Western Refining
GALLUP

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WNR LISTED NYSE

SEP 1 6 2016

August 30, 2016

*Certified Mail #7014 1820 0001 7489 0082*

Mr. Carl Chavez, CHMM
Environmental Engineer
New Mexico Oil Conservation Division- Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**RE: FINAL C-141 AND RESPONSE ACTION REPORT, TANK T-583 ULTRA LOW SULPHUR DIESEL, JANUARY 2, 2016 RELEASE**

Dear Mr. Chavez:

Please find attached the final C-141 report and a Response Action Report (Report) for the above mentioned release. Western hopes you like the new Report and format which details the releases and cleanup from start to finish. The report includes a discussion of the release and process area, initial remediation, assessment, regulatory criteria comparisons, and conclusions and recommendations.

The following actions have been taken to prevent a reoccurrence of these events:

- Refresher training for workforce on Management of Change requirements;
- Employee discussion on work order process.

The following action will take place in the near future:

- Develop a procedure for transferring the heel of a tank with a sandpiper pump to include disconnecting the sandpiper pump when not in use.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If there are any questions, please contact Ed Riege at 505-722-0217.

Sincerely,

Daniel J. Statile
Vice President Refining
Western Refining Southwest, Inc. – Gallup Refinery

cc Brandon Powell, NMOCD District III
Kristen VanHorn NMHWB
Allen Hains, Western El Paso

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

## OPERATOR

☐ Initial Report ☒ Final Report

| | |
|---|---|
| Name of Company: WESTERN REFINING | Contact: Ed Riege |
| Address: I-40 / EXIT 39, JAMESTOWN,NM 87347 | Telephone No.(505) 722-0217 |
| Facility Name: WESTERN REFINING (GALLUP REFINERY) | Facility Type: Petroleum Refinery |

| Surface Owner | Mineral Owner | API No. |
|---|---|---|

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| | 28 | 15 N | 15 W | | | | | MCKINLEY |

**Latitude**__35° 029' 028.97" N__ **Longitude**__108° 025' 035.34"_W_

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: ULSD- ultra low sulfur diesel | Volume of Release 34 bbls | Volume Recovered: 30-32 bbls |
| Source of Release: T-583 ULSD sandpiper pump | Date and Hour of Occurrence 1/2/16 @ 2040 hrs | Date and Hour of Discovery 1/2/16 @ 2040 hrs |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? OCD (Carl Chavez Msg.); NMEDHWB (Kristen VanHorn Msg.) (Ruth Horowitz msg.) | |
| By Whom? Alvin Dorsey | Date and Hour: 1/3/16 1530 hr | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. N/A | |

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*The offsites supervisor discovered the sandpiper pump for the distillate rundown line going to T-583 leaking product to the ground surface due to a cracked pump casing. The line was immediately blocked in. The onsite vacuum truck removed the diesel liquid from T-583 containment. There were no safety concerns. (For additional information see the T-583 Response Action Report dated August 2016.)

Describe Area Affected and Cleanup Action Taken.*
The impacted area was 4,032 sq. ft. of ground surface inside of the T-583 earthen dike in the tank farm. Diesel (30-32 bbls) was removed from the earthen dike with a vacuum truck. The contaminated soil was excavated and placed into lined roll-off boxes for disposal offsite. (For drawings, photos, analytical and a full report see the T-583 Response Action Report dated August 2016.)

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

| | | |
|---|---|---|
| Signature: | OIL CONSERVATION DIVISION | |
| Printed Name: Ed Riege | Approved by Environmental Specialist: | |
| Title: Remediation Manager | Approval Date: | Expiration Date: |
| E-mail Address: ed.riege@wnr.com | Conditions of Approval: | Attached ☐ |
| Date: 8/29/2016 Phone: (505) 722-0217 | | |

Attach Additional Sheets If Necessary

# RESPONSE ACTION REPORT

## Tank T-583 – Ultra-Low Sulphur Diesel
## January 2, 2016 Release

Western Refining

Gallup Refinery
Western Refining Southwest, Inc.
Gallup, New Mexico

*EPA ID# NMD000333211*

**AUGUST 2016**

Tracy Payne
Senior Geologist

DiSorbo
Environmental Consulting Firm

8501 North Mopac Expy | Suite 300 | Austin, TX 78759
512.693.4190 (P) | 512.279.3118 (F) | www.disorboconsult.com

Response Action Report Checklist – Tank T-583

| Included | NA | |
|---|---|---|
| ☒ | ☐ | Title Page |
| ☒ | ☐ | Executive Summary |
| ☒ | ☐ | Report Checklist |
| ☒ | ☐ | Table of Contents |
| ☒ | ☐ | Section 1 - Introduction |
| ☒ | ☐ | • General information about Gallup Refinery and Area of Release |
| ☒ | ☐ | • Description of the Release |
| ☒ | ☐ | • Characterization of Released Material |
| ☒ | ☐ | ○ Discussion of the Unit / Process / Area of Release (as applicable) |
| ☒ | ☐ | ○ Location of unit(s) on a topographic map of appropriate scale |
| ☒ | ☐ | ○ Designation of type and function of unit(s) |
| ☒ | ☐ | ○ General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings) |
| ☒ | ☐ | ○ Dates that the unit(s) was operated; |
| ☐ | ☒ | ○ Specifications of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on hazardous waste or hazardous constituents in the wastes |
| ☒ | ☐ | ○ All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s) (to include ground water data, soil analyses, air, and surface water data). |
| ☒ | ☐ | • Site Conditions That Affected Release |
| ☒ | ☐ | Section 2 - Remediation Activities |
| ☒ | ☐ | • Detailed discussion of remediation, what type of cleanup conducted, where was it conducted (GPS coordinates or measurements to physical site features), dimensions of excavation, volumes of remediation waste, characterization sampling, disposition of wastes |
| ☒ | ☐ | • Soil Sampling – detailed discussion of sample collection and analysis |
| ☐ | ☒ | • Soil Field Screening |
| ☒ | ☐ | • Subsurface soil sampling – detailed discussion on soil borings, sampling and analysis |
| ☐ | ☒ | • Groundwater Conditions – detailed discussion well installation and groundwater sample collection and analysis |
| ☒ | ☐ | Section 3 – Regulatory Criteria Comparisons |
| ☒ | ☐ | • Presentation of applicable regulatory screening criteria and comparison to site concentrations. |
| ☒ | ☐ | Section 4 – Conclusions and Recommendations<br>• NMED Concurrence – No Further Action Required<br>• Deferral – Release Area within Existing SWMU / AOC<br>• Possible consideration for SWMU Assessment Report |
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| | | |
|---|---|---|
| | | ☒ Figure - Sampling Locations (Soil, Wells, Surface Water) |
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Appendix F Hall Environmental Analysis Laboratory, Inc. March 30, 2016 Analytical Report No. 1604156

# Executive Summary

The Gallup Refinery is located 17 miles east of Gallup, New Mexico. This Response Action Report provides the details and data for an Ultra-Low Sulphur Diesel release from Tank T-583 on January 2, 2016.

Soil was excavated from the spill area. Soil confirmation samples were collected and analyzed for volatile organics, metals, and anions.

The soil confirmation samples collected from the spill area were reported to contain concentrations that exceed the screening levels. The following constituents exceeded the screening levels:

- Arsenic;
- 1,2,4-Trimethylbenzene;
- 1-Methylnaphthalene;
- 2-Methylnaphthalene;
- Bromomethane; and
- Naphthalene.

# Section 1
# Introduction

The Gallup Refinery is located approximately 17 miles east of Gallup, New Mexico along the north side of Interstate Highway I-40 in McKinley County. The physical address is I-40, Exit #39 Jamestown, New Mexico 87347. The Gallup Refinery property covers approximately 810 acres. Figure 1 presents the location of the Tank T-583 on the northern portion of the refinery property. Figure 2 presents an aerial photograph of Tank T-583.

## 1.1 General Information

The Gallup Refinery generally processes crude oil from the Four Corners area transported to the facility by pipeline or tanker truck. Various process units are operated at the facility, including crude distillation, reforming, fluidized catalytic cracking, alkylation, sulfur recovery, merox treater, and hydrotreating. Current and past operations have produced gasoline, diesel fuels, jet fuels, kerosene, propane, butane, and residual fuel.

## 1.2 Discussion of the Release

At 20:40 on January 2, 2016, the off-sites supervisor discovered the sandpiper pump for the distillate rundown line going to T-583 was leaking product to the ground surface. All liquid was contained within an earthen dike within the tank farm. The line was immediately blocked in. It was estimated that 34 barrels (bbls) of Ultra-Low Sulphur Diesel (ULSD) was spilled to the ground surface. Maintenance and Environmental on-call personnel were notified. The onsite vacuum truck began removing liquid from the contaminated area. The vacuum truck recovered about 1,250 to 1,350 gallons (30 to 32 bbls) of ULSD from inside the tank dike. The area affected by the release is depicted on Figure 3.

Notification of the spill was provided to the NMED Hazardous Waste Bureau and the Oil Conservation Division on January 3, 2016 at 15:30. An initial report (Form C-141) was completed on February 2, 2016 and the final C-141 report was prepared on August 29, 2016. Both are provided in Appendix A.

## 1.3 Characterization of the Release Material

The product released to the ground consisted of Ultra-Low Sulfur Diesel. A copy of the Safety Data Sheet for Ultra-Low Sulfur Diesel is included in Appendix B.

## 1.4 Discussion of the Process Area

Tank T-583 is a 100 foot diameter, vertical, steel tank that was built in 1980. The tank has a height of 40 feet and is able to hold 55,000 barrels of diesel. The external shell of the tank was inspected in September 2014 and is scheduled for re-inspection in September 2019. The tank was reconstructed in 1996 and is scheduled for internal inspection in September 2016.

Tank T-583 is fed by a pipeline from the ultra-low sulfur diesel unit. The ULSD in Tank T-583 is transferred by pipeline to the truck rack marketing tanks.

## 1.5 Site Conditions That Affect the Release

Local site topographic features include high ground in the southeast gradually decreasing to lowland fluvial plain in the northwest. Elevations on the refinery property range from 7,040 feet to 6,860 feet. Tank T-583 is at an approximate elevation of 6,950 feet above mean sea level (msl). Photographs are included in this report and show the land surface in the immediate area. The release was contained within the tank dike.

# Section 2
# Remediation Activities

## 2.1 Initial Remediation

Western's Maintenance Department and contract personnel were called out to vacuum the spilled ULSD. The volume spilled was estimated to be approximately 1,414 gallons (34 bbls). A copy of the calculations to estimate the volume spilled is included as Appendix C. The volume recovered was estimated to be between 1,250 and 1,350 gallons (30 to 32 bbls). The estimated extent of the ULSD contaminated soil was 4,032 square feet. Photographs are included in Appendix D.

Figure 3 depicts the extent of the soil contamination. The soils that were located within the extent of visible soil contamination were excavated and placed into lined roll-off boxes pending disposal. Figure 4 depicts the extent of the soil excavation. A copy of the waste characterization and the manifests are included in Appendix E. Approximately 139,188 pounds of non-hazardous contaminated soil was shipped to Gandy Marley, Inc. in Chavez County, New Mexico.

## 2.2 Assessment

### 2.2.1 Soil Sampling

On March 30, 2016, 12 discrete soil samples, T#583 Comf#1 through T#583 Comf#12, were collected from 12 separate locations. Figure 4 depicts the locations of the 12 soil samples. On April 5, 2016 the 12 soil samples were delivered to Hall Environmental Analysis Laboratory, Inc. (HEAL) in Albuquerque, New Mexico.

### 2.2.2 Soil Screening Results

Field screening was not conducted during the collection of soil samples.

### 2.2.3 Soil Sampling Analytical Results

The soil samples were analyzed for the following:

- Volatile Organics – EPA Method 8260B;
- Metals – EPA Method 6010B;
- Mercury – EPA Method 7471; and

- Anions – EPA Method 300.0.

On April 12, 2016 HEAL issued Analytical Report No. 1604156. A copy of the report is provided in Appendix F. Table 1 provides a summary of the analytical results.

## 2.3 Subsurface Soil Conditions

No soil borings or monitor wells were installed during the investigation.

## 2.4 Groundwater Conditions

A groundwater investigation was not conducted.

## 2.5 Surface Water Conditions

The release did not reach surface water.

## 2.6 Surface Air and Subsurface Vapor Conditions

A vapor release was not associated with this release.

# Section 3
# Regulatory Criteria Comparisons

The potential cleanup levels (i.e., screening levels) are specified in NMED's *Risk Assessment Guidance for Site Investigations and Remediation* dated July 2015 and in the Environmental Protection Agency's (EPA) Regional Screening Levels dated June 2015 if NMED values are not available.

For non-residential properties (e.g., the Gallup Refinery), the soil screening levels (SSLs) must be protective of commercial/industrial workers throughout the upper one foot of surface soils and construction workers throughout the upper ten feet based on NMED criteria. NMED residential soil screening levels are applied to the upper ten feet and soil screening levels for protection of groundwater apply throughout the vadose zone. EPA soil screening levels for direct contact exposure apply to the upper two feet of the vadose zone. The cleanup criteria is shown in Table 1.

A review of the analytical results for metals reported the following:

- Arsenic concentrations detected in all samples, excluding T#583 Comf #7 and T#583 Comf #9, exceed the Risk Based SSL for a Dilution Attenuation Factor (DAF) of 20;

A review of the analytical results for volatile organics reported the following:

- 1,2,4-Trimethylbenzene concentrations detected in T#583 Comf #7, T#583 Comf #8 and T#583 Comf #9 exceed the Risk Based SSL for a DAF of 20;

- 1-Methylnaphthalene concentrations detected in all samples, excluding T#583 Comf #5 and T#583 Comf #10, exceed the Risk Based SSL for a DAF of 20;

- 2-Methylnaphthalene concentrations detected in T#583 Comf #7, T#583 Comf #8 and T#583 Comf #9 exceed the Risk Based SSL for a DAF of 20;

- Bromomethane concentration detected in T#583 Comf#1 exceeds the Risk Based SSL for a DAF of 20; and

- Naphthalene concentrations detected in T#583 Comf #3, T#583 Comf #6 thru T#583 Comf #9 and T#583 Comf #12 exceed the Risk Based SSL for a DAF of 20.

# Section 4
# Conclusions and Recommendations

On January 2, 2016, the sandpiper pump for the distillate rundown line going to Tank T-583 was leaking product to the ground surface. All liquid was contained within an earthen dike within the tank farm. The line was immediately blocked in. It was estimated that 34 barrels (bbls) of Ultra-Low Sulphur Diesel was spilled to the ground surface, with approximately 30-32 bbls recovered with a vacuum truck.

## 4.1 Soil Confirmation Sampling Results

A review of the analytical results for metals reported arsenic concentrations detected in all samples, excluding T#583 Comf #7 and T#583 Comf #9, exceed the Risk Based SSL for a DAF of 20.

A review of the analytical results for volatile organics indicates that 1,2,4-trimethylbenzene , 1-methylnaphthalene, 2-methylnaphthalene, bromomethane and naphthalene exceed the Risk Based SSLs for a DAF of 20.

These exceedances were observed at sample locations T#583 #1, #3, #6, #7, #8, #9, and #10. The arsenic results are all very low and may be reflective of naturally occurring concentrations. The volatile organic results generally only exceed the DAF 20 screening levels by one order of magnitude (e.g., maximum 1-methylnaphthalene concentration of 8.7 mg/kg vs. the screening level of 0.116 mg/kg), with the single exception of naphthalene at T#586 #9.

## 4.2 Recommended Additional Excavation and Assessment

Based on the fact that groundwater is already documented to be impacted in the general area, the maximum detected results in the confirmation samples are well below both the residential and non-residential screening levels, and maximum concentrations are generally within one order of magnitude of the DAF 20 screening levels, no further remediation is recommended at this time.

# Tables

**Table 1 Soil Analytical Results – March 30, 2016**

**Table 1**
**Soil Analytical Results - March 30, 2016**
**Tank T-583 ULSD Release**
**Western Refining Southwest - Gallup Refinery**

