mg/Kg	10	4/1/2013 12:50:09 PM
Aroclor 1232	ND	1.0		mg/Kg	10	4/1/2013 12:50:09 PM
Aroclor 1242	ND	1.0		mg/Kg	10	4/1/2013 12:50:09 PM
Aroclor 1248	ND	1.0		mg/Kg	10	4/1/2013 12:50:09 PM
Aroclor 1254	ND	1.0		mg/Kg	10	4/1/2013 12:50:09 PM
Aroclor 1260	ND	1.0		mg/Kg	10	4/1/2013 12:50:09 PM
Surr: Decachlorobiphenyl	0	22.2-164	S	%REC	10	4/1/2013 12:50:09 PM
Surr: Tetrachloro-m-xylene	0	17.8-160	S	%REC	10	4/1/2013 12:50:09 PM
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **MMD**
Diesel Range Organics (DRO)	480	98		mg/Kg	10	4/4/2013 4:11:23 PM
Surr: DNOP	0	72.4-120	S	%REC	10	4/4/2013 4:11:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/29/2013 4:34:32 PM
Surr: BFB	91.1	84-116		%REC	1	3/29/2013 4:34:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	9.6	0.30		mg/Kg	1	4/2/2013 10:05:25 AM
Chloride	310	30		mg/Kg	20	4/2/2013 10:17:50 AM
Nitrogen, Nitrate (As N)	23	6.0		mg/Kg	20	4/2/2013 10:17:50 AM
Sulfate	1600	30		mg/Kg	20	4/2/2013 10:17:50 AM
EPA METHOD 7471: MERCURY						Analyst: **IDC**
Mercury	0.13	0.033		mg/Kg	1	4/5/2013 1:35:13 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **ELS**
Arsenic	ND	2.5		mg/Kg	1	4/5/2013 9:37:35 AM
Barium	230	1.0		mg/Kg	10	4/5/2013 9:43:10 AM
Cadmium	ND	0.10		mg/Kg	1	4/5/2013 9:37:35 AM
Chromium	15	0.30		mg/Kg	1	4/5/2013 9:37:35 AM
Copper	4.2	0.60		mg/Kg	2	4/8/2013 10:14:49 AM
Iron	23000	500		mg/Kg	500	4/5/2013 9:45:41 AM
Lead	2.1	0.25		mg/Kg	1	4/5/2013 9:37:35 AM
Manganese	420	1.0		mg/Kg	10	4/5/2013 9:43:10 AM
Selenium	ND	2.5		mg/Kg	1	4/5/2013 9:37:35 AM
Silver	ND	0.25		mg/Kg	1	4/5/2013 9:37:35 AM
Uranium	ND	5.0		mg/Kg	1	4/5/2013 9:37:35 AM
Zinc	20	2.5		mg/Kg	1	4/5/2013 9:37:35 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Acenaphthylene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Aniline	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1303A89-008 **Matrix:** SOIL

Client Sample ID: CentralOCD-TZ
Collection Date: 3/27/2013 1:15:00 PM
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Anthracene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Azobenzene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Benz(a)anthracene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Benzo(a)pyrene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Benzo(b)fluoranthene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Benzo(g,h,i)perylene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Benzo(k)fluoranthene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Benzoic acid	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
Benzyl alcohol	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Bis(2-chloroethoxy)methane	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Bis(2-chloroethyl)ether	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Bis(2-chloroisopropyl)ether	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Bis(2-ethylhexyl)phthalate	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
4-Bromophenyl phenyl ether	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Butyl benzyl phthalate	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Carbazole	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
4-Chloro-3-methylphenol	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
4-Chloroaniline	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
2-Chloronaphthalene	ND	3.0		mg/Kg	1	4/2/2013 10:44:44 AM
2-Chlorophenol	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
4-Chlorophenyl phenyl ether	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Chrysene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Di-n-butyl phthalate	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
Di-n-octyl phthalate	ND	4.8		mg/Kg	1	4/2/2013 10:44:44 AM
Dibenz(a,h)anthracene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Dibenzofuran	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
1,2-Dichlorobenzene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
1,3-Dichlorobenzene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
1,4-Dichlorobenzene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
3,3'-Dichlorobenzidine	ND	3.0		mg/Kg	1	4/2/2013 10:44:44 AM
Diethyl phthalate	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Dimethyl phthalate	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
2,4-Dichlorophenol	ND	4.8		mg/Kg	1	4/2/2013 10:44:44 AM
2,4-Dimethylphenol	ND	3.6		mg/Kg	1	4/2/2013 10:44:44 AM
4,6-Dinitro-2-methylphenol	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
2,4-Dinitrophenol	ND	4.8		mg/Kg	1	4/2/2013 10:44:44 AM
2,4-Dinitrotoluene	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
2,6-Dinitrotoluene	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
Fluoranthene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Fluorene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Hexachlorobenzene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Hexachlorobutadiene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1303A89-008 **Matrix:** SOIL

Client Sample ID: CentralOCD-TZ
Collection Date: 3/27/2013 1:15:00 PM
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Hexachlorocyclopentadiene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Hexachloroethane	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Indeno(1,2,3-cd)pyrene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Isophorone	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
1-Methylnaphthalene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
2-Methylnaphthalene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
2-Methylphenol	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
3+4-Methylphenol	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
N-Nitrosodi-n-propylamine	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
N-Nitrosodiphenylamine	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Naphthalene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
2-Nitroaniline	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
3-Nitroaniline	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
4-Nitroaniline	ND	4.8		mg/Kg	1	4/2/2013 10:44:44 AM
Nitrobenzene	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
2-Nitrophenol	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
4-Nitrophenol	ND	3.0		mg/Kg	1	4/2/2013 10:44:44 AM
Pentachlorophenol	ND	4.8		mg/Kg	1	4/2/2013 10:44:44 AM
Phenanthrene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Phenol	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Pyrene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Pyridine	ND	6.0		mg/Kg	1	4/2/2013 10:44:44 AM
1,2,4-Trichlorobenzene	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
2,4,5-Trichlorophenol	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
2,4,6-Trichlorophenol	ND	2.4		mg/Kg	1	4/2/2013 10:44:44 AM
Surr: 2,4,6-Tribromophenol	109	40.1-130		%REC	1	4/2/2013 10:44:44 AM
Surr: 2-Fluorobiphenyl	83.8	44.4-123		%REC	1	4/2/2013 10:44:44 AM
Surr: 2-Fluorophenol	87.9	41.9-112		%REC	1	4/2/2013 10:44:44 AM
Surr: 4-Terphenyl-d14	83.4	29.6-130		%REC	1	4/2/2013 10:44:44 AM
Surr: Nitrobenzene-d5	110	42.4-132		%REC	1	4/2/2013 10:44:44 AM
Surr: Phenol-d5	84.8	44.3-119		%REC	1	4/2/2013 10:44:44 AM
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Toluene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Methyl tert-butyl ether (MTBE)	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,2,4-Trimethylbenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,3,5-Trimethylbenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,2-Dichloroethane (EDC)	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,2-Dibromoethane (EDB)	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Naphthalene	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CentralOCD-TZ
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 3/27/2013 1:15:00 PM
Lab ID: 1303A89-008 **Matrix:** SOIL
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**
1-Methylnaphthalene	ND	0.19		mg/Kg	1	3/31/2013 8:40:15 PM
2-Methylnaphthalene	ND	0.19		mg/Kg	1	3/31/2013 8:40:15 PM
Acetone	ND	0.73		mg/Kg	1	3/31/2013 8:40:15 PM
Bromobenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Bromodichloromethane	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Bromoform	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Bromomethane	ND	0.15		mg/Kg	1	3/31/2013 8:40:15 PM
2-Butanone	ND	0.48		mg/Kg	1	3/31/2013 8:40:15 PM
Carbon disulfide	ND	0.48		mg/Kg	1	3/31/2013 8:40:15 PM
Carbon tetrachloride	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM
Chlorobenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Chloroethane	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM
Chloroform	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Chloromethane	ND	0.15		mg/Kg	1	3/31/2013 8:40:15 PM
2-Chlorotoluene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
4-Chlorotoluene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
cis-1,2-DCE	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
cis-1,3-Dichloropropene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,2-Dibromo-3-chloropropane	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM
Dibromochloromethane	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Dibromomethane	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM
1,2-Dichlorobenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,3-Dichlorobenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,4-Dichlorobenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Dichlorodifluoromethane	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,1-Dichloroethane	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM
1,1-Dichloroethene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,2-Dichloropropane	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,3-Dichloropropane	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
2,2-Dichloropropane	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM
1,1-Dichloropropene	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM
Hexachlorobutadiene	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM
2-Hexanone	ND	0.48		mg/Kg	1	3/31/2013 8:40:15 PM
Isopropylbenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
4-Isopropyltoluene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
4-Methyl-2-pentanone	ND	0.48		mg/Kg	1	3/31/2013 8:40:15 PM
Methylene chloride	ND	0.15		mg/Kg	1	3/31/2013 8:40:15 PM
n-Butylbenzene	ND	0.15		mg/Kg	1	3/31/2013 8:40:15 PM
n-Propylbenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
sec-Butylbenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Styrene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
tert-Butylbenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1303A89-008 **Matrix:** SOIL

Client Sample ID: CentralOCD-TZ
Collection Date: 3/27/2013 1:15:00 PM
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**
1,1,1,2-Tetrachloroethane	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,1,2,2-Tetrachloroethane	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Tetrachloroethene (PCE)	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
trans-1,2-DCE	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
trans-1,3-Dichloropropene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,2,3-Trichlorobenzene	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM
1,2,4-Trichlorobenzene	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,1,1-Trichloroethane	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,1,2-Trichloroethane	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Trichloroethene (TCE)	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Trichlorofluoromethane	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
1,2,3-Trichloropropane	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM
Vinyl chloride	ND	0.048		mg/Kg	1	3/31/2013 8:40:15 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/31/2013 8:40:15 PM
Surr: 1,2-Dichloroethane-d4	84.3	70-130		%REC	1	3/31/2013 8:40:15 PM
Surr: 4-Bromofluorobenzene	87.6	70-130		%REC	1	3/31/2013 8:40:15 PM
Surr: Dibromofluoromethane	94.9	70-130		%REC	1	3/31/2013 8:40:15 PM
Surr: Toluene-d8	100	70-130		%REC	1	3/31/2013 8:40:15 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	770	20		mg/Kg	1	3/29/2013
SM4500-H+B: PH						Analyst: **KS**
pH	7.43	1.68		pH Units	1	4/3/2013 2:45:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EB
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 3/27/2013 2:00:00 PM
Lab ID: 1303A89-009
Matrix: AQUEOUS
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	3/28/2013 8:36:09 PM
Toluene	ND	1.0		µg/L	1	3/28/2013 8:36:09 PM
Ethylbenzene	ND	1.0		µg/L	1	3/28/2013 8:36:09 PM
Xylenes, Total	ND	2.0		µg/L	1	3/28/2013 8:36:09 PM
Surr: 4-Bromofluorobenzene	83.6	69.4-129		%REC	1	3/28/2013 8:36:09 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sam
Lab ID: 1303A89-010 **Matrix:** AQUEOUS

Client Sample ID: FB
Collection Date: 3/27/2013 2:00:00 PM
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	3/28/2013 9:04:51 PM
Toluene	ND	1.0		µg/L	1	3/28/2013 9:04:51 PM
Ethylbenzene	ND	1.0		µg/L	1	3/28/2013 9:04:51 PM
Xylenes, Total	ND	2.0		µg/L	1	3/28/2013 9:04:51 PM
Surr: 4-Bromofluorobenzene	81.5	69.4-129		%REC	1	3/28/2013 9:04:51 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: OCD Central Landfarm Semiannual Sam
Collection Date:
Lab ID: 1303A89-011
Matrix: AQUEOUS
Received Date: 3/27/2013 4:07:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	3/28/2013 9:33:30 PM
Toluene	ND	1.0		µg/L	1	3/28/2013 9:33:30 PM
Ethylbenzene	ND	1.0		µg/L	1	3/28/2013 9:33:30 PM
Xylenes, Total	ND	2.0		µg/L	1	3/28/2013 9:33:30 PM
Surr: 4-Bromofluorobenzene	79.1	69.4-129		%REC	1	3/28/2013 9:33:30 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Anatek Labs, Inc.

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

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	130402027
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1303A89
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	130402027-001	**Sampling Date**	3/27/2013	**Date/Time Received**	4/2/2013 10:30 AM
Client Sample ID	1303A89-008B / CENTRALOCD-TZ			**Sampling Time**	1:15 PM
Matrix	Soil				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.579	mg/Kg	0.3	4/10/2013	CRW	EPA 335.4	
%moisture	12.8	Percent		4/11/2013	CRW	%moisture	

Authorized Signature

John Coddington, Lab Manager

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-6732**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **6732**	RunNo: **9545**
Prep Date: **3/29/2013**	Analysis Date: **3/29/2013**	SeqNo: **272415** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID **LCS-6732**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **6732**	RunNo: **9545**
Prep Date: **3/29/2013**	Analysis Date: **3/29/2013**	SeqNo: **272416** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	101	90	110			

Sample ID **MB-6784**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **6784**	RunNo: **9604**
Prep Date: **4/2/2013**	Analysis Date: **4/2/2013**	SeqNo: **273886** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID **LCS-6784**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **6784**	RunNo: **9604**
Prep Date: **4/2/2013**	Analysis Date: **4/2/2013**	SeqNo: **273887** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	97.6	90	110			
Chloride	16	1.5	15.00	0	103	90	110			
Nitrogen, Nitrate (As N)	7.3	0.30	7.500	0	97.1	90	110			
Sulfate	29	1.5	30.00	0	95.1	90	110			

Sample ID **1303B79-001AMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **6784**	RunNo: **9604**
Prep Date: **4/2/2013**	Analysis Date: **4/2/2013**	SeqNo: **273891** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	7.4	3.0	1.500	5.961	99.2	18.1	130			
Chloride	51	15	15.00	34.77	107	64.4	117			
Nitrogen, Nitrate (As N)	7.8	3.0	7.500	0	104	80.1	108			
Sulfate	55	15	30.00	27.08	92.1	20.8	141			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1303B79-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **BatchQC**	Batch ID: **6784**	RunNo: **9604**							
Prep Date: **4/2/2013**	Analysis Date: **4/2/2013**	SeqNo: **273892**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	7.3	3.0	1.500	5.961	86.6	18.1	130	2.57	20	
Chloride	48	15	15.00	34.77	87.7	64.4	117	5.74	20	
Nitrogen, Nitrate (As N)	7.7	3.0	7.500	0	103	80.1	108	1.31	20	
Sulfate	55	15	30.00	27.08	92.7	20.8	141	0.345	24.9	

Sample ID **1303B79-009AMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **BatchQC**	Batch ID: **6784**	RunNo: **9604**							
Prep Date: **4/2/2013**	Analysis Date: **4/2/2013**	SeqNo: **273916**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.3	0.30	1.500	1.544	49.0	18.1	130			
Nitrogen, Nitrate (As N)	7.4	0.30	7.500	0.2811	95.0	80.1	108			
Sulfate	33	1.5	30.00	4.372	97.0	20.8	141			

Sample ID **1303B79-009AMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **BatchQC**	Batch ID: **6784**	RunNo: **9604**							
Prep Date: **4/2/2013**	Analysis Date: **4/2/2013**	SeqNo: **273917**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.3	0.30	1.500	1.544	48.5	18.1	130	0.316	20	
Nitrogen, Nitrate (As N)	7.4	0.30	7.500	0.2811	94.7	80.1	108	0.377	20	
Sulfate	33	1.5	30.00	4.372	94.0	20.8	141	2.73	24.9	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-6714** SampType: **MBLK** TestCode: **EPA Method 418.1: TPH**

Client ID: **PBS** Batch ID: **6714** RunNo: **9516**

Prep Date: **3/28/2013** Analysis Date: **3/29/2013** SeqNo: **271508** 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-6714** SampType: **LCS** TestCode: **EPA Method 418.1: TPH**

Client ID: **LCSS** Batch ID: **6714** RunNo: **9516**

Prep Date: **3/28/2013** Analysis Date: **3/29/2013** SeqNo: **271509** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	95	20	100.0	0	95.4	80	120			

Sample ID **1303A89-006AMS** SampType: **MS** TestCode: **EPA Method 418.1: TPH**

Client ID: **CentralOCD-02-MS/** Batch ID: **6714** RunNo: **9516**

Prep Date: **3/28/2013** Analysis Date: **3/29/2013** SeqNo: **271520** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.5	7.764	97.8	80	120			

Sample ID **1303A89-006AMSD** SampType: **MSD** TestCode: **EPA Method 418.1: TPH**

Client ID: **CentralOCD-02-MS/** Batch ID: **6714** RunNo: **9516**

Prep Date: **3/28/2013** Analysis Date: **3/29/2013** SeqNo: **271521** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	99.50	7.764	99.0	80	120	0.206	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-6790**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **6790**	RunNo: **9569**
Prep Date: **4/2/2013**	Analysis Date: **4/2/2013**	SeqNo: **273111** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.5		10.00		95.0	72.4	120			

Sample ID **LCS-6790**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **6790**	RunNo: **9569**
Prep Date: **4/2/2013**	Analysis Date: **4/2/2013**	SeqNo: **273112** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	47.4	122			
Surr: DNOP	5.3		5.000		105	72.4	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-6713**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **6713**	RunNo: **9512**
Prep Date: **3/28/2013**	Analysis Date: **3/29/2013**	SeqNo: **271753** 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	910		1000		90.5	84	116			

Sample ID **LCS-6713**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **6713**	RunNo: **9512**
Prep Date: **3/28/2013**	Analysis Date: **3/29/2013**	SeqNo: **271754** 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	106	62.6	136			
Surr: BFB	940		1000		93.8	84	116			

Sample ID **1303A89-008AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **CentralOCD-TZ**	Batch ID: **6713**	RunNo: **9512**
Prep Date: **3/28/2013**	Analysis Date: **3/29/2013**	SeqNo: **271756** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.7	23.50	1.741	111	70	130			
Surr: BFB	890		939.8		94.3	84	116			

Sample ID **1303A89-008AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **CentralOCD-TZ**	Batch ID: **6713**	RunNo: **9512**
Prep Date: **3/28/2013**	Analysis Date: **3/29/2013**	SeqNo: **271757** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.7	23.45	1.741	117	70	130	4.82	22.1	
Surr: BFB	890		938.1		94.6	84	116	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-6713**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **6713**	RunNo: **9512**
Prep Date: **3/28/2013**	Analysis Date: **3/29/2013**	SeqNo: **271792** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		98.2	80	120			

Sample ID **LCS-6713**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **6713**	RunNo: **9512**
Prep Date: **3/28/2013**	Analysis Date: **3/29/2013**	SeqNo: **271793** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.050	1.000	0	92.6	80	120			
Toluene	0.95	0.050	1.000	0	95.3	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.6	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID **1303A89-006AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **CentralOCD-02-MS/**	Batch ID: **6713**	RunNo: **9512**
Prep Date: **3/28/2013**	Analysis Date: **3/29/2013**	SeqNo: **271800** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.049	0.9737	0	95.3	67.2	113			
Toluene	0.97	0.049	0.9737	0	100	62.1	116			
Ethylbenzene	1.0	0.049	0.9737	0	103	67.9	127			
Xylenes, Total	3.1	0.097	2.921	0	107	60.6	134			
Surr: 4-Bromofluorobenzene	0.98		0.9737		101	80	120			

Sample ID **1303A89-006AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **CentralOCD-02-MS/**	Batch ID: **6713**	RunNo: **9512**
Prep Date: **3/28/2013**	Analysis Date: **3/29/2013**	SeqNo: **271801** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.049	0.9756	0	99.9	67.2	113	4.92	14.3	
Toluene	1.0	0.049	0.9756	0	106	62.1	116	5.59	15.9	
Ethylbenzene	1.1	0.049	0.9756	0	109	67.9	127	5.40	14.4	
Xylenes, Total	3.3	0.098	2.927	0	113	60.6	134	6.07	12.6	
Surr: 4-Bromofluorobenzene	0.99		0.9756		102	80	120	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R9484**	RunNo: **9484**
Prep Date:	Analysis Date: **3/28/2013**	SeqNo: **271172** 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	2.0								
Surr: 4-Bromofluorobenzene	16		20.00		80.5	69.4	129			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R9484**	RunNo: **9484**
Prep Date:	Analysis Date: **3/28/2013**	SeqNo: **271173** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	80	120			
Toluene	20	1.0	20.00	0	102	80	120			
Ethylbenzene	21	1.0	20.00	0	104	80	120			
Xylenes, Total	62	2.0	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	17		20.00		86.3	69.4	129			

Sample ID **1303A45-002AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R9484**	RunNo: **9484**
Prep Date:	Analysis Date: **3/28/2013**	SeqNo: **271183** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Xylenes, Total	62	2.0	60.00	0	103	80	120			
Surr: 4-Bromofluorobenzene	17		20.00		86.1	69.4	129			

Sample ID **1303A45-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R9484**	RunNo: **9484**
Prep Date:	Analysis Date: **3/28/2013**	SeqNo: **271184** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.5	80	120	2.99	20	
Toluene	20	1.0	20.00	0	99.7	80	120	1.11	20	
Ethylbenzene	20	1.0	20.00	0	101	80	120	1.53	20	
Xylenes, Total	61	2.0	60.00	0	101	80	120	1.62	20	
Surr: 4-Bromofluorobenzene	17		20.00		86.1	69.4	129	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-6709**	SampType: **MBLK**	TestCode: **EPA Method 8082: PCB's**
Client ID: **PBS**	Batch ID: **6709**	RunNo: **9533**
Prep Date: **3/28/2013**	Analysis Date: **3/30/2013**	SeqNo: **272067** 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	0.060		0.06250		96.0	22.2	164			
Surr: Tetrachloro-m-xylene	0.049		0.06250		78.0	17.8	160			

Sample ID **LCS-6709**	SampType: **LCS**	TestCode: **EPA Method 8082: PCB's**
Client ID: **LCSS**	Batch ID: **6709**	RunNo: **9533**
Prep Date: **3/28/2013**	Analysis Date: **3/30/2013**	SeqNo: **272068** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.068	0.020	0.1250	0	54.5	31.6	114			
Aroclor 1260	0.10	0.020	0.1250	0	80.8	39	135			
Surr: Decachlorobiphenyl	0.058		0.06250		92.8	22.2	164			
Surr: Tetrachloro-m-xylene	0.045		0.06250		72.4	17.8	160			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-6713**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBS**	Batch ID: **6713**	RunNo: **9532**
Prep Date: **3/28/2013**	Analysis Date: **3/31/2013**	SeqNo: **272070** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.10								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.10								
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	0.10								
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								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-6713**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBS**	Batch ID: **6713**	RunNo: **9532**
Prep Date: **3/28/2013**	Analysis Date: **3/31/2013**	SeqNo: **272070** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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: 1,2-Dichloroethane-d4	0.43		0.5000		86.3	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		87.7	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		97.0	70	130			
Surr: Toluene-d8	0.51		0.5000		101	70	130			

Sample ID **lcs-6713**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSS**	Batch ID: **6713**	RunNo: **9532**
Prep Date: **3/28/2013**	Analysis Date: **3/31/2013**	SeqNo: **272073** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	110	70	130			
Toluene	1.1	0.050	1.000	0	106	80	120			
Chlorobenzene	ND	0.050	1.000	0	0.502	70	130			S
1,1-Dichloroethene	ND	0.050	1.000	0	0	83.5	130			S
Trichloroethene (TCE)	ND	0.050	1.000	0	0	70	130			S

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	lcs-6713	SampType:	LCS		TestCode:	EPA Method 8260B: VOLATILES				
Client ID:	LCSS	Batch ID:	6713		RunNo:	9532				
Prep Date:	3/28/2013	Analysis Date:	3/31/2013		SeqNo:	272073	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		88.3	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		84.9	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.8	70	130			
Surr: Toluene-d8	0.49		0.5000		98.9	70	130			

Qualifiers:

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

QC SUMMARY REPORT

WO#: **1303A89**

Hall Environmental Analysis Laboratory, Inc.

15-Apr-13

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

Sample ID **mb-6712**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **6712**	RunNo: **9601**
Prep Date: **3/28/2013**	Analysis Date: **4/2/2013**	SeqNo: **273641** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.40								
2,4-Dinitrotoluene	ND	0.50								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-6712**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**	
Client ID: **PBS**	Batch ID: **6712**	RunNo: **9601**	
Prep Date: **3/28/2013**	Analysis Date: **4/2/2013**	SeqNo: **273641**	Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2,4,6-Tribromophenol	3.2		3.330		95.4	40.1	130			
Surr: 2-Fluorobiphenyl	1.5		1.670		91.8	44.4	123			
Surr: 2-Fluorophenol	2.8		3.330		83.3	41.9	112			
Surr: 4-Terphenyl-d14	1.5		1.670		89.3	29.6	130			
Surr: Nitrobenzene-d5	1.5		1.670		89.3	42.4	132			
Surr: Phenol-d5	3.1		3.330		94.0	44.3	119			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-6712**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **6712**	RunNo: **9601**
Prep Date: **3/28/2013**	Analysis Date: **4/2/2013**	SeqNo: **273642** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.20	1.670	0	83.1	45.8	95.8			
4-Chloro-3-methylphenol	2.7	0.50	3.330	0	81.7	49.9	103			
2-Chlorophenol	2.4	0.20	3.330	0	72.6	43.4	94			
1,4-Dichlorobenzene	1.3	0.20	1.670	0	78.5	37.3	95.4			
2,4-Dinitrotoluene	1.5	0.50	1.670	0	89.1	51.6	113			
N-Nitrosodi-n-propylamine	1.3	0.20	1.670	0	76.4	43.4	105			
4-Nitrophenol	2.5	0.25	3.330	0	73.9	45.4	113			
Pentachlorophenol	2.3	0.40	3.330	0	70.3	40	90.2			
Phenol	2.6	0.20	3.330	0	77.9	44.4	99.8			
Pyrene	1.3	0.20	1.670	0	78.9	48.1	93.1			
1,2,4-Trichlorobenzene	1.5	0.20	1.670	0	89.8	41.6	103			
Surr: 2,4,6-Tribromophenol	3.4		3.330		102	40.1	130			
Surr: 2-Fluorobiphenyl	1.6		1.670		94.3	44.4	123			
Surr: 2-Fluorophenol	2.5		3.330		75.1	41.9	112			
Surr: 4-Terphenyl-d14	1.5		1.670		91.7	29.6	130			
Surr: Nitrobenzene-d5	1.6		1.670		94.4	42.4	132			
Surr: Phenol-d5	2.9		3.330		87.8	44.3	119			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-6845**	SampType: **MBLK**	TestCode: **EPA Method 7471: Mercury**
Client ID: **PBS**	Batch ID: **6845**	RunNo: **9687**
Prep Date: **4/5/2013**	Analysis Date: **4/5/2013**	SeqNo: **276025** Units: **mg/Kg**

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

Sample ID **lcs-6845**	SampType: **LCS**	TestCode: **EPA Method 7471: Mercury**
Client ID: **LCSS**	Batch ID: **6845**	RunNo: **9687**
Prep Date: **4/5/2013**	Analysis Date: **4/5/2013**	SeqNo: **276026** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1667	0	97.6	80	120			

Sample ID **1303820-001ams**	SampType: **MS**	TestCode: **EPA Method 7471: Mercury**
Client ID: **BatchQC**	Batch ID: **6845**	RunNo: **9687**
Prep Date: **4/5/2013**	Analysis Date: **4/5/2013**	SeqNo: **276028** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1648	0.008650	95.2	75	125			

Sample ID **1303820-001amsd**	SampType: **MSD**	TestCode: **EPA Method 7471: Mercury**
Client ID: **BatchQC**	Batch ID: **6845**	RunNo: **9687**
Prep Date: **4/5/2013**	Analysis Date: **4/5/2013**	SeqNo: **276029** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1640	0.008650	96.4	75	125	0.691	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-6823**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **6823**	RunNo: **9682**
Prep Date: **4/4/2013**	Analysis Date: **4/5/2013**	SeqNo: **275889** 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	1.0								
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-6823**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **6823**	RunNo: **9682**
Prep Date: **4/4/2013**	Analysis Date: **4/5/2013**	SeqNo: **275890** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	24	2.5	25.00	0	95.4	80	120			
Barium	24	0.10	25.00	0	97.4	80	120			
Cadmium	24	0.10	25.00	0	96.9	80	120			
Chromium	24	0.30	25.00	0	97.7	80	120			
Copper	25	0.30	25.00	0	102	80	120			
Iron	25	1.0	25.00	0	99.4	80	120			
Lead	24	0.25	25.00	0	95.5	80	120			
Manganese	24	0.10	25.00	0	95.7	80	120			
Selenium	24	2.5	25.00	0	95.0	80	120			
Silver	4.9	0.25	5.000	0	98.1	80	120			
Uranium	25	5.0	25.00	0	98.5	80	120			
Zinc	24	2.5	25.00	0	95.7	80	120			

Sample ID **1303953-003AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC**	Batch ID: **6823**	RunNo: **9682**
Prep Date: **4/4/2013**	Analysis Date: **4/5/2013**	SeqNo: **275902** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	26	5.0	24.53	3.218	94.7	75	125			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1303953-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **BatchQC**	Batch ID: **6823**	RunNo: **9682**
Prep Date: **4/4/2013**	Analysis Date: **4/5/2013**	SeqNo: **275903** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	26	5.0	24.09	3.218	93.3	75	125	2.89	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303A89**

15-Apr-13

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**1303A38-020ADUP**	SampType: **DUP**		TestCode: **SM4500-H+B: pH**					
Client ID:	**BatchQC**	Batch ID: **R9613**		RunNo: **9613**					
Prep Date:		Analysis Date: **4/3/2013**		SeqNo: **274335**		Units: **pH Units**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.08	1.68						0.877		

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value 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 greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

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: 1303A89 RcptNo: 1

Received by/date: [signature] 03/27/13

Logged By: Lindsay Mangin 3/27/2013 4:07:00 PM

Completed By: Ashley Gallegos 3/27/2013 5:22:43 PM

Reviewed By: JD 03/28/2013

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
Samples were collected the same day and chilled.			
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	7.3	Good	Not Present			

Ch[illegible]n-of-Custody Record

Client: Western Refining

Mailing Address: Route 3 Box 7

Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-722-0210

QA/QC Package:

☒ **Standard** ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type) _Please provide EDD

Turn-Around Time:

☒ **Standard** ☐ Rush

Project Name:

OCD Central Landfarm Semiannual Sampling

Project #:

697-039-0024

Project Manager:

Ed Riege

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 7.3

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. 1303A89	TPH (418.1)	BTEX (8021)	Chlorides (300.1)	DRO and GRO (8015M)	A and B of NMAC 3103 (see attached) minus Ra226/228 [illegible] 03/28/13	Air Bubbles (Y or N)
3/27/2013	1140	soil	CentralOCD-01-____	4oz - 2	none	-001	X	X	X			
	1230	soil	CentralOCD-02-____	4oz - 2	none	-002	X	X	X			
	1250	soil	CentralOCD-03-____	4oz - 2	none	-003	X	X	X			
	1340	soil	CentralOCD-04-____	4oz - 2	none	-004	X	X	X			
	—	soil	BD-____	4oz - 2	none	-005	X	X	X			
	1230	soil	CentralOCD-~~0Z~~-____-MS	4oz - 2	none	-006	X	X	X			
	1230	soil	CentralOCD-~~02~~-____-MSD	4oz - 2	none	~~-007~~	X	X	X			
	1315	soil	CentralOCD-TZ-____	4oz - 2	none	-008	X	X	X	X	X	
	1400	water	EB-____	VOA - 3	HCL	-009		X				
	1410	water	FB-____	VOA - 3	HCL	-010		X				
	—	water	Trip Blank	VOA - 3	HCL	-011		X				

Date: 3/27/13 Time: 1610 Relinquished by: [signature]

Received by: [signature] Date 03/27/13 Time 1610

Date: Time: Relinquished by:

Received by: Date Time

Remarks: Please cc Grant Price (gprice@trihydro.com) with results. Call Grant @ 307-745-7474 w/ questions.

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

standard specified in Subsection A, B, or C of this section, the existing pH or concentration shall be the allowable limit, provided that the discharge at such concentrations will not result in concentrations at any place of withdrawal for present or reasonably foreseeable future use in excess of the standards of this section. These standards shall apply to the dissolved portion of the contaminants specified with a definition of dissolved being that given in the publication "Methods for Chemical Analysis of Water and Waste of the U.S. Environmental Protection Agency," with the exception that standards for mercury, organic compounds and non-aqueous phase liquids shall apply to the total unfiltered concentrations of the contaminants.

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).....5.0 mg/l
~~(13) Radioactivity: Combined Radium-226 & Radium-228.....30 pCi/l~~ AT 03/28/13 no Ra 226/228
(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

8270
8082

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

C. Standards for Irrigation Use - Ground water shall meet the standards of Subsection A, B, and C of this section unless otherwise provided.

(1) Aluminum (Al).....5.0 mg/l
(2) Boron (B).....0.75 mg/l
(3) Cobalt (Co).....0.05 mg/l
(4) Molybdenum (Mo).....1.0 mg/l
(5) Nickel (Ni).....0.2 mg/l

[2-18-77, 1-29-82, 11-17-83, 3-3-86, 12-1-95; 20.6.2.3103 NMAC – Rn, 20 NMAC 6.2.III.3103, 1-15-01]

20.6.2.3104 DISCHARGE PERMIT REQUIRED: Unless otherwise provided by this Part, no person shall cause or allow effluent or leachate to discharge so that it may move directly of indirectly into ground water unless he is discharging pursuant to a discharge permit issued by the secretary. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit. In the event of a transfer of the ownership, control, or possession of a facility for which a discharge permit is in effect, the transferee shall have authority to discharge under such permit, provided that the transferee has complied with Section 20.6.2.3111 NMAC, regarding transfers. [2-18-77, 12-24-87, 12-1-95; Rn & A, 20.6.2.3104 NMAC – 20 NMAC 6.2.III.3104, 1-15-01; A, 12-1-01]

20.6.2.3105 EXEMPTIONS FROM DISCHARGE PERMIT REQUIREMENT: Sections 20.6.2.3104 and 20.6.2.3106 NMAC do not apply to the following:

A. Effluent or leachate which conforms to all the listed numerical standards of Section 20.6.2.3103 NMAC and has a total nitrogen concentration of 10 mg/l or less, and does not contain any toxic pollutant. To determine conformance, samples may be taken by the agency before the effluent or leachate is discharged so that it may move directly or indirectly into ground water; provided that if the discharge is by seepage through non-natural or altered natural materials, the agency may take samples of the solution before or after seepage. If for any reason the agency does not have access to obtain the appropriate samples, this exemption shall not apply;

B. Effluent which is discharged from a sewerage system used only for disposal of household and other domestic waste which is designed to receive and which receives 2,000 gallons or less of liquid waste per day;

C. Water used for irrigated agriculture, for watering of lawns, trees, gardens or shrubs, or for irrigation for a period not to exceed five years for the revegetation of any disturbed land area, unless that water is received directly from any sewerage system;

D. Discharges resulting from the transport or storage of water diverted, provided that the water diverted has not had added to it after the point of diversion any effluent received from a sewerage system, that the source of the water diverted was not mine workings, and that the secretary has not determined that a hazard to public health may result;

E. Effluent which is discharged to a watercourse which is naturally perennial; discharges to dry arroyos and ephemeral streams are not exempt from the discharge permit requirement, except as otherwise provided in this section;

F. Those constituents which are subject to effective and enforceable effluent limitations in a National Pollutant Discharge Elimination System (NPDES) permit, where discharge onto or below the surface of the ground so that water contaminants may move directly or indirectly into ground water occurs downstream from the outfall where NPDES effluent limitations are imposed, unless the secretary determines that a hazard to public health may result. For purposes of this subsection, monitoring requirements alone do not constitute effluent limitations;

G. Discharges resulting from flood control systems;

H. Leachate which results from the direct natural infiltration of precipitation through disturbed materials, unless the secretary determines that a hazard to public health may result;

I. Leachate which results entirely from the direct natural infiltration of precipitation through undisturbed materials;

J. Leachate from materials disposed of in accordance with the Solid Waste Management Regulations (20 NMAC 9.1) adopted by the New Mexico Environmental Improvement Board;

K. Natural ground water seeping or flowing into conventional mine workings which re-enters the ground by natural gravity flow prior to pumping or transporting out of the mine and without being used in any mining process; this exemption does not apply to solution mining;

L. Effluent or leachate discharges resulting from activities regulated by a mining plan approved and permit issued by the New Mexico Coal Surface Mining Commission, provided that this exemption shall not be construed as limiting the application of appropriate ground water protection requirements by the New Mexico Coal Surface Mining Commission;

Tier II Data Validation Report Summary

Client: Western Refining Southwest, Gallup	Laboratory: Hall Environmental Analysis Laboratory, with subcontracted analyses sent to Anatek Labs, Inc.
Project Name:	Sample Matrix: Soil
Project Number: 697-039-004	Sample Start Date: 3/27/2013
Date Validated: April 19, 2013	Sample End Date: 3/27/2013
Parameters Included: Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Solid Waste 846 (SW846) Method 8021B; Volatile Organic Compounds (VOC) by United States Environmental Protection Agency (USEPA) Solid Waste 846 (SW846) Method 8260B; Semi-Volatile Organic Compounds (SVOC) by USEPA SW-846 Method 8270C; Chloride, Fluoride, Nitrate as Nitrogen, and Sulfate by USEPA Method 300.0; Cyanide by USEPA Method 335.4; Total Recoverable Petroleum Hydrocarbons by USEPA Method 418.1; Polychlorinated Biphenyls (PCB) by USEPA SW-846 Method 8082; Diesel Range Organics (DRO) and Gasoline Range Organics (GRO) by USEPA SW-846 Method 8015D; Mercury by USEPA SW-846 Method 7471A; Metals (As, Ba, Cd, Cr, Cu, Fe, Pb, Mn, Se, Ag, U, and Zn) by USEPA SW-846 Method 6010B; pH by Standard Methods for the Examination of Water & Wastewater (SM) Method 4500-H+B; and Percent Moisture	
Laboratory Project ID: 1303A89	
Data Validator: Justin Hildenbrand, Environmental Chemist	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services Group on the analytical data report package generated by Hall Environmental Analysis Laboratory, evaluating samples from the Western Refining Southwest 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 of samples from field duplicate pairs; laboratory duplicate pairs; matrix spike (MS) and matrix spike duplicate (MSD) pairs; and laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs. Laboratory accuracy was established by reviewing the demonstrated percent recoveries of MS/MSD samples and LCS/LCSD samples, and percent recoveries (%R) of organic system monitoring compounds (surrogates) to verify that data are not biased. Field accuracy was established by collecting trip blank, field blank, and equipment blank samples to monitor for possible ambient or cross contamination during sampling and transportation. 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.

Chemical data validation was conducted in accordance with the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for organic and inorganic analyses, 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 USEPA-540-R-08-01, June 2008 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 540R-10-011, January 2010. Review of field duplicates is conducted according to the USEPA Region 1 Laboratory Data Validation Functional Guidelines for Evaluation of Organic Analysis, December 1996.

Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
CentralOCD-01	1303A89-001
CentralOCD-02	1303A89-002
CentralOCD-03	1303A89-003
CentralOCD-04	1303A89-004
BD-	1303A89-005
CentralOCD-TZ	1303A89-008 Anatek Labs, Inc. sample number 130402027-001
EB	1303A89-009
FB	1303A89-010
TRIP BLANK	1303A89-011

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. A null symbol (∅) 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
- ✓ Holding Times and Preservation
- ✓ Laboratory Blanks
- ✓ System Monitoring Compounds (i.e., Surrogates)
- ✓ LCS/LCSD
- ✓ MS/MSD
- ∅ Initial and Continuing Calibrations
- ⊗ Field Duplicates
- ✓ Laboratory Duplicates
- ✓ Field, Equipment, and Trip Blanks

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

Data qualifiers used during this validation included:

J – Estimated concentration

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly. The complete data package consisted of 200 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 note non-conformances related to data quality, aside from the application of data qualification flags defined in Section 2, below.

2. Were the data free of data qualification flags and/or notes used by the laboratory? If no, define. Yes

Comments: The laboratory applied the following note and data qualification flag.

S – Spike recovery outside accepted recovery limits.

3. Were sample CoC forms complete? Yes

Comments: The CoC record from the field to the laboratory was complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt.