| Parameter Name | Residential Soil (mg/kg) | Source | Non-Residential Soil Screening Level (mg/kg) | Source | Risk Based SSL for a DAF of 20 (mg/kg) | Source | T#583 Comf #1 | T#583 Comf #2 | T#583 Comf #3 | T#583 Comf #4 | T#583 Comf #5 | T#583 Comf #6 | T#583 Comf #7 | T#583 Comf #8 | T#583 Comf #9 | T#583 Comf #10 | T#583 Comf #11 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hall Environmental Lab ID** | | | | | | | 1604156-001 | 1604156-002 | 1604156-003 | 1604156-004 | 1604156-005 | 1604156-006 | 1604156-007 | 1604156-008 | 1604156-009 | 1604156-010 | 1604156-011 | 1604156-012 |
| **Sample Date** | | | | | | | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 |
| **EPA Method 7470 mg/kg** | | | | | | | | | | | | | | | | | | |
| Mercury | 2.38E+01 | (1) | 2.07E+01 | (5) | 6.54E-01 | (8) | 0.023 J | 0.0099 J | 0.058 | 0.072 | 0.088 | 0.063 | 0.042 | 0.012 J | 0.017 J | 0.024 J | 0.040 | 0.049 |
| **EPA Method 6010B Soil Metals - mg/kg** | | | | | | | | | | | | | | | | | | |
| Arsenic | 4.25E+00 | (1) | 2.15E+01 | (4) | 2.99E-01 | (8) | 1.1 J | 1.5 J | 1.4 J | 1.9 J | 1.5 J | 1.5 J | <1.4 | 1.5 J | <3.6 | 1.4 J | 1.0 J | 2.1 J |
| Barium | 1.56E+04 | (1) | 4.35E+03 | (5) | 2.70E+03 | (8) | 190 | 310 | 440 | 380 | 620 | 470 | 410 | 340 | 390 | 380 | 380 | 380 |
| Cadmium | 7.05E+01 | (1) | 7.21E+01 | (5) | 9.39E+00 | (8) | <0.063 | <0.126 | <0.063 | <0.063 | <0.063 | <0.063 | <0.125 | <0.126 | <0.317 | <0.063 | <0.063 | <0.062 |
| Chromium | 9.66E+01 | (1) | 1.34E+02 | (5) | 2.01E+05 | (8) | 5.7 | 7.8 | 6.8 | 6.3 | 6.9 | 7.0 | 6.5 | 7.2 | 6.5 | 7.6 | 7.4 | 7.2 |
| Lead | 4.00E+02 | (1) | 8.00E+02 | (4) | 2.80E+02 | (10) | 4.4 | 6.7 | 5.5 | 5.3 | 4.7 | 5.6 | 4.8 | 7.6 | 8.4 | 5.7 | 7.0 | 8.2 |
| Selenium | 3.91E+02 | (1) | 1.75E+03 | (5) | 1.02E-01 | (8) | <1.0 | <2.18 | <1.0 | <1.0 | <1.0 | <1.0 | <2.18 | <2.18 | <5.5 | <1.0 | <1.0 | <1.0 |
| Silver | 3.91E+02 | (1) | 1.77E+03 | (5) | 1.38E+01 | (8) | <0.031 | <0.06 | <0.031 | <0.031 | <0.031 | <0.031 | <0.06 | <0.06 | <0.16 | <0.031 | <0.031 | <0.031 |
| **EPA Method E300 - mg/kg** | | | | | | | | | | | | | | | | | | |
| Chloride | - | | - | | - | | 59 | 56 | 120 | 250 | 150 | 110 | 90 | 48 | 93 | 130 | 230 | 200 |
| Fluoride | 4.69E+03 | (1) | 1.81E+04 | (5) | 3.56E+03 | (8) | 5.0 | 5.4 | 6.4 | 5.1 | 5.8 | 5.6 | 4.4 | 6.2 | 5.2 | 5.4 | 6.7 | 5.2 |
| Nitrogen, Nitrate (As N) | 1.25E+05 | (1) | 5.66E+05 | (5) | 4.25E+02 | (8) | 8.6 | 13 | 31 | 100 | 45 | 26 | 15 | 5.4 | 16 | 12 | 6.6 | 9.3 |
| Nitrogen, Nitrite (As N) | 7.82E+03 | (1) | 3.54E+04 | (5) | 2.66E+01 | (8) | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.15 | <0.75 | <0.75 | <0.15 | <0.75 | <0.15 |
| Phosphorus, Orthophosphate (As P) | 3.80E+06 | (2) | 5.70E+07 | (6) | - | | <0.65 | <0.65 | <0.65 | <0.65 | <0.65 | <0.65 | <0.65 | <3.3 | <3.3 | <0.65 | <3.3 | <0.65 |
| Sulfate | - | | - | | - | | 91 | 84 | 300 | 410 | 370 | 180 | 120 | 100 | 160 | 200 | 240 | 260 |
| **EPA Method 8260B - mg/kg** | | | | | | | | | | | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | 2.81E+01 | (1) | 1.37E+02 | (4) | 3.59E-02 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,1,1-Trichloroethane | 1.44E+04 | (1) | 1.36E+04 | (5) | 5.11E+01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,1,2,2-Tetrachloroethane | 7.98E+00 | (1) | 3.94E+01 | (4) | 4.80E-03 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,1,2-Trichloroethane | 2.61E+00 | (1) | 2.30E+00 | (5) | 2.23E-03 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,1-Dichloroethane | 7.86E+01 | (1) | 3.83E+02 | (4) | 1.36E-01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,1-Dichloroethene | 4.40E+02 | (1) | 4.24E+02 | (5) | 1.95E+00 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,1-Dichloropropene | - | - | - | - | - | - | <0.19 | <0.22 | <0.22 | <0.24 | <0.23 | <0.23 | <0.24 | <0.20 | <0.19 | <0.23 | <0.23 | <0.24 |
| 1,2,3-Trichlorobenzene | 6.30E+01 | (2) | 9.30E+02 | (6) | 4.20E-01 | (9) | <0.19 | <0.22 | <0.22 | <0.24 | <0.23 | <0.23 | <0.24 | <0.20 | <0.19 | <0.23 | <0.23 | <0.24 |
| 1,2,3-Trichloropropane | 5.10E-02 | (1) | 1.21E+00 | (4) | 5.21E-05 | (8) | <0.19 | <0.22 | <0.22 | <0.24 | <0.23 | <0.23 | <0.24 | <0.20 | <0.19 | <0.23 | <0.23 | <0.24 |
| 1,2,4-Trichlorobenzene | 8.29E+01 | (1) | 7.91E+01 | (5) | 1.76E-01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,2,4-Trimethylbenzene | 5.80E+01 | (2) | 2.40E+02 | (6) | 4.20E-01 | (9) | <0.097 | 0.050 J | 0.023 J | 0.022 J | <0.12 | 0.27 | 1.3 | 3.2 | 6.0 | <0.12 | 0.025 J | 0.039 J |
| 1,2-Dibromo-3-chloropropane | 8.58E-02 | (1) | 1.18E+00 | (4) | 2.34E-05 | (8) | <0.19 | <0.22 | <0.22 | <0.24 | <0.23 | <0.23 | <0.24 | <0.20 | <0.19 | <0.23 | <0.23 | <0.24 |
| 1,2-Dibromoethane (EDB) | 6.72E-01 | (1) | 3.31E+00 | (4) | 3.52E-04 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,2-Dichlorobenzene | 2.15E+03 | (1) | 2.50E+03 | (5) | 4.58E+00 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,2-Dichloroethane (EDC) | 8.32E+00 | (1) | 4.07E+01 | (4) | 8.14E-03 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,2-Dichloropropane | 1.78E+01 | (1) | 2.54E+01 | (5) | 2.43E-02 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,3,5-Trimethylbenzene | 7.80E+02 | (2) | 1.20E+04 | (6) | 3.40E+00 | (9) | <0.097 | 0.022 J | 0.012 J | <0.12 | <0.12 | 0.066 J | 0.34 | 0.98 | 1.6 | <0.12 | 0.27 | 0.029 J |
| 1,3-Dichlorobenzene | - | - | - | - | - | - | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,3-Dichloropropane | 1.60E+03 | (2) | 2.30E+04 | (6) | 2.60E+00 | (9) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1,4-Dichlorobenzene | 3.28E+01 | (1) | 1.59E+02 | (4) | 7.20E-02 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 1-Methylnaphthalene | 1.80E+02 | (3) | 7.30E+02 | (7) | 1.16E-01 | (9) | 2.2 | 1.3 | 0.99 | 0.46 J | 0.11 J | 2.3 | 5.3 | 6.7 | 8.7 | <0.47 | 4.1 | 0.80 |
| 2,2-Dichloropropane | - | - | - | - | - | - | <0.19 | <0.22 | <0.22 | <0.24 | <0.23 | <0.23 | <0.24 | <0.20 | <0.19 | <0.23 | <0.23 | <0.24 |
| 2-Butanone | 3.74E+04 | (1) | 9.17E+04 | (5) | 2.01E+01 | (8) | 0.066 J | 0.15 J | <1.1 | <1.2 | <1.2 | <1.1 | <1.1 | <1.0 | <0.95 | <1.2 | <1.2 | <1.2 |
| 2-Chlorotoluene | 1.56E+03 | (1) | 7.08E+03 | (5) | 3.56E+00 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 2-Hexanone | 2.00E+02 | (2) | 1.30E+03 | (6) | 1.76E-01 | (9) | <0.97 | <1.1 | <1.1 | <1.2 | <1.2 | <1.1 | <1.1 | <1.0 | <0.095 | <1.2 | <1.2 | <1.2 |
| 2-Methylnaphthalene | 2.40E+02 | (2) | 3.00E+03 | (6) | 3.80E+00 | (9) | 2.4 | 1.4 | 1.0 | 0.58 | 0.16 J | 3.0 | 6.6 | 6.9 | 42 | 0.055 J | 0.77 | 0.19 J |
| 4-Chlorotoluene | - | - | - | - | - | - | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| 4-Isopropyltoluene | - | - | - | - | - | - | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | 0.030 J | 0.16 | 0.44 | 0.84 | <0.12 | 0.12 | <0.12 |
| 4-Methyl-2-pentanone | 5.81E+03 | (1) | 2.02E+04 | (5) | 4.80E+00 | (8) | <0.97 | <1.1 | <1.1 | <1.2 | <1.2 | <1.1 | <1.1 | <1.0 | <0.095 | <1.2 | <1.2 | <1.2 |
| Acetone | 6.63E+04 | (1) | 2.42E+05 | (5) | 4.98E+01 | (8) | <1.5 | <1.6 | <1.6 | <1.8 | <1.7 | <1.7 | <1.8 | <1.5 | <1.4 | <1.7 | 1.7 | <1.8 |
| Benzene | 1.78E+01 | (1) | 8.72E+01 | (4) | 3.80E-02 | (8) | <0.049 | <0.054 | <0.054 | <0.061 | <0.058 | <0.056 | <0.059 | <0.051 | <0.047 | <0.058 | <0.058 | <0.061 |
| Bromobenzene | 2.90E+02 | (2) | 1.80E+03 | (6) | 8.40E-01 | (9) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Bromodichloromethane | 6.19E+00 | (1) | 3.02E+01 | (4) | 6.21E-03 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Bromoform | 6.74E+02 | (1) | 3.25E+03 | (4) | 4.11E-01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Bromomethane | 1.77E+01 | (1) | 1.79E+01 | (5) | 3.43E-02 | (8) | 0.292 | <0.32 | <0.32 | <0.36 | <0.35 | <0.34 | <0.35 | <0.30 | <0.28 | <0.35 | <0.35 | <0.36 |
| Carbon disulfide | 1.55E+03 | (1) | 1.62E+03 | (5) | 4.42E+00 | (8) | <0.97 | <1.1 | <1.1 | <1.2 | <1.2 | <1.1 | <1.1 | <1.0 | <0.095 | <1.2 | <1.2 | <1.2 |
| Carbon tetrachloride | 1.07E+01 | (1) | 5.25E+01 | (4) | 3.33E-02 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Chlorobenzene | 3.78E+02 | (1) | 4.12E+02 | (5) | 8.36E-01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Chloroethane | 1.90E+04 | (1) | 1.66E+04 | (5) | 1.07E+02 | (8) | <0.19 | <0.22 | <0.22 | <0.24 | <0.23 | <0.23 | <0.24 | <0.20 | <0.19 | <0.23 | <0.23 | <0.24 |

**Table 1**
**Soil Analytical Results - March 30, 2016**
**Tank T-583 ULSD Release**
**Western Refining Southwest - Gallup Refinery**

| Parameter Name | Residential Soil (mg/kg) | Source | Non-Residential Soil Screening Level (mg/kg) | Source | Risk Based SSL for a DAF of 20 (mg/kg) | Source | T#583 Comf #1 | T#583 Comf #2 | T#583 Comf #3 | T#583 Comf #4 | T#583 Comf #5 | T#583 Comf #6 | T#583 Comf #7 | T#583 Comf #8 | T#583 Comf #9 | T#583 Comf #10 | T#583 Comf #11 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hall Environmental Lab ID** | | | | | | | 1604156-001 | 1604156-002 | 1604156-003 | 1604156-004 | 1604156-005 | 1604156-006 | 1604156-007 | 1604156-008 | 1604156-009 | 1604156-010 | 1604156-011 | 1604156-012 |
| **Sample Date** | | | | | | | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 | 3/30/2016 |
| Chloroform | 5.90E+00 | (1) | 2.87E+01 | (4) | 1.09E-02 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Chloromethane | 4.11E+01 | (1) | 2.01E+02 | (4) | 9.51E-02 | (8) | <0.29 | <0.32 | <0.32 | <0.36 | <0.35 | <0.34 | <0.35 | <0.30 | <0.28 | <0.35 | <0.35 | <0.36 |
| cis-1,2-DCE | 1.56E+02 | (1) | 7.08E+02 | (5) | 1.84E-01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| cis-1,3-Dichloropropene | 2.93E+01 | (1) | 1.30E+02 | (5) | 2.80E-02 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Dibromochloromethane | 1.39E+01 | (1) | 6.74E+01 | (4) | 7.54E-03 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Dibromomethane | 2.30E+01 | (2) | 9.80E+01 | (6) | 4.00E-02 | (9) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Dichlorodifluoromethane | 1.82E+02 | (1) | 1.61E+02 | (5) | 7.23E+00 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Ethylbenzene | 7.51E+01 | (1) | 3.68E+02 | (4) | 2.62E-01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | 0.012 J | 0.082 | 0.067 J | <0.12 | <0.12 | <0.12 |
| Hexachlorobutadiene | 6.16E+01 | (1) | 2.69E+02 | (5) | 8.79E-02 | (8) | <0.19 | <0.22 | <0.22 | <0.24 | <0.23 | <0.23 | <0.24 | <0.20 | <0.19 | <0.23 | <0.23 | <0.24 |
| Isopropylbenzene | 2.36E+03 | (1) | 2.74E+03 | (5) | 1.14E+01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | 0.025 J | 0.096 J | <0.095 J | <0.12 | 0.012 J | <0.12 |
| Methyl tert-butyl ether (MTBE) | 9.75E+02 | (1) | 4.82E+03 | (4) | 5.53E-01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Methylene chloride | 4.09E+02 | (1) | 1.21E+03 | (5) | 4.71E-01 | (8) | 0.032 J | 0.039 J | 0.037 J | 0.039 J | 0.040 J | 0.040 J | 0.042 J | 0.042 J | 0.035 J | <0.35 | 0.045 J | 0.068 J |
| Naphthalene | 4.97E+01 | (1) | 1.59E+02 | (5) | 8.23E-02 | (8) | <0.19 | <0.22 | 0.12 J | 0.068 J | <0.23 | 0.41 | 0.84 | 0.67 | 3.4 | <0.23 | <0.23 | 0.10 J |
| n-Butylbenzene | 3.90E+03 | (2) | 5.80E+04 | (6) | 6.40E+01 | (9) | <0.29 | <0.32 | <0.32 | <0.36 | <0.35 | 0.066 J | 0.36 | 0.81 | 1.5 | <0.35 | 0.17 J | <0.36 |
| n-Propylbenzene | 3.80E+03 | (2) | 2.40E+04 | (6) | 2.40E+01 | (9) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | 0.012 J | 0.072 J | 0.22 | 0.28 | <0.12 | 0.012 J | <0.12 |
| sec-Butylbenzene | 7.80E+03 | (2) | 1.20E+05 | (6) | 1.18E+02 | (9) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | 0.022 J | 0.13 | 0.34 | 0.59 | <0.12 | 0.088 J | <0.12 |
| Styrene | 7.26E+03 | (1) | 1.02E+04 | (5) | 2.06E+01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| tert-Butylbenzene | 7.80E+03 | (2) | 1.20E+05 | (6) | 3.20E+01 | (9) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Tetrachloroethene (PCE) | 1.11E+02 | (1) | 1.20E+02 | (5) | 3.21E-01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Toluene | 5.23E+03 | (1) | 1.40E+04 | (5) | 1.21E+01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | 0.031 J | 0.048 J | <0.12 | <0.12 | 0.011 J |
| trans-1,2-DCE | 2.95E+02 | (1) | 3.05E+02 | (5) | 4.69E-01 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| trans-1,3-Dichloropropene | 2.93E+01 | (1) | 1.30E+02 | (5) | 2.80E-02 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Trichloroethene (TCE) | 6.77E+00 | (1) | 6.90E+00 | (5) | 1.75E-02 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Trichlorofluoromethane | 1.23E+03 | (1) | 1.13E+03 | (5) | 1.57E+01 | (8) | <0.097 | 0.20 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Vinyl chloride | 7.42E-01 | (1) | 2.84E+01 | (4) | 1.35E-03 | (8) | <0.097 | <0.11 | <0.11 | <0.12 | <0.12 | <0.11 | <0.12 | <0.10 | <0.095 | <0.12 | <0.12 | <0.12 |
| Xylenes, Total | 8.71E+02 | (1) | 7.98E+02 | (5) | 2.98E+00 | (8) | <0.19 | 0.056 J | <0.22 | 0.048 J | <0.23 | <0.23 | 0.21 J | 0.95 | 1.0 | <0.23 | 0.032 J | 0.031 J |

- No screening level or analytical result available
NMED - Risk Assessment Guidance for Site Investigations and Remediation (July 2015)
EPA - Regional Screening Levels (Nov 2015)
(1) NMED Residential Screening Level
(2) EPA Residential Screening Level
(3) EPA Residential - Screening Levels (June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Closure Permit because the constituent is listed as carcinogenic
(4) NMED Industrial Occupational Screening Level
(5) NMED Construction Worker Screening Level
(6) EPA Industrial - Screening Levels (June 2015)
(7) EPA Industrial - Screening Levels June 2015) multiplied by 10 pursuant to Section IV.D.2 of the Oct. 31, 2013 RCRA Post-Closure Permit because the constituent is listed as carcinogenic
(8) SoilGW NMED Dilution Attenuation Factor (DAF) = 20
(9) SoilGW Risk-based EPA DAF = 20
(10) SoilGW MCL-based EPA DAF = 20
**Bold represents value above Non-Residential Screening Level**
yellow highlight represents value above Leachate (DAF) 20 Screening Level
**Bold with yellow highlight value exceeds Non-Residential Screening Level and DAF 20**

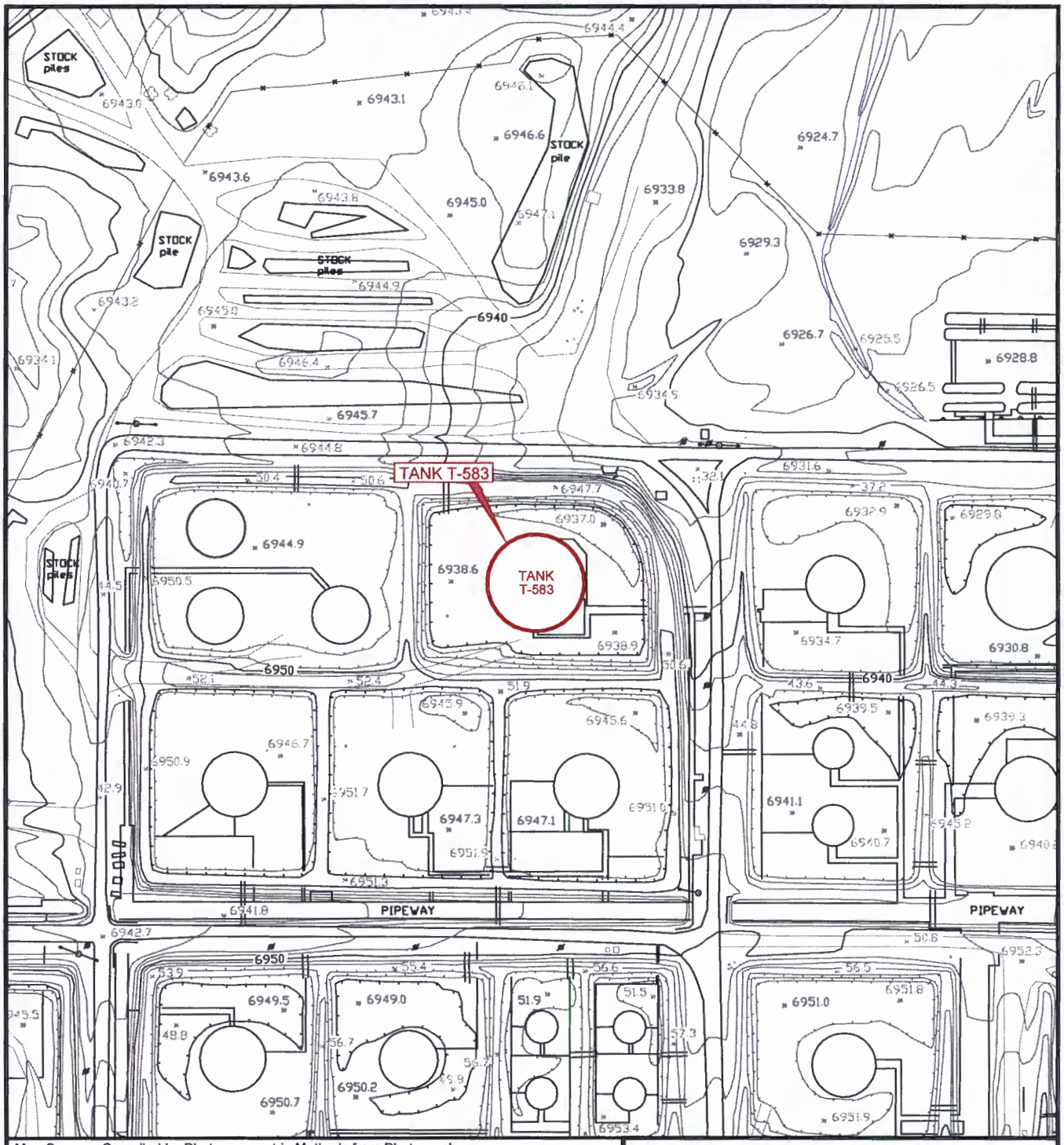
# Figures

**Figure 1** **Site Location Map**

**Figure 2** **Aerial Photo of Tank T-583**

**Figure 3** **Extent of ULSD Release**

**Figure 4** **Soil Sampling Locations – March 30, 2016**




Map Source: Compiled by Photogrammetric Methods from Photography Acquired on March 1, 1998.