For sample CentralOCD-TZ, a note was included on the CoC form to refer to the attached reference for required constituents and analyses: Section 20.6.2.3103, Subsections A and B, of the New Mexico Administrative Code. An additional handwritten note recorded on March 28, 2013 indicated that radium 226 and 228 were to be excluded from analysis.

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 were in accordance with project requirements. Dilutions summarized in the table below were applied in several analyses for the samples and the detection limits rose accordingly.

Method	Samples	Dilution Factor
300.0	BD- CentralOCD-01 CentralOCD-02 CentralOCD-03 CentralOCD-04 CentralOCD-TZ	20
418.1	CentralOCD-04	2
6010B	CentralOCD-TZ	2-500
8015	CentralOCD-TZ	10
8082	CentralOCD-TZ	10

The dilutions were reviewed and appeared appropriate.

Polychlorinated biphenyls were not detected in the Method 8082 dilution analysis of sample CentralOCD-TZ. In correspondence by email and phone on April 24, 2013, the laboratory indicated that the sample was originally ran without dilution, but the sample solution appeared dark in color and the CCV performed directly after analysis failed low, demonstrating evidence of detector suppression. The CCV associated with the dilution analysis was within laboratory QC limits and the dilution analysis data were reported.

Final determination of the data quality regarding detection limits will be made by the project team.

5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC? Were any analytes reported by more than one method? Yes

Comments: Reported analytical methods and constituents were in compliance. Data for volatile organic hydrocarbons were reported either from Method 8021B or from Method 8260B as requested in the CoC.

VALIDATION CRITERIA CHECKLIST

6. Were samples received in good condition within method-specified requirements? No

Comments: Samples were received intact and in good condition, with a cooler temperature outside the method requirement of 4 +/- 2°C at 7.3°C. Samples were delivered to the laboratory on the same day of sampling, and although the sampling team attempted to chill the samples insufficient time had elapsed for the sample containers to cool to method requirements. No further action was necessary based on professional judgment.

The laboratory indicated custody seals were not present on the sample containers. Custody was maintained since samples were delivered directly to the laboratory by the sample team.

7. Were samples analyzed within method-specified or technical holding times? Yes

Comments: Analyses were performed within method specified holding times.

8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)? Yes

Comments: Data for soil samples were reported in units of milligram per kilogram (mg/kg) and results for aqueous samples were reported in units of micrograms per liter (µg/L). Data for pH were reported in standard pH units. Reported units were acceptable for the matrices and analyses reported.

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

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

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

Comments: The total number of laboratory blank samples prepared was equal to at least 5% of the total number of samples. Laboratory blanks were not required for the analyses of pH or percent moisture.

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

Comments: The laboratory blank samples were free of target analyte contamination.

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

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples, although matrix spike samples were not prepared for all analyses. Matrix spikes were not required for analyses of percent moisture or pH.

Method	Analyte (s)	Preparation Batch	Analysis Batch	MS Sample Source
300.0	Chloride	6732	9545	Not Prepared
300.0	Chloride, Fluoride, Nitrate as Nitrogen, and Sulfate	6784	9604	Not Associated
300.0	Chloride, Fluoride, Nitrate as Nitrogen, and Sulfate	6784	9604	Not Associated
418.1	Petroleum Hydrocarbons, TR	6714	9516	CentralOCD-02
8015D	Diesel Range Organics (DRO)	6790	9569	Not Prepared
8015D	Gasoline Range Organics (GRO)	6713	9512	CentralOCD-TZ
8021B	BTEX	6713	9512	CentralOCD-02
8021B	BTEX	R9484	9484	Not Associated
8082	PCBs	6709	9533	Not Prepared
8260B	VOCs	6713	9532	Not Prepared

VALIDATION CRITERIA CHECKLIST

Method	Analyte (s)	Preparation Batch	Analysis Batch	MS Sample Source
8270C	SVOCs	6712	9601	Not Prepared
7471A	Mercury	6845	9687	Not Associated
6010B	Metals	6823	9682	Not Associated
4500-H+B	pH	R9613	9613	Not Prepared

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

13. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory quality control (QC) limits? Yes

Comments: The MS and MSD recoveries and RPD values for project samples were within laboratory QC limits. The MS samples prepared from non-project samples were considered during the data validation process, but data were not qualified based on these results since matrix similarity to project samples could not be guaranteed.

In metals Method 6010B preparation batch 6823, analysis batch 9682, only arsenic was reported for the matrix spike and matrix spike duplicate.

The MS samples prepared from non-project samples were considered during the data validation process, but data were not qualified based on these results since matrix similarity to project samples could not be guaranteed.

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

Comments: The total number of LSC/LCSDs analyzed was equal to at least 5% of the total number of samples required. LCS analyses were not required for analysis of percent moisture.

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

Comments: The LCS/LCSD recoveries and RPD values were within laboratory QC limits, with the exceptions noted in the table below.

Method	Analyte	Preparation Batch	Analysis Batch	LCS Recovery	LCS QC Limits
8260B	Chlorobenzene	6713	9532	0.502%	70-130%
8260B	1,1-Dichloroethene	6713	9532	0%	83.5-130%
8260B	Trichloroethene (TCE)	6713	9532	0%	70-130%

The low recoveries for the three analytes above occurred because they were not spiked in the LCS. In email and phone correspondence on April 24, 2013 with the laboratory project manager, the associated sample (CentralOCD-TZ) was analyzed by Method 8260 but was prepared with the samples for 8021 BTEX analyses, and as a result the 8021 BTEX spike solution was inadvertently used for the LCS. The three analytes were not in the Method 8021 LCS spike and therefore could not be recovered. The laboratory indicated that water spikes and CCVs are within method and laboratory limits for the day. Since other QC and calibration data within requirements of the method the data were evaluated to be acceptable and no qualification was applied based on professional judgment.

The laboratory reported a subset of analytes in the LCSs for the following analyses.

PCBs by Method 8082: Due to limitations of the analytical technique and characteristics of the target constituents, the laboratory reported only the following analytes in the LCS for preparation batch 6709, analysis batch 9533: Arochlor 1016 and Arochlor 1260.

VOCs by Method 8260B: The laboratory reported only the following analytes in the LCS for preparation batch 6713, analysis batch 9532: benzene, toluene, chlorobenzene, 1,1-dichloroethene, and trichloroethene.

SVOCs by Method 8270C: The laboratory reported only the following analytes in the LCS for preparation batch 6712, analysis batch 9601: acenaphthene, 4-chloro-3-methylphenol, 2-chlorophenol, 1,4-dichlorobenzene, 2,4-dinitrotoluene, n-nitrosodi-n-propylamine, 4-nitrophenol, pentachlorophenol, phenol, pyrene, and 1,2,4-trichlorobenzene.

VALIDATION CRITERIA CHECKLIST

16. Were surrogate recoveries within laboratory QC limits? Yes

Comments: The surrogate recoveries were within laboratory QC limits, with the exceptions noted in the table below.

Method	Surrogate	Sample	Surrogate Recovery	QC Limits
8082	Decachlorobiphenyl	CentralOCD-TZ	0%	22.2-164%
8082	Tetrachloro-m-xylene	CentralOCD-TZ	0%	17.8-160%
8015D	Diesel Range Organics (DRO)	CentralOCD-TZ	0%	72.4-120%

Sample CentralOCD-TZ was diluted by a factor of 10 for the analyses of PCBs by Method 8082 and DRO by 8015D, and the surrogates were diluted to concentrations below the ability of the analytical methods to quantitate. Qualification of data was not required.

17. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of trip blank, field blank, and/or equipment blank samples collected was equal to at least 10% of the total number of samples. One equipment blank, EB, one field blank, FB, and one trip blank, TRIP BLANK, were provided to the laboratory with the project samples. The blank samples were analyzed only for BTEX by Method 8021.

18. Were the trip blank, field blank, and/or equipment blank samples reported to be free of target analyte contamination? Yes

Comments: The trip blank, field blank, and equipment blank samples were reported to be free of target analyte contamination

19. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of field duplicates collected was equal to at least 10% of the total number of samples. Sample BD- was collected as the duplicate of sample CentralOCD-2.

20. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)? No

Comments: **Chloride was detected at 210 mg/kg in the parent sample, CentralOCD-02, and at 400 mg/kg in the field duplicate sample. The calculated field duplicate RPD exceeded the data validation QC limits for soil of 0-50% at 62.3%. Chloride was qualified as J to indicate estimated detection in the parent and duplicate samples.**

Field duplicate RPD values for other target constituents could not be calculated since the analytes were undetected in the parent and duplicate samples.

21. Were laboratory duplicate RPD values within laboratory QC limits? Yes

Comments: One laboratory duplicate was prepared for pH by Method 4500-H+B preparation batch R9613, analysis batch 9613, from a non-project sample. The duplicate RPD was within laboratory QC limits.

22. General Comments: The analysis of total cyanide was subcontracted to Anatek Labs, Inc., located in Moscow, Idaho. The laboratory QC data for the subcontracted total cyanide analysis were not included in the laboratory data report and are included in Attachment A at the end of this document.

DATA QUALIFICATION SUMMARY

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Chloride	300.0	CentralOCD-02	1303A89-002A	210	30	mg/kg	J	High field duplicate RPD value
Chloride	300.0	BD-	1303A89-005A	400	30	mg/kg	J	High field duplicate RPD value

ATTACHMENT A

ANATEK LABS, INC. QUALITY CONTROL DATA

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 #: 130402027
Project Name: 1303A89

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.480	mg/kg	0.5	96.0	80-120	4/10/2013	4/10/2013

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
130402027-001	Cyanide	0.579	14.1	mg/kg	13.4	100.9	60-140	4/10/2013	4/10/2013

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	13.7	mg/kg	13.4	97.9	2.9	0-25	4/10/2013	4/10/2013

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.3	4/10/2013	4/10/2013

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; IN:C-ID-01; KY:90142; MT:CERT0026; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

ATTACHMENT B

MAY 8, 2013 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

June 14, 2013

Beck Larsen
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301
TEL: (505) 722-0258
FAX (505) 722-0210

RE: OCD Land Farm

OrderNo.: 1305307

Dear Beck Larsen:

Hall Environmental Analysis Laboratory received 8 sample(s) on 5/8/2013 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued May 15, 2013.

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
Project: OCD Land Farm
Lab ID: 1305307-001 **Matrix:** SOIL

Client Sample ID: Central OCD-01-05082013
Collection Date: 5/8/2013 9:10:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S						Analyst: **SCC**	
Aroclor 1016	ND	0.040		mg/Kg	1	5/22/2013 6:33:02 PM	7504
Aroclor 1221	ND	0.040		mg/Kg	1	5/22/2013 6:33:02 PM	7504
Aroclor 1232	ND	0.040		mg/Kg	1	5/22/2013 6:33:02 PM	7504
Aroclor 1242	ND	0.040		mg/Kg	1	5/22/2013 6:33:02 PM	7504
Aroclor 1248	ND	0.040		mg/Kg	1	5/22/2013 6:33:02 PM	7504
Aroclor 1254	ND	0.040		mg/Kg	1	5/22/2013 6:33:02 PM	7504
Aroclor 1260	ND	0.040		mg/Kg	1	5/22/2013 6:33:02 PM	7504
Surr: Decachlorobiphenyl	40.0	31.8-151		%REC	1	5/22/2013 6:33:02 PM	7504
Surr: Tetrachloro-m-xylene	35.2	26.2-144		%REC	1	5/22/2013 6:33:02 PM	7504
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	5/10/2013 11:41:24 PM	7366
Toluene	ND	0.049		mg/Kg	1	5/10/2013 11:41:24 PM	7366
Ethylbenzene	ND	0.049		mg/Kg	1	5/10/2013 11:41:24 PM	7366
Xylenes, Total	ND	0.098		mg/Kg	1	5/10/2013 11:41:24 PM	7366
Surr: 4-Bromofluorobenzene	98.6	80-120		%REC	1	5/10/2013 11:41:24 PM	7366
EPA METHOD 8310: PAHS						Analyst: **SCC**	
Naphthalene	ND	2.5		mg/Kg	1	5/28/2013 11:21:04 AM	7505
1-Methylnaphthalene	ND	2.5		mg/Kg	1	5/28/2013 11:21:04 AM	7505
2-Methylnaphthalene	ND	2.5		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Acenaphthylene	ND	2.5		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Acenaphthene	ND	2.5		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Fluorene	ND	0.30		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Phenanthrene	ND	0.15		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Anthracene	ND	0.15		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Fluoranthene	ND	0.20		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Pyrene	ND	0.25		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Benz(a)anthracene	ND	0.10		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Chrysene	0.13	0.10		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Benzo(b)fluoranthene	ND	0.10		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Benzo(k)fluoranthene	ND	0.10		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Benzo(a)pyrene	ND	0.10		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Dibenz(a,h)anthracene	ND	0.10		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Benzo(g,h,i)perylene	ND	0.10		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Indeno(1,2,3-cd)pyrene	ND	0.10		mg/Kg	1	5/28/2013 11:21:04 AM	7505
Surr: Benzo(e)pyrene	86.0	36.7-118		%REC	1	5/28/2013 11:21:04 AM	7505
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	5.2	0.30		mg/Kg	1	5/9/2013 2:42:37 PM	7373
Chloride	150	30		mg/Kg	20	5/9/2013 2:55:01 PM	7373
Nitrogen, Nitrate (As N)	14	0.30		mg/Kg	1	5/9/2013 2:42:37 PM	7373

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-001 **Matrix:** SOIL

Client Sample ID: Central OCD-01-05082013
Collection Date: 5/8/2013 9:10:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Sulfate	650	30		mg/Kg	20	5/9/2013 2:55:01 PM	7373
EPA METHOD 7471: MERCURY						Analyst: **JLF**	
Mercury	ND	0.033		mg/Kg	1	5/22/2013 9:13:33 AM	7539
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**	
Arsenic	ND	12		mg/Kg	5	5/28/2013 10:28:20 AM	7531
Barium	270	1.0		mg/Kg	10	5/28/2013 10:30:56 AM	7531
Cadmium	ND	0.50		mg/Kg	5	5/28/2013 10:28:20 AM	7531
Chromium	19	1.5		mg/Kg	5	5/28/2013 10:28:20 AM	7531
Copper	4.6	1.5		mg/Kg	5	5/28/2013 10:28:20 AM	7531
Iron	22000	500		mg/Kg	500	5/28/2013 10:33:28 AM	7531
Lead	5.6	1.2		mg/Kg	5	5/28/2013 10:28:20 AM	7531
Manganese	390	1.0		mg/Kg	10	5/28/2013 10:30:56 AM	7531
Selenium	ND	12		mg/Kg	5	5/28/2013 10:28:20 AM	7531
Silver	ND	1.2		mg/Kg	5	5/28/2013 10:28:20 AM	7531
Uranium	ND	25		mg/Kg	5	5/28/2013 10:28:20 AM	7531
Zinc	77	12		mg/Kg	5	5/28/2013 10:28:20 AM	7531
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
4-Chloro-3-methylphenol	ND	1.0		mg/Kg	1	5/22/2013 5:06:13 PM	7537
2-Chlorophenol	ND	0.40		mg/Kg	1	5/22/2013 5:06:13 PM	7537
2,4-Dichlorophenol	ND	0.80		mg/Kg	1	5/22/2013 5:06:13 PM	7537
2,4-Dimethylphenol	ND	0.60		mg/Kg	1	5/22/2013 5:06:13 PM	7537
4,6-Dinitro-2-methylphenol	ND	1.0		mg/Kg	1	5/22/2013 5:06:13 PM	7537
2,4-Dinitrophenol	ND	0.80		mg/Kg	1	5/22/2013 5:06:13 PM	7537
2-Methylphenol	ND	1.0		mg/Kg	1	5/22/2013 5:06:13 PM	7537
3+4-Methylphenol	ND	0.40		mg/Kg	1	5/22/2013 5:06:13 PM	7537
2-Nitrophenol	ND	0.40		mg/Kg	1	5/22/2013 5:06:13 PM	7537
4-Nitrophenol	ND	0.50		mg/Kg	1	5/22/2013 5:06:13 PM	7537
Pentachlorophenol	ND	0.80		mg/Kg	1	5/22/2013 5:06:13 PM	7537
Phenol	ND	0.40		mg/Kg	1	5/22/2013 5:06:13 PM	7537
2,4,5-Trichlorophenol	ND	0.40		mg/Kg	1	5/22/2013 5:06:13 PM	7537
2,4,6-Trichlorophenol	ND	0.40		mg/Kg	1	5/22/2013 5:06:13 PM	7537
Surr: 2,4,6-Tribromophenol	93.6	40.1-130		%REC	1	5/22/2013 5:06:13 PM	7537
Surr: 2-Fluorobiphenyl	78.2	44.4-123		%REC	1	5/22/2013 5:06:13 PM	7537
Surr: 2-Fluorophenol	71.4	41.9-112		%REC	1	5/22/2013 5:06:13 PM	7537
Surr: 4-Terphenyl-d14	83.6	29.6-130		%REC	1	5/22/2013 5:06:13 PM	7537
Surr: Nitrobenzene-d5	84.8	42.4-132		%REC	1	5/22/2013 5:06:13 PM	7537
Surr: Phenol-d5	74.0	44.3-119		%REC	1	5/22/2013 5:06:13 PM	7537
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-001 **Matrix:** SOIL

Client Sample ID: Central OCD-01-05082013
Collection Date: 5/8/2013 9:10:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	
Benzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Toluene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Ethylbenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Methyl tert-butyl ether (MTBE)	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,2,4-Trimethylbenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,3,5-Trimethylbenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,2-Dichloroethane (EDC)	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,2-Dibromoethane (EDB)	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Naphthalene	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1-Methylnaphthalene	ND	0.19		mg/Kg	1	5/21/2013 1:30:22 AM	7495
2-Methylnaphthalene	ND	0.19		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Acetone	ND	0.70		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Bromobenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Bromodichloromethane	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Bromoform	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Bromomethane	ND	0.14		mg/Kg	1	5/21/2013 1:30:22 AM	7495
2-Butanone	ND	0.46		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Carbon disulfide	ND	0.46		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Carbon tetrachloride	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Chlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Chloroethane	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Chloroform	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Chloromethane	ND	0.14		mg/Kg	1	5/21/2013 1:30:22 AM	7495
2-Chlorotoluene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
4-Chlorotoluene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
cis-1,2-DCE	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
cis-1,3-Dichloropropene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,2-Dibromo-3-chloropropane	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Dibromochloromethane	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Dibromomethane	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,2-Dichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,3-Dichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,4-Dichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Dichlorodifluoromethane	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,1-Dichloroethane	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,1-Dichloroethene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,2-Dichloropropane	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,3-Dichloropropane	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
2,2-Dichloropropane	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,1-Dichloropropene	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-001 **Matrix:** SOIL

Client Sample ID: Central OCD-01-05082013
Collection Date: 5/8/2013 9:10:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	
Hexachlorobutadiene	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495
2-Hexanone	ND	0.46		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Isopropylbenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
4-Isopropyltoluene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
4-Methyl-2-pentanone	ND	0.46		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Methylene chloride	ND	0.14		mg/Kg	1	5/21/2013 1:30:22 AM	7495
n-Butylbenzene	ND	0.14		mg/Kg	1	5/21/2013 1:30:22 AM	7495
n-Propylbenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
sec-Butylbenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Styrene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
tert-Butylbenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,1,1,2-Tetrachloroethane	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,1,2,2-Tetrachloroethane	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Tetrachloroethene (PCE)	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
trans-1,2-DCE	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
trans-1,3-Dichloropropene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,2,3-Trichlorobenzene	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,2,4-Trichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,1,1-Trichloroethane	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,1,2-Trichloroethane	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Trichloroethene (TCE)	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Trichlorofluoromethane	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
1,2,3-Trichloropropane	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Vinyl chloride	ND	0.046		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Xylenes, Total	ND	0.093		mg/Kg	1	5/21/2013 1:30:22 AM	7495
Surr: 1,2-Dichloroethane-d4	86.7	70-130		%REC	1	5/21/2013 1:30:22 AM	7495
Surr: 4-Bromofluorobenzene	83.9	70-130		%REC	1	5/21/2013 1:30:22 AM	7495
Surr: Dibromofluoromethane	87.8	70-130		%REC	1	5/21/2013 1:30:22 AM	7495
Surr: Toluene-d8	96.9	70-130		%REC	1	5/21/2013 1:30:22 AM	7495
EPA METHOD 418.1: TPH						Analyst: **LRW**	
Petroleum Hydrocarbons, TR	94	20		mg/Kg	1	5/13/2013	7382

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-002 **Matrix:** SOIL

Client Sample ID: Central OCD-02-05082013
Collection Date: 5/8/2013 9:45:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S						Analyst: **SCC**	
Aroclor 1016	ND	0.10		mg/Kg	1	5/22/2013 7:18:01 PM	7504
Aroclor 1221	ND	0.10		mg/Kg	1	5/22/2013 7:18:01 PM	7504
Aroclor 1232	ND	0.10		mg/Kg	1	5/22/2013 7:18:01 PM	7504
Aroclor 1242	ND	0.10		mg/Kg	1	5/22/2013 7:18:01 PM	7504
Aroclor 1248	ND	0.10		mg/Kg	1	5/22/2013 7:18:01 PM	7504
Aroclor 1254	ND	0.10		mg/Kg	1	5/22/2013 7:18:01 PM	7504
Aroclor 1260	ND	0.10		mg/Kg	1	5/22/2013 7:18:01 PM	7504
Surr: Decachlorobiphenyl	92.0	31.8-151		%REC	1	5/22/2013 7:18:01 PM	7504
Surr: Tetrachloro-m-xylene	80.0	26.2-144		%REC	1	5/22/2013 7:18:01 PM	7504
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	5/11/2013 12:11:44 AM	7366
Toluene	ND	0.049		mg/Kg	1	5/11/2013 12:11:44 AM	7366
Ethylbenzene	ND	0.049		mg/Kg	1	5/11/2013 12:11:44 AM	7366
Xylenes, Total	ND	0.098		mg/Kg	1	5/11/2013 12:11:44 AM	7366
Surr: 4-Bromofluorobenzene	99.0	80-120		%REC	1	5/11/2013 12:11:44 AM	7366
EPA METHOD 8310: PAHS						Analyst: **SCC**	
Naphthalene	ND	2.5		mg/Kg	1	5/28/2013 11:50:21 AM	7505
1-Methylnaphthalene	ND	2.5		mg/Kg	1	5/28/2013 11:50:21 AM	7505
2-Methylnaphthalene	ND	2.5		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Acenaphthylene	ND	2.5		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Acenaphthene	ND	2.5		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Fluorene	ND	0.30		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Phenanthrene	0.26	0.15		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Anthracene	ND	0.15		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Fluoranthene	ND	0.20		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Pyrene	ND	0.25		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Benz(a)anthracene	ND	0.10		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Chrysene	0.44	0.10		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Benzo(b)fluoranthene	0.10	0.10		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Benzo(k)fluoranthene	ND	0.10		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Benzo(a)pyrene	ND	0.10		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Dibenz(a,h)anthracene	ND	0.10		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Benzo(g,h,i)perylene	0.13	0.10		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Indeno(1,2,3-cd)pyrene	0.13	0.10		mg/Kg	1	5/28/2013 11:50:21 AM	7505
Surr: Benzo(e)pyrene	114	36.7-118		%REC	1	5/28/2013 11:50:21 AM	7505
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	4.5	0.30		mg/Kg	1	5/9/2013 3:07:25 PM	7373
Chloride	670	30		mg/Kg	20	5/9/2013 3:19:50 PM	7373
Nitrogen, Nitrate (As N)	13	0.30		mg/Kg	1	5/9/2013 3:07:25 PM	7373

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Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-002 **Matrix:** SOIL

Client Sample ID: Central OCD-02-05082013
Collection Date: 5/8/2013 9:45:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Sulfate	450	30		mg/Kg	20	5/9/2013 3:19:50 PM	7373
EPA METHOD 7471: MERCURY						Analyst: **JLF**	
Mercury	ND	0.033		mg/Kg	1	5/22/2013 9:15:20 AM	7539
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**	
Arsenic	ND	12		mg/Kg	5	5/28/2013 10:36:12 AM	7531
Barium	280	1.0		mg/Kg	10	5/28/2013 10:39:02 AM	7531
Cadmium	ND	0.50		mg/Kg	5	5/28/2013 10:36:12 AM	7531
Chromium	19	1.5		mg/Kg	5	5/28/2013 10:36:12 AM	7531
Copper	2.8	1.5		mg/Kg	5	5/28/2013 10:36:12 AM	7531
Iron	22000	500		mg/Kg	500	5/28/2013 10:41:34 AM	7531
Lead	9.6	1.2		mg/Kg	5	5/28/2013 10:36:12 AM	7531
Manganese	380	1.0		mg/Kg	10	5/28/2013 10:39:02 AM	7531
Selenium	ND	12		mg/Kg	5	5/28/2013 10:36:12 AM	7531
Silver	ND	1.2		mg/Kg	5	5/28/2013 10:36:12 AM	7531
Uranium	ND	25		mg/Kg	5	5/28/2013 10:36:12 AM	7531
Zinc	33	12		mg/Kg	5	5/28/2013 10:36:12 AM	7531
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
4-Chloro-3-methylphenol	ND	1.0		mg/Kg	1	5/22/2013 5:37:26 PM	7537
2-Chlorophenol	ND	0.40		mg/Kg	1	5/22/2013 5:37:26 PM	7537
2,4-Dichlorophenol	ND	0.80		mg/Kg	1	5/22/2013 5:37:26 PM	7537
2,4-Dimethylphenol	ND	0.60		mg/Kg	1	5/22/2013 5:37:26 PM	7537
4,6-Dinitro-2-methylphenol	ND	1.0		mg/Kg	1	5/22/2013 5:37:26 PM	7537
2,4-Dinitrophenol	ND	0.80		mg/Kg	1	5/22/2013 5:37:26 PM	7537
2-Methylphenol	ND	1.0		mg/Kg	1	5/22/2013 5:37:26 PM	7537
3+4-Methylphenol	ND	0.40		mg/Kg	1	5/22/2013 5:37:26 PM	7537
2-Nitrophenol	ND	0.40		mg/Kg	1	5/22/2013 5:37:26 PM	7537
4-Nitrophenol	ND	0.50		mg/Kg	1	5/22/2013 5:37:26 PM	7537
Pentachlorophenol	ND	0.80		mg/Kg	1	5/22/2013 5:37:26 PM	7537
Phenol	ND	0.40		mg/Kg	1	5/22/2013 5:37:26 PM	7537
2,4,5-Trichlorophenol	ND	0.40		mg/Kg	1	5/22/2013 5:37:26 PM	7537
2,4,6-Trichlorophenol	ND	0.40		mg/Kg	1	5/22/2013 5:37:26 PM	7537
Surr: 2,4,6-Tribromophenol	90.1	40.1-130		%REC	1	5/22/2013 5:37:26 PM	7537
Surr: 2-Fluorobiphenyl	74.7	44.4-123		%REC	1	5/22/2013 5:37:26 PM	7537
Surr: 2-Fluorophenol	70.3	41.9-112		%REC	1	5/22/2013 5:37:26 PM	7537
Surr: 4-Terphenyl-d14	79.0	29.6-130		%REC	1	5/22/2013 5:37:26 PM	7537
Surr: Nitrobenzene-d5	82.9	42.4-132		%REC	1	5/22/2013 5:37:26 PM	7537
Surr: Phenol-d5	70.8	44.3-119		%REC	1	5/22/2013 5:37:26 PM	7537
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	

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Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-02-05082013
Project: OCD Land Farm
Collection Date: 5/8/2013 9:45:00 AM
Lab ID: 1305307-002 **Matrix:** SOIL **Received Date:** 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	
Benzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Toluene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Ethylbenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Methyl tert-butyl ether (MTBE)	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,2,4-Trimethylbenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,3,5-Trimethylbenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,2-Dichloroethane (EDC)	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,2-Dibromoethane (EDB)	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Naphthalene	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1-Methylnaphthalene	ND	0.19		mg/Kg	1	5/21/2013 1:59:29 AM	7495
2-Methylnaphthalene	ND	0.19		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Acetone	ND	0.71		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Bromobenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Bromodichloromethane	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Bromoform	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Bromomethane	ND	0.14		mg/Kg	1	5/21/2013 1:59:29 AM	7495
2-Butanone	ND	0.48		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Carbon disulfide	ND	0.48		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Carbon tetrachloride	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Chlorobenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Chloroethane	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Chloroform	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Chloromethane	ND	0.14		mg/Kg	1	5/21/2013 1:59:29 AM	7495
2-Chlorotoluene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
4-Chlorotoluene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
cis-1,2-DCE	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
cis-1,3-Dichloropropene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,2-Dibromo-3-chloropropane	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Dibromochloromethane	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Dibromomethane	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,2-Dichlorobenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,3-Dichlorobenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,4-Dichlorobenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Dichlorodifluoromethane	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,1-Dichloroethane	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,1-Dichloroethene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,2-Dichloropropane	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,3-Dichloropropane	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
2,2-Dichloropropane	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,1-Dichloropropene	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-002 **Matrix:** SOIL

Client Sample ID: Central OCD-02-05082013
Collection Date: 5/8/2013 9:45:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	
Hexachlorobutadiene	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495
2-Hexanone	ND	0.48		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Isopropylbenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
4-Isopropyltoluene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
4-Methyl-2-pentanone	ND	0.48		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Methylene chloride	ND	0.14		mg/Kg	1	5/21/2013 1:59:29 AM	7495
n-Butylbenzene	ND	0.14		mg/Kg	1	5/21/2013 1:59:29 AM	7495
n-Propylbenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
sec-Butylbenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Styrene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
tert-Butylbenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,1,1,2-Tetrachloroethane	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,1,2,2-Tetrachloroethane	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Tetrachloroethene (PCE)	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
trans-1,2-DCE	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
trans-1,3-Dichloropropene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,2,3-Trichlorobenzene	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,2,4-Trichlorobenzene	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,1,1-Trichloroethane	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,1,2-Trichloroethane	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Trichloroethene (TCE)	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Trichlorofluoromethane	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
1,2,3-Trichloropropane	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Vinyl chloride	ND	0.048		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Xylenes, Total	ND	0.095		mg/Kg	1	5/21/2013 1:59:29 AM	7495
Surr: 1,2-Dichloroethane-d4	87.8	70-130		%REC	1	5/21/2013 1:59:29 AM	7495
Surr: 4-Bromofluorobenzene	83.7	70-130		%REC	1	5/21/2013 1:59:29 AM	7495
Surr: Dibromofluoromethane	93.5	70-130		%REC	1	5/21/2013 1:59:29 AM	7495
Surr: Toluene-d8	94.9	70-130		%REC	1	5/21/2013 1:59:29 AM	7495
EPA METHOD 418.1: TPH						Analyst: **LRW**	
Petroleum Hydrocarbons, TR	740	20		mg/Kg	1	5/13/2013	7382

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-003 **Matrix:** SOIL

Client Sample ID: Central OCD-03-05082013
Collection Date: 5/8/2013 10:10:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S						Analyst: **SCC**	
Aroclor 1016	ND	0.020		mg/Kg	1	5/22/2013 8:00:02 PM	7504
Aroclor 1221	ND	0.020		mg/Kg	1	5/22/2013 8:00:02 PM	7504
Aroclor 1232	ND	0.020		mg/Kg	1	5/22/2013 8:00:02 PM	7504
Aroclor 1242	ND	0.020		mg/Kg	1	5/22/2013 8:00:02 PM	7504
Aroclor 1248	ND	0.020		mg/Kg	1	5/22/2013 8:00:02 PM	7504
Aroclor 1254	ND	0.020		mg/Kg	1	5/22/2013 8:00:02 PM	7504
Aroclor 1260	ND	0.020		mg/Kg	1	5/22/2013 8:00:02 PM	7504
Surr: Decachlorobiphenyl	62.8	31.8-151		%REC	1	5/22/2013 8:00:02 PM	7504
Surr: Tetrachloro-m-xylene	54.8	26.2-144		%REC	1	5/22/2013 8:00:02 PM	7504
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	5/11/2013 12:42:01 AM	7366
Toluene	ND	0.048		mg/Kg	1	5/11/2013 12:42:01 AM	7366
Ethylbenzene	ND	0.048		mg/Kg	1	5/11/2013 12:42:01 AM	7366
Xylenes, Total	ND	0.095		mg/Kg	1	5/11/2013 12:42:01 AM	7366
Surr: 4-Bromofluorobenzene	98.2	80-120		%REC	1	5/11/2013 12:42:01 AM	7366
EPA METHOD 8310: PAHS						Analyst: **SCC**	
Naphthalene	ND	1.3		mg/Kg	5	5/28/2013 12:19:38 PM	7505
1-Methylnaphthalene	ND	1.3		mg/Kg	5	5/28/2013 12:19:38 PM	7505
2-Methylnaphthalene	ND	1.3		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Acenaphthylene	ND	1.3		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Acenaphthene	ND	1.3		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Fluorene	ND	0.15		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Phenanthrene	ND	0.075		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Anthracene	ND	0.075		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Fluoranthene	ND	0.10		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Pyrene	ND	0.13		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Benz(a)anthracene	ND	0.050		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Chrysene	ND	0.050		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Benzo(b)fluoranthene	ND	0.050		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Benzo(k)fluoranthene	ND	0.050		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Benzo(a)pyrene	ND	0.050		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Dibenz(a,h)anthracene	ND	0.050		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Benzo(g,h,i)perylene	ND	0.050		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Indeno(1,2,3-cd)pyrene	ND	0.050		mg/Kg	5	5/28/2013 12:19:38 PM	7505
Surr: Benzo(e)pyrene	92.5	36.7-118		%REC	5	5/28/2013 12:19:38 PM	7505
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	2.7	0.30		mg/Kg	1	5/9/2013 3:32:14 PM	7373
Chloride	280	30		mg/Kg	20	5/9/2013 3:44:38 PM	7373
Nitrogen, Nitrate (As N)	0.34	0.30		mg/Kg	1	5/9/2013 3:32:14 PM	7373

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-003 **Matrix:** SOIL

Client Sample ID: Central OCD-03-05082013
Collection Date: 5/8/2013 10:10:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Sulfate	530	30		mg/Kg	20	5/9/2013 3:44:38 PM	7373
EPA METHOD 7471: MERCURY						Analyst: **JLF**	
Mercury	ND	0.033		mg/Kg	1	5/22/2013 9:17:09 AM	7539
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**	
Arsenic	ND	12		mg/Kg	5	5/28/2013 10:54:08 AM	7531
Barium	290	1.0		mg/Kg	10	5/28/2013 10:56:38 AM	7531
Cadmium	ND	0.50		mg/Kg	5	5/28/2013 10:54:08 AM	7531
Chromium	18	1.5		mg/Kg	5	5/28/2013 10:54:08 AM	7531
Copper	4.6	1.5		mg/Kg	5	5/31/2013 4:32:11 PM	7531
Iron	21000	500		mg/Kg	500	5/28/2013 10:59:09 AM	7531
Lead	3.2	1.2		mg/Kg	5	5/28/2013 10:54:08 AM	7531
Manganese	380	1.0		mg/Kg	10	5/28/2013 10:56:38 AM	7531
Selenium	ND	12		mg/Kg	5	5/28/2013 10:54:08 AM	7531
Silver	ND	1.2		mg/Kg	5	5/28/2013 10:54:08 AM	7531
Uranium	ND	25		mg/Kg	5	5/28/2013 10:54:08 AM	7531
Zinc	31	12		mg/Kg	5	5/28/2013 10:54:08 AM	7531
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	5/22/2013 6:08:31 PM	7537
2-Chlorophenol	ND	0.20		mg/Kg	1	5/22/2013 6:08:31 PM	7537
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	5/22/2013 6:08:31 PM	7537
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	5/22/2013 6:08:31 PM	7537
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	5/22/2013 6:08:31 PM	7537
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	5/22/2013 6:08:31 PM	7537
2-Methylphenol	ND	0.50		mg/Kg	1	5/22/2013 6:08:31 PM	7537
3+4-Methylphenol	ND	0.20		mg/Kg	1	5/22/2013 6:08:31 PM	7537
2-Nitrophenol	ND	0.20		mg/Kg	1	5/22/2013 6:08:31 PM	7537
4-Nitrophenol	ND	0.25		mg/Kg	1	5/22/2013 6:08:31 PM	7537
Pentachlorophenol	ND	0.40		mg/Kg	1	5/22/2013 6:08:31 PM	7537
Phenol	ND	0.20		mg/Kg	1	5/22/2013 6:08:31 PM	7537
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	5/22/2013 6:08:31 PM	7537
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	5/22/2013 6:08:31 PM	7537
Surr: 2,4,6-Tribromophenol	86.6	40.1-130		%REC	1	5/22/2013 6:08:31 PM	7537
Surr: 2-Fluorobiphenyl	78.3	44.4-123		%REC	1	5/22/2013 6:08:31 PM	7537
Surr: 2-Fluorophenol	60.6	41.9-112		%REC	1	5/22/2013 6:08:31 PM	7537
Surr: 4-Terphenyl-d14	78.9	29.6-130		%REC	1	5/22/2013 6:08:31 PM	7537
Surr: Nitrobenzene-d5	82.0	42.4-132		%REC	1	5/22/2013 6:08:31 PM	7537
Surr: Phenol-d5	72.1	44.3-119		%REC	1	5/22/2013 6:08:31 PM	7537
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-003 **Matrix:** SOIL

Client Sample ID: Central OCD-03-05082013
Collection Date: 5/8/2013 10:10:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	
Benzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Toluene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Ethylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Methyl tert-butyl ether (MTBE)	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,2,4-Trimethylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,3,5-Trimethylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,2-Dichloroethane (EDC)	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,2-Dibromoethane (EDB)	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Naphthalene	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1-Methylnaphthalene	ND	0.19		mg/Kg	1	5/21/2013 2:28:09 AM	7495
2-Methylnaphthalene	ND	0.19		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Acetone	ND	0.69		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Bromobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Bromodichloromethane	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Bromoform	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Bromomethane	ND	0.14		mg/Kg	1	5/21/2013 2:28:09 AM	7495
2-Butanone	ND	0.46		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Carbon disulfide	ND	0.46		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Carbon tetrachloride	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Chlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Chloroethane	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Chloroform	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Chloromethane	ND	0.14		mg/Kg	1	5/21/2013 2:28:09 AM	7495
2-Chlorotoluene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
4-Chlorotoluene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
cis-1,2-DCE	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
cis-1,3-Dichloropropene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,2-Dibromo-3-chloropropane	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Dibromochloromethane	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Dibromomethane	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,2-Dichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,3-Dichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,4-Dichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Dichlorodifluoromethane	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,1-Dichloroethane	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,1-Dichloroethene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,2-Dichloropropane	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,3-Dichloropropane	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
2,2-Dichloropropane	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,1-Dichloropropene	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-003 **Matrix:** SOIL

Client Sample ID: Central OCD-03-05082013
Collection Date: 5/8/2013 10:10:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	
Hexachlorobutadiene	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495
2-Hexanone	ND	0.46		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Isopropylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
4-Isopropyltoluene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
4-Methyl-2-pentanone	ND	0.46		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Methylene chloride	ND	0.14		mg/Kg	1	5/21/2013 2:28:09 AM	7495
n-Butylbenzene	ND	0.14		mg/Kg	1	5/21/2013 2:28:09 AM	7495
n-Propylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
sec-Butylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Styrene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
tert-Butylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,1,1,2-Tetrachloroethane	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,1,2,2-Tetrachloroethane	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Tetrachloroethene (PCE)	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
trans-1,2-DCE	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
trans-1,3-Dichloropropene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,2,3-Trichlorobenzene	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,2,4-Trichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,1,1-Trichloroethane	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,1,2-Trichloroethane	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Trichloroethene (TCE)	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Trichlorofluoromethane	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
1,2,3-Trichloropropane	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Vinyl chloride	ND	0.046		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Xylenes, Total	ND	0.093		mg/Kg	1	5/21/2013 2:28:09 AM	7495
Surr: 1,2-Dichloroethane-d4	85.4	70-130		%REC	1	5/21/2013 2:28:09 AM	7495
Surr: 4-Bromofluorobenzene	86.7	70-130		%REC	1	5/21/2013 2:28:09 AM	7495
Surr: Dibromofluoromethane	92.7	70-130		%REC	1	5/21/2013 2:28:09 AM	7495
Surr: Toluene-d8	97.1	70-130		%REC	1	5/21/2013 2:28:09 AM	7495
EPA METHOD 418.1: TPH						Analyst: **LRW**	
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	5/13/2013	7382