**Western Refining**
GALLUP REFINERY

| PROJ. NO.:Western Refining | DATE:07/09/16 | FILE:WestRef-dA53 |
|---|---|---|

FIGURE 1
SITE LOCATION MAP
TANK T-583

N

0 150
SCALE IN FEET

QUADRANGLE LOCATION

DiSorbo
Environmental Consulting Firm

8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759

Aerial Source: Google Maps, 03/18/2016

QUADRANGLE LOCATION

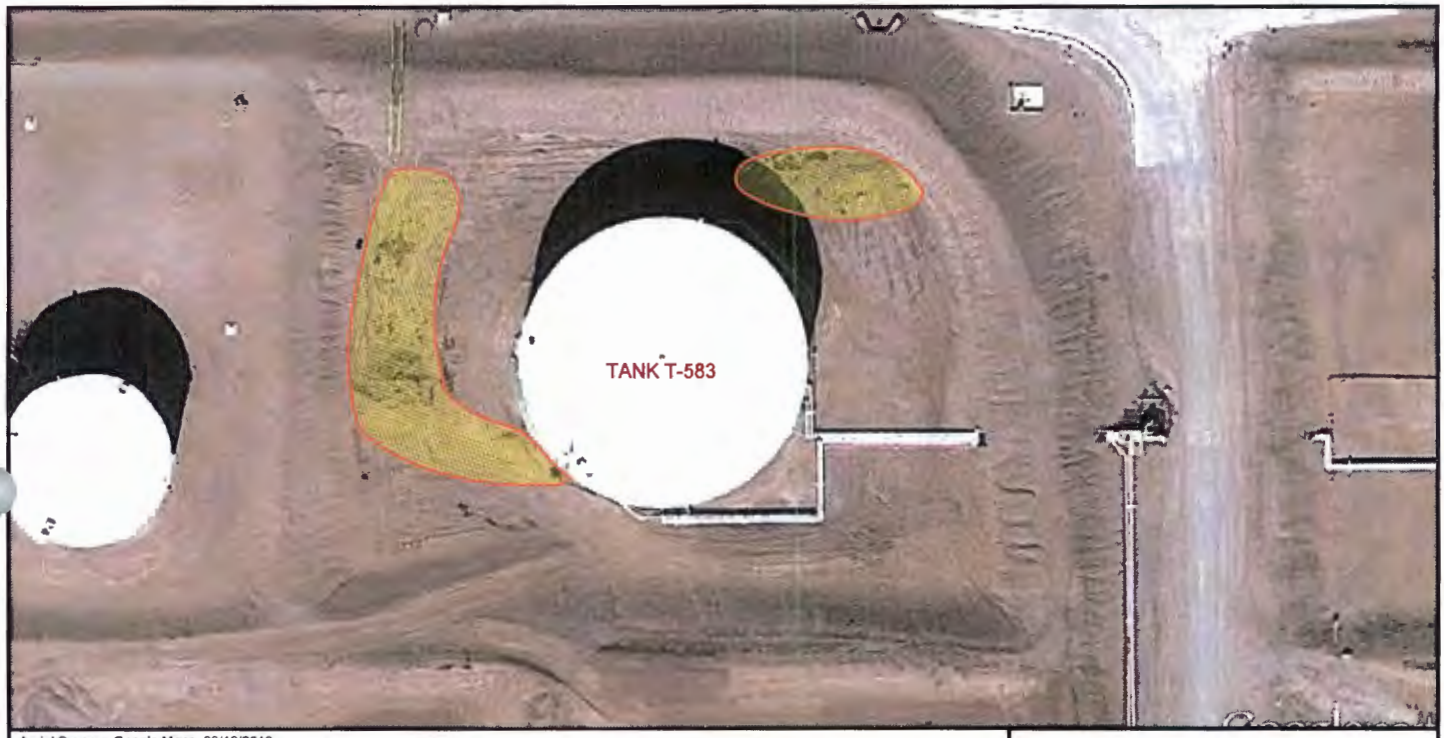
**Western Refining**
GALLUP REFINERY

PROJ. NO.:Western Refining | DATE:07/09/16 | FILE:WestRef-dA54

FIGURE 2
AERIAL PHOTO OF
TANK T-583

DiSorbo
Environmental Consulting Firm

8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759




Aerial Source: Google Maps, 03/18/2016

0 50
SCALE IN FEET

LEGEND
EXTENT OF RELEASE

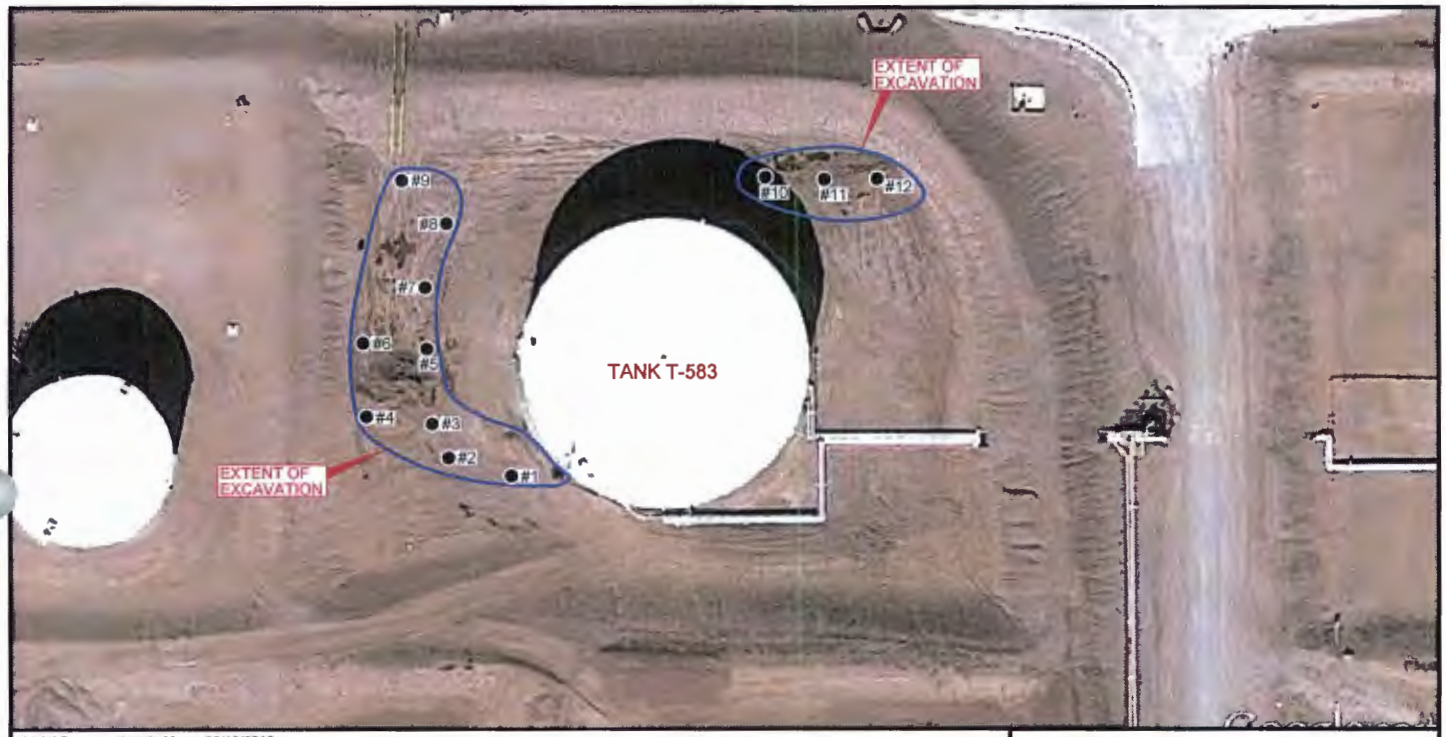
NEW MEXICO
QUADRANGLE LOCATION

Western Refining
GALLUP REFINERY

| PROJ. NO.:Western Refining | DATE:07/09/16 | FILE:WestRef-dA55 |
|---|---|---|

FIGURE 3
EXTENT OF ULSD RELEASE
TANK T-583

DiSorbo
Environmental Consulting Firm
8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759




Aerial Source: Google Maps, 03/18/2016

LEGEND

#1 ● SOIL SAMPLING LOCATION AND IDENTIFICATION NUMBER

EXTENT OF EXCAVATION

0 50
SCALE IN FEET

NEW MEXICO

QUADRANGLE LOCATION

**Western Refining**
GALLUP REFINERY

| PROJ. NO.:Western Refining | DATE:07/09/16 | FILE:WestRef-dA56 |
|---|---|---|

FIGURE 4
SOIL SAMPLING LOCATIONS
MARCH 30, 2016
TANK T-583

DiSorbo
Environmental Consulting Firm
8501 N. MoPac Expy.
Suite 300
Austin, Texas 78759

# Appendix A

# Form C-141 (February 2, 2016) – January 2, 2016 Release

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
istrict IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

## OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: WESTERN REFINING | Contact: Alvin Dorsey |
| Address: I-40 / EXIT 39, JAMESTOWN,NM 87347 | Telephone No.(505) 722-0211 |
| Facility Name: WESTERN RENINING (GALLUP REFINERY) | Facility Type: Petroleum Refinery |

| Surface Owner | Mineral Owner | API No. |
|---|---|---|
| | | |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| | 28 | 15 N | 15 W | | | | | MCKINLEY |

**Latitude**_35° 029' 028.97"_N_ **Longitude**__108° 025' 035.34"_W_

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: ULSD (Ultra-low Sulfur Diesel) | Volume of Release<br>1414 gallons (34 bbls) | Volume Recovered:<br>1250-1350 gallons (30 – 32 bbls) |
| Source of Release: Tank 583 USLD Sandpiper pump cracked on pump case. | Date and Hour of Occurrence<br>01-02-16 ; 2040 hrs | Date and Hour of Discovery<br>01-02-16 ; 2040 hrs |
| Was Immediate Notice Given?<br>☒ Yes ☐ No ☐ Not Required | If YES, To Whom?<br>OCD (C. Chavez)(msg)/NMED HWB (Kristen Van Horn)(Ruth Horowitz)(msg) | |
| By Whom? Alvin Dorsey | Date and Hour:<br>01-03-16 15:30 | |
| Vas a Watercourse Reach<br>☐ Yes ☒ No | If YES, Volume Impacting the Watercourse.<br>N/A | |

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.* On January 2, 2016 at 8:40 PM (2040 hrs) while Off-site personnel was making his rounds, he discovered the sandpiper pump for the distillate rundown line going to T-583 was leaking product to the ground surface from a cracked casing. All liquid was contained within an earthen dike within the tank farm. The line was immediately blocked in. It was estimated that 34 bbls of product was spilled to the ground surface. Maintenance and the Environmental on-call personnel were notified. The onsite vacuum truck began removing liquid from the contaminated area. The vacuum truck recovered about 1250 to 1350 gallons (30 to 32 bbls) of liquid from the area.

Describe Area Affected and Cleanup Action Taken.* The estimated extent of the ULSD contamination has a surface area of about 4032 sq. ft. Clean up operation began by removing the contaminated soil around T-583 and placing it in several lined roll-off boxes pending disposal. Once the soil have been properly removed and determined that the clean-up is completed, confirmation soil samples will be collected and sent to an outside laboratory for analysis. The results of these analyses will determine if further cleanup action will be required.

| | | |
|---|---|---|
| Signature: | OIL CONSERVATION DIVISION | |
| Printed Name: Beck Larsen: | Approved by Environmental Specialist: | |
| Title: Environmental Engineer | Approval Date: | Expiration Date: |
| E-mail Address: Thurman.larsen@wnr.com | Conditions of Approval: | Attached ☐ |
| Date: 2/2/2016 Phone: (505) 722-0258 | | |

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

# Release Notification and Corrective Action

## OPERATOR

☐ Initial Report ☒ Final Report

| | |
|---|---|
| Name of Company: WESTERN REFINING | Contact: Ed Riege |
| Address: I-40 / EXIT 39, JAMESTOWN,NM 87347 | Telephone No.(505) 722-0217 |
| Facility Name: WESTERN REFINING (GALLUP REFINERY) | Facility Type: Petroleum Refinery |

| Surface Owner | Mineral Owner | API No. |
|---|---|---|

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| | 28 | 15 N | 15 W | | | | | MCKINLEY |

**Latitude**__35° 029' 028.97" N__ **Longitude**__108° 025' 035.34"_W_

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release: ULSD- ultra low sulfur diesel | Volume of Release 34 bbls | Volume Recovered: 30-32 bbls |
| Source of Release: T-583 ULSD sandpiper pump | Date and Hour of Occurrence 1/2/16 @ 2040 hrs | Date and Hour of Discovery 1/2/16 @ 2040 hrs |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? OCD (Carl Chavez Msg.); NMEDHWB (Kristen VanHorn Msg.) (Ruth Horowitz msg.) | |
| By Whom? Alvin Dorsey | Date and Hour: 1/3/16 1530 hr | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. N/A | |

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*The offsites supervisor discovered the sandpiper pump for the distillate rundown line going to T-583 leaking product to the ground surface due to a cracked pump casing. The line was immediately blocked in. The onsite vacuum truck removed the diesel liquid from T-583 containment. There were no safety concerns. (For additional information see the T-583 Response Action Report dated August 2016.)

Describe Area Affected and Cleanup Action Taken.*
The impacted area was 4,032 sq. ft. of ground surface inside of the T-583 earthen dike in the tank farm. Diesel (30-32 bbls) was removed from the earthen dike with a vacuum truck. The contaminated soil was excavated and placed into lined roll-off boxes for disposal offsite. (For drawings, photos, analytical and a full report see the T-583 Response Action Report dated August 2016.)

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

| | | |
|---|---|---|
| Signature: | OIL CONSERVATION DIVISION | |
| Printed Name: Ed Riege | Approved by Environmental Specialist: | |
| Title: Remediation Manager | Approval Date: | Expiration Date: |
| E-mail Address: ed.riege@wnr.com | Conditions of Approval: | Attached ☐ |
| Date: 8/29/2016 Phone: (505) 722-0217 | | |

* Attach Additional Sheets If Necessary

# Appendix B

## Safety Data Sheet – Ultra-Low Sulfur Diesel

Conforms to HazCom 2012/United States, Mexico

# SAFETY DATA SHEET

**DIESEL FUEL No. 2**

## Section 1. Identification

**GHS product identifier** : DIESEL FUEL No. 2

**Other means of identification** : WESTERN LS Diesel 2, Diesel Fuel Oil, Gas Oil, HS Diesel 2, HS Heating Fuel 2, LS Diesel 2, LS Heating Fuel 2, Marine Diesel, RR Diesel Fuel, Ultra Low Sulfur Diesel, Off Road Diesel

**Relevant identified uses of the substance or mixture and uses advised against**

Fuel.

**Supplier's details** : Western Refining Company LP
123 W. Mills Avenue
El Paso, TX 79901
Tel: 915-534-1488

**Emergency telephone number (with hours of operation)** : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3877 (24/7)

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY: INHALATION - Category 3
SKIN CORROSION/IRRITATION - Category 2
CARCINOGENICITY - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): ORAL - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): INHALATION - Category 2
ASPIRATION HAZARD - Category 1
AQUATIC TOXICITY (CHRONIC) - Category 2

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** : Flammable liquid and vapor.
Toxic if inhaled.
Causes skin irritation.
May cause cancer.
May be fatal if swallowed and enters airways.
May cause damage to organs through prolonged or repeated exposure if inhaled.
May cause damage to organs through prolonged or repeated exposure if swallowed.
Toxic to aquatic life with long lasting effects.

**Precautionary statements**

## Section 2. Hazards identification

**Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Wash hands thoroughly after handling.

**Response** : Collect spillage. Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation occurs: Get medical attention.

**Storage** : Store locked up. Store in a well-ventilated place. Keep cool.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : WESTERN LS Diesel 2, Diesel Fuel Oil, Gas Oil, HS Diesel 2, HS Heating Fuel 2, LS Diesel 2, LS Heating Fuel 2, Marine Diesel, RR Diesel Fuel, Ultra Low Sulfur Diesel, Off Road Diesel

**CAS number/other identifiers**

**CAS number** : Not applicable.

**Product code** : Not available.

| Ingredient name | % | CAS number |
|---|---|---|
| Fuel, diesel | 100 | 68476-34-6 |
| **Contains:** | | |
| Distillates (petroleum), hydrodesulfurized middle | - | 64742-80-9 |
| Distillates (petroleum), straight-run middle | - | 64741-44-2 |
| Distillates (petroleum), light catalytic cracked | - | 64741-59-9 |
| Kerosene | - | 8008-20-6 |
| Kerosine (petroleum), hydrodesulfurized | - | 64742-81-0 |
| Naphthalene | - | 91-20-3 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

# Section 4. First aid measures

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if symptoms occur.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention.

**Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if symptoms occur.

**Most important symptoms/effects, acute and delayed**

**Potential acute health effects**

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Harmful if inhaled.

**Skin contact** : Causes skin irritation.

**Ingestion** : May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

**Over-exposure signs/symptoms**

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : Adverse symptoms may include the following:
nausea or vomiting

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** : Use dry chemical, $CO_2$, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet or water-based fire extinguishers.

**Specific hazards arising from the chemical** : Flammable liquid and vapor. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : No specific data.

**Special protective actions for fire-fighters** : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

**Methods and materials for containment and cleaning up**

**Spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# Section 7. Handling and storage

## Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

### United States

| Ingredient name | Exposure limits |
|---|---|
| Fuel, diesel | **ACGIH TLV (United States, 3/2012). Absorbed through skin.**<br>TWA: 100 mg/m³, (measured as total hydrocarbons) 8 hours. Form: Inhalable fraction and vapor |
| Kerosene | **NIOSH REL (United States, 6/2009).**<br>TWA: 100 mg/m³ 10 hours.<br>**ACGIH TLV (United States, 3/2012). Absorbed through skin.**<br>TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours. |
| Kerosine (petroleum), hydrodesulfurized | **ACGIH TLV (United States, 1/2011). Absorbed through skin.**<br>TWA: 200 mg/m³ 8 hours. |
| Naphthalene | **ACGIH TLV (United States, 3/2012). Absorbed through skin.**<br>STEL: 79 mg/m³ 15 minutes.<br>STEL: 15 ppm 15 minutes.<br>TWA: 52 mg/m³ 8 hours.<br>TWA: 10 ppm 8 hours.<br>**NIOSH REL (United States, 6/2009).**<br>STEL: 75 mg/m³ 15 minutes.<br>STEL: 15 ppm 15 minutes.<br>TWA: 50 mg/m³ 10 hours.<br>TWA: 10 ppm 10 hours.<br>**OSHA PEL (United States, 6/2010).**<br>TWA: 50 mg/m³ 8 hours.<br>TWA: 10 ppm 8 hours. |

### Mexico

## Section 8. Exposure controls/personal protection

| Ingredient name | Exposure limits |
|---|---|
| Fuel, diesel | **ACGIH TLV (United States, 3/2012). Absorbed through skin.** TWA: 100 mg/m³, (measured as total hydrocarbons) 8 hours. Form: Inhalable fraction and vapor |
| Kerosene | **ACGIH TLV (United States, 3/2012). Absorbed through skin.** TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours. |
| Kerosine (petroleum), hydrodesulfurized | **ACGIH TLV (United States, 1/2011). Absorbed through skin.** TWA: 200 mg/m³ 8 hours. |

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Color** : Various

**Odor** : Petroleum.

**Odor threshold** : Not available.

**pH** : Not available.

**Melting point** : Not available.

## Section 9. Physical and chemical properties

| | |
|---|---|
| **Boiling point** | : 175.6°C (348.1°F) |
| **Flash point** | : Closed cup: 52°C (125.6°F) [Pensky-Martens.] |
| **Burning time** | : Not applicable. |
| **Burning rate** | : Not applicable. |
| **Evaporation rate** | : Not available. |
| **Flammability (solid, gas)** | : Not available. |
| **Lower and upper explosive (flammable) limits** | : Lower: 0.6%<br>Upper: 7.5% |
| **Vapor pressure** | : 0.04 kPa (0.3 mm Hg) [room temperature] |
| **Vapor density** | : >1 [Air = 1] |
| **Relative density** | : 0.8 to 0.88 |
| **Solubility** | : Insoluble in water. |
| **Solubility in water** | : Not available. |
| **Partition coefficient: n-octanol/water** | : Not available. |
| **Auto-ignition temperature** | : 257°C (494.6°F) |
| **Decomposition temperature** | : Not available. |
| **SADT** | : Not available. |
| **Viscosity** | : Kinematic (40°C (104°F)): 0.019 to 0.041 $cm^2/s$ (1.9 to 4.1 cSt) |

## Section 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | : No specific test data related to reactivity available for this product or its ingredients. |
| **Chemical stability** | : The product is stable. |
| **Possibility of hazardous reactions** | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| **Conditions to avoid** | : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas. |
| **Incompatible materials** | : Reactive or incompatible with the following materials: oxidizing materials. |
| **Hazardous decomposition products** | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

# Section 11. Toxicological information

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Distillates (petroleum), hydrodesulfurized middle | LC50 Inhalation Vapor | Rat | 4600 mg/m³ | 4 hours |
| Distillates (petroleum), straight-run middle | LC50 Inhalation Vapor | Rat | 1700 mg/m³ | 4 hours |
| Distillates (petroleum), light catalytic cracked | LC50 Inhalation Vapor | Rat | 3400 mg/m³ | 4 hours |
| | LD50 Oral | Rat | 3200 mg/kg | - |
| Kerosene | LD50 Oral | Rat | 15 g/kg | - |
| Kerosine (petroleum), hydrodesulfurized | LD50 Oral | Rat | >5000 mg/kg | - |
| Naphthalene | LD50 Dermal | Rabbit | >20 g/kg | - |
| | LD50 Oral | Rat | 490 mg/kg | - |

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| Distillates (petroleum), hydrodesulfurized middle | Skin - Severe irritant | Rabbit | - | 500 mg | - |
| Distillates (petroleum), straight-run middle | Skin - Moderate irritant | Rabbit | - | 500 mg | - |
| Distillates (petroleum), light catalytic cracked | Skin - Severe irritant | Rabbit | - | 500 mg | - |
| Kerosene | Skin - Severe irritant | Rabbit | - | 500 mg | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 100% | - |
| | Skin - Moderate irritant | Rabbit | - | 0.5 mL | - |
| Kerosine (petroleum), hydrodesulfurized | Skin - Moderate irritant | Rabbit | - | 24 hours 500 mg | - |
| Naphthalene | Skin - Mild irritant | Rabbit | - | 495 mg | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 0.05 mL | - |

**Sensitization**

There is no data available.