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-004 **Matrix:** SOIL

Client Sample ID: Central OCD-04-05082013
Collection Date: 5/8/2013 11:05:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S						Analyst: **SCC**	
Aroclor 1016	ND	0.020		mg/Kg	1	5/22/2013 9:39:40 PM	7504
Aroclor 1221	ND	0.020		mg/Kg	1	5/22/2013 9:39:40 PM	7504
Aroclor 1232	ND	0.020		mg/Kg	1	5/22/2013 9:39:40 PM	7504
Aroclor 1242	ND	0.020		mg/Kg	1	5/22/2013 9:39:40 PM	7504
Aroclor 1248	ND	0.020		mg/Kg	1	5/22/2013 9:39:40 PM	7504
Aroclor 1254	ND	0.020		mg/Kg	1	5/22/2013 9:39:40 PM	7504
Aroclor 1260	ND	0.020		mg/Kg	1	5/22/2013 9:39:40 PM	7504
Surr: Decachlorobiphenyl	121	31.8-151		%REC	1	5/22/2013 9:39:40 PM	7504
Surr: Tetrachloro-m-xylene	97.2	26.2-144		%REC	1	5/22/2013 9:39:40 PM	7504
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	5/11/2013 1:12:12 AM	7366
Toluene	ND	0.049		mg/Kg	1	5/11/2013 1:12:12 AM	7366
Ethylbenzene	ND	0.049		mg/Kg	1	5/11/2013 1:12:12 AM	7366
Xylenes, Total	ND	0.097		mg/Kg	1	5/11/2013 1:12:12 AM	7366
Surr: 4-Bromofluorobenzene	99.6	80-120		%REC	1	5/11/2013 1:12:12 AM	7366
EPA METHOD 8310: PAHS						Analyst: **SCC**	
Naphthalene	ND	1.3		mg/Kg	5	5/28/2013 12:48:55 PM	7505
1-Methylnaphthalene	ND	1.3		mg/Kg	5	5/28/2013 12:48:55 PM	7505
2-Methylnaphthalene	ND	1.3		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Acenaphthylene	ND	1.3		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Acenaphthene	ND	1.3		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Fluorene	ND	0.15		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Phenanthrene	ND	0.075		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Anthracene	ND	0.075		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Fluoranthene	ND	0.10		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Pyrene	ND	0.13		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Benz(a)anthracene	ND	0.050		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Chrysene	ND	0.050		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Benzo(b)fluoranthene	ND	0.050		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Benzo(k)fluoranthene	ND	0.050		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Benzo(a)pyrene	ND	0.050		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Dibenz(a,h)anthracene	ND	0.050		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Benzo(g,h,i)perylene	ND	0.050		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Indeno(1,2,3-cd)pyrene	ND	0.050		mg/Kg	5	5/28/2013 12:48:55 PM	7505
Surr: Benzo(e)pyrene	115	36.7-118		%REC	5	5/28/2013 12:48:55 PM	7505
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	3.7	1.5		mg/Kg	5	5/9/2013 3:57:02 PM	7373
Chloride	180	7.5		mg/Kg	5	5/9/2013 3:57:02 PM	7373
Nitrogen, Nitrate (As N)	14	1.5		mg/Kg	5	5/9/2013 3:57:02 PM	7373

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Central OCD-04-05082013
Project: OCD Land Farm
Collection Date: 5/8/2013 11:05:00 AM
Lab ID: 1305307-004 **Matrix:** SOIL **Received Date:** 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Sulfate	570	7.5		mg/Kg	5	5/9/2013 3:57:02 PM	7373
EPA METHOD 7471: MERCURY						Analyst: **JLF**	
Mercury	ND	0.033		mg/Kg	1	5/22/2013 9:22:40 AM	7539
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**	
Arsenic	ND	12		mg/Kg	5	5/28/2013 11:01:50 AM	7531
Barium	140	2.0		mg/Kg	20	5/31/2013 4:46:38 PM	7531
Cadmium	ND	0.50		mg/Kg	5	5/28/2013 11:01:50 AM	7531
Chromium	14	1.5		mg/Kg	5	5/28/2013 11:01:50 AM	7531
Copper	3.7	1.5		mg/Kg	5	5/31/2013 4:34:59 PM	7531
Iron	17000	500		mg/Kg	500	5/28/2013 11:14:35 AM	7531
Lead	1.8	1.2		mg/Kg	5	5/28/2013 11:01:50 AM	7531
Manganese	560	2.0		mg/Kg	20	5/31/2013 4:46:38 PM	7531
Selenium	ND	12		mg/Kg	5	5/31/2013 4:34:59 PM	7531
Silver	ND	1.2		mg/Kg	5	5/28/2013 11:01:50 AM	7531
Uranium	ND	25		mg/Kg	5	5/28/2013 11:01:50 AM	7531
Zinc	21	12		mg/Kg	5	5/28/2013 11:01:50 AM	7531
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
4-Chloro-3-methylphenol	ND	0.50		mg/Kg	1	5/22/2013 6:39:33 PM	7537
2-Chlorophenol	ND	0.20		mg/Kg	1	5/22/2013 6:39:33 PM	7537
2,4-Dichlorophenol	ND	0.40		mg/Kg	1	5/22/2013 6:39:33 PM	7537
2,4-Dimethylphenol	ND	0.30		mg/Kg	1	5/22/2013 6:39:33 PM	7537
4,6-Dinitro-2-methylphenol	ND	0.50		mg/Kg	1	5/22/2013 6:39:33 PM	7537
2,4-Dinitrophenol	ND	0.40		mg/Kg	1	5/22/2013 6:39:33 PM	7537
2-Methylphenol	ND	0.50		mg/Kg	1	5/22/2013 6:39:33 PM	7537
3+4-Methylphenol	ND	0.20		mg/Kg	1	5/22/2013 6:39:33 PM	7537
2-Nitrophenol	ND	0.20		mg/Kg	1	5/22/2013 6:39:33 PM	7537
4-Nitrophenol	ND	0.25		mg/Kg	1	5/22/2013 6:39:33 PM	7537
Pentachlorophenol	ND	0.40		mg/Kg	1	5/22/2013 6:39:33 PM	7537
Phenol	ND	0.20		mg/Kg	1	5/22/2013 6:39:33 PM	7537
2,4,5-Trichlorophenol	ND	0.20		mg/Kg	1	5/22/2013 6:39:33 PM	7537
2,4,6-Trichlorophenol	ND	0.20		mg/Kg	1	5/22/2013 6:39:33 PM	7537
Surr: 2,4,6-Tribromophenol	79.4	40.1-130		%REC	1	5/22/2013 6:39:33 PM	7537
Surr: 2-Fluorobiphenyl	68.8	44.4-123		%REC	1	5/22/2013 6:39:33 PM	7537
Surr: 2-Fluorophenol	54.0	41.9-112		%REC	1	5/22/2013 6:39:33 PM	7537
Surr: 4-Terphenyl-d14	75.6	29.6-130		%REC	1	5/22/2013 6:39:33 PM	7537
Surr: Nitrobenzene-d5	67.3	42.4-132		%REC	1	5/22/2013 6:39:33 PM	7537
Surr: Phenol-d5	68.0	44.3-119		%REC	1	5/22/2013 6:39:33 PM	7537
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	

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Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-004 **Matrix:** SOIL

Client Sample ID: Central OCD-04-05082013
Collection Date: 5/8/2013 11:05:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	
Benzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Toluene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Ethylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Methyl tert-butyl ether (MTBE)	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,2,4-Trimethylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,3,5-Trimethylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,2-Dichloroethane (EDC)	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,2-Dibromoethane (EDB)	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Naphthalene	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1-Methylnaphthalene	ND	0.19		mg/Kg	1	5/21/2013 2:56:25 AM	7495
2-Methylnaphthalene	ND	0.19		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Acetone	ND	0.69		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Bromobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Bromodichloromethane	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Bromoform	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Bromomethane	ND	0.14		mg/Kg	1	5/21/2013 2:56:25 AM	7495
2-Butanone	ND	0.46		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Carbon disulfide	ND	0.46		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Carbon tetrachloride	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Chlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Chloroethane	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Chloroform	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Chloromethane	ND	0.14		mg/Kg	1	5/21/2013 2:56:25 AM	7495
2-Chlorotoluene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
4-Chlorotoluene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
cis-1,2-DCE	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
cis-1,3-Dichloropropene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,2-Dibromo-3-chloropropane	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Dibromochloromethane	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Dibromomethane	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,2-Dichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,3-Dichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,4-Dichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Dichlorodifluoromethane	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,1-Dichloroethane	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,1-Dichloroethene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,2-Dichloropropane	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,3-Dichloropropane	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
2,2-Dichloropropane	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,1-Dichloropropene	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-004 **Matrix:** SOIL

Client Sample ID: Central OCD-04-05082013
Collection Date: 5/8/2013 11:05:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	
Hexachlorobutadiene	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495
2-Hexanone	ND	0.46		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Isopropylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
4-Isopropyltoluene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
4-Methyl-2-pentanone	ND	0.46		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Methylene chloride	ND	0.14		mg/Kg	1	5/21/2013 2:56:25 AM	7495
n-Butylbenzene	ND	0.14		mg/Kg	1	5/21/2013 2:56:25 AM	7495
n-Propylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
sec-Butylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Styrene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
tert-Butylbenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,1,1,2-Tetrachloroethane	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,1,2,2-Tetrachloroethane	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Tetrachloroethene (PCE)	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
trans-1,2-DCE	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
trans-1,3-Dichloropropene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,2,3-Trichlorobenzene	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,2,4-Trichlorobenzene	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,1,1-Trichloroethane	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,1,2-Trichloroethane	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Trichloroethene (TCE)	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Trichlorofluoromethane	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
1,2,3-Trichloropropane	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Vinyl chloride	ND	0.046		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Xylenes, Total	ND	0.093		mg/Kg	1	5/21/2013 2:56:25 AM	7495
Surr: 1,2-Dichloroethane-d4	86.0	70-130		%REC	1	5/21/2013 2:56:25 AM	7495
Surr: 4-Bromofluorobenzene	84.5	70-130		%REC	1	5/21/2013 2:56:25 AM	7495
Surr: Dibromofluoromethane	91.6	70-130		%REC	1	5/21/2013 2:56:25 AM	7495
Surr: Toluene-d8	93.4	70-130		%REC	1	5/21/2013 2:56:25 AM	7495
EPA METHOD 418.1: TPH						Analyst: **LRW**	
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	5/13/2013	7382

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Qualifiers:

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E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-05082013
Project: OCD Land Farm
Collection Date: 5/8/2013
Lab ID: 1305307-007
Matrix: SOIL
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S						Analyst: **SCC**	
Aroclor 1016	ND	0.020		mg/Kg	1	5/22/2013 11:55:34 PM	7504
Aroclor 1221	ND	0.020		mg/Kg	1	5/22/2013 11:55:34 PM	7504
Aroclor 1232	ND	0.020		mg/Kg	1	5/22/2013 11:55:34 PM	7504
Aroclor 1242	ND	0.020		mg/Kg	1	5/22/2013 11:55:34 PM	7504
Aroclor 1248	ND	0.020		mg/Kg	1	5/22/2013 11:55:34 PM	7504
Aroclor 1254	ND	0.020		mg/Kg	1	5/22/2013 11:55:34 PM	7504
Aroclor 1260	ND	0.020		mg/Kg	1	5/22/2013 11:55:34 PM	7504
Surr: Decachlorobiphenyl	121	31.8-151		%REC	1	5/22/2013 11:55:34 PM	7504
Surr: Tetrachloro-m-xylene	110	26.2-144		%REC	1	5/22/2013 11:55:34 PM	7504
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	5/11/2013 2:42:54 AM	7366
Toluene	ND	0.048		mg/Kg	1	5/11/2013 2:42:54 AM	7366
Ethylbenzene	ND	0.048		mg/Kg	1	5/11/2013 2:42:54 AM	7366
Xylenes, Total	ND	0.096		mg/Kg	1	5/11/2013 2:42:54 AM	7366
Surr: 4-Bromofluorobenzene	96.8	80-120		%REC	1	5/11/2013 2:42:54 AM	7366
EPA METHOD 8310: PAHS						Analyst: **SCC**	
Naphthalene	ND	1.2		mg/Kg	5	5/28/2013 1:18:13 PM	7505
1-Methylnaphthalene	ND	1.2		mg/Kg	5	5/28/2013 1:18:13 PM	7505
2-Methylnaphthalene	ND	1.2		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Acenaphthylene	ND	1.2		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Acenaphthene	ND	1.2		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Fluorene	ND	0.15		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Phenanthrene	ND	0.075		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Anthracene	ND	0.075		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Fluoranthene	ND	0.099		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Pyrene	ND	0.12		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Benz(a)anthracene	ND	0.050		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Chrysene	ND	0.050		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Benzo(b)fluoranthene	ND	0.050		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Benzo(k)fluoranthene	ND	0.050		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Benzo(a)pyrene	ND	0.050		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Dibenz(a,h)anthracene	ND	0.050		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Benzo(g,h,i)perylene	0.055	0.050		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Indeno(1,2,3-cd)pyrene	ND	0.050		mg/Kg	5	5/28/2013 1:18:13 PM	7505
Surr: Benzo(e)pyrene	87.5	36.7-118		%REC	5	5/28/2013 1:18:13 PM	7505
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	3.6	1.5		mg/Kg	5	5/9/2013 5:11:30 PM	7373
Chloride	260	30		mg/Kg	20	5/9/2013 5:23:54 PM	7373
Nitrogen, Nitrate (As N)	ND	1.5		mg/Kg	5	5/9/2013 5:11:30 PM	7373

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-05082013
Project: OCD Land Farm
Collection Date: 5/8/2013
Lab ID: 1305307-007
Matrix: SOIL
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Sulfate	390	7.5		mg/Kg	5	5/9/2013 5:11:30 PM	7373
EPA METHOD 7471: MERCURY						Analyst: **JLF**	
Mercury	ND	0.033		mg/Kg	1	5/22/2013 9:28:10 AM	7539
EPA METHOD 6010B: SOIL METALS						Analyst: **JLF**	
Arsenic	ND	12		mg/Kg	5	5/31/2013 4:49:25 PM	7531
Barium	300	1.0		mg/Kg	10	5/31/2013 4:52:14 PM	7531
Cadmium	ND	0.50		mg/Kg	5	5/28/2013 11:29:37 AM	7531
Chromium	18	1.5		mg/Kg	5	5/31/2013 4:49:25 PM	7531
Copper	4.3	1.5		mg/Kg	5	5/31/2013 4:49:25 PM	7531
Iron	21000	500		mg/Kg	500	5/31/2013 4:55:08 PM	7531
Lead	1.9	1.2		mg/Kg	5	5/31/2013 4:49:25 PM	7531
Manganese	400	1.0		mg/Kg	10	5/31/2013 4:52:14 PM	7531
Selenium	ND	12		mg/Kg	5	5/31/2013 4:49:25 PM	7531
Silver	ND	1.2		mg/Kg	5	5/28/2013 11:29:37 AM	7531
Uranium	ND	25		mg/Kg	5	5/28/2013 11:29:37 AM	7531
Zinc	27	12		mg/Kg	5	5/31/2013 4:49:25 PM	7531
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**	
4-Chloro-3-methylphenol	ND	0.99		mg/Kg	1	5/22/2013 8:12:32 PM	7537
2-Chlorophenol	ND	0.40		mg/Kg	1	5/22/2013 8:12:32 PM	7537
2,4-Dichlorophenol	ND	0.80		mg/Kg	1	5/22/2013 8:12:32 PM	7537
2,4-Dimethylphenol	ND	0.60		mg/Kg	1	5/22/2013 8:12:32 PM	7537
4,6-Dinitro-2-methylphenol	ND	0.99		mg/Kg	1	5/22/2013 8:12:32 PM	7537
2,4-Dinitrophenol	ND	0.80		mg/Kg	1	5/22/2013 8:12:32 PM	7537
2-Methylphenol	ND	0.99		mg/Kg	1	5/22/2013 8:12:32 PM	7537
3+4-Methylphenol	ND	0.40		mg/Kg	1	5/22/2013 8:12:32 PM	7537
2-Nitrophenol	ND	0.40		mg/Kg	1	5/22/2013 8:12:32 PM	7537
4-Nitrophenol	ND	0.50		mg/Kg	1	5/22/2013 8:12:32 PM	7537
Pentachlorophenol	ND	0.80		mg/Kg	1	5/22/2013 8:12:32 PM	7537
Phenol	ND	0.40		mg/Kg	1	5/22/2013 8:12:32 PM	7537
2,4,5-Trichlorophenol	ND	0.40		mg/Kg	1	5/22/2013 8:12:32 PM	7537
2,4,6-Trichlorophenol	ND	0.40		mg/Kg	1	5/22/2013 8:12:32 PM	7537
Surr: 2,4,6-Tribromophenol	96.5	40.1-130		%REC	1	5/22/2013 8:12:32 PM	7537
Surr: 2-Fluorobiphenyl	79.0	44.4-123		%REC	1	5/22/2013 8:12:32 PM	7537
Surr: 2-Fluorophenol	77.4	41.9-112		%REC	1	5/22/2013 8:12:32 PM	7537
Surr: 4-Terphenyl-d14	86.9	29.6-130		%REC	1	5/22/2013 8:12:32 PM	7537
Surr: Nitrobenzene-d5	82.9	42.4-132		%REC	1	5/22/2013 8:12:32 PM	7537
Surr: Phenol-d5	77.1	44.3-119		%REC	1	5/22/2013 8:12:32 PM	7537
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BD-05082013
Project: OCD Land Farm
Collection Date: 5/8/2013
Lab ID: 1305307-007
Matrix: SOIL
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	
Benzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Toluene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Ethylbenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Methyl tert-butyl ether (MTBE)	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,2,4-Trimethylbenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,3,5-Trimethylbenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,2-Dichloroethane (EDC)	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,2-Dibromoethane (EDB)	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Naphthalene	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1-Methylnaphthalene	ND	0.19		mg/Kg	1	5/21/2013 3:24:37 AM	7495
2-Methylnaphthalene	ND	0.19		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Acetone	ND	0.70		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Bromobenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Bromodichloromethane	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Bromoform	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Bromomethane	ND	0.14		mg/Kg	1	5/21/2013 3:24:37 AM	7495
2-Butanone	ND	0.47		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Carbon disulfide	ND	0.47		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Carbon tetrachloride	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Chlorobenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Chloroethane	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Chloroform	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Chloromethane	ND	0.14		mg/Kg	1	5/21/2013 3:24:37 AM	7495
2-Chlorotoluene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
4-Chlorotoluene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
cis-1,2-DCE	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
cis-1,3-Dichloropropene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,2-Dibromo-3-chloropropane	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Dibromochloromethane	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Dibromomethane	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,2-Dichlorobenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,3-Dichlorobenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,4-Dichlorobenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Dichlorodifluoromethane	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,1-Dichloroethane	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,1-Dichloroethene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,2-Dichloropropane	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,3-Dichloropropane	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
2,2-Dichloropropane	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,1-Dichloropropene	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-007 **Matrix:** SOIL

Client Sample ID: BD-05082013
Collection Date: 5/8/2013
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DAM**	
Hexachlorobutadiene	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495
2-Hexanone	ND	0.47		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Isopropylbenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
4-Isopropyltoluene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
4-Methyl-2-pentanone	ND	0.47		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Methylene chloride	ND	0.14		mg/Kg	1	5/21/2013 3:24:37 AM	7495
n-Butylbenzene	ND	0.14		mg/Kg	1	5/21/2013 3:24:37 AM	7495
n-Propylbenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
sec-Butylbenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Styrene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
tert-Butylbenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,1,1,2-Tetrachloroethane	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,1,2,2-Tetrachloroethane	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Tetrachloroethene (PCE)	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
trans-1,2-DCE	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
trans-1,3-Dichloropropene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,2,3-Trichlorobenzene	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,2,4-Trichlorobenzene	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,1,1-Trichloroethane	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,1,2-Trichloroethane	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Trichloroethene (TCE)	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Trichlorofluoromethane	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
1,2,3-Trichloropropane	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Vinyl chloride	ND	0.047		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Xylenes, Total	ND	0.094		mg/Kg	1	5/21/2013 3:24:37 AM	7495
Surr: 1,2-Dichloroethane-d4	86.2	70-130		%REC	1	5/21/2013 3:24:37 AM	7495
Surr: 4-Bromofluorobenzene	82.9	70-130		%REC	1	5/21/2013 3:24:37 AM	7495
Surr: Dibromofluoromethane	88.8	70-130		%REC	1	5/21/2013 3:24:37 AM	7495
Surr: Toluene-d8	97.3	70-130		%REC	1	5/21/2013 3:24:37 AM	7495
EPA METHOD 418.1: TPH						Analyst: **LRW**	
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	5/13/2013	7382

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-008 **Matrix:** AQUEOUS

Client Sample ID: FB-05082013
Collection Date: 5/8/2013 11:15:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CWS**	
Benzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Toluene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Ethylbenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Naphthalene	ND	2.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1-Methylnaphthalene	ND	4.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
2-Methylnaphthalene	ND	4.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Acetone	ND	10		µg/L	1	5/9/2013 4:22:09 PM	R10534
Bromobenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Bromodichloromethane	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Bromoform	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Bromomethane	ND	3.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
2-Butanone	ND	10		µg/L	1	5/9/2013 4:22:09 PM	R10534
Carbon disulfide	ND	10		µg/L	1	5/9/2013 4:22:09 PM	R10534
Carbon Tetrachloride	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Chlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Chloroethane	ND	2.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Chloroform	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Chloromethane	ND	3.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
2-Chlorotoluene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
4-Chlorotoluene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
cis-1,2-DCE	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Dibromochloromethane	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Dibromomethane	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,1-Dichloroethane	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,1-Dichloroethene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,2-Dichloropropane	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,3-Dichloropropane	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
2,2-Dichloropropane	ND	2.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,1-Dichloropropene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-008 **Matrix:** AQUEOUS

Client Sample ID: FB-05082013
Collection Date: 5/8/2013 11:15:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CWS**	
Hexachlorobutadiene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
2-Hexanone	ND	10		µg/L	1	5/9/2013 4:22:09 PM	R10534
Isopropylbenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
4-Isopropyltoluene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
4-Methyl-2-pentanone	ND	10		µg/L	1	5/9/2013 4:22:09 PM	R10534
Methylene Chloride	ND	3.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
n-Butylbenzene	ND	3.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
n-Propylbenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
sec-Butylbenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Styrene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
tert-Butylbenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
trans-1,2-DCE	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Trichlorofluoromethane	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Vinyl chloride	ND	1.0		µg/L	1	5/9/2013 4:22:09 PM	R10534
Xylenes, Total	ND	1.5		µg/L	1	5/9/2013 4:22:09 PM	R10534
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	5/9/2013 4:22:09 PM	R10534
Surr: 4-Bromofluorobenzene	117	69.5-130		%REC	1	5/9/2013 4:22:09 PM	R10534
Surr: Dibromofluoromethane	106	70-130		%REC	1	5/9/2013 4:22:09 PM	R10534
Surr: Toluene-d8	94.7	70-130		%REC	1	5/9/2013 4:22:09 PM	R10534

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-009 **Matrix:** AQUEOUS

Client Sample ID: EB-05082013
Collection Date: 5/8/2013 11:20:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CWS**	
Benzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Toluene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Ethylbenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Naphthalene	ND	2.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1-Methylnaphthalene	ND	4.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
2-Methylnaphthalene	ND	4.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Acetone	ND	10		µg/L	1	5/9/2013 4:50:47 PM	R10534
Bromobenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Bromodichloromethane	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Bromoform	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Bromomethane	ND	3.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
2-Butanone	ND	10		µg/L	1	5/9/2013 4:50:47 PM	R10534
Carbon disulfide	ND	10		µg/L	1	5/9/2013 4:50:47 PM	R10534
Carbon Tetrachloride	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Chlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Chloroethane	ND	2.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Chloroform	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Chloromethane	ND	3.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
2-Chlorotoluene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
4-Chlorotoluene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
cis-1,2-DCE	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Dibromochloromethane	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Dibromomethane	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,1-Dichloroethane	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,1-Dichloroethene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,2-Dichloropropane	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,3-Dichloropropane	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
2,2-Dichloropropane	ND	2.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,1-Dichloropropene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-009 **Matrix:** AQUEOUS

Client Sample ID: EB-05082013
Collection Date: 5/8/2013 11:20:00 AM
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CWS**	
Hexachlorobutadiene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
2-Hexanone	ND	10		µg/L	1	5/9/2013 4:50:47 PM	R10534
Isopropylbenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
4-Isopropyltoluene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
4-Methyl-2-pentanone	ND	10		µg/L	1	5/9/2013 4:50:47 PM	R10534
Methylene Chloride	ND	3.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
n-Butylbenzene	ND	3.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
n-Propylbenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
sec-Butylbenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Styrene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
tert-Butylbenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
trans-1,2-DCE	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Trichlorofluoromethane	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Vinyl chloride	ND	1.0		µg/L	1	5/9/2013 4:50:47 PM	R10534
Xylenes, Total	ND	1.5		µg/L	1	5/9/2013 4:50:47 PM	R10534
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	5/9/2013 4:50:47 PM	R10534
Surr: 4-Bromofluorobenzene	110	69.5-130		%REC	1	5/9/2013 4:50:47 PM	R10534
Surr: Dibromofluoromethane	110	70-130		%REC	1	5/9/2013 4:50:47 PM	R10534
Surr: Toluene-d8	94.6	70-130		%REC	1	5/9/2013 4:50:47 PM	R10534

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1305307**
Date Reported: **6/14/2013**

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-010
Client Sample ID: Trip Blank
Collection Date:
Matrix: TRIP BLANK
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CWS**	
Benzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Toluene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Ethylbenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Naphthalene	ND	2.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1-Methylnaphthalene	ND	4.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
2-Methylnaphthalene	ND	4.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Acetone	ND	10		µg/L	1	5/9/2013 5:19:22 PM	R10534
Bromobenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Bromodichloromethane	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Bromoform	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Bromomethane	ND	3.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
2-Butanone	ND	10		µg/L	1	5/9/2013 5:19:22 PM	R10534
Carbon disulfide	ND	10		µg/L	1	5/9/2013 5:19:22 PM	R10534
Carbon Tetrachloride	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Chlorobenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Chloroethane	ND	2.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Chloroform	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Chloromethane	ND	3.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
2-Chlorotoluene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
4-Chlorotoluene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
cis-1,2-DCE	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Dibromochloromethane	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Dibromomethane	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,1-Dichloroethane	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,1-Dichloroethene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,2-Dichloropropane	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,3-Dichloropropane	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
2,2-Dichloropropane	ND	2.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,1-Dichloropropene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: OCD Land Farm
Lab ID: 1305307-010
Client Sample ID: Trip Blank
Collection Date:
Matrix: TRIP BLANK
Received Date: 5/8/2013 2:05:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CWS**	
Hexachlorobutadiene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
2-Hexanone	ND	10		µg/L	1	5/9/2013 5:19:22 PM	R10534
Isopropylbenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
4-Isopropyltoluene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
4-Methyl-2-pentanone	ND	10		µg/L	1	5/9/2013 5:19:22 PM	R10534
Methylene Chloride	ND	3.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
n-Butylbenzene	ND	3.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
n-Propylbenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
sec-Butylbenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Styrene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
tert-Butylbenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
trans-1,2-DCE	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Trichlorofluoromethane	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Vinyl chloride	ND	1.0		µg/L	1	5/9/2013 5:19:22 PM	R10534
Xylenes, Total	ND	1.5		µg/L	1	5/9/2013 5:19:22 PM	R10534
Surr: 1,2-Dichloroethane-d4	98.6	70-130		%REC	1	5/9/2013 5:19:22 PM	R10534
Surr: 4-Bromofluorobenzene	105	69.5-130		%REC	1	5/9/2013 5:19:22 PM	R10534
Surr: Dibromofluoromethane	103	70-130		%REC	1	5/9/2013 5:19:22 PM	R10534
Surr: Toluene-d8	95.7	70-130		%REC	1	5/9/2013 5:19:22 PM	R10534

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

Qualifiers:

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

Anatek Labs, Inc.

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

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

Batch #: 130521032
Project Name: 1305307

Analytical Results Report

Sample Number 130521032-001 **Sampling Date** 5/8/2013 **Date/Time Received** 5/21/2013 12:22 PM
Client Sample ID 1305307-001C / CENTRAL OCD-01-05082013 **Sampling Time** 9:10 AM
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	5/22/2013	ETL	EPA 335.4	
%moisture	13.3	Percent		5/22/2013	AJT	%moisture	

Sample Number 130521032-002 **Sampling Date** 5/8/2013 **Date/Time Received** 5/21/2013 12:22 PM
Client Sample ID 1305307-002C / CENTRAL OCD-02-05082013 **Sampling Time** 9:45 AM
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	5/22/2013	ETL	EPA 335.4	
%moisture	16.5	Percent		5/22/2013	AJT	%moisture	

Sample Number 130521032-003 **Sampling Date** 5/8/2013 **Date/Time Received** 5/21/2013 12:22 PM
Client Sample ID 1305307-003C / CENTRAL OCD-03-05082013 **Sampling Time** 10:10 AM
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	5/22/2013	ETL	EPA 335.4	
%moisture	20.6	Percent		5/22/2013	AJT	%moisture	

Sample Number 130521032-004 **Sampling Date** 5/8/2013 **Date/Time Received** 5/21/2013 12:22 PM
Client Sample ID 1305307-004C / CENTRAL OCD-04-05082013 **Sampling Time** 11:05 AM
Matrix Soil **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	5/22/2013	ETL	EPA 335.4	
%moisture	12.7	Percent		5/22/2013	AJT	%moisture	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

Anatek Labs, Inc.

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

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	130521032
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1305307
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	130521032-005	**Sampling Date**	5/8/2013	**Date/Time Received**	5/21/2013 12:22 PM
Client Sample ID	1305307-007C / BD-05082013			**Sampling Time**	
Matrix	Soil	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.3	5/22/2013	ETL	EPA 335.4	
%moisture	21.1	Percent		5/22/2013	AJT	%moisture	

Authorized Signature

John Coddington, Lab Manager

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

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

Anatek Labs, Inc.

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

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

Batch #: 130521032
Project Name: 1305307

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.498	mg/kg	0.5	99.6	80-120	5/21/2013	5/22/2013

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
130510061-007	Cyanide	2.07	98.6	mg/kg	100	96.5	60-140	5/21/2013	5/22/2013

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	98.0	mg/kg	100	95.9	0.6	0-25	5/21/2013	5/22/2013

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.3	5/21/2013	5/22/2013

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

Comments:

Pace Analytical
www.pacelabs.com

1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: 1305307
Pace Project No.: 3094809

Sample: 1305307-001B Central OCD-01-05 **Lab ID: 3094809001** Collected: 05/08/13 09:10 Received: 05/21/13 10:00 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	**1.069 ± 0.236 (0.204)**	pCi/g	06/12/13 10:59	13982-63-3	
Radium-228	EPA 901.1m	**1.270 ± 0.370 (0.377)**	pCi/g	06/12/13 10:59	15262-20-1	

Sample: 1305307-002B Central OCD-02-05 **Lab ID: 3094809002** Collected: 05/08/13 09:45 Received: 05/21/13 10:00 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	**1.197 ± 0.275 (0.280)**	pCi/g	06/12/13 11:34	13982-63-3	
Radium-228	EPA 901.1m	**1.883 ± 0.427 (0.373)**	pCi/g	06/12/13 11:34	15262-20-1	

Sample: 1305307-003B Central OCD-03-05 **Lab ID: 3094809003** Collected: 05/08/13 10:10 Received: 05/21/13 10:00 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	**1.168 ± 0.259 (0.205)**	pCi/g	06/12/13 12:32	13982-63-3	
Radium-228	EPA 901.1m	**2.033 ± 0.456 (0.285)**	pCi/g	06/12/13 12:32	15262-20-1	

Sample: 1305307-004B Central OCD-04-05 **Lab ID: 3094809004** Collected: 05/08/13 11:05 Received: 05/21/13 10:00 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	**1.007 ± 0.210 (0.191)**	pCi/g	06/12/13 13:12	13982-63-3	
Radium-228	EPA 901.1m	**1.483 ± 0.330 (0.235)**	pCi/g	06/12/13 13:12	15262-20-1	

Sample: 1305307-007B BD-05082013 **Lab ID: 3094809005** Collected: 05/08/13 00:01 Received: 05/21/13 10:00 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1m	**1.197 ± 0.237 (0.238)**	pCi/g	06/12/13 13:46	13982-63-3	
Radium-228	EPA 901.1m	**1.592 ± 0.347 (0.222)**	pCi/g	06/12/13 13:46	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical
www.pacelabs.com

1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: 1305307
Pace Project No.: 3094809

QC Batch: RADC/16080 Analysis Method: EPA 901.1m
QC Batch Method: EPA 901.1m Analysis Description: 901.1 Gamma Spec Ingrowth
Associated Lab Samples: 3094809001, 3094809002, 3094809003, 3094809004, 3094809005

METHOD BLANK: 591821 Matrix: Solid
Associated Lab Samples: 3094809001, 3094809002, 3094809003, 3094809004, 3094809005

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-226	0.030 ± 0.237 (0.459)	pCi/g	06/11/13 14:09	
Radium-228	0.027 ± 0.339 (0.688)	pCi/g	06/11/13 14:09	

REPORT OF LABORATORY ANALYSIS

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup

Project: OCD Land Farm

Sample ID **MB-7373**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **7373**	RunNo: **10541**
Prep Date: **5/9/2013**	Analysis Date: **5/9/2013**	SeqNo: **297850** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID **LCS-7373**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **7373**	RunNo: **10541**
Prep Date: **5/9/2013**	Analysis Date: **5/9/2013**	SeqNo: **297851** 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	96.8	90	110			
Chloride	14	1.5	15.00	0	92.4	90	110			
Nitrogen, Nitrate (As N)	7.2	0.30	7.500	0	96.5	90	110			
Sulfate	28	1.5	30.00	0	92.6	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup

Project: OCD Land Farm

Sample ID **MB-7382**	SampType: **MBLK**	TestCode: **EPA Method 418.1: TPH**
Client ID: **PBS**	Batch ID: **7382**	RunNo: **10576**
Prep Date: **5/10/2013**	Analysis Date: **5/13/2013**	SeqNo: **298945** 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-7382**	SampType: **LCS**	TestCode: **EPA Method 418.1: TPH**
Client ID: **LCSS**	Batch ID: **7382**	RunNo: **10576**
Prep Date: **5/10/2013**	Analysis Date: **5/13/2013**	SeqNo: **298946** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	97	20	100.0	0	96.7	80	120			

Sample ID **1305307-004AMS**	SampType: **MS**	TestCode: **EPA Method 418.1: TPH**
Client ID: **Central OCD-04-050**	Batch ID: **7382**	RunNo: **10576**
Prep Date: **5/10/2013**	Analysis Date: **5/13/2013**	SeqNo: **298951** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	99.40	0	102	80	120			

Sample ID **1305307-004AMSD**	SampType: **MSD**	TestCode: **EPA Method 418.1: TPH**
Client ID: **Central OCD-04-050**	Batch ID: **7382**	RunNo: **10576**
Prep Date: **5/10/2013**	Analysis Date: **5/13/2013**	SeqNo: **298952** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.1	0	105	80	120	3.47	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **MB-7366**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **7366**	RunNo: **10548**
Prep Date: **5/9/2013**	Analysis Date: **5/10/2013**	SeqNo: **298461** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		97.2	80	120			

Sample ID **LCS-7366**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **7366**	RunNo: **10548**
Prep Date: **5/9/2013**	Analysis Date: **5/10/2013**	SeqNo: **298462** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	100	80	120			
Toluene	0.99	0.050	1.000	0	99.5	80	120			
Ethylbenzene	0.97	0.050	1.000	0	97.1	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID **1305307-004AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **Central OCD-04-050**	Batch ID: **7366**	RunNo: **10548**
Prep Date: **5/9/2013**	Analysis Date: **5/11/2013**	SeqNo: **298467** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.049	0.9843	0	110	67.2	113			
Toluene	1.1	0.049	0.9843	0	111	62.1	116			
Ethylbenzene	1.1	0.049	0.9843	0	113	67.9	127			
Xylenes, Total	3.4	0.098	2.953	0	116	60.6	134			
Surr: 4-Bromofluorobenzene	1.0		0.9843		104	80	120			

Sample ID **1305307-004AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **Central OCD-04-050**	Batch ID: **7366**	RunNo: **10548**
Prep Date: **5/9/2013**	Analysis Date: **5/11/2013**	SeqNo: **298468** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	109	67.2	113	0.299	14.3	
Toluene	1.1	0.050	1.000	0	110	62.1	116	0.358	15.9	
Ethylbenzene	1.1	0.050	1.000	0	111	67.9	127	0.0588	14.4	
Xylenes, Total	3.4	0.10	3.000	0	114	60.6	134	0.143	12.6	
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup

Project: OCD Land Farm

Sample ID **MB-7495**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **7495**	RunNo: **10738**
Prep Date: **5/17/2013**	Analysis Date: **5/20/2013**	SeqNo: **303902** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	80	120			

Sample ID **LCS-7495**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **7495**	RunNo: **10738**
Prep Date: **5/17/2013**	Analysis Date: **5/20/2013**	SeqNo: **303903** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup

Project: OCD Land Farm

Sample ID **MB-7504**	SampType: **MBLK**	TestCode: **EPA Method 8082: PCB's**
Client ID: **PBS**	Batch ID: **7504**	RunNo: **10783**
Prep Date: **5/20/2013**	Analysis Date: **5/22/2013**	SeqNo: **305224** 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	0.074		0.06250		118	31.8	151			
Surr: Tetrachloro-m-xylene	0.074		0.06250		119	26.2	144			

Sample ID **LCS-7504**	SampType: **LCS**	TestCode: **EPA Method 8082: PCB's**
Client ID: **LCSS**	Batch ID: **7504**	RunNo: **10783**
Prep Date: **5/20/2013**	Analysis Date: **5/22/2013**	SeqNo: **305268** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.13	0.020	0.1250	0	107	27	132			
Aroclor 1260	0.13	0.020	0.1250	0	106	33.6	133			
Surr: Decachlorobiphenyl	0.071		0.06250		114	31.8	151			
Surr: Tetrachloro-m-xylene	0.071		0.06250		113	26.2	144			

Sample ID **1305307-004AMS**	SampType: **MS**	TestCode: **EPA Method 8082: PCB's**
Client ID: **Central OCD-04-050**	Batch ID: **7504**	RunNo: **10783**
Prep Date: **5/20/2013**	Analysis Date: **5/22/2013**	SeqNo: **305655** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.076	0.020	0.1249	0	60.8	13.68	112			
Aroclor 1260	0.11	0.020	0.1249	0	85.6	12.2	129			
Surr: Decachlorobiphenyl	0.061		0.06244		98.4	31.8	151			
Surr: Tetrachloro-m-xylene	0.052		0.06244		83.6	26.2	144			

Sample ID **1305307-004AMSD**	SampType: **MSD**	TestCode: **EPA Method 8082: PCB's**
Client ID: **Central OCD-04-050**	Batch ID: **7504**	RunNo: **10783**
Prep Date: **5/20/2013**	Analysis Date: **5/22/2013**	SeqNo: **305656** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.089	0.020	0.1254	0	70.8	13.68	112	15.7	20	
Aroclor 1260	0.13	0.020	0.1254	0	100	12.2	129	16.0	20	
Surr: Decachlorobiphenyl	0.072		0.06272		114	31.8	151	0	0	
Surr: Tetrachloro-m-xylene	0.062		0.06272		98.4	26.2	144	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **mb-7366**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBS**	Batch ID: **7366**	RunNo: **10546**
Prep Date: **5/9/2013**	Analysis Date: **5/10/2013**	SeqNo: **298264** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.42		0.5000		84.2	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		88.2	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		91.3	70	130			
Surr: Toluene-d8	0.49		0.5000		97.5	70	130			

Sample ID **lcs-7366**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSS**	Batch ID: **7366**	RunNo: **10546**
Prep Date: **5/9/2013**	Analysis Date: **5/10/2013**	SeqNo: **298265** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.43		0.5000		86.2	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		87.8	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		90.5	70	130			
Surr: Toluene-d8	0.48		0.5000		95.5	70	130			