**Mutagenicity**

There is no data available.

**Carcinogenicity**

**Classification**

| Product/ingredient name | OSHA | IARC | ACGIH | NTP |
|---|---|---|---|---|
| Fuel, diesel | - | 3 | A3 | - |
| Distillates (petroleum), light catalytic cracked | - | 2A | - | - |
| Naphthalene | - | 2B | A4 | Reasonably anticipated to be a human carcinogen. |

**Reproductive toxicity**

There is no data available.

**Teratogenicity**

There is no data available.

**Specific target organ toxicity (single exposure)**

There is no data available.

**Specific target organ toxicity (repeated exposure)**

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Distillates (petroleum), straight-run middle | Category 2 | Oral<br>Inhalation | Not determined<br>Not determined |

**Aspiration hazard**

# Section 11. Toxicological information

| Name | Result |
|---|---|
| Distillates (petroleum), hydrodesulfurized middle | ASPIRATION HAZARD - Category 1 |
| Distillates (petroleum), straight-run middle | ASPIRATION HAZARD - Category 1 |
| Distillates (petroleum), light catalytic cracked | ASPIRATION HAZARD - Category 1 |
| Kerosene | ASPIRATION HAZARD - Category 1 |
| Kerosine (petroleum), hydrodesulfurized | ASPIRATION HAZARD - Category 1 |

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

**Potential acute health effects**

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Harmful if inhaled.

**Skin contact** : Causes skin irritation.

**Ingestion** : May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Adverse symptoms may include the following:
irritation
redness

**Ingestion** : Adverse symptoms may include the following:
nausea or vomiting

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

**Long term exposure**

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

**Potential chronic health effects**

**General** : May cause damage to organs through prolonged or repeated exposure if inhaled or swallowed.

**Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

## Section 11. Toxicological information

| Route | ATE value |
|---|---|
| Oral<br>Inhalation (vapors) | 5120 mg/kg<br>8.889 mg/L |

## Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| Naphthalene | Acute EC50 1600 µg/l Fresh water<br>Acute LC50 2350 µg/l Marine water<br>Acute LC50 213 µg/l Fresh water | Daphnia - Daphnia magna - Neonate<br>Crustaceans - Palaemonetes pugio<br>Fish - Melanotaenia fluviatilis - Larvae | 48 hours<br>48 hours<br>96 hours |

**Persistence and degradability**

There is no data available.

**Bioaccumulative potential**

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Fuel, diesel<br>Naphthalene | >3.3<br>3.3 | -<br>85.11380382 | low<br>low |

**Mobility in soil**

**Soil/water partition coefficient ($K_{oc}$)** : There is no data available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

| | DOT Classification | IMDG | IATA |
|---|---|---|---|
| **UN number** | UN1202 | UN1202 | UN1202 |
| **UN proper shipping name** | GAS OIL | GAS OIL | GAS OIL |
| **Transport hazard class(es)** | 3 | 3 | 3 |
| **Packing group** | III | III | III |
| **Environmental hazards** | No. | No. | No. |
| **Additional information** | - | **Emergency schedules (EmS)** F-E, S-E | - |

**AERG** : 128

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) PAIR**: Naphthalene
**TSCA 8(a) CDR Exempt/Partial exemption**: Not determined
**United States inventory (TSCA 8b)**: All components are listed or exempted.
**Clean Water Act (CWA) 307**: Naphthalene
**Clean Water Act (CWA) 311**: Naphthalene

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**

**Composition/information on ingredients**

# Section 15. Regulatory information

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

**Classification** : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

**Composition/information on ingredients**

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|---|---|---|---|---|---|---|
| Fuel, diesel | 100 | Yes. | No. | No. | No. | Yes. |
| Distillates (petroleum), hydrodesulfurized middle | - | Yes. | No. | No. | Yes. | No. |
| Distillates (petroleum), straight-run middle | - | No. | No. | No. | Yes. | Yes. |
| Distillates (petroleum), light catalytic cracked | - | Yes. | No. | No. | No. | Yes. |
| Kerosene | - | Yes. | No. | No. | Yes. | No. |
| Kerosine (petroleum), hydrodesulfurized | - | Yes. | No. | No. | No. | No. |
| Naphthalene | - | No. | No. | No. | Yes. | Yes. |

**SARA 313**

| | Product name | CAS number | % |
|---|---|---|---|
| **Form R - Reporting requirements** | Naphthalene | 91-20-3 | 0 - 0.1 |
| **Supplier notification** | Naphthalene | 91-20-3 | 0 - 0.1 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

**State regulations**

**Massachusetts** : The following components are listed: Kerosene

**New York** : The following components are listed: Naphthalene

**New Jersey** : The following components are listed: Kerosene; Naphthalene

**Pennsylvania** : The following components are listed: Kerosene; Naphthalene

**California Prop. 65**

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|---|---|---|---|---|
| Naphthalene | Yes. | No. | Yes. | No. |

**Mexico**

**Classification** :

**International regulations**

## Section 15. Regulatory information

| | |
|---|---|
| **International lists** | : **Australia inventory (AICS)**: All components are listed or exempted.<br>**China inventory (IECSC)**: All components are listed or exempted.<br>**Japan inventory**: Not determined.<br>**Korea inventory**: All components are listed or exempted.<br>**Malaysia Inventory (EHS Register)**: Not determined.<br>**New Zealand Inventory of Chemicals (NZIoC)**: Not determined.<br>**Philippines inventory (PICCS)**: Not determined.<br>**Taiwan inventory (CSNN)**: Not determined. |
| **Chemical Weapons Convention List Schedule I Chemicals** | : Not listed |
| **Chemical Weapons Convention List Schedule II Chemicals** | : Not listed |
| **Chemical Weapons Convention List Schedule III Chemicals** | : Not listed |

## Section 16. Other information

**History**

| | |
|---|---|
| **Date of issue mm/dd/yyyy** | : 06/30/2013 |
| **Date of previous issue** | : 05/30/2012 |
| **Version** | : 4 |
| **Revised Section(s)** | : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 |
| **Prepared by** | : KMK Regulatory Services Inc. |
| **Key to abbreviations** | : ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>UN = United Nations |

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

# Appendix C

# Calculations for Reportable Quantities

Western

CALCULATIONS and DESIGN DATA

| PREPARED BY | |
|---|---|
| SUBJECT | DATE |
| | SHEET OF |

Tank Farm

$\mu = 6.5 cP = 0.00437$ lbm/ft·s

$API = 37.0$

$0.84(62.43) = 52.44$ lb/ft³

Level of tank = 18 ft

$P = 0.433(h)(S.G.)$

$P = 0.433(18)(0.84) = 6.55$ PSI

Bernoullis Theorem

$$V = \sqrt{\frac{144 \Delta P 2g}{\rho}} = \sqrt{\frac{144(6.55)2(32.174)}{52.44}} = 34 \text{ ft/s}$$

Area of leak: $L = 11'' \rightarrow 0.92$ ft

$W = 0.008'' \rightarrow 0.0007$ ft

$A = L \times W$

$A = (0.92 ft)(0.0007 ft) = 0.000644$ ft²

Area of a circle: $A = \pi r^2$

$0.000644 ft^2 = \pi r^2$

$0.000205 = r^2$

$r = 0.014$ ft

$D = 2r = 0.014(2) = 0.028$ ft

Reynolds Number

$$Re = \frac{Dv\rho}{\mu} = \frac{(0.028)(34)(52.44)}{0.00437} = 11{,}424$$

Western

| CALCULATIONS and DESIGN DATA | PREPARED BY |
|---|---|
| SUBJECT | DATE |
| | SHEET OF |

Flow coefficient = 0.8

Velocity Approach

$$q = CA\sqrt{\frac{2(144)g\Delta P}{\rho}}$$

$$q = 0.8\,(0.000644)\sqrt{\frac{2(144)(32.174)(6.55)}{52.44}}$$

$$q = \frac{0.0175\ ft^3}{s}$$

at 2hrs

$$\frac{0.0175\ ft^3}{s} \left| \frac{7.48052\ gal}{1\ ft^3} \right| \frac{60\ s}{1\ min} \left| \frac{60\ min}{1\ hr} \right| 2\ hr$$

= 942 gallons

at 3hrs

= 1414 gallons

# Appendix D

# Photographs

2016-01-05

2016-01-05

2016-01-05

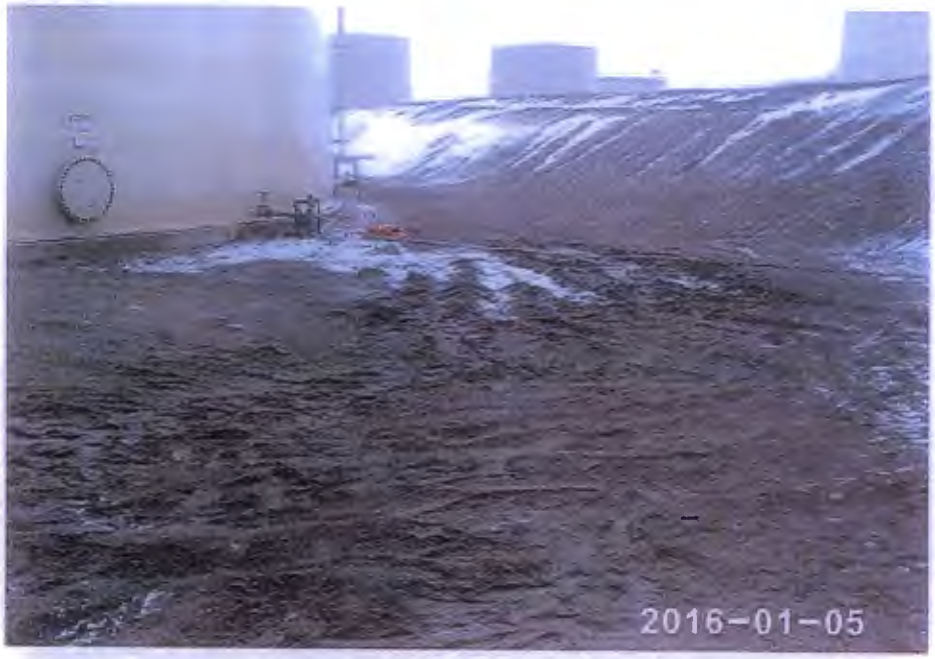
2016-01-05

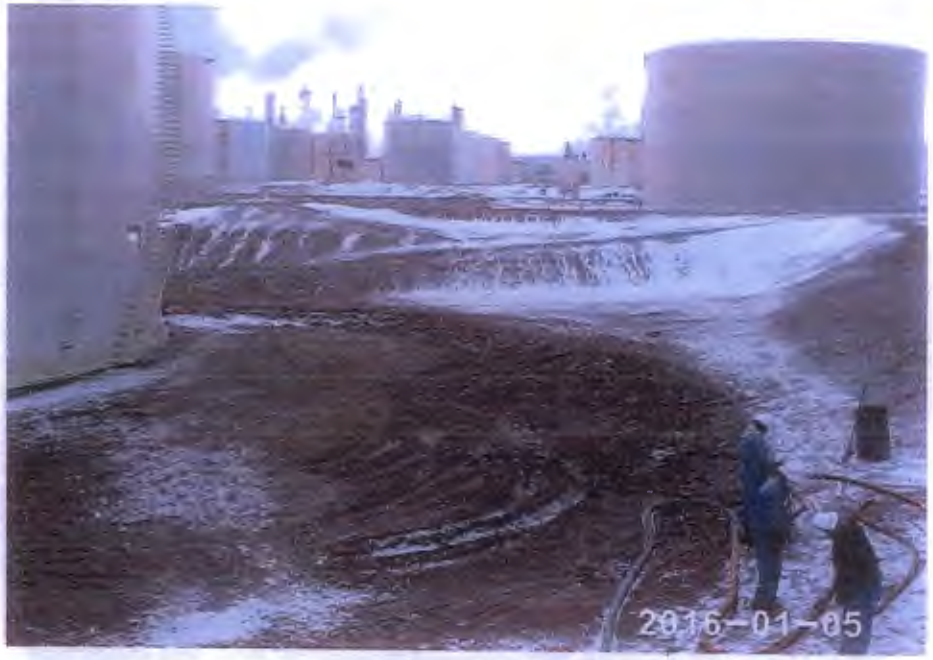
2016-01-05

2016-01-05

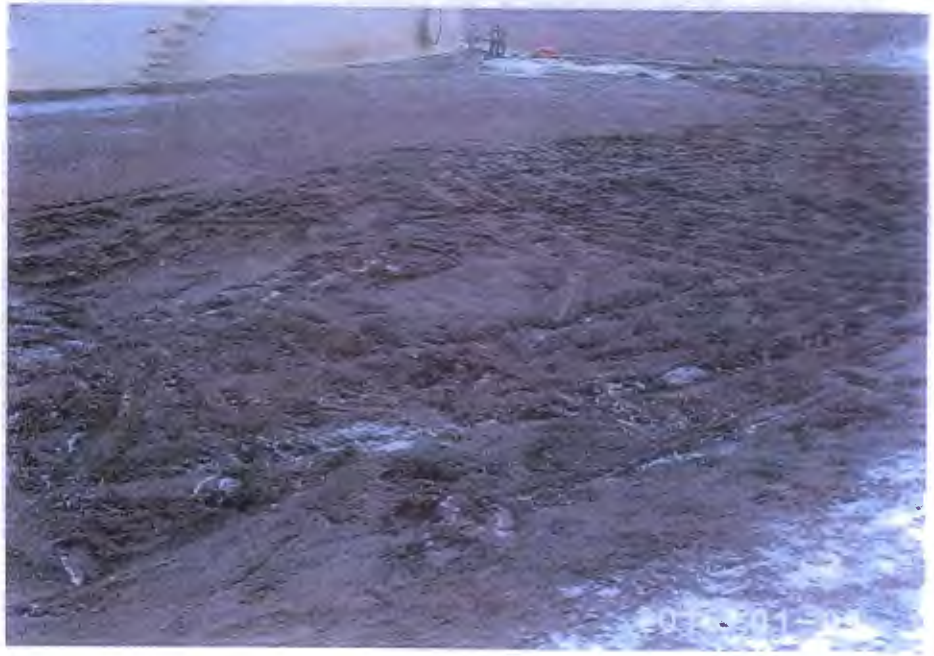
2016-01-05

2016-01-05


2016-01-05


2016-01-05

2016-01-05



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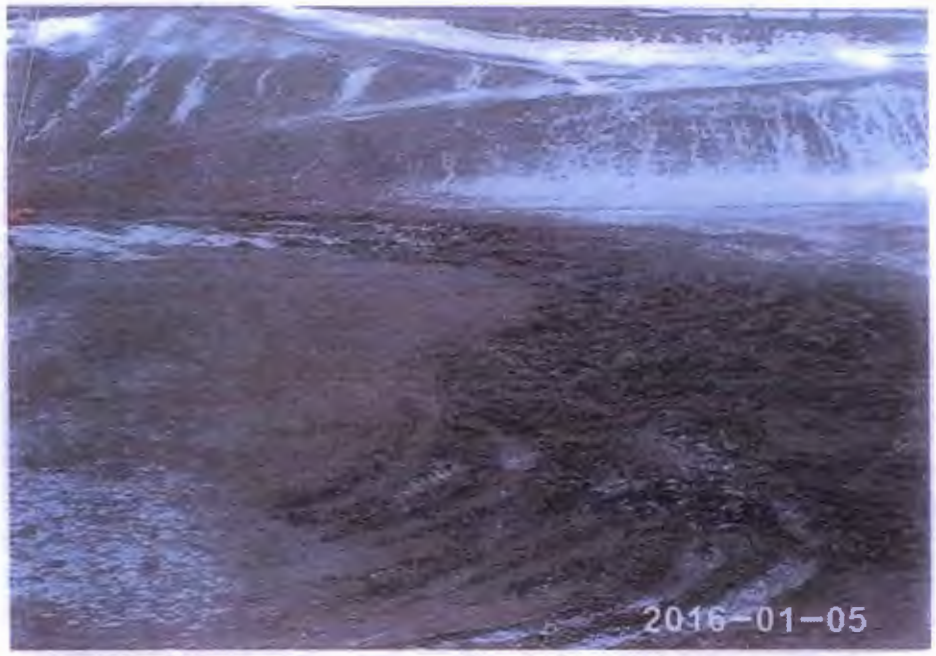
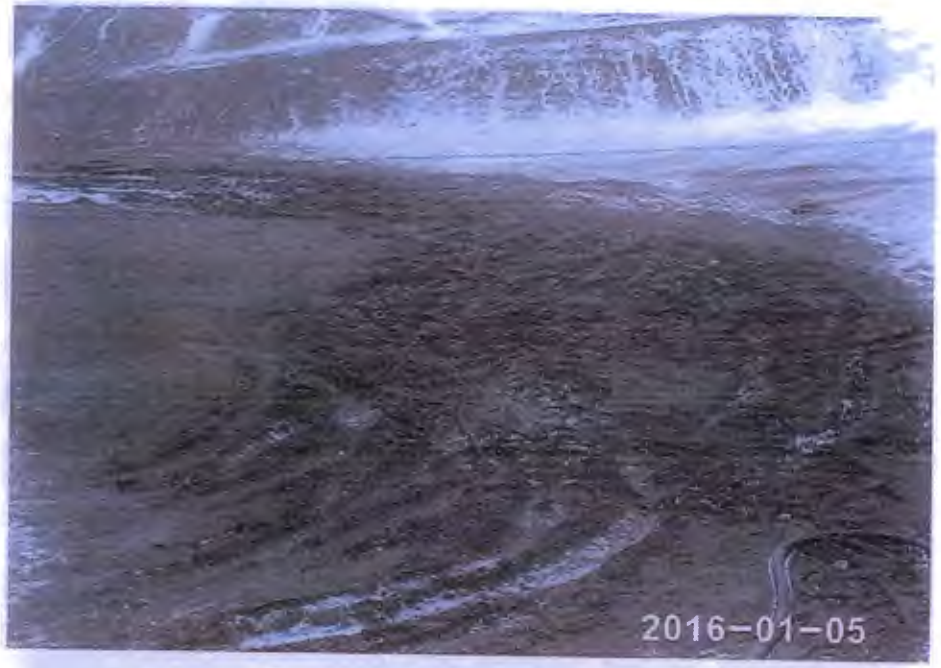

2016-01-05

2016-01-05


2016-01-05

2016-01-05

# Appendix E

# Waste Characterization and Manifests

6133 Edith Blvd. NE
Albuquerque, NM 87107
Phone: (505) 349-5220
Fax: (505) 344-7986

# GENERATOR WASTE PROFILE SHEET

## A. GENERATOR INFORMATION

Profile Number: GANDY TPH
Generator US EPA ID: NMD000333211
Phone: 800-424-9300
Fax:
Email:

Generator Name: WESTERN REFINING SOUTHWEST GALLUP REFINING
Mailing Address: 92 GIANT CROSSING ROAD
GALLUP, NM 87301
Site Pick-up Address: 92 GIANT CROSSING ROAD
GALLUP , NM 87301
Technical Contact: ALVIN DORSEY Title: MAIN CONTACT
Name of Waste PETROLEUM CONTAMINATED SOIL
Process Generating DIESEL SPILL CLEAN UP

**NAICS CODE:** 324110 **Form Code:**W301 **Source Code:** G32

## B. PHYSICAL CHARACTERISTICS OF WASTE AT 25C OF 77F

**Physical State:** SOLID **Color:** BROWN **Clarity:** CLOUDY **Phase Separation Number of Layers:** SINGLE **Odor:** NONE

**PH:** NA **Specific Gravity:** > 1 SP.GR. **Flash Point (F):** F NA **BTU Value:** BTU/LB NA

## C. Chemical Composition / UHC's

**BASED UPON: ANALYTICAL(INCLUDED)** ☐ **GENERATOR KNOWLEDGE** [X]

| | Range | | |
|---|---|---|---|
| PETROLEUM CONTAMINATED SOIL | 100 | - 100 | % |

## D. METALS

| | Total (PPM) | | EP Toxicity (mg/l) |
|---|---|---|---|
| Arsenic: | | Silver: | |
| Barium: | | Copper: | |
| Cadmium: | | Nickel: | |
| Chromium: | | Zinc: | |
| Lead: | | Thallium: | |
| Mercury: | | | |
| Chromium, Hexavalent | | | |
| Selenium: | | | |

## E. OTHER COMPONENTS

| | | | |
|---|---|---|---|
| OXIDIZER: | | REACTIVE SULFIDES PPM | N |
| EXPLOSIVE: | N | REACTIVE CYANIDES PPM | N |
| SHOCK SENSITIVE: | N | WATER/AIR REACTIVE | N |
| TIRES: | N | THERMALLY UNSTABLE | N |
| PYROPHORIC: | N | TSCA REG PCB WASTE: | N |
| RADIOACTIVE: | N | COMPRESSED GASSES: | N |
| EXEMPT RAD: | N | CERCLA/SUPERFUND: | N |
| ETHIOLOGICAL: | N | PESTICIDE MANUFACTURING WASTE: | N |

HALOGENATED ORGANIC COMPOUNDS PER 40 CFR 268, APPENDIX III
DEBRIS N <500 PPM VOC as generated NO

Subject to NESHAP Regulations
US EPA Hazardous Waste
US EPA Hazardous Waste Codes:

## F. Shipping Information:

DOT Hazardous Material NO Exempted YES
Proper Shipping Name: Non-RCRA/Non-DOT Regulated Material Solid (Petroleum Contaminated Soil)
Hazard Class:
ID #:
PG:
Anticipated Volume (Units): 20 YD
Per: MONTH

## G. Special Handling Instructions:

H. GENERATOR'S CERTIFICATION:

I hereby certify that all information in this and all the attached documents is complete and accurate, and that all known or suspected hazards have been disclosed. I further certify that any samples submitted with this profile are representative of the waste to be shipped and are taken in accordance with SW 846 or other approved procedures. I agree to notify Advanced Chemical Treatment in writing when the process generating this waste stream changes or when I have reason to believe the data contained herein is not complete and accurate.

*Signature*_____ *Title*_____ *Date*_____

*Print Name:*_____

# NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No. NMD000533211

Manifest Document No. D114022

2. Page 1 of 1

3. Generator's Name and Mailing Address
WESTERN REFINING SOUTHWEST GALLUP REFINING
92 GIANT CROSSING ROAD
GALLUP, NM 87301

4. Generator's Phone (505) 722 0258

5. Transporter 1 Company Name: Advanced Chemical Transport Inc. (SV)

6. US EPA ID Number: CAR000070540

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
Gandy Marley, Inc.
Section 4,5,8 & 9 of T11S, R31E NMPM
Chavez County, NM 88202

10. US EPA ID Number: NON HAZ

E. State Facility's ID

F. Facility's Phone

| 11. WASTE DESCRIPTION | Containers No. | Containers Type | 13. Total Quantity | 14. Unit Wt./Vol. |
|---|---|---|---|---|
| a. Non-RCRA/Non-DOT Regulated Material Solid (Petroleum Contaminated Soil) | 1 | CM | 25,800 | P |
| b. | | | | |
| c. | | | | |
| d. | | | | |

G. Additional Descriptions for Materials Listed Above Project Number 96889 Document #: D114022
1) GANDY TPH WEG 1 X 7.2 yd cm
Bin # 70B26

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
24 hour emergency contact: CHEMTREC 800-424-9300 T 583

**16. GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Cheryl Johnson | Signature | Date: Month 05 Day 24 Year 16

**TRANSPORTER**

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Justin Carey | Signature | Date: Month 05 Day 24 Year 16

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

**FACILITY**

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name | Signature | Date: Month Day Year

NON-HAZARDOUS WA

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# NON-HAZARDOUS WASTE MANIFEST

(designed for use on elite (12 pitch) typewriter)

| | | | |
|---|---|---|---|
| NON-HAZARDOUS WASTE MANIFEST | 1. Generator's US EPA ID No. NMD000033211 | Manifest Document No. D114119 | 2. Page 1 of 1 |
| 3. Generator's Name and Mailing Address<br>WESTERN REFINING SOUTHWEST GALLUP REFINING<br>92 GIANT CROSSING ROAD<br>GALLUP, NM 87301 | | | |
| 4. Generator's Phone (505) 722-0258 | | | |
| 5. Transporter 1 Company Name<br>Advanced Chemical Transport Inc. (SV) | 6. US EPA ID Number<br>CAR000007705-10 | A. State Transporter's ID<br>B. Transporter 1 Phone | |
| 7. Transporter 2 Company Name | 8. US EPA ID Number | C. State Transporter's ID<br>D. Transporter 2 Phone | |
| 9. Designated Facility Name and Site Address<br>Gandy Marley, Inc<br>Section 4,5,8 & 9 of T11S, R31E NMPM<br>Chaves County, NM 88202 | 10. US EPA ID Number<br>NON HAZ | E. State Facility's ID<br>F. Facility's Phone | |

| 11. WASTE DESCRIPTION | Containers No. | Containers Type | 13. Total Quantity | 14. Unit Wt./Vol. |
|---|---|---|---|---|
| a. Non-RCRA/Non-DOT Regulated Material Solid (Petroleum Contaminated Soil) | 1 | CM | 18,620 | P |
| b. | | | | |
| c. | | | | |
| d. | | | | |

G. Additional Descriptions for Materials Listed Above: Project Number 96890 Document #: D114119
1) GANDY TPH WEG-
Tank 583 820-007

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
24 hour emergency contact CHEMTREC 800-424-9300

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

| Printed/Typed Name | Signature | Date Month | Day | Year |
|---|---|---|---|---|
| ALVIN POISEY | Alvin P | 05 | 12 | 16 |

17. Transporter 1 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Date Month | Day | Year |
|---|---|---|---|---|
| Jason Sandoe | | 05 | 12 | 16 |

18. Transporter 2 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Date Month | Day | Year |
|---|---|---|---|---|
| | | | | |

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

| Printed/Typed Name | Signature | Date Month | Day | Year |
|---|---|---|---|---|
| Kenneth Stinson | | 05 | 12 | 16 |

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE

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# NON-HAZARDOUS WASTE MANIFEST

Type (Form designed for use on elite (12 pitch) typewriter)

| NON-HAZARDOUS WASTE MANIFEST | 1. Generator's US EPA ID No. NMD000333211 | Manifest Document No. D112038 | 2. Page 1 of 1 |
|---|---|---|---|

3. Generator's Name and Mailing Address
WESTERN REFINING SOUTHWEST GALLUP REFINING
92 GIANT CROSSING ROAD
GALLUP, NM 87301
4. Generator's Phone 505 722 0258

Site Order: 95561

| 5. Transporter 1 Company Name | 6. US EPA ID Number | A. State Transporter's ID CCW6362 |
|---|---|---|
| Advanced Chemical Transport Inc. (SV) | CAR000070540 | B. Transporter 1 Phone |
| 7. Transporter 2 Company Name | 8. US EPA ID Number | C. State Transporter's ID |
| | Date: 14-APR-16 | D. Transporter 2 Phone |
| 9. Designated Facility Name and Site Address | 10. US EPA ID Number | E. State Facility's ID |
| Gandy Marley, Inc<br>Section 4,5,8 & 9 of T11S, R31E NMPM<br>Chavez County, NM 88202 | NON HAZ PER 30 DAYS | F. Facility's Phone |

| 11. WASTE DESCRIPTION | Containers No. | Containers Type | 13. Total Quantity | 14. Unit Wt./Vol. |
|---|---|---|---|---|
| Pickup Complete # 1760<br>Non RCRA/Non-DOT Regulated Material Solid (Petroleum Contaminated Soil)<br>92 GIANT CROSSING ROAD | 1 | CM | 21.60 | P |
| b. GALLUP, NM 87301 | | | | |
| c. ALVIN DORSEY<br>505 722 0258 | | | | |
| d. | | | | |

GENERATOR

| 12. Additional Descriptions for Materials Listed Above | | | H. Handling Codes for Wastes Listed Above | |
|---|---|---|---|---|
| Project Number 95561 Document #: D112038 | | | | |
| 1) GANDY TPH WEG | | | | |
| GANDY TPH PETROLEUM CONTAMINATED SOIL | YD | 18 | 47.50 | 855.00 |
| Gear Truck Use - Per Client | EA | 1 | 300.00 | 300.00 |
| Transportation Charge (Per Manifest) | EA | 1 | 975.00 | 975.00 |
| Tank 583 Bin # 104250 | EA | 2.100 | .17 | 362.10 |

15. Special Handling Instructions and Additional Information
4 hour emergency contact: CHEMTREC 800-424-9300

Site Order Total: $2,492.10

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

| Printed/Typed Name | Signature | Date Month | Day | Year |
|---|---|---|---|---|
| ALVIN Dorsey | Alvin D | 05 | 03 | 16 |

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Date Month | Day | Year |
|---|---|---|---|---|
| EUGENE Vigil | S Vigil | 05 | 03 | 16 |

18. Transporter 2 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Date Month | Day | Year |
|---|---|---|---|---|
| | | | | |

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

~~10:09 AM~~

| Printed/Typed Name | Signature | Date Month | Day | Year |
|---|---|---|---|---|
| J. TOLTON | J Tolton | 05 | 04 | 16 |



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# NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No. NMD000333211

Manifest Document No. D117041C

2. Page 1 of 1

3. Generator's Name and Mailing Address
WESTERN REFINING SOUTHWEST GALLUP REFINING
92 GIANT CROSSING ROAD
GALLUP, NM 87301

4. Generator's Phone 505 722 0258

5. Transporter 1 Company Name: Advanced Chemical Transport Inc. (SV)

6. US EPA ID Number: CAR000070540

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
Gandy Marley, Inc
Section 4,5,8 & 9 of T11S, R31E, NMPM
Chavez County, NM 88202

10. US EPA ID Number: NON HAZ

E. State Facility's ID

F. Facility's Phone

| 11. WASTE DESCRIPTION | Containers No. | Containers Type | 13. Total Quantity | 14. Unit Wt./Vol. |
|---|---|---|---|---|
| Non-RCRA/Non-DOT Regulated Material Solid (Petroleum Contaminated Soil) | 1 | CM | 22,480 | P |
| b. | | | | |
| c. | | | | |
| d. | | | | |

G. Additional Descriptions for Materials Listed Above: Project Number 95562 Document #: D112040

1) GANDY TPH WEG-_____

Tank 589 Bill # ACT 2042

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
24 hour emergency contact: CHEMTREC 800-424-9300

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: ALVIN DORSEY Signature: Alvin D Date: Month 04 Day 19 Year 16

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Luis Gurule Signature: Luis Gurule Date: Month 04 Day 19 Year 16

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: Signature: Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name: JOSE GARCIA Signature: JOSE P. GARCIA Date: Month 04 Day 19 Year 16

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE

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# NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No. NMD000333211

Manifest Document No. D112032

2. Page 1 of 1

3. Generator's Name and Mailing Address
WESTERN REFINING SOUTHWEST GALLUP REFINING
92 GIANT CROSSING ROAD
GALLUP, NM 87301

4. Generator's Phone 505 722 0258

5. Transporter 1 Company Name: Advanced Chemical Transport Inc. (SV)

6. US EPA ID Number: CAR000070540

A. State Transporter's ID: 00166562

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
Gandy Marley, Inc
Section 4,5,8 & 9 of T11S, R31E NMPM
Chaves County, NM 88202

10. US EPA ID Number: NON HAZ

E. State Facility's ID

F. Facility's Phone

| 11. WASTE DESCRIPTION | Containers No. | Containers Type | 13. Total Quantity | 14. Unit Wt./Vol. |
|---|---|---|---|---|
| Non-RCRA/Non-DOT Regulated Material Solid (Petroleum Contaminated Soil) | 1 | CM | 18,268 | P |
| b. | | | | |
| c. | | | | |
| d. | | | | |

G. Additional Descriptions for Materials Listed Above: Project Number 95559 Document #: D112032

1) GANDY TPH WEG

Tank 583 Bin# 104050

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

24 hour emergency contact: CHEMTREC 800-424-9300

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: ALVIN DOISEY — Signature: Alvin Doisey — Date: Month 04 Day 14 Year 16

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Justin Gray — Signature: [illegible] — Date: Month 04 Day 14 Year 16

18. Transporter 2 Acknowledgment of Receipt of Materials

Printed/Typed Name: — Signature: — Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Nathan Mathis — Signature: Nathan Mathis — Date: Month 04 Day 14 Year 16

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

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# NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

D116286

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

5. Transporter 1 Company Name

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

| 11. WASTE DESCRIPTION | Containers No. | Containers Type | 13. Total Quantity | 14. Unit Wt./Vol. |
|---|---|---|---|---|
| a. | 01 | | 32 560 | |
| b. | | | | |
| c. | | | | |
| d. | | | | |

G. Additional Descriptions for Materials Listed Above

Bin 20B-27

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

**16. GENERATOR'S CERTIFICATION:** I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name | Signature | Date: Month Day Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name | Signature | Date: Month Day Year

GENERATOR

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE

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PRINTED ON RECYCLED PAPER USING SOYBEAN INK

PRINTED WITH SOY INK

# WEIGHED ON A FAIRBANKS SCALE

DATE 7/6/16

CUSTOMER NAME WNR. Manifest # 0116286

11:20AM ADDRESS LOOP ID 314 92 Grant. Tank 583 Clean-up

COMMODITY Truck

CARRIER ACT. REMARKS T-112 Bin # 20B27

INBOUND 29120 lb

61680 lb GROSS

29120 lb TARE

32560 lb NET

12:43PM 7-06-16
LOOP ID 314

LBS. GROSS

LBS. TARE – DRIVER ON ✓ OFF

LBS. NET @ _____ PER LB. PRICE _____

SHIPPER

WEIGHER

**FAIRBANKS SCALE CAT. 96787**

# Appendix F

## Hall Environmental Analysis Laboratory, Inc.

## March 30, 2016

## Analytical Report No. 1604156

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 12, 2016

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

RE: Tank 583 Confirmation OrderNo.: 1604156

Dear Thurman B. Larsen:

Hall Environmental Analysis Laboratory received 12 sample(s) on 4/5/2016 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-001 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #1
**Collection Date:** 3/30/2016 1:30:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 5.0 | 0.098 | 0.30 | | mg/Kg | 1 | 4/7/2016 4:06:51 PM | 24670 |
| Chloride | 59 | 0.070 | 1.5 | | mg/Kg | 1 | 4/7/2016 4:06:51 PM | 24670 |
| Nitrogen, Nitrite (As N) | ND | 0.15 | 0.30 | | mg/Kg | 1 | 4/7/2016 4:06:51 PM | 24670 |
| Nitrogen, Nitrate (As N) | 8.6 | 0.024 | 0.30 | | mg/Kg | 1 | 4/7/2016 4:06:51 PM | 24670 |
| Phosphorus, Orthophosphate (As P) | ND | 0.65 | 1.5 | | mg/Kg | 1 | 4/7/2016 4:06:51 PM | 24670 |
| Sulfate | 91 | 0.33 | 1.5 | | mg/Kg | 1 | 4/7/2016 4:06:51 PM | 24670 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.023 | 0.00057 | 0.033 | J | mg/Kg | 1 | 4/7/2016 5:07:07 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | 1.1 | 0.72 | 2.5 | J | mg/Kg | 1 | 4/7/2016 1:35:14 PM | 24647 |
| Barium | 190 | 0.096 | 0.20 | | mg/Kg | 2 | 4/7/2016 11:59:21 AM | 24647 |
| Cadmium | ND | 0.063 | 0.099 | | mg/Kg | 1 | 4/7/2016 1:35:14 PM | 24647 |
| Chromium | 5.7 | 0.12 | 0.30 | | mg/Kg | 1 | 4/7/2016 11:53:56 AM | 24647 |
| Lead | 4.4 | 0.17 | 0.25 | | mg/Kg | 1 | 4/8/2016 10:17:14 AM | 24647 |
| Selenium | ND | 1.1 | 2.5 | | mg/Kg | 1 | 4/7/2016 1:35:14 PM | 24647 |
| Silver | ND | 0.031 | 0.25 | | mg/Kg | 1 | 4/7/2016 1:35:14 PM | 24647 |
| **A METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.039 | 0.049 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Toluene | ND | 0.0058 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Ethylbenzene | ND | 0.0080 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.031 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,2,4-Trimethylbenzene | ND | 0.0072 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,3,5-Trimethylbenzene | ND | 0.0071 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.025 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0069 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Naphthalene | ND | 0.015 | 0.19 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1-Methylnaphthalene | 2.2 | 0.022 | 0.39 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 2-Methylnaphthalene | 2.4 | 0.021 | 0.39 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Acetone | ND | 0.13 | 1.5 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Bromobenzene | ND | 0.0079 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Bromodichloromethane | ND | 0.0057 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Bromoform | ND | 0.012 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Bromomethane | ND | 0.036 | 0.29 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 2-Butanone | 0.066 | 0.056 | 0.97 | J | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Carbon disulfide | ND | 0.032 | 0.97 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Carbon tetrachloride | ND | 0.0064 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Chlorobenzene | ND | 0.0079 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Chloroethane | ND | 0.019 | 0.19 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-001 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #1
**Collection Date:** 3/30/2016 1:30:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0074 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Chloromethane | ND | 0.0087 | 0.29 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0072 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 4-Chlorotoluene | ND | 0.0086 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| cis-1,2-DCE | ND | 0.0057 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.0090 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.030 | 0.19 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Dibromochloromethane | ND | 0.0088 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Dibromomethane | ND | 0.0084 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.0085 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.0080 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.012 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.030 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0053 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.032 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.0082 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.011 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 2,2-Dichloropropane | ND | 0.0056 | 0.19 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0077 | 0.19 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Hexachlorobutadiene | ND | 0.012 | 0.19 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 2-Hexanone | ND | 0.053 | 0.97 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Isopropylbenzene | ND | 0.0084 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 4-Isopropyltoluene | ND | 0.0087 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.028 | 0.97 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Methylene chloride | 0.032 | 0.028 | 0.29 | J | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| n-Butylbenzene | ND | 0.0086 | 0.29 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| n-Propylbenzene | ND | 0.0075 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| sec-Butylbenzene | ND | 0.013 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Styrene | ND | 0.0087 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| tert-Butylbenzene | ND | 0.0081 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.0093 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.016 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.0081 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| trans-1,2-DCE | ND | 0.027 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.014 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.015 | 0.19 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.010 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0059 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.011 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |

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

**Qualifiers:**

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

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-001 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #1
**Collection Date:** 3/30/2016 1:30:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.010 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Trichlorofluoromethane | ND | 0.0073 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.017 | 0.19 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Vinyl chloride | ND | 0.0080 | 0.097 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Xylenes, Total | ND | 0.018 | 0.19 | | mg/Kg | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Surr: Dibromofluoromethane | 101 | | 70-130 | | %Rec | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 97.7 | | 70-130 | | %Rec | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Surr: Toluene-d8 | 94.5 | | 70-130 | | %Rec | 1 | 4/6/2016 12:36:38 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 106 | | 70-130 | | %Rec | 1 | 4/6/2016 12:36:38 PM | 24607 |