Sample ID **mb-7495**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBS**	Batch ID: **7495**	RunNo: **10748**
Prep Date: **5/17/2013**	Analysis Date: **5/21/2013**	SeqNo: **303851** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.10								
Chlorobenzene	ND	0.050								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup

Project: OCD Land Farm

Sample ID **mb-7495**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBS**	Batch ID: **7495**	RunNo: **10748**
Prep Date: **5/17/2013**	Analysis Date: **5/21/2013**	SeqNo: **303851** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.10								
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	0.10								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup

Project: OCD Land Farm

Sample ID **mb-7495** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **PBS** Batch ID: **7495** RunNo: **10748**

Prep Date: **5/17/2013** Analysis Date: **5/21/2013** SeqNo: **303851** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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: 1,2-Dichloroethane-d4	0.45		0.5000		89.5	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		84.4	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		93.1	70	130			
Surr: Toluene-d8	0.49		0.5000		97.7	70	130			

Sample ID **lcs-7495** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **LCSS** Batch ID: **7495** RunNo: **10748**

Prep Date: **5/17/2013** Analysis Date: **5/21/2013** SeqNo: **303852** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	105	70	130			
Toluene	1.2	0.050	1.000	0	120	80	120			
Chlorobenzene	1.1	0.050	1.000	0	107	70	130			
1,1-Dichloroethene	0.96	0.050	1.000	0	95.6	83.5	130			
Trichloroethene (TCE)	1.0	0.050	1.000	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.2	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		83.9	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		90.5	70	130			
Surr: Toluene-d8	0.51		0.5000		101	70	130			

Sample ID **1305307-004AMS** SampType: **MS** TestCode: **EPA Method 8260B: VOLATILES**

Client ID: **Central OCD-04-050** Batch ID: **7495** RunNo: **10748**

Prep Date: **5/17/2013** Analysis Date: **5/21/2013** SeqNo: **303853** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.048	0.9533	0	105	67.5	124			
Toluene	1.1	0.048	0.9533	0	114	55.8	142			
Chlorobenzene	1.0	0.048	0.9533	0	104	67.6	124			
1,1-Dichloroethene	0.93	0.048	0.9533	0	98.0	59.2	138			
Trichloroethene (TCE)	0.96	0.048	0.9533	0	101	60.2	114			
Surr: 1,2-Dichloroethane-d4	0.44		0.4766		91.8	70	130			
Surr: 4-Bromofluorobenzene	0.41		0.4766		86.1	70	130			
Surr: Dibromofluoromethane	0.45		0.4766		93.9	70	130			
Surr: Toluene-d8	0.47		0.4766		98.0	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **1305307-004AMSD** SampType: **MSD** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **Central OCD-04-050** Batch ID: **7495** RunNo: **10748**
Prep Date: **5/17/2013** Analysis Date: **5/21/2013** SeqNo: **303854** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.048	0.9560	0	98.5	67.5	124	6.12	20	
Toluene	0.99	0.048	0.9560	0	103	55.8	142	9.30	20	
Chlorobenzene	0.91	0.048	0.9560	0	95.5	67.6	124	8.65	20	
1,1-Dichloroethene	0.85	0.048	0.9560	0	88.7	59.2	138	9.65	20	
Trichloroethene (TCE)	0.92	0.048	0.9560	0	95.8	60.2	114	4.97	20	
Surr: 1,2-Dichloroethane-d4	0.43		0.4780		90.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.41		0.4780		85.3	70	130	0	0	
Surr: Dibromofluoromethane	0.45		0.4780		93.9	70	130	0	0	
Surr: Toluene-d8	0.46		0.4780		96.9	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup

Project: OCD Land Farm

Sample ID **5ml rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R10534**	RunNo: **10534**
Prep Date:	Analysis Date: **5/9/2013**	SeqNo: **297703** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **5ml rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R10534**	RunNo: **10534**
Prep Date:	Analysis Date: **5/9/2013**	SeqNo: **297703** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	69.5	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R10534**	RunNo: **10534**
Prep Date:	Analysis Date: **5/9/2013**	SeqNo: **297705** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	20	1.0	20.00	0	99.4	80	120			
Chlorobenzene	19	1.0	20.00	0	96.1	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	98.9	85.8	133			
Trichloroethene (TCE)	19	1.0	20.00	0	93.4	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R10534**	RunNo: **10534**
Prep Date:	Analysis Date: **5/9/2013**	SeqNo: **297705** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	69.5	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.6		10.00		96.1	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R10534**	RunNo: **10534**
Prep Date:	Analysis Date: **5/9/2013**	SeqNo: **297728** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup

Project: OCD Land Farm

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R10534**	RunNo: **10534**
Prep Date:	Analysis Date: **5/9/2013**	SeqNo: **297728** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	69.5	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.7		10.00		96.7	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup

Project: OCD Land Farm

Sample ID **100ng lcs ii**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R10534**	RunNo: **10534**
Prep Date:	Analysis Date: **5/9/2013**	SeqNo: **297730** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	20	1.0	20.00	0	101	80	120			
Chlorobenzene	20	1.0	20.00	0	97.7	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	97.6	85.8	133			
Trichloroethene (TCE)	20	1.0	20.00	0	98.1	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	69.5	130			
Surr: Dibromofluoromethane	10		10.00		99.9	70	130			
Surr: Toluene-d8	9.5		10.00		95.2	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **mb-7537**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **7537**	RunNo: **10808**
Prep Date: **5/21/2013**	Analysis Date: **5/22/2013**	SeqNo: **305734** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chloro-3-methylphenol	ND	0.50								
2-Chlorophenol	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.40								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenol	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2,4,6-Tribromophenol	3.1		3.330		93.4	40.1	130			
Surr: 2-Fluorobiphenyl	1.4		1.670		85.6	44.4	123			
Surr: 2-Fluorophenol	2.4		3.330		71.0	41.9	112			
Surr: 4-Terphenyl-d14	1.5		1.670		88.6	29.6	130			
Surr: Nitrobenzene-d5	1.4		1.670		83.3	42.4	132			
Surr: Phenol-d5	2.8		3.330		83.4	44.3	119			

Sample ID **lcs-7537**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **7537**	RunNo: **10808**
Prep Date: **5/21/2013**	Analysis Date: **5/22/2013**	SeqNo: **305738** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chloro-3-methylphenol	2.6	0.50	3.330	0	79.0	49.9	103			
2-Chlorophenol	2.2	0.20	3.330	0	67.3	43.4	94			
4-Nitrophenol	2.4	0.25	3.330	0	72.7	45.4	113			
Pentachlorophenol	2.1	0.40	3.330	0	63.0	40	90.2			
Phenol	2.6	0.20	3.330	0	77.6	44.4	99.8			
Surr: 2,4,6-Tribromophenol	3.0		3.330		90.1	40.1	130			
Surr: 2-Fluorobiphenyl	1.5		1.670		87.3	44.4	123			
Surr: 2-Fluorophenol	2.2		3.330		66.7	41.9	112			
Surr: 4-Terphenyl-d14	1.5		1.670		89.7	29.6	130			
Surr: Nitrobenzene-d5	1.5		1.670		88.0	42.4	132			
Surr: Phenol-d5	2.9		3.330		86.7	44.3	119			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **1305307-004Ams** SampType: **MS** TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **Central OCD-04-050** Batch ID: **7537** RunNo: **10808**
Prep Date: **5/21/2013** Analysis Date: **5/22/2013** SeqNo: **305746** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chloro-3-methylphenol	2.6	0.50	3.328	0	79.1	63.7	100			
2-Chlorophenol	2.3	0.20	3.328	0	68.3	22.2	126			
4-Nitrophenol	2.4	0.25	3.328	0	70.7	36.7	130			
Pentachlorophenol	2.2	0.40	3.328	0	65.0	15.8	113			
Phenol	2.4	0.20	3.328	0	73.5	25.1	124			
Surr: 2,4,6-Tribromophenol	3.0		3.328		90.6	40.1	130			
Surr: 2-Fluorobiphenyl	1.4		1.669		83.1	44.4	123			
Surr: 2-Fluorophenol	2.0		3.328		60.2	41.9	112			
Surr: 4-Terphenyl-d14	1.4		1.669		83.7	29.6	130			
Surr: Nitrobenzene-d5	1.4		1.669		86.8	42.4	132			
Surr: Phenol-d5	2.7		3.328		79.9	44.3	119			

Sample ID **1305307-004Amsd** SampType: **MSD** TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **Central OCD-04-050** Batch ID: **7537** RunNo: **10808**
Prep Date: **5/21/2013** Analysis Date: **5/22/2013** SeqNo: **305749** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chloro-3-methylphenol	2.6	0.50	3.331	0	77.8	63.7	100	1.52	27.3	
2-Chlorophenol	2.3	0.20	3.331	0	68.3	22.2	126	0.188	26.3	
4-Nitrophenol	2.3	0.25	3.331	0	68.5	36.7	130	3.05	20	
Pentachlorophenol	2.2	0.40	3.331	0	66.9	15.8	113	2.92	27.1	
Phenol	2.4	0.20	3.331	0	71.0	25.1	124	3.43	32.2	
Surr: 2,4,6-Tribromophenol	3.0		3.331		91.4	40.1	130	0	0	
Surr: 2-Fluorobiphenyl	1.4		1.671		81.1	44.4	123	0	0	
Surr: 2-Fluorophenol	2.0		3.331		58.7	41.9	112	0	0	
Surr: 4-Terphenyl-d14	1.5		1.671		92.5	29.6	130	0	0	
Surr: Nitrobenzene-d5	1.3		1.671		79.3	42.4	132	0	0	
Surr: Phenol-d5	2.6		3.331		78.6	44.3	119	0	0	

Qualifiers:

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

QC SUMMARY REPORT

WO#: **1305307**

Hall Environmental Analysis Laboratory, Inc.

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **MB-7505**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBS**	Batch ID: **7505**	RunNo: **10822**
Prep Date: **5/20/2013**	Analysis Date: **5/23/2013**	SeqNo: **306482** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	0.25								
1-Methylnaphthalene	ND	0.25								
2-Methylnaphthalene	ND	0.25								
Acenaphthylene	ND	0.25								
Acenaphthene	ND	0.25								
Fluorene	ND	0.030								
Phenanthrene	ND	0.015								
Anthracene	ND	0.015								
Fluoranthene	ND	0.020								
Pyrene	ND	0.025								
Benz(a)anthracene	ND	0.010								
Chrysene	ND	0.010								
Benzo(b)fluoranthene	ND	0.010								
Benzo(k)fluoranthene	ND	0.010								
Benzo(a)pyrene	ND	0.010								
Dibenz(a,h)anthracene	ND	0.010								
Benzo(g,h,i)perylene	ND	0.010								
Indeno(1,2,3-cd)pyrene	ND	0.010								
Surr: Benzo(e)pyrene	0.47		0.5000		93.2	36.7	118			

Sample ID **LCS-7505**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSS**	Batch ID: **7505**	RunNo: **10822**
Prep Date: **5/20/2013**	Analysis Date: **5/23/2013**	SeqNo: **306483** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	1.7	0.25	2.000	0	82.9	43.1	92.9			
1-Methylnaphthalene	1.7	0.25	2.000	0	85.3	44.9	94.8			
2-Methylnaphthalene	1.8	0.25	2.000	0	89.2	44.5	95.4			
Acenaphthylene	1.6	0.25	2.000	0	80.4	44.7	96			
Acenaphthene	1.8	0.25	2.000	0	87.6	47.5	97.2			
Fluorene	0.18	0.030	0.2000	0	89.5	36	84.9			S
Phenanthrene	0.085	0.015	0.1006	0	84.5	42.6	92.6			
Anthracene	0.075	0.015	0.1006	0	74.3	44.4	89.9			
Fluoranthene	0.18	0.020	0.2006	0	88.7	39.3	102			
Pyrene	0.16	0.025	0.2000	0	78.4	25.3	96.9			
Benz(a)anthracene	0.018	0.010	0.02000	0	90.0	50.2	98.7			
Chrysene	0.085	0.010	0.1006	0	84.7	43.5	89.5			
Benzo(b)fluoranthene	0.024	0.010	0.02500	0	97.0	58.2	106			
Benzo(k)fluoranthene	0.012	0.010	0.01250	0	92.0	48.7	109			
Benzo(a)pyrene	ND	0.010	0.01250	0	72.0	40.3	113			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **LCS-7505** SampType: **LCS** TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSS** Batch ID: **7505** RunNo: **10822**
Prep Date: **5/20/2013** Analysis Date: **5/23/2013** SeqNo: **306483** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	0.023	0.010	0.02500	0	92.0	47.7	106			
Benzo(g,h,i)perylene	0.024	0.010	0.02500	0	94.0	48.3	106			
Indeno(1,2,3-cd)pyrene	0.044	0.010	0.05002	0	89.0	43.5	101			
Surr: Benzo(e)pyrene	0.47		0.5000		94.5	36.7	118			

Sample ID **1305307-004AMS** SampType: **MS** TestCode: **EPA Method 8310: PAHs**
Client ID: **Central OCD-04-050** Batch ID: **7505** RunNo: **10902**
Prep Date: **5/20/2013** Analysis Date: **5/28/2013** SeqNo: **308160** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	2.2	1.3	2.011	0	110	34.9	90.8			S
1-Methylnaphthalene	2.2	1.3	2.011	0	107	36.4	91.9			S
2-Methylnaphthalene	2.1	1.3	2.011	0	106	36.2	91.7			S
Acenaphthylene	1.9	1.3	2.011	0	93.8	18.6	120			
Acenaphthene	2.1	1.3	2.011	0	105	33	100			S
Fluorene	0.21	0.15	0.2011	0	103	37.5	77			S
Phenanthrene	0.12	0.075	0.1012	0	121	32.2	104			S
Anthracene	0.089	0.075	0.1012	0	88.2	25.2	112			
Fluoranthene	0.20	0.10	0.2017	0	97.2	24.6	106			
Pyrene	0.21	0.13	0.2011	0	105	12.2	99.3			S
Benz(a)anthracene	ND	0.050	0.02011	0	106	29.3	122			
Chrysene	0.10	0.050	0.1012	0	102	40.9	93.5			S
Benzo(b)fluoranthene	ND	0.050	0.02514	0	120	42.2	125			
Benzo(k)fluoranthene	ND	0.050	0.01257	0	110	14.8	130			
Benzo(a)pyrene	ND	0.050	0.01257	0	90.0	13.2	134			
Dibenz(a,h)anthracene	ND	0.050	0.02514	0	85.0	14.9	116			
Benzo(g,h,i)perylene	ND	0.050	0.02514	0.005015	100	15.7	113			
Indeno(1,2,3-cd)pyrene	ND	0.050	0.05030	0	95.0	16.3	115			
Surr: Benzo(e)pyrene	0.58		0.5028		115	36.7	118			

Sample ID **1305307-004AMSD** SampType: **MSD** TestCode: **EPA Method 8310: PAHs**
Client ID: **Central OCD-04-050** Batch ID: **7505** RunNo: **10902**
Prep Date: **5/20/2013** Analysis Date: **5/28/2013** SeqNo: **308161** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	2.0	1.3	2.010	0	102	34.9	90.8	8.12	20	S
1-Methylnaphthalene	2.0	1.3	2.010	0	99.4	36.4	91.9	7.44	20	S
2-Methylnaphthalene	2.0	1.3	2.010	0	99.4	36.2	91.7	6.74	20	S
Acenaphthylene	1.8	1.3	2.010	0	89.8	18.6	120	4.41	20	
Acenaphthene	2.0	1.3	2.010	0	99.1	33	100	6.05	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **1305307-004AMSD** SampType: **MSD** TestCode: **EPA Method 8310: PAHs**
Client ID: **Central OCD-04-050** Batch ID: **7505** RunNo: **10902**
Prep Date: **5/20/2013** Analysis Date: **5/28/2013** SeqNo: **308161** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluorene	0.20	0.15	0.2010	0	99.4	37.5	77	3.15	20	S
Phenanthrene	0.10	0.075	0.1011	0	102	32.2	104	16.8	20	
Anthracene	0.089	0.075	0.1011	0	88.2	25.2	112	0.0503	20	
Fluoranthene	0.20	0.10	0.2016	0	98.5	24.6	106	1.22	20	
Pyrene	0.20	0.13	0.2010	0	101	12.2	99.3	4.31	20	S
Benz(a)anthracene	ND	0.050	0.02010	0	106	29.3	122	0	20	
Chrysene	0.11	0.050	0.1011	0	104	40.9	93.5	2.36	20	S
Benzo(b)fluoranthene	ND	0.050	0.02513	0	120	42.2	125	0	20	
Benzo(k)fluoranthene	ND	0.050	0.01256	0	110	14.8	130	0	20	
Benzo(a)pyrene	ND	0.050	0.01256	0	90.0	13.2	134	0	20	
Dibenz(a,h)anthracene	ND	0.050	0.02513	0	85.0	14.9	116	0	20	
Benzo(g,h,i)perylene	ND	0.050	0.02513	0.005015	100	15.7	113	0	20	
Indeno(1,2,3-cd)pyrene	ND	0.050	0.05027	0	95.0	16.3	115	0	20	
Surr: Benzo(e)pyrene	0.55		0.5025		110	36.7	118	0	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **MB-7539**	SampType: **MBLK**	TestCode: **EPA Method 7471: Mercury**
Client ID: **PBS**	Batch ID: **7539**	RunNo: **10790**
Prep Date: **5/21/2013**	Analysis Date: **5/22/2013**	SeqNo: **305007** Units: **mg/Kg**

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

Sample ID **LCS-7539**	SampType: **LCS**	TestCode: **EPA Method 7471: Mercury**
Client ID: **LCSS**	Batch ID: **7539**	RunNo: **10790**
Prep Date: **5/21/2013**	Analysis Date: **5/22/2013**	SeqNo: **305008** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	100	80	120			

Sample ID **1305307-004AMS**	SampType: **MS**	TestCode: **EPA Method 7471: Mercury**
Client ID: **Central OCD-04-050**	Batch ID: **7539**	RunNo: **10790**
Prep Date: **5/21/2013**	Analysis Date: **5/22/2013**	SeqNo: **305020** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1617	0.005729	96.9	75	125			

Sample ID **1305307-004AMSD**	SampType: **MSD**	TestCode: **EPA Method 7471: Mercury**
Client ID: **Central OCD-04-050**	Batch ID: **7539**	RunNo: **10790**
Prep Date: **5/21/2013**	Analysis Date: **5/22/2013**	SeqNo: **305021** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1597	0.005729	97.0	75	125	1.16	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup
Project: OCD Land Farm

Sample ID **MB-7531** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS** Batch ID: **7531** RunNo: **10786**
Prep Date: **5/21/2013** Analysis Date: **5/22/2013** SeqNo: **304938** 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								
Lead	ND	0.25								
Selenium	ND	2.5								
Silver	ND	0.25								
Zinc	ND	2.5								

Sample ID **LCS-7531** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS** Batch ID: **7531** RunNo: **10786**
Prep Date: **5/21/2013** Analysis Date: **5/22/2013** SeqNo: **304939** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	26	2.5	25.00	0	104	80	120			
Barium	26	0.10	25.00	0	103	80	120			
Cadmium	26	0.10	25.00	0	103	80	120			
Chromium	26	0.30	25.00	0	104	80	120			
Copper	27	0.30	25.00	0	107	80	120			
Lead	26	0.25	25.00	0	103	80	120			
Selenium	24	2.5	25.00	0	95.8	80	120			
Silver	5.2	0.25	5.000	0	105	80	120			
Zinc	26	2.5	25.00	0	103	80	120			

Sample ID **MB-7531** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS** Batch ID: **7531** RunNo: **10852**
Prep Date: **5/21/2013** Analysis Date: **5/23/2013** SeqNo: **306409** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	1.0								
Manganese	ND	0.10								
Uranium	ND	5.0								

Sample ID **LCS-7531** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS** Batch ID: **7531** RunNo: **10852**
Prep Date: **5/21/2013** Analysis Date: **5/23/2013** SeqNo: **306410** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	28	1.0	25.00	0	110	80	120			
Manganese	25	0.10	25.00	0	102	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup

Project: OCD Land Farm

Sample ID **LCS-7531**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **7531**	RunNo: **10852**
Prep Date: **5/21/2013**	Analysis Date: **5/23/2013**	SeqNo: **306410** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	27	5.0	25.00	0	109	80	120			