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

**Qualifiers:**

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

# ‘all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-002 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #2
**Collection Date:** 3/30/2016 1:37:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 5.4 | 0.098 | 0.30 | | mg/Kg | 1 | 4/7/2016 4:31:41 PM | 24670 |
| Chloride | 56 | 1.4 | 30 | | mg/Kg | 20 | 4/7/2016 4:44:06 PM | 24670 |
| Nitrogen, Nitrite (As N) | ND | 0.15 | 0.30 | | mg/Kg | 1 | 4/7/2016 4:31:41 PM | 24670 |
| Nitrogen, Nitrate (As N) | 13 | 0.024 | 0.30 | | mg/Kg | 1 | 4/7/2016 4:31:41 PM | 24670 |
| Phosphorus, Orthophosphate (As P) | ND | 0.65 | 1.5 | | mg/Kg | 1 | 4/7/2016 4:31:41 PM | 24670 |
| Sulfate | 84 | 0.33 | 1.5 | | mg/Kg | 1 | 4/7/2016 4:31:41 PM | 24670 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.0099 | 0.00057 | 0.033 | J | mg/Kg | 1 | 4/7/2016 5:12:24 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | 1.5 | 1.5 | 5.0 | J | mg/Kg | 2 | 4/7/2016 12:13:13 PM | 24647 |
| Barium | 310 | 0.097 | 0.20 | | mg/Kg | 2 | 4/7/2016 12:13:13 PM | 24647 |
| Cadmium | ND | 0.13 | 0.20 | | mg/Kg | 2 | 4/7/2016 12:13:13 PM | 24647 |
| Chromium | 7.8 | 0.25 | 0.60 | | mg/Kg | 2 | 4/7/2016 12:13:13 PM | 24647 |
| Lead | 6.7 | 0.35 | 0.50 | | mg/Kg | 2 | 4/8/2016 10:24:25 AM | 24647 |
| Selenium | ND | 2.2 | 5.0 | | mg/Kg | 2 | 4/7/2016 12:13:13 PM | 24647 |
| Silver | ND | 0.063 | 0.50 | | mg/Kg | 2 | 4/7/2016 12:13:13 PM | 24647 |
| **’A METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.043 | 0.054 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Toluene | ND | 0.0064 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Ethylbenzene | ND | 0.0088 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.034 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,2,4-Trimethylbenzene | 0.050 | 0.0079 | 0.11 | J | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,3,5-Trimethylbenzene | 0.022 | 0.0078 | 0.11 | J | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.028 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0076 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Naphthalene | ND | 0.017 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1-Methylnaphthalene | 1.3 | 0.024 | 0.43 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 2-Methylnaphthalene | 1.4 | 0.023 | 0.43 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Acetone | ND | 0.14 | 1.6 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Bromobenzene | ND | 0.0087 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Bromodichloromethane | ND | 0.0063 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Bromoform | ND | 0.013 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Bromomethane | ND | 0.040 | 0.32 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 2-Butanone | 0.15 | 0.061 | 1.1 | J | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Carbon disulfide | ND | 0.035 | 1.1 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Carbon tetrachloride | ND | 0.0071 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Chlorobenzene | ND | 0.0088 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Chloroethane | ND | 0.021 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-002 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #2
**Collection Date:** 3/30/2016 1:37:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0081 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Chloromethane | ND | 0.0096 | 0.32 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0079 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 4-Chlorotoluene | ND | 0.0095 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| cis-1,2-DCE | ND | 0.0063 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.0099 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.033 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Dibromochloromethane | ND | 0.0097 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Dibromomethane | ND | 0.0093 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.0094 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.0088 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.013 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.033 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0058 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.035 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.0090 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.012 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| ,2-Dichloropropane | ND | 0.0062 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0085 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Hexachlorobutadiene | ND | 0.013 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 2-Hexanone | ND | 0.058 | 1.1 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Isopropylbenzene | ND | 0.0092 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 4-Isopropyltoluene | ND | 0.0097 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.031 | 1.1 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Methylene chloride | 0.039 | 0.031 | 0.32 | J | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| n-Butylbenzene | ND | 0.0095 | 0.32 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| n-Propylbenzene | ND | 0.0083 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| sec-Butylbenzene | ND | 0.015 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Styrene | ND | 0.0096 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| tert-Butylbenzene | ND | 0.0089 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.010 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.017 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.0089 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| trans-1,2-DCE | ND | 0.030 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.016 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.016 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.011 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0066 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.013 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-002 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #2
**Collection Date:** 3/30/2016 1:37:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.012 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Trichlorofluoromethane | 0.20 | 0.0080 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.019 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Vinyl chloride | ND | 0.0088 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Xylenes, Total | 0.056 | 0.020 | 0.22 | J | mg/Kg | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Surr: Dibromofluoromethane | 104 | | 70-130 | | %Rec | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 97.0 | | 70-130 | | %Rec | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Surr: Toluene-d8 | 94.6 | | 70-130 | | %Rec | 1 | 4/6/2016 1:04:49 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 109 | | 70-130 | | %Rec | 1 | 4/6/2016 1:04:49 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-003 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #3
**Collection Date:** 3/30/2016 1:45:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 6.4 | 0.098 | 0.30 | | mg/Kg | 1 | 4/7/2016 4:56:31 PM | 24670 |
| Chloride | 120 | 1.4 | 30 | | mg/Kg | 20 | 4/7/2016 5:08:55 PM | 24670 |
| Nitrogen, Nitrite (As N) | ND | 0.15 | 0.30 | | mg/Kg | 1 | 4/7/2016 4:56:31 PM | 24670 |
| Nitrogen, Nitrate (As N) | 31 | 0.48 | 6.0 | | mg/Kg | 20 | 4/7/2016 5:08:55 PM | 24670 |
| Phosphorus, Orthophosphate (As P) | ND | 0.65 | 1.5 | | mg/Kg | 1 | 4/7/2016 4:56:31 PM | 24670 |
| Sulfate | 300 | 6.6 | 30 | | mg/Kg | 20 | 4/7/2016 5:08:55 PM | 24670 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.058 | 0.00056 | 0.033 | | mg/Kg | 1 | 4/7/2016 5:14:11 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | 1.4 | 0.72 | 2.5 | J | mg/Kg | 1 | 4/7/2016 12:15:09 PM | 24647 |
| Barium | 440 | 0.096 | 0.20 | | mg/Kg | 2 | 4/7/2016 12:16:56 PM | 24647 |
| Cadmium | ND | 0.063 | 0.099 | | mg/Kg | 1 | 4/7/2016 12:15:09 PM | 24647 |
| Chromium | 6.8 | 0.12 | 0.30 | | mg/Kg | 1 | 4/7/2016 12:15:09 PM | 24647 |
| Lead | 5.5 | 0.17 | 0.25 | | mg/Kg | 1 | 4/8/2016 10:31:31 AM | 24647 |
| Selenium | ND | 1.1 | 2.5 | | mg/Kg | 1 | 4/7/2016 12:15:09 PM | 24647 |
| Silver | ND | 0.031 | 0.25 | | mg/Kg | 1 | 4/7/2016 12:15:09 PM | 24647 |
| **A METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.043 | 0.054 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Toluene | ND | 0.0064 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Ethylbenzene | ND | 0.0089 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.034 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,2,4-Trimethylbenzene | 0.023 | 0.0080 | 0.11 | J | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,3,5-Trimethylbenzene | 0.012 | 0.0078 | 0.11 | J | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.028 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0077 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Naphthalene | 0.12 | 0.017 | 0.22 | J | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1-Methylnaphthalene | 0.99 | 0.024 | 0.43 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 2-Methylnaphthalene | 1.0 | 0.023 | 0.43 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Acetone | ND | 0.14 | 1.6 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Bromobenzene | ND | 0.0087 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Bromodichloromethane | ND | 0.0063 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Bromoform | ND | 0.013 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Bromomethane | ND | 0.040 | 0.32 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 2-Butanone | ND | 0.062 | 1.1 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Carbon disulfide | ND | 0.036 | 1.1 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Carbon tetrachloride | ND | 0.0071 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Chlorobenzene | ND | 0.0088 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Chloroethane | ND | 0.022 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-003 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #3
**Collection Date:** 3/30/2016 1:45:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0082 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Chloromethane | ND | 0.0096 | 0.32 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0080 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 4-Chlorotoluene | ND | 0.0096 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| cis-1,2-DCE | ND | 0.0063 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.010 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.033 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Dibromochloromethane | ND | 0.0098 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Dibromomethane | ND | 0.0094 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.0094 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.0089 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.013 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.033 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0058 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.035 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.0091 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.012 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| ,2-Dichloropropane | ND | 0.0062 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0086 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Hexachlorobutadiene | ND | 0.013 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 2-Hexanone | ND | 0.059 | 1.1 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Isopropylbenzene | ND | 0.0093 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 4-Isopropyltoluene | ND | 0.0097 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.032 | 1.1 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Methylene chloride | 0.037 | 0.031 | 0.32 | J | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| n-Butylbenzene | ND | 0.0096 | 0.32 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| n-Propylbenzene | ND | 0.0083 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| sec-Butylbenzene | ND | 0.015 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Styrene | ND | 0.0097 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| tert-Butylbenzene | ND | 0.0090 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.010 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.018 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.0090 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| trans-1,2-DCE | ND | 0.030 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.016 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.016 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.012 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0066 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.013 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |

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

**Qualifiers:**

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

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Client Sample ID:** T#583 Comf #3
**Project:** Tank 583 Confirmation
**Collection Date:** 3/30/2016 1:45:00 PM
**Lab ID:** 1604156-003 **Matrix:** SOIL **Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.012 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Trichlorofluoromethane | ND | 0.0081 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.019 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Vinyl chloride | ND | 0.0088 | 0.11 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Xylenes, Total | ND | 0.020 | 0.22 | | mg/Kg | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Surr: Dibromofluoromethane | 99.2 | | 70-130 | | %Rec | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 99.1 | | 70-130 | | %Rec | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Surr: Toluene-d8 | 94.5 | | 70-130 | | %Rec | 1 | 4/6/2016 1:33:03 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 107 | | 70-130 | | %Rec | 1 | 4/6/2016 1:33:03 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-004 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #4
**Collection Date:** 3/30/2016 1:55:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 5.1 | 0.098 | 0.30 | | mg/Kg | 1 | 4/11/2016 12:50:15 PM | 24706 |
| Chloride | 250 | 1.4 | 30 | | mg/Kg | 20 | 4/11/2016 1:27:29 PM | 24706 |
| Nitrogen, Nitrite (As N) | ND | 0.15 | 0.30 | | mg/Kg | 1 | 4/12/2016 12:10:16 PM | 24706 |
| Nitrogen, Nitrate (As N) | 100 | 0.48 | 6.0 | | mg/Kg | 20 | 4/12/2016 12:47:29 PM | 24706 |
| Phosphorus, Orthophosphate (As P) | ND | 0.65 | 1.5 | | mg/Kg | 1 | 4/12/2016 12:10:16 PM | 24706 |
| Sulfate | 410 | 6.6 | 30 | | mg/Kg | 20 | 4/11/2016 1:27:29 PM | 24706 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.072 | 0.00055 | 0.032 | | mg/Kg | 1 | 4/7/2016 5:16:00 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | 1.9 | 0.73 | 2.5 | J | mg/Kg | 1 | 4/7/2016 12:18:53 PM | 24647 |
| Barium | 380 | 0.097 | 0.20 | | mg/Kg | 2 | 4/7/2016 12:20:39 PM | 24647 |
| Cadmium | ND | 0.063 | 0.10 | | mg/Kg | 1 | 4/7/2016 12:18:53 PM | 24647 |
| Chromium | 6.3 | 0.12 | 0.30 | | mg/Kg | 1 | 4/7/2016 12:18:53 PM | 24647 |
| Lead | 5.3 | 0.17 | 0.25 | | mg/Kg | 1 | 4/8/2016 10:33:17 AM | 24647 |
| Selenium | ND | 1.1 | 2.5 | | mg/Kg | 1 | 4/7/2016 12:18:53 PM | 24647 |
| Silver | ND | 0.032 | 0.25 | | mg/Kg | 1 | 4/7/2016 12:18:53 PM | 24647 |
| **'A METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.049 | 0.061 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Toluene | ND | 0.0072 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Ethylbenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.038 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,2,4-Trimethylbenzene | 0.022 | 0.0089 | 0.12 | J | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,3,5-Trimethylbenzene | ND | 0.0088 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.032 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0087 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Naphthalene | 0.068 | 0.019 | 0.24 | J | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1-Methylnaphthalene | 0.46 | 0.027 | 0.49 | J | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 2-Methylnaphthalene | 0.58 | 0.026 | 0.49 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Acetone | ND | 0.16 | 1.8 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Bromobenzene | ND | 0.0098 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Bromodichloromethane | ND | 0.0071 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Bromoform | ND | 0.015 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Bromomethane | ND | 0.045 | 0.36 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 2-Butanone | ND | 0.070 | 1.2 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Carbon disulfide | ND | 0.040 | 1.2 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Carbon tetrachloride | ND | 0.0080 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Chlorobenzene | ND | 0.0099 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Chloroethane | ND | 0.024 | 0.24 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-004 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #4
**Collection Date:** 3/30/2016 1:55:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0092 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Chloromethane | ND | 0.011 | 0.36 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0090 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 4-Chlorotoluene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| cis-1,2-DCE | ND | 0.0071 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.037 | 0.24 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Dibromochloromethane | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Dibromomethane | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.015 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.038 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0066 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.040 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| ,2-Dichloropropane | ND | 0.0070 | 0.24 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0096 | 0.24 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Hexachlorobutadiene | ND | 0.015 | 0.24 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 2-Hexanone | ND | 0.066 | 1.2 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Isopropylbenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 4-Isopropyltoluene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.035 | 1.2 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Methylene chloride | 0.039 | 0.035 | 0.36 | J | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| n-Butylbenzene | ND | 0.011 | 0.36 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| n-Propylbenzene | ND | 0.0094 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| sec-Butylbenzene | ND | 0.017 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Styrene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| tert-Butylbenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.012 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.020 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| trans-1,2-DCE | ND | 0.034 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.018 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.018 | 0.24 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.013 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0074 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-004 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #4
**Collection Date:** 3/30/2016 1:55:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.013 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Trichlorofluoromethane | ND | 0.0091 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.021 | 0.24 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Vinyl chloride | ND | 0.0099 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Xylenes, Total | 0.048 | 0.023 | 0.24 | J | mg/Kg | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Surr: Dibromofluoromethane | 101 | | 70-130 | | %Rec | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 98.9 | | 70-130 | | %Rec | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Surr: Toluene-d8 | 94.8 | | 70-130 | | %Rec | 1 | 4/6/2016 2:01:28 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 101 | | 70-130 | | %Rec | 1 | 4/6/2016 2:01:28 PM | 24607 |

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

**Qualifiers:**

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

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-005 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #5
**Collection Date:** 3/30/2016 2:03:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 5.8 | 0.098 | 0.30 | | mg/Kg | 1 | 4/11/2016 1:39:53 PM | 24706 |
| Chloride | 150 | 1.4 | 30 | | mg/Kg | 20 | 4/11/2016 1:52:19 PM | 24706 |
| Nitrogen, Nitrite (As N) | ND | 0.15 | 0.30 | | mg/Kg | 1 | 4/12/2016 12:59:54 PM | 24706 |
| Nitrogen, Nitrate (As N) | 45 | 0.12 | 1.5 | | mg/Kg | 5 | 4/12/2016 1:12:18 PM | 24706 |
| Phosphorus, Orthophosphate (As P) | ND | 0.65 | 1.5 | | mg/Kg | 1 | 4/12/2016 12:59:54 PM | 24706 |
| Sulfate | 370 | 6.6 | 30 | | mg/Kg | 20 | 4/11/2016 1:52:19 PM | 24706 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.088 | 0.00055 | 0.032 | | mg/Kg | 1 | 4/7/2016 5:17:47 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | 1.5 | 0.73 | 2.5 | J | mg/Kg | 1 | 4/7/2016 12:22:35 PM | 24647 |
| Barium | 620 | 0.24 | 0.50 | | mg/Kg | 5 | 4/11/2016 9:12:03 AM | 24647 |
| Cadmium | ND | 0.063 | 0.10 | | mg/Kg | 1 | 4/7/2016 12:22:35 PM | 24647 |
| Chromium | 6.9 | 0.12 | 0.30 | | mg/Kg | 1 | 4/7/2016 12:22:35 PM | 24647 |
| Lead | 4.7 | 0.17 | 0.25 | | mg/Kg | 1 | 4/8/2016 10:35:02 AM | 24647 |
| Selenium | ND | 1.1 | 2.5 | | mg/Kg | 1 | 4/7/2016 12:22:35 PM | 24647 |
| Silver | ND | 0.032 | 0.25 | | mg/Kg | 1 | 4/7/2016 12:22:35 PM | 24647 |
| **A METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.046 | 0.058 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Toluene | ND | 0.0069 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Ethylbenzene | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.036 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,2,4-Trimethylbenzene | ND | 0.0085 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,3,5-Trimethylbenzene | ND | 0.0084 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.030 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0083 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Naphthalene | ND | 0.018 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1-Methylnaphthalene | 0.11 | 0.026 | 0.46 | J | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 2-Methylnaphthalene | 0.16 | 0.025 | 0.46 | J | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Acetone | ND | 0.15 | 1.7 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Bromobenzene | ND | 0.0093 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Bromodichloromethane | ND | 0.0068 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Bromoform | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Bromomethane | ND | 0.043 | 0.35 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 2-Butanone | ND | 0.066 | 1.2 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Carbon disulfide | ND | 0.038 | 1.2 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Carbon tetrachloride | ND | 0.0076 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Chlorobenzene | ND | 0.0094 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Chloroethane | ND | 0.023 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |

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

**Qualifiers:**

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

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-005 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #5
**Collection Date:** 3/30/2016 2:03:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0088 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Chloromethane | ND | 0.010 | 0.35 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0086 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 4-Chlorotoluene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| cis-1,2-DCE | ND | 0.0067 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.036 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Dibromochloromethane | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Dibromomethane | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.036 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0063 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.038 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.0097 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.013 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 2,2-Dichloropropane | ND | 0.0066 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0092 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Hexachlorobutadiene | ND | 0.014 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 2-Hexanone | ND | 0.063 | 1.2 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Isopropylbenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 4-Isopropyltoluene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.034 | 1.2 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Methylene chloride | 0.040 | 0.033 | 0.35 | J | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| n-Butylbenzene | ND | 0.010 | 0.35 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| n-Propylbenzene | ND | 0.0089 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| sec-Butylbenzene | ND | 0.016 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Styrene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| tert-Butylbenzene | ND | 0.0096 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.019 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.0096 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| trans-1,2-DCE | ND | 0.032 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.017 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.017 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.012 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0071 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-005 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #5
**Collection Date:** 3/30/2016 2:03:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.012 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Trichlorofluoromethane | ND | 0.0087 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.020 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Vinyl chloride | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Xylenes, Total | ND | 0.022 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Surr: Dibromofluoromethane | 105 | | 70-130 | | %Rec | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 101 | | 70-130 | | %Rec | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Surr: Toluene-d8 | 95.2 | | 70-130 | | %Rec | 1 | 4/6/2016 2:29:45 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 101 | | 70-130 | | %Rec | 1 | 4/6/2016 2:29:45 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Client Sample ID:** T#583 Comf #6
**Project:** Tank 583 Confirmation
**Collection Date:** 3/30/2016 2:12:00 PM
**Lab ID:** 1604156-006
**Matrix:** SOIL
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 5.6 | 0.098 | 0.30 | | mg/Kg | 1 | 4/11/2016 2:29:33 PM | 24706 |
| Chloride | 110 | 1.4 | 30 | | mg/Kg | 20 | 4/11/2016 2:41:58 PM | 24706 |
| Nitrogen, Nitrite (As N) | ND | 0.15 | 0.30 | | mg/Kg | 1 | 4/12/2016 1:24:42 PM | 24706 |
| Nitrogen, Nitrate (As N) | 26 | 0.12 | 1.5 | | mg/Kg | 5 | 4/12/2016 1:37:06 PM | 24706 |
| Phosphorus, Orthophosphate (As P) | ND | 0.65 | 1.5 | | mg/Kg | 1 | 4/12/2016 1:24:42 PM | 24706 |
| Sulfate | 180 | 6.6 | 30 | | mg/Kg | 20 | 4/11/2016 2:41:58 PM | 24706 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.063 | 0.00056 | 0.033 | | mg/Kg | 1 | 4/7/2016 5:19:35 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | 1.5 | 0.74 | 2.5 | J | mg/Kg | 1 | 4/7/2016 12:26:17 PM | 24647 |
| Barium | 470 | 0.098 | 0.20 | | mg/Kg | 2 | 4/7/2016 12:28:05 PM | 24647 |
| Cadmium | ND | 0.064 | 0.10 | | mg/Kg | 1 | 4/7/2016 12:26:17 PM | 24647 |
| Chromium | 7.0 | 0.13 | 0.30 | | mg/Kg | 1 | 4/7/2016 12:26:17 PM | 24647 |
| Lead | 5.6 | 0.18 | 0.25 | | mg/Kg | 1 | 4/8/2016 10:36:50 AM | 24647 |
| Selenium | ND | 1.1 | 2.5 | | mg/Kg | 1 | 4/7/2016 12:26:17 PM | 24647 |
| Silver | ND | 0.032 | 0.25 | | mg/Kg | 1 | 4/7/2016 12:26:17 PM | 24647 |
| **'A METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.045 | 0.056 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Toluene | ND | 0.0067 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Ethylbenzene | ND | 0.0092 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.035 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,2,4-Trimethylbenzene | 0.27 | 0.0083 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,3,5-Trimethylbenzene | 0.066 | 0.0082 | 0.11 | J | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.029 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0080 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Naphthalene | 0.41 | 0.018 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1-Methylnaphthalene | 2.3 | 0.025 | 0.45 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 2-Methylnaphthalene | 3.0 | 0.024 | 0.45 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Acetone | ND | 0.15 | 1.7 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Bromobenzene | ND | 0.0091 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Bromodichloromethane | ND | 0.0066 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Bromoform | ND | 0.014 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Bromomethane | ND | 0.041 | 0.34 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 2-Butanone | ND | 0.064 | 1.1 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Carbon disulfide | ND | 0.037 | 1.1 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Carbon tetrachloride | ND | 0.0074 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Chlorobenzene | ND | 0.0092 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Chloroethane | ND | 0.022 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-006 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #6
**Collection Date:** 3/30/2016 2:12:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0085 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Chloromethane | ND | 0.010 | 0.34 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0083 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 4-Chlorotoluene | ND | 0.010 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| cis-1,2-DCE | ND | 0.0065 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.010 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.034 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Dibromochloromethane | ND | 0.010 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Dibromomethane | ND | 0.0098 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.0098 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.0092 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.014 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.035 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0061 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.037 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.0094 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.013 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| ,2-Dichloropropane | ND | 0.0064 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0089 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Hexachlorobutadiene | ND | 0.014 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 2-Hexanone | ND | 0.061 | 1.1 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Isopropylbenzene | ND | 0.0097 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 4-Isopropyltoluene | 0.030 | 0.010 | 0.11 | J | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.033 | 1.1 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Methylene chloride | 0.040 | 0.032 | 0.34 | J | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| n-Butylbenzene | 0.066 | 0.010 | 0.34 | J | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| n-Propylbenzene | 0.012 | 0.0087 | 0.11 | J | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| sec-Butylbenzene | 0.022 | 0.016 | 0.11 | J | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Styrene | ND | 0.010 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| tert-Butylbenzene | ND | 0.0093 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.011 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.018 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.0093 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| trans-1,2-DCE | ND | 0.032 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.016 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.017 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.012 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0069 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.013 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-006 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #6
**Collection Date:** 3/30/2016 2:12:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.012 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Trichlorofluoromethane | ND | 0.0084 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.019 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Vinyl chloride | ND | 0.0092 | 0.11 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Xylenes, Total | ND | 0.021 | 0.23 | | mg/Kg | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Surr: Dibromofluoromethane | 102 | | 70-130 | | %Rec | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 99.6 | | 70-130 | | %Rec | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Surr: Toluene-d8 | 96.6 | | 70-130 | | %Rec | 1 | 4/6/2016 2:58:00 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 110 | | 70-130 | | %Rec | 1 | 4/6/2016 2:58:00 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-007 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #7
**Collection Date:** 3/30/2016 2:27:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 4.4 | 0.098 | 0.30 | | mg/Kg | 1 | 4/11/2016 2:54:22 PM | 24706 |
| Chloride | 90 | 1.4 | 30 | | mg/Kg | 20 | 4/11/2016 5:18:20 PM | 24706 |
| Nitrogen, Nitrite (As N) | ND | 0.15 | 0.30 | | mg/Kg | 1 | 4/12/2016 2:14:20 PM | 24706 |
| Nitrogen, Nitrate (As N) | 15 | 0.024 | 0.30 | | mg/Kg | 1 | 4/12/2016 2:14:20 PM | 24706 |
| Phosphorus, Orthophosphate (As P) | ND | 0.65 | 1.5 | | mg/Kg | 1 | 4/12/2016 2:14:20 PM | 24706 |
| Sulfate | 120 | 0.33 | 1.5 | | mg/Kg | 1 | 4/11/2016 2:54:22 PM | 24706 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.042 | 0.00057 | 0.033 | | mg/Kg | 1 | 4/7/2016 5:25:06 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | ND | 1.4 | 4.9 | | mg/Kg | 2 | 4/7/2016 12:36:59 PM | 24647 |
| Barium | 410 | 0.096 | 0.20 | | mg/Kg | 2 | 4/7/2016 12:36:59 PM | 24647 |
| Cadmium | ND | 0.13 | 0.20 | | mg/Kg | 2 | 4/7/2016 12:36:59 PM | 24647 |
| Chromium | 6.5 | 0.25 | 0.59 | | mg/Kg | 2 | 4/7/2016 12:36:59 PM | 24647 |
| Lead | 4.8 | 0.35 | 0.49 | | mg/Kg | 2 | 4/8/2016 10:38:39 AM | 24647 |
| Selenium | ND | 2.2 | 4.9 | | mg/Kg | 2 | 4/7/2016 12:36:59 PM | 24647 |
| Silver | ND | 0.063 | 0.49 | | mg/Kg | 2 | 4/7/2016 12:36:59 PM | 24647 |
| **'A METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.047 | 0.059 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Toluene | ND | 0.0070 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Ethylbenzene | 0.012 | 0.0096 | 0.12 | J | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.037 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,2,4-Trimethylbenzene | 1.3 | 0.0087 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,3,5-Trimethylbenzene | 0.34 | 0.0085 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.031 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0084 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Naphthalene | 0.84 | 0.018 | 0.24 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1-Methylnaphthalene | 5.3 | 0.026 | 0.47 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 2-Methylnaphthalene | 6.6 | 0.025 | 0.47 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Acetone | ND | 0.15 | 1.8 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Bromobenzene | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Bromodichloromethane | ND | 0.0069 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Bromoform | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Bromomethane | ND | 0.043 | 0.35 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 2-Butanone | ND | 0.067 | 1.2 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Carbon disulfide | ND | 0.039 | 1.2 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Carbon tetrachloride | ND | 0.0077 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Chlorobenzene | ND | 0.0096 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Chloroethane | ND | 0.023 | 0.24 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-007 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #7
**Collection Date:** 3/30/2016 2:27:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0089 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Chloromethane | ND | 0.010 | 0.35 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0087 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 4-Chlorotoluene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| cis-1,2-DCE | ND | 0.0068 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.036 | 0.24 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Dibromochloromethane | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Dibromomethane | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.0096 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.015 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.036 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0064 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.039 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.0099 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.013 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| ,2-Dichloropropane | ND | 0.0067 | 0.24 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0093 | 0.24 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Hexachlorobutadiene | ND | 0.014 | 0.24 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 2-Hexanone | ND | 0.064 | 1.2 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Isopropylbenzene | 0.025 | 0.010 | 0.12 | J | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 4-Isopropyltoluene | 0.16 | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.034 | 1.2 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Methylene chloride | 0.042 | 0.034 | 0.35 | J | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| n-Butylbenzene | 0.36 | 0.010 | 0.35 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| n-Propylbenzene | 0.072 | 0.0091 | 0.12 | J | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| sec-Butylbenzene | 0.13 | 0.016 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Styrene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| tert-Butylbenzene | ND | 0.0098 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.019 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.0098 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| trans-1,2-DCE | ND | 0.033 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.017 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.018 | 0.24 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.013 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0072 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Client Sample ID:** T#583 Comf #7
**Project:** Tank 583 Confirmation
**Collection Date:** 3/30/2016 2:27:00 PM
**Lab ID:** 1604156-007 **Matrix:** SOIL **Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.013 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Trichlorofluoromethane | ND | 0.0088 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.020 | 0.24 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Vinyl chloride | ND | 0.0096 | 0.12 | | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Xylenes, Total | 0.21 | 0.022 | 0.24 | J | mg/Kg | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Surr: Dibromofluoromethane | 105 | | 70-130 | | %Rec | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 101 | | 70-130 | | %Rec | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Surr: Toluene-d8 | 95.3 | | 70-130 | | %Rec | 1 | 4/6/2016 3:26:13 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 136 | | 70-130 | S | %Rec | 1 | 4/6/2016 3:26:13 PM | 24607 |

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**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-008 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #8
**Collection Date:** 3/30/2016 2:37:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 6.2 | 0.49 | 1.5 | | mg/Kg | 5 | 4/11/2016 4:33:39 PM | 24706 |
| Chloride | 48 | 0.35 | 7.5 | | mg/Kg | 5 | 4/11/2016 4:33:39 PM | 24706 |
| Nitrogen, Nitrite (As N) | ND | 0.75 | 1.5 | | mg/Kg | 5 | 4/12/2016 2:26:44 PM | 24706 |
| Nitrogen, Nitrate (As N) | 5.4 | 0.12 | 1.5 | | mg/Kg | 5 | 4/12/2016 2:26:44 PM | 24706 |
| Phosphorus, Orthophosphate (As P) | ND | 3.3 | 7.5 | | mg/Kg | 5 | 4/12/2016 2:26:44 PM | 24706 |
| Sulfate | 100 | 1.7 | 7.5 | | mg/Kg | 5 | 4/11/2016 4:33:39 PM | 24706 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.012 | 0.00056 | 0.032 | J | mg/Kg | 1 | 4/7/2016 5:26:55 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | 1.5 | 1.5 | 5.0 | J | mg/Kg | 2 | 4/7/2016 12:40:30 PM | 24647 |
| Barium | 340 | 0.097 | 0.20 | | mg/Kg | 2 | 4/7/2016 12:40:30 PM | 24647 |
| Cadmium | ND | 0.13 | 0.20 | | mg/Kg | 2 | 4/7/2016 12:40:30 PM | 24647 |
| Chromium | 7.2 | 0.25 | 0.60 | | mg/Kg | 2 | 4/7/2016 12:40:30 PM | 24647 |
| Lead | 7.6 | 0.35 | 0.50 | | mg/Kg | 2 | 4/8/2016 10:40:34 AM | 24647 |
| Selenium | ND | 2.2 | 5.0 | | mg/Kg | 2 | 4/7/2016 12:40:30 PM | 24647 |
| Silver | ND | 0.063 | 0.50 | | mg/Kg | 2 | 4/7/2016 12:40:30 PM | 24647 |
| **'A METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.041 | 0.051 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Toluene | 0.031 | 0.0060 | 0.10 | J | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Ethylbenzene | 0.082 | 0.0083 | 0.10 | J | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.032 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,2,4-Trimethylbenzene | 3.2 | 0.0075 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,3,5-Trimethylbenzene | 0.98 | 0.0074 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.026 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0072 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Naphthalene | 0.67 | 0.016 | 0.20 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1-Methylnaphthalene | 6.7 | 0.023 | 0.41 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 2-Methylnaphthalene | 6.9 | 0.022 | 0.41 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Acetone | ND | 0.13 | 1.5 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Bromobenzene | ND | 0.0082 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Bromodichloromethane | ND | 0.0059 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Bromoform | ND | 0.012 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Bromomethane | ND | 0.037 | 0.30 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 2-Butanone | ND | 0.058 | 1.0 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Carbon disulfide | ND | 0.033 | 1.0 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Carbon tetrachloride | ND | 0.0067 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Chlorobenzene | ND | 0.0083 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Chloroethane | ND | 0.020 | 0.20 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |

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

**Qualifiers:**

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

# all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-008 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #8
**Collection Date:** 3/30/2016 2:37:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0077 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Chloromethane | ND | 0.0090 | 0.30 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0075 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 4-Chlorotoluene | ND | 0.0090 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| cis-1,2-DCE | ND | 0.0059 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.0093 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.031 | 0.20 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Dibromochloromethane | ND | 0.0092 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Dibromomethane | ND | 0.0088 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.0088 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.0083 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.013 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.031 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0055 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.033 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.0085 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.012 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| ,2-Dichloropropane | ND | 0.0058 | 0.20 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0080 | 0.20 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Hexachlorobutadiene | ND | 0.012 | 0.20 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 2-Hexanone | ND | 0.055 | 1.0 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Isopropylbenzene | 0.096 | 0.0087 | 0.10 | J | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 4-Isopropyltoluene | 0.44 | 0.0091 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.030 | 1.0 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Methylene chloride | 0.042 | 0.029 | 0.30 | J | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| n-Butylbenzene | 0.81 | 0.0090 | 0.30 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| n-Propylbenzene | 0.22 | 0.0078 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| sec-Butylbenzene | 0.34 | 0.014 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Styrene | ND | 0.0091 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| tert-Butylbenzene | ND | 0.0084 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.0097 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.016 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.0084 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| trans-1,2-DCE | ND | 0.028 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.015 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.015 | 0.20 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.011 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0062 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.012 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |

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

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
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# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-008 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #8
**Collection Date:** 3/30/2016 2:37:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.011 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Trichlorofluoromethane | ND | 0.0076 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.018 | 0.20 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Vinyl chloride | ND | 0.0083 | 0.10 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Xylenes, Total | 0.95 | 0.019 | 0.20 | | mg/Kg | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Surr: Dibromofluoromethane | 102 | | 70-130 | | %Rec | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 98.3 | | 70-130 | | %Rec | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Surr: Toluene-d8 | 94.0 | | 70-130 | | %Rec | 1 | 4/6/2016 3:54:26 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 144 | | 70-130 | S | %Rec | 1 | 4/6/2016 3:54:26 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-009 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #9
**Collection Date:** 3/30/2016 2:44:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 5.2 | 0.098 | 0.30 | | mg/Kg | 1 | 4/11/2016 4:58:33 PM | 24706 |
| Chloride | 93 | 1.4 | 30 | | mg/Kg | 20 | 4/11/2016 5:10:57 PM | 24706 |
| Nitrogen, Nitrite (As N) | ND | 0.75 | 1.5 | | mg/Kg | 5 | 4/12/2016 2:39:08 PM | 24706 |
| Nitrogen, Nitrate (As N) | 16 | 0.12 | 1.5 | | mg/Kg | 5 | 4/12/2016 2:39:08 PM | 24706 |
| Phosphorus, Orthophosphate (As P) | ND | 3.3 | 7.5 | | mg/Kg | 5 | 4/12/2016 2:39:08 PM | 24706 |
| Sulfate | 160 | 6.6 | 30 | | mg/Kg | 20 | 4/11/2016 5:10:57 PM | 24706 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.017 | 0.00056 | 0.033 | J | mg/Kg | 1 | 4/7/2016 5:28:45 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | ND | 3.6 | 12 | | mg/Kg | 5 | 4/8/2016 10:42:30 AM | 24647 |
| Barium | 390 | 0.24 | 0.50 | | mg/Kg | 5 | 4/8/2016 10:42:30 AM | 24647 |
| Cadmium | ND | 0.32 | 0.50 | | mg/Kg | 5 | 4/8/2016 10:42:30 AM | 24647 |
| Chromium | 6.5 | 0.62 | 1.5 | | mg/Kg | 5 | 4/8/2016 10:42:30 AM | 24647 |
| Lead | 8.4 | 0.87 | 1.2 | | mg/Kg | 5 | 4/8/2016 10:42:30 AM | 24647 |
| Selenium | ND | 5.5 | 12 | | mg/Kg | 5 | 4/8/2016 10:42:30 AM | 24647 |
| Silver | ND | 0.16 | 1.2 | | mg/Kg | 5 | 4/8/2016 10:42:30 AM | 24647 |
| **A METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.038 | 0.047 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Toluene | 0.048 | 0.0056 | 0.095 | J | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Ethylbenzene | 0.067 | 0.0078 | 0.095 | J | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.030 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,2,4-Trimethylbenzene | 6.0 | 0.0070 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,3,5-Trimethylbenzene | 1.6 | 0.0069 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.025 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0067 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Naphthalene | 3.4 | 0.015 | 0.19 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1-Methylnaphthalene | 8.7 | 0.021 | 0.38 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 2-Methylnaphthalene | 42 | 0.12 | 2.2 | | mg/Kg | 5 | 4/7/2016 3:19:12 PM | 24607 |
| Acetone | ND | 0.12 | 1.4 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Bromobenzene | ND | 0.0076 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Bromodichloromethane | ND | 0.0055 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Bromoform | ND | 0.012 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Bromomethane | ND | 0.035 | 0.28 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 2-Butanone | ND | 0.054 | 0.95 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Carbon disulfide | ND | 0.031 | 0.95 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Carbon tetrachloride | ND | 0.0062 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Chlorobenzene | ND | 0.0077 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Chloroethane | ND | 0.019 | 0.19 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-009 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #9
**Collection Date:** 3/30/2016 2:44:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0071 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Chloromethane | ND | 0.0084 | 0.28 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0070 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 4-Chlorotoluene | ND | 0.0084 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| cis-1,2-DCE | ND | 0.0055 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.0087 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.029 | 0.19 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Dibromochloromethane | ND | 0.0086 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Dibromomethane | ND | 0.0082 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.0083 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.0078 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.012 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.029 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0051 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.031 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.0079 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.011 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| ,2-Dichloropropane | ND | 0.0054 | 0.19 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0075 | 0.19 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Hexachlorobutadiene | ND | 0.012 | 0.19 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 2-Hexanone | ND | 0.052 | 0.95 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Isopropylbenzene | 0.095 | 0.0081 | 0.095 | J | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 4-Isopropyltoluene | 0.84 | 0.0085 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.028 | 0.95 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Methylene chloride | 0.035 | 0.027 | 0.28 | J | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| n-Butylbenzene | 1.5 | 0.0084 | 0.28 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| n-Propylbenzene | 0.28 | 0.0073 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| sec-Butylbenzene | 0.59 | 0.013 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Styrene | ND | 0.0085 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| tert-Butylbenzene | ND | 0.0078 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.0091 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.015 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.0079 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| trans-1,2-DCE | ND | 0.027 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.014 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.014 | 0.19 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.010 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0058 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.011 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-009 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #9
**Collection Date:** 3/30/2016 2:44:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.010 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Trichlorofluoromethane | ND | 0.0071 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.016 | 0.19 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Vinyl chloride | ND | 0.0077 | 0.095 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Xylenes, Total | 1.0 | 0.018 | 0.19 | | mg/Kg | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Surr: Dibromofluoromethane | 102 | | 70-130 | | %Rec | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 101 | | 70-130 | | %Rec | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Surr: Toluene-d8 | 97.6 | | 70-130 | | %Rec | 1 | 4/6/2016 4:22:56 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 203 | | 70-130 | S | %Rec | 1 | 4/6/2016 4:22:56 PM | 24607 |