Sample ID **1305307-004AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **Central OCD-04-050**	Batch ID: **7531**	RunNo: **10899**
Prep Date: **5/21/2013**	Analysis Date: **5/28/2013**	SeqNo: **308045** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	27	12	24.79	0	109	75	125			
Cadmium	26	0.50	24.79	0	104	75	125			
Chromium	43	1.5	24.79	14.21	117	75	125			
Lead	24	1.2	24.79	1.800	90.1	75	125			
Silver	5.3	1.2	4.959	0	107	75	125			
Uranium	ND	25	24.79	0	100	75	125			
Zinc	50	12	24.79	21.00	118	75	125			

Sample ID **1305307-004AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **Central OCD-04-050**	Batch ID: **7531**	RunNo: **10899**
Prep Date: **5/21/2013**	Analysis Date: **5/28/2013**	SeqNo: **308046** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	24	12	24.11	0	101	75	125	10.1	20	
Cadmium	23	0.50	24.11	0	97.3	75	125	9.52	20	
Chromium	41	1.5	24.11	14.21	113	75	125	4.13	20	
Lead	22	1.2	24.11	1.800	83.8	75	125	9.24	20	
Silver	4.8	1.2	4.822	0	100	75	125	9.41	20	
Uranium	ND	25	24.11	0	98.6	75	125	0	20	
Zinc	47	12	24.11	21.00	109	75	125	6.35	20	

Sample ID **1305307-004AMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **Central OCD-04-050**	Batch ID: **7531**	RunNo: **11009**
Prep Date: **5/21/2013**	Analysis Date: **5/31/2013**	SeqNo: **311409** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	25	1.5	24.79	3.737	86.9	75	125			
Selenium	ND	12	24.79	0	42.8	75	125			S

Sample ID **1305307-004AMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **Central OCD-04-050**	Batch ID: **7531**	RunNo: **11009**
Prep Date: **5/21/2013**	Analysis Date: **5/31/2013**	SeqNo: **311410** Units: **mg/Kg**

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305307**

14-Jun-13

Client: Western Refining Southwest, Gallup

Project: OCD Land Farm

Sample ID	**1305307-004AMSD**	SampType: **MSD**		TestCode: **EPA Method 6010B: Soil Metals**						
Client ID:	**Central OCD-04-050**	Batch ID: **7531**		RunNo: **11009**						
Prep Date:	**5/21/2013**	Analysis Date: **5/31/2013**		SeqNo: **311410**		Units: **mg/Kg**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	25	1.5	24.11	3.737	88.6	75	125	0.720	20	
Selenium	ND	12	24.11	0	36.7	75	125	0	20	S

Qualifiers:

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

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: 1305307 | RcptNo: 1

Received by/date: 05/08/13

Logged By: Lindsay Mangin | 5/8/2013 2:05:00 PM

Completed By: Lindsay Mangin | 5/8/2013 2:20:50 PM

Reviewed By: 05/09/13

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 ✓	# of preserved bottles checked for pH: (<2 or >12 unless noted)
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	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	4.5	Good	Not Present			

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)	____
Turn-Around Time:	☒ Standard ☐ Rush ____
Project Name:	OCD Landfarm
Project #:	697-039-004
Project Manager:	
Sampler:	Berreth Jacobs
On Ice:	☒ Yes ☐ No
Sample Temperature:	4.5

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1305307	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chlorides (300.1)				Air Bubbles (Y or N)
5/8/13	0910	Soil	Central OCD-01-05082013	4oz-4	None	-001	X			X								X				
	0945	Soil	Central OCD-02-05082013	4oz-4	None	-002	X			X								X				
	1010	Soil	Central OCD-03-05082013	4oz-4	None	-003	X			X								X				
	1105	Soil	Central OCD-04-05082013	4oz-4	None	-004	X			X								X				
	1105	Soil	Central OCD-04-05082013-MS	4oz-4	None	-004A	X			X								X				
	1105	Soil	Central OCD-04-05082013-MSD	4oz-4	None	-004B	X			X								X				
	—	Soil	[redacted]-BD-05082013	4oz-4	None	-005	X			X								X				
	1115	W	FB-05082013	VOA-3	HCL	-006										X						
	1120	W	EB-05082013	VOA-3	HCL	-007										X						
	—	W	Trip Blank	VOA-3	HCL	-008										X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/8/13	1405			05/08/13	1405
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: 1 Trip Blank Broken

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

Tier II Data Validation Report Summary

Client: Western Refining Southwest, Gallup	Laboratory: Hall Environmental Analysis Laboratory, with subcontracted analyses sent to Anatek Labs, Inc and Pace Analytical.
Project Name: Semi-Annual Land Farm Soil Sampling	Sample Matrix: Soil
Project Number: 697-039-004, Task 6	Sample Start Date: 05/08/2013
Date Validated: 06/17/2013	Sample End Date: 05/08/2013
Parameters Included: Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by United States Environmental Protection Agency (USEPA) Solid Waste 846 (SW-846) Method 8021B; Volatile Organic Compounds (VOC) by USEPA SW-846 Method 8260B; Poly-Aromatic Hydrocarbons (PAHs) by USEPA SW-846 Method 8310; Semi-Volatile Organic Compounds (SVOC) by USEPA SW-846 Method 8270C; Chloride, Fluoride, Nitrate as Nitrogen, and Sulfate by USEPA Method 300.0; Total Recoverable Petroleum Hydrocarbons by USEPA Method 418.1; Polychlorinated Biphenyls (PCB) by USEPA SW-846 Method 8082; Mercury by USEPA SW-846 Method 7471A; Metals (As, Ba, Cd, Cr, Cu, Fe, Pb, Mn, Se, Ag, U, and Zn) by USEPA SW-846 Method 6010B; Cyanide by USEPA Method 335.4; Radium-226 and Radium 228 by USEPA Method 901.1m	
Laboratory Project ID: 1305307	
Data Validator: Coleman Henry, Chemical and Environmental Engineer, E.I.T.	

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, evaluating samples from the Western Refining Southwest 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 of samples from field duplicate pairs; matrix spike (MS) and matrix spike duplicate (MSD) pairs; and laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs. Laboratory accuracy was established by reviewing the demonstrated percent recoveries of MS/MSD samples and LCS/LCSD samples, and percent recoveries (%R) of organic system monitoring compounds (surrogates) to verify that data are not biased. Field accuracy was established by collecting trip blank, field blank, and equipment blank samples to monitor for possible ambient or cross contamination during sampling and transportation. 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.

Chemical data validation was conducted in accordance with the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for organic and inorganic analyses, 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 USEPA-540-R-08-01, June 2008 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 540R-10-011, January 2010. Review of field duplicates is conducted according to the USEPA Region 1 Laboratory Data Validation Functional Guidelines for Evaluation of Organic Analysis, December 1996.

Tier II Data Validation Report Summary

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
Central OCD-01-05082013	1305307-001
Central OCD-02-05082013	1305307-002
Central OCD-03-05082013	1305307-003
Central OCD-04-05082013	1305307-004
BD-05082013	1305307-007
FB-05082013	1305307-008
EB-05082013	1305307-009
Trip Blank	1305307-010

Tier II Data Validation Report Summary

The laboratory data were reviewed to evaluate compliance with the methods and the quality of the reported data. Assessment of CoC completeness is included in Item 3 of the Data Validation Checklist. A check mark (✓) indicates that the referenced validation criteria were deemed acceptable, whereas a crossed circle (⊗) indicates validation criteria for which the data have been qualified by the data validator. A null symbol (∅) 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
- ✓ Holding Times and Preservation
- ✓ Laboratory Blanks
- ✓ System Monitoring Compounds (i.e., Surrogates)
- ✓ LCS/LCSD
- ⊗ MS/MSD
- ∅ Initial and Continuing Calibrations
- ⊗ Field Duplicates
- ∅ Laboratory Duplicates
- ✓ Field, Equipment, and Trip Blanks

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

Data qualifiers used during this validation included:

J – Estimated concentration

UJ – Estimated reporting limits

Data Completeness

The analyses were performed as requested on the CoC records. The associated samples were received by the laboratory and analyzed properly. The complete data package consisted of 645 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 note non-conformances related to data quality, aside from the application of data qualification flags defined in Section 2, below.

2. Were the data free of data qualification flags and/or notes used by the laboratory? No
If no, define.

Comments: The laboratory applied the following note and data qualification flag.

S – Spike recovery outside accepted recovery limits.

3. Were sample CoC forms complete? Yes

Comments: The CoC record from the field to the laboratory was complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt.

The requested analytes were incomplete on the CoC form. The project team indicated that an additional analysis request sheet was submitted to the lab. It is attached to this data validation as an Attachment A.

4. Were detection limits in accordance with the quality assurance project plan (QAPP), permit, or method, or indicated as acceptable? Yes

Comments: Dilutions summarized in the table below were applied in several analyses for the samples and the detection limits rose accordingly.

Method	Samples	Dilution Factor
300.0	Central OCD-01-05082013 Central OCD-02-05082013 Central OCD-03-05082013 Central OCD-04-05082013 BD-05082013	5 - 20
6010B	Central OCD-01-05082013 Central OCD-02-05082013 Central OCD-03-05082013 Central OCD-04-05082013 BD-05082013	5 - 500
8310	Central OCD-03-05082013 Central OCD-04-05082013 BD-05082013	5

The dilutions were reviewed and appeared appropriate. Final determination of the data quality regarding detection limits will be made by the project team.

5. Were the reported analytical methods and constituents in compliance with the QAPP, permit, or CoC? Were any analytes reported by more than one method? Yes

Comments: Reported analytical methods and constituents were in compliance. Data for volatile organic hydrocarbons were reported either from Method 8021B or from Method 8260B as requested in the CoC.

6. Were samples received in good condition within method-specified requirements? No

Comments: Samples were received intact, in good condition, and with a cooler temperature within the recommended temperature range of 4°C +/- 2°C at 4.5°C. The laboratory indicated custody seals were not present on the sample containers. Custody was maintained since samples were delivered directly to the laboratory by the sample team.

The laboratory reported that one trip blank container was received broken. The remaining containers provided sufficient volume to complete the requested analysis and no further action was necessary.

VALIDATION CRITERIA CHECKLIST	
7. Were samples extracted and analyzed within method-specified or technical holding times?	Yes
Comments: Analyses were extracted and analyzed within method specified holding times.	
8. Were reported units appropriate for the sample matrix/matrices and analytical method(s)?	Yes
Comments: Data for soil samples were reported in units of milligram per kilogram (mg/kg) and results for aqueous samples were reported in units of micrograms per liter (µg/L). Data for Radium 226 and 228 were reported in picocuries per liter (pCi/L). Reported units were acceptable for the matrices and analyses reported.	
9. Was there indication from the laboratory that the initial or continuing calibration verification results were within acceptable limits?	Yes
Comments: Initial and continuing calibration data were not requested or included as part of this data set; however, these data were assumed to be acceptable as the laboratory did not note that any calibration results were outside acceptable limits.	
10. Was the total number of laboratory blank samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method?	Yes
Comments: The total number of laboratory blank samples prepared was equal to at least 5% of the total number of samples.	
11. Were laboratory blank samples reported to be free of target analyte contamination?	Yes
Comments: The laboratory blank samples were free of target analyte contamination.	
12. Was the total number of MS samples prepared equal to at least 5% of the total number of samples or analyzed as required by the method?	No

Comments: The total number of matrix spike samples prepared was equal to at least 5% of the total number of samples, although matrix spike samples were not prepared for all analyses. Matrix spikes were not required for analyses of percent moisture or pH.

Method	Analyte (s)	Preparation Batch	Analysis Batch	MS Sample Source
300.0	Chloride, Fluoride, Nitrate as Nitrogen, and Sulfate	7373	10541	Not Prepared
418.1	Petroleum Hydrocarbons, TR	7382	10576	CentralOCD-04
8021	BTEX	7366	10548	CentralOCD-04
8082	PCBs	7504	10783	CentralOCD-04
8260B	VOCs	7366	10546	CentralOCD-04
8260B	VOCs	7495	10748	CentralOCD-04
8260B	VOCs	R10534	10534	Not Prepared
8270C	SVOCs	7537	10808	CentralOCD-04
8310	PAHs	7505	10822	CentralOCD-04
7471	Mercury	7539	10790	CentralOCD-04
6010B	Metals	7531	10899	CentralOCD-04
6010B	Metals	7531	11009	CentralOCD-04
335.4	Cyanide	130521032	--	Not Prepared
901.1m	Radium 226 & 228	RADC/16080	--	Not Prepared

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

VALIDATION CRITERIA CHECKLIST

13. Were MS/MSD percent recoveries and MS/MSD RPDs within data validation or laboratory quality control (QC) limits? No

Comments: The MS and MSD recoveries and RPD values for project samples were within laboratory QC limits with exceptions noted in the table below. The MS samples prepared from non-project samples were considered during the data validation process, but data were not qualified based on these results since matrix similarity to project samples could not be guaranteed.

Analyte	Method	Batch	MS Recovery	MSD Recovery	QC Limits
Naphthalene	8310	7505	110%	102%	34.9-90.8%
1-Methylnaphthalene	8310	7505	107%	99.4%	36.4-91.9%
2-Methylnaphthalene	8310	7505	106%	99.4%	36.2-91.7%
Acenaphthalene	8310	7505	105%	Acceptable	33-100%
Fluorene	8310	7505	103%	99.4%	37.5-77%
Phenanthrene	**8310**	**7505**	**121%**	**Acceptable**	**32.2-104%**
Pyrene	8310	7505	105%	101%	12.2-99.3%
Chrysene	**8310**	**7505**	**102%**	**104%**	**40.9-93.5%**
Selenium	**6010B**	**7531**	**42.8%**	**36.7%**	**75-125%**

A high MS/MSD recovery is evidence of high bias. The associated analyte detections with Method 8310/Batch 7505 were qualified as J to indicate estimated concentrations. The non-detection did not require qualification

The low MS/MSD recovery for Selenium in Method 6010B/Batch 7531 is evidence of low bias. The associated sample results were non-detections and qualified as UJ to indicate estimated reporting limits.

The MS samples prepared from non-project samples were considered during the data validation process, but data were not qualified based on these results since matrix similarity to project samples could not be guaranteed.

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

Comments: The total number of LSC/LCSDs analyzed was equal to at least 5% of the total number of samples required. LCS analyses were not required for analysis of percent moisture or Radium 226/228.

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

Comments: The LCS/LCSD recoveries and RPD values were within laboratory QC limits, with the following exception:

The analyte Fluorene analyzed by Method 8310 in preparation batch 7505 was recovered above the laboratory QC limits of 36-84.9% at 89.5%. The associated results were reported as non-detections and qualification is not required.

16. Were surrogate recoveries within laboratory QC limits? Yes

Comments: The surrogate recoveries were within laboratory QC limits.

17. Were the number of trip blank, field blank, and/or equipment blank samples collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit? Yes

Comments: The number of trip blank, field blank, and/or equipment blank samples collected was equal to at least 10% of the total number of samples. One equipment blank, EB-05082013, one field blank, FB-05082013, and one trip blank, TRIP BLANK, were provided to the laboratory with the project samples. The blank samples were analyzed only for VOCs by Method 8206B.

VALIDATION CRITERIA CHECKLIST	
18. Were the trip blank, field blank, and/or equipment blank samples reported to be free of target analyte contamination?	Yes
Comments: The trip blank, field blank, and equipment blank samples were reported to be free of target analyte contamination	
19. Was the number of field duplicates collected equal to at least 10% of the total number of samples or as required by the project guidelines, QAPP, SAP, or permit?	Yes
Comments: The number of field duplicates collected was equal to at least 10% of the total number of samples. Sample BD-05082013 was collected as the duplicate of sample CentralOCD-4.	
20. Were field duplicate RPD values within data validation QC limits (soil 0-50%, water 0-30%, or air 0-25%)?	No
Comments: Field duplicate RPD values were less than the upper limit of 50% for soil samples with the following exceptions. **The analyte nitrogen, nitrate was detected in one sample and non-detected in the other. As a result, the detection was qualified as J and non-detection as UJ because the detection was greater than two times the reporting limit.** **As a result of possible poor repeatability, barium was qualified as J in the parent and duplicate sample for a high field duplicate RPD value.** Field duplicate RPD values for other target constituents could not be calculated since the analytes were undetected in the parent and duplicate samples.	
21. Were laboratory duplicate RPD values within laboratory QC limits?	No
Comments: Laboratory duplicates were not prepared for this sample set.	

FIELD DUPLICATE SUMMARY

Client Sample ID: Central OCD-04 Field Duplicate Sample ID: BD-05082013			
Analyte	**Laboratory Result**	**Duplicate Result**	**Relative Percent Difference (RPD)**
Chloride	180 mg/kg	260 mg/kg	36.36%
Fluoride, Total	3.7 mg/kg	3.6 mg/kg	2.7%
Nitrogen, Nitrate	**14 mg/kg**	**ND (1.5 mg/kg)**	**DL**
Sulfate	570 mg/kg	390 mg/kg	37.5%
Radium 226 Total	1.01 pCi/L	1.2 pCi/L	17.2%
Radium 228 Total	1.48 pCi/L	1.59 pCi/L	7.2%
Barium, Total	**140 mg/kg**	**300 mg/kg**	**72.7%**
Chromium, Total	14 mg/kg	18 mg/kg	25.0%
Copper, Total	3.7 mg/kg	4.3 mg/kg	15.0%
Iron, Total	17000 mg/kg	21000 mg/kg	21.1%
Lead, Total	1.8 mg/kg	1.9 mg/kg	5.4% +/-RL
Manganese, Total	560 mg/kg	400 mg/kg	33.3%
Zinc, Total	21 mg/kg	27 mg/kg	25.0% +/-RL
Benzo(g,h,i)perylene	ND (0.05 mg/kg)	0.055 mg/kg	DL

Field duplicate RPD control limits should not exceed 50% for soil as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

DL – Indicates that one result was detected and one non-detect, and therefore an RPD could not be calculated. The analyte Nitrogen, Nitrate was qualified as J in the parent and UJ in the duplicate sample because the detection was greater than two times the reporting limit. Data that were within two times the reporting limit acceptable.

As a result of possible poor repeatability, barium was qualified as J in the parent and duplicate sample for a high field duplicate RPD value.

+/-RL – Indicates that the detections in the samples are within two times the reporting limit. No qualification of data was required.

DATA QUALIFICATION SUMMARY

Analyte	Method	Field Sample ID	Lab Sample ID	Result	Limit	Units	Reviewer Qualifier	Reviewer Qualifier Reason
Barium, Total	SW 6010B	BD-05082013	1305307-007A	300	1	mg/kg	J	High field duplicate RPD value
Barium, Total	SW 6010B	Central OCD-04-05082013	1305307-004A	140	2	mg/kg	J	High field duplicate RPD value
Chrysene	SW 8310	Central OCD-01-05082013	1305307-001A	0.13	0.1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Chrysene	SW 8310	Central OCD-02-05082013	1305307-002A	0.44	0.1	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Nitrogen, Nitrate	E300	BD-05082013	1305307-007A	ND	1.5	mg/kg	UJ	Field duplicate RPD value could not be calculated; however, the detection was greater than two times the reporting limit.
Nitrogen, Nitrate	E300	Central OCD-04-05082013	1305307-004A	14	1.5	mg/kg	J	Field duplicate RPD value could not be calculated; however, the detection was greater than two times the reporting limit.
Phenanthrene	SW 8310	Central OCD-02-05082013	1305307-002A	0.26	0.15	mg/kg	J	The MS and/or MSD recovery(ies) were above the acceptable limits indicating possible matrix interference.
Selenium, Total	SW 6010B	BD-05082013	1305307-007A	ND	12	mg/kg	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Selenium, Total	SW 6010B	Central OCD-01-05082013	1305307-001A	ND	12	mg/kg	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Selenium, Total	SW 6010B	Central OCD-02-05082013	1305307-002A	ND	12	mg/kg	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Selenium, Total	SW 6010B	Central OCD-03-05082013	1305307-003A	ND	12	mg/kg	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.
Selenium, Total	SW 6010B	Central OCD-04-05082013	1305307-004A	ND	12	mg/kg	UJ	The MS and/or MSD recovery(ies) were below the acceptable limits indicating possible matrix interference.

ATTACHMENT A
ANALYSIS REQUEST

Subsection A & B of 20.6.2.3103 NMAC

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~~