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

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Value above quantitation range |
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| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
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# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-010 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #10
**Collection Date:** 3/30/2016 2:55:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 5.4 | 0.098 | 0.30 | | mg/Kg | 1 | 4/11/2016 3:51:24 PM | 24706 |
| Chloride | 130 | 1.4 | 30 | | mg/Kg | 20 | 4/11/2016 4:03:48 PM | 24706 |
| Nitrogen, Nitrite (As N) | ND | 0.15 | 0.30 | | mg/Kg | 1 | 4/12/2016 2:51:34 PM | 24706 |
| Nitrogen, Nitrate (As N) | 12 | 0.024 | 0.30 | | mg/Kg | 1 | 4/12/2016 2:51:34 PM | 24706 |
| Phosphorus, Orthophosphate (As P) | ND | 0.65 | 1.5 | | mg/Kg | 1 | 4/12/2016 2:51:34 PM | 24706 |
| Sulfate | 200 | 6.6 | 30 | | mg/Kg | 20 | 4/11/2016 4:03:48 PM | 24706 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.024 | 0.00055 | 0.032 | J | mg/Kg | 1 | 4/7/2016 5:30:35 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | 1.4 | 0.72 | 2.5 | J | mg/Kg | 1 | 4/7/2016 12:58:59 PM | 24647 |
| Barium | 380 | 0.096 | 0.20 | | mg/Kg | 2 | 4/7/2016 1:00:47 PM | 24647 |
| Cadmium | ND | 0.063 | 0.099 | | mg/Kg | 1 | 4/7/2016 12:58:59 PM | 24647 |
| Chromium | 7.6 | 0.12 | 0.30 | | mg/Kg | 1 | 4/7/2016 12:58:59 PM | 24647 |
| Lead | 5.7 | 0.17 | 0.25 | | mg/Kg | 1 | 4/8/2016 10:44:17 AM | 24647 |
| Selenium | ND | 1.1 | 2.5 | | mg/Kg | 1 | 4/7/2016 12:58:59 PM | 24647 |
| Silver | ND | 0.031 | 0.25 | | mg/Kg | 1 | 4/7/2016 12:58:59 PM | 24647 |
| **'A METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.047 | 0.058 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Toluene | ND | 0.0069 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Ethylbenzene | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.037 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,2,4-Trimethylbenzene | ND | 0.0086 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,3,5-Trimethylbenzene | ND | 0.0084 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.030 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0083 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Naphthalene | ND | 0.018 | 0.23 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1-Methylnaphthalene | ND | 0.026 | 0.47 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 2-Methylnaphthalene | 0.055 | 0.025 | 0.47 | J | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Acetone | ND | 0.15 | 1.7 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Bromobenzene | ND | 0.0094 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Bromodichloromethane | ND | 0.0068 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Bromoform | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Bromomethane | ND | 0.043 | 0.35 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 2-Butanone | ND | 0.066 | 1.2 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Carbon disulfide | ND | 0.038 | 1.2 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Carbon tetrachloride | ND | 0.0076 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Chlorobenzene | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Chloroethane | ND | 0.023 | 0.23 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |

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

**Qualifiers:**

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

# ˙all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-010 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #10
**Collection Date:** 3/30/2016 2:55:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0088 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Chloromethane | ND | 0.010 | 0.35 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0086 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 4-Chlorotoluene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| cis-1,2-DCE | ND | 0.0068 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.036 | 0.23 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Dibromochloromethane | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Dibromomethane | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.036 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0063 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.038 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.0097 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.013 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| ˙,2-Dichloropropane | ND | 0.0067 | 0.23 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0092 | 0.23 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Hexachlorobutadiene | ND | 0.014 | 0.23 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 2-Hexanone | ND | 0.063 | 1.2 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Isopropylbenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 4-Isopropyltoluene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.034 | 1.2 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Methylene chloride | ND | 0.034 | 0.35 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| n-Butylbenzene | ND | 0.010 | 0.35 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| n-Propylbenzene | ND | 0.0090 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| sec-Butylbenzene | ND | 0.016 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Styrene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| tert-Butylbenzene | ND | 0.0096 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.019 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.0096 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| trans-1,2-DCE | ND | 0.033 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.017 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.017 | 0.23 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.012 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0071 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-010 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #10
**Collection Date:** 3/30/2016 2:55:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.012 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Trichlorofluoromethane | ND | 0.0087 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.020 | 0.23 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Vinyl chloride | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Xylenes, Total | ND | 0.022 | 0.23 | | mg/Kg | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Surr: Dibromofluoromethane | 101 | | 70-130 | | %Rec | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 96.1 | | 70-130 | | %Rec | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Surr: Toluene-d8 | 96.5 | | 70-130 | | %Rec | 1 | 4/7/2016 2:50:55 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 106 | | 70-130 | | %Rec | 1 | 4/7/2016 2:50:55 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-011 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #11
**Collection Date:** 3/30/2016 3:05:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 6.7 | 0.49 | 1.5 | | mg/Kg | 5 | 4/11/2016 4:16:12 PM | 24706 |
| Chloride | 230 | 0.35 | 7.5 | | mg/Kg | 5 | 4/11/2016 4:16:12 PM | 24706 |
| Nitrogen, Nitrite (As N) | ND | 0.75 | 1.5 | | mg/Kg | 5 | 4/12/2016 3:03:58 PM | 24706 |
| Nitrogen, Nitrate (As N) | 6.6 | 0.12 | 1.5 | | mg/Kg | 5 | 4/12/2016 3:03:58 PM | 24706 |
| Phosphorus, Orthophosphate (As P) | ND | 3.3 | 7.5 | | mg/Kg | 5 | 4/12/2016 3:03:58 PM | 24706 |
| Sulfate | 240 | 1.6 | 7.5 | | mg/Kg | 5 | 4/11/2016 4:16:12 PM | 24706 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.040 | 0.00055 | 0.032 | | mg/Kg | 1 | 4/7/2016 5:32:25 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | 1.0 | 0.72 | 2.5 | J | mg/Kg | 1 | 4/7/2016 1:02:32 PM | 24647 |
| Barium | 380 | 0.096 | 0.20 | | mg/Kg | 2 | 4/7/2016 1:04:20 PM | 24647 |
| Cadmium | ND | 0.063 | 0.099 | | mg/Kg | 1 | 4/7/2016 1:02:32 PM | 24647 |
| Chromium | 7.4 | 0.12 | 0.30 | | mg/Kg | 1 | 4/7/2016 1:02:32 PM | 24647 |
| Lead | 7.0 | 0.17 | 0.25 | | mg/Kg | 1 | 4/8/2016 10:46:05 AM | 24647 |
| Selenium | ND | 1.1 | 2.5 | | mg/Kg | 1 | 4/7/2016 1:02:32 PM | 24647 |
| Silver | ND | 0.031 | 0.25 | | mg/Kg | 1 | 4/7/2016 1:02:32 PM | 24647 |
| **A METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.047 | 0.058 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Toluene | ND | 0.0069 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Ethylbenzene | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.037 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,2,4-Trimethylbenzene | 0.025 | 0.0086 | 0.12 | J | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,3,5-Trimethylbenzene | 0.27 | 0.0084 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.030 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0083 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Naphthalene | ND | 0.018 | 0.23 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1-Methylnaphthalene | 4.1 | 0.026 | 0.47 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 2-Methylnaphthalene | 0.77 | 0.025 | 0.47 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Acetone | ND | 0.15 | 1.7 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Bromobenzene | ND | 0.0094 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Bromodichloromethane | ND | 0.0068 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Bromoform | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Bromomethane | ND | 0.043 | 0.35 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 2-Butanone | ND | 0.066 | 1.2 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Carbon disulfide | ND | 0.038 | 1.2 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Carbon tetrachloride | ND | 0.0076 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Chlorobenzene | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Chloroethane | ND | 0.023 | 0.23 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |

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

**Qualifiers:**

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

# ˙all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-011 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #11
**Collection Date:** 3/30/2016 3:05:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0088 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Chloromethane | ND | 0.010 | 0.35 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0086 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 4-Chlorotoluene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| cis-1,2-DCE | ND | 0.0068 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.036 | 0.23 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Dibromochloromethane | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Dibromomethane | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.036 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0063 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.038 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.0097 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.013 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| ,2-Dichloropropane | ND | 0.0067 | 0.23 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0092 | 0.23 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Hexachlorobutadiene | ND | 0.014 | 0.23 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 2-Hexanone | ND | 0.063 | 1.2 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Isopropylbenzene | 0.012 | 0.010 | 0.12 | J | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 4-Isopropyltoluene | 0.12 | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.034 | 1.2 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Methylene chloride | 0.045 | 0.034 | 0.35 | J | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| n-Butylbenzene | 0.17 | 0.010 | 0.35 | J | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| n-Propylbenzene | 0.012 | 0.0090 | 0.12 | J | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| sec-Butylbenzene | 0.088 | 0.016 | 0.12 | J | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Styrene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| tert-Butylbenzene | ND | 0.0096 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.019 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.0096 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| trans-1,2-DCE | ND | 0.033 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.017 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.017 | 0.23 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.012 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0071 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-011 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #11
**Collection Date:** 3/30/2016 3:05:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.012 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Trichlorofluoromethane | ND | 0.0087 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.020 | 0.23 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Vinyl chloride | ND | 0.0095 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Xylenes, Total | 0.032 | 0.022 | 0.23 | J | mg/Kg | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Surr: Dibromofluoromethane | 105 | | 70-130 | | %Rec | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 102 | | 70-130 | | %Rec | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Surr: Toluene-d8 | 96.1 | | 70-130 | | %Rec | 1 | 4/6/2016 5:19:51 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 117 | | 70-130 | | %Rec | 1 | 4/6/2016 5:19:51 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Client Sample ID:** T#583 Comf #12
**Project:** Tank 583 Confirmation
**Collection Date:** 3/30/2016 3:12:00 PM
**Lab ID:** 1604156-012
**Matrix:** SOIL
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | | Analyst: **LGT** | |
| Fluoride | 5.2 | 0.098 | 0.30 | | mg/Kg | 1 | 4/11/2016 4:53:30 PM | 24706 |
| Chloride | 200 | 1.4 | 30 | | mg/Kg | 20 | 4/11/2016 5:05:56 PM | 24706 |
| Nitrogen, Nitrite (As N) | ND | 0.15 | 0.30 | | mg/Kg | 1 | 4/12/2016 3:16:22 PM | 24706 |
| Nitrogen, Nitrate (As N) | 9.3 | 0.024 | 0.30 | | mg/Kg | 1 | 4/12/2016 3:16:22 PM | 24706 |
| Phosphorus, Orthophosphate (As P) | ND | 0.65 | 1.5 | | mg/Kg | 1 | 4/12/2016 3:16:22 PM | 24706 |
| Sulfate | 260 | 6.6 | 30 | | mg/Kg | 20 | 4/11/2016 5:05:56 PM | 24706 |
| **EPA METHOD 7471: MERCURY** | | | | | | | Analyst: **pmf** | |
| Mercury | 0.049 | 0.00056 | 0.033 | | mg/Kg | 1 | 4/7/2016 5:34:18 PM | 24648 |
| **EPA METHOD 6010B: SOIL METALS** | | | | | | | Analyst: **MED** | |
| Arsenic | 2.1 | 0.72 | 2.5 | J | mg/Kg | 1 | 4/7/2016 1:11:16 PM | 24647 |
| Barium | 380 | 0.095 | 0.20 | | mg/Kg | 2 | 4/7/2016 1:13:05 PM | 24647 |
| Cadmium | ND | 0.062 | 0.098 | | mg/Kg | 1 | 4/7/2016 1:11:16 PM | 24647 |
| Chromium | 7.2 | 0.12 | 0.29 | | mg/Kg | 1 | 4/7/2016 1:11:16 PM | 24647 |
| Lead | 8.2 | 0.17 | 0.25 | | mg/Kg | 1 | 4/8/2016 10:47:53 AM | 24647 |
| Selenium | ND | 1.1 | 2.5 | | mg/Kg | 1 | 4/7/2016 1:11:16 PM | 24647 |
| Silver | ND | 0.031 | 0.25 | | mg/Kg | 1 | 4/7/2016 1:11:16 PM | 24647 |
| **PA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Benzene | ND | 0.048 | 0.061 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Toluene | 0.011 | 0.0072 | 0.12 | J | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Ethylbenzene | ND | 0.0099 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Methyl tert-butyl ether (MTBE) | ND | 0.038 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,2,4-Trimethylbenzene | 0.039 | 0.0089 | 0.12 | J | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,3,5-Trimethylbenzene | 0.029 | 0.0088 | 0.12 | J | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,2-Dichloroethane (EDC) | ND | 0.032 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,2-Dibromoethane (EDB) | ND | 0.0086 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Naphthalene | 0.10 | 0.019 | 0.24 | J | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1-Methylnaphthalene | 0.80 | 0.027 | 0.48 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 2-Methylnaphthalene | 0.19 | 0.026 | 0.48 | J | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Acetone | ND | 0.16 | 1.8 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Bromobenzene | ND | 0.0098 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Bromodichloromethane | ND | 0.0071 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Bromoform | ND | 0.015 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Bromomethane | ND | 0.045 | 0.36 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 2-Butanone | ND | 0.069 | 1.2 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Carbon disulfide | ND | 0.040 | 1.2 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Carbon tetrachloride | ND | 0.0079 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Chlorobenzene | ND | 0.0099 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Chloroethane | ND | 0.024 | 0.24 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-012 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #12
**Collection Date:** 3/30/2016 3:12:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Chloroform | ND | 0.0091 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Chloromethane | ND | 0.011 | 0.36 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 2-Chlorotoluene | ND | 0.0089 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 4-Chlorotoluene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| cis-1,2-DCE | ND | 0.0070 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| cis-1,3-Dichloropropene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,2-Dibromo-3-chloropropane | ND | 0.037 | 0.24 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Dibromochloromethane | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Dibromomethane | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,2-Dichlorobenzene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,3-Dichlorobenzene | ND | 0.0099 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,4-Dichlorobenzene | ND | 0.015 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Dichlorodifluoromethane | ND | 0.037 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,1-Dichloroethane | ND | 0.0065 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,1-Dichloroethene | ND | 0.040 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,2-Dichloropropane | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,3-Dichloropropane | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 2,2-Dichloropropane | ND | 0.0069 | 0.24 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,1-Dichloropropene | ND | 0.0096 | 0.24 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Hexachlorobutadiene | ND | 0.015 | 0.24 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 2-Hexanone | ND | 0.066 | 1.2 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Isopropylbenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 4-Isopropyltoluene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 4-Methyl-2-pentanone | ND | 0.035 | 1.2 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Methylene chloride | 0.068 | 0.035 | 0.36 | J | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| n-Butylbenzene | ND | 0.011 | 0.36 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| n-Propylbenzene | ND | 0.0093 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| sec-Butylbenzene | ND | 0.017 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Styrene | ND | 0.011 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| tert-Butylbenzene | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,1,1,2-Tetrachloroethane | ND | 0.012 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,1,2,2-Tetrachloroethane | ND | 0.020 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Tetrachloroethene (PCE) | ND | 0.010 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| trans-1,2-DCE | ND | 0.034 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| trans-1,3-Dichloropropene | ND | 0.018 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,2,3-Trichlorobenzene | ND | 0.018 | 0.24 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,2,4-Trichlorobenzene | ND | 0.013 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,1,1-Trichloroethane | ND | 0.0074 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,1,2-Trichloroethane | ND | 0.014 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |

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

**Qualifiers:**

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

# 'all Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation
**Lab ID:** 1604156-012 **Matrix:** SOIL

**Client Sample ID:** T#583 Comf #12
**Collection Date:** 3/30/2016 3:12:00 PM
**Received Date:** 4/5/2016 3:12:00 PM

| Analyses | Result | MDL | PQL | Qual | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | | Analyst: **DJF** | |
| Trichloroethene (TCE) | ND | 0.013 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Trichlorofluoromethane | ND | 0.0090 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| 1,2,3-Trichloropropane | ND | 0.021 | 0.24 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Vinyl chloride | ND | 0.0099 | 0.12 | | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Xylenes, Total | 0.031 | 0.023 | 0.24 | J | mg/Kg | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Surr: Dibromofluoromethane | 102 | | 70-130 | | %Rec | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Surr: 1,2-Dichloroethane-d4 | 98.6 | | 70-130 | | %Rec | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Surr: Toluene-d8 | 98.2 | | 70-130 | | %Rec | 1 | 4/6/2016 5:48:06 PM | 24607 |
| Surr: 4-Bromofluorobenzene | 110 | | 70-130 | | %Rec | 1 | 4/6/2016 5:48:06 PM | 24607 |

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

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1604156**

*12-Apr-16*

**Client:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation

Sample ID **MB-24670** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **24670** RunNo: **33400**
Prep Date: **4/7/2016** Analysis Date: **4/7/2016** SeqNo: **1026942** 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, Nitrite (As N) | ND | 0.30 | | | | | | | | |
| Nitrogen, Nitrate (As N) | ND | 0.30 | | | | | | | | |
| Phosphorus, Orthophosphate (As P | ND | 1.5 | | | | | | | | |
| Sulfate | ND | 1.5 | | | | | | | | |

Sample ID **LCS-24670** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **24670** RunNo: **33400**
Prep Date: **4/7/2016** Analysis Date: **4/7/2016** SeqNo: **1026943** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | 1.6 | 0.30 | 1.500 | 0 | 104 | 90 | 110 | | | |
| Chloride | 14 | 1.5 | 15.00 | 0 | 95.7 | 90 | 110 | | | |
| Nitrogen, Nitrite (As N) | 2.9 | 0.30 | 3.000 | 0 | 97.2 | 90 | 110 | | | |
| Nitrogen, Nitrate (As N) | 7.6 | 0.30 | 7.500 | 0 | 101 | 90 | 110 | | | |
| Phosphorus, Orthophosphate (As P | 15 | 1.5 | 15.00 | 0 | 96.7 | 90 | 110 | | | |
| ate | 29 | 1.5 | 30.00 | 0 | 98.2 | 90 | 110 | | | |

Sample ID **MB-24706** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **24706** RunNo: **33434**
Prep Date: **4/8/2016** Analysis Date: **4/11/2016** SeqNo: **1029101** 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, Nitrite (As N) | ND | 0.30 | | | | | | | | |
| Nitrogen, Nitrate (As N) | ND | 0.30 | | | | | | | | |
| Phosphorus, Orthophosphate (As P | ND | 1.5 | | | | | | | | |
| Sulfate | 0.39 | 1.5 | | | | | | | | J |

Sample ID **LCS-24706** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **24706** RunNo: **33434**
Prep Date: **4/8/2016** Analysis Date: **4/11/2016** SeqNo: **1029102** 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 | 101 | 90 | 110 | | | |
| Chloride | 14 | 1.5 | 15.00 | 0 | 96.2 | 90 | 110 | | | |
| Nitrogen, Nitrite (As N) | 2.9 | 0.30 | 3.000 | 0 | 95.9 | 90 | 110 | | | |
| Nitrogen, Nitrate (As N) | 7.6 | 0.30 | 7.500 | 0 | 102 | 90 | 110 | | | |

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1604156**

*12-Apr-16*

**Client:** Western Refining Southwest, Gallup

**Project:** Tank 583 Confirmation

Sample ID **LCS-24706** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **24706** RunNo: **33434**

Prep Date: **4/8/2016** Analysis Date: **4/11/2016** SeqNo: **1029102** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Phosphorus, Orthophosphate (As P | 15 | 1.5 | 15.00 | 0 | 97.6 | 90 | 110 | | | |
| Sulfate | 29 | 1.5 | 30.00 | 0 | 97.8 | 90 | 110 | | | |

Sample ID **1604156-004BMS** SampType: **MS** TestCode: **EPA Method 300.0: Anions**

Client ID: **T#583 Comf #4** Batch ID: **24706** RunNo: **33434**

Prep Date: **4/8/2016** Analysis Date: **4/11/2016** SeqNo: **1029106** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | 5.0 | 0.30 | 1.500 | 5.071 | -3.27 | 15 | 100 | | | S |

Sample ID **1604156-004BMSD** SampType: **MSD** TestCode: **EPA Method 300.0: Anions**

Client ID: **T#583 Comf #4** Batch ID: **24706** RunNo: **33434**

Prep Date: **4/8/2016** Analysis Date: **4/11/2016** SeqNo: **1029107** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | 4.6 | 0.30 | 1.500 | 5.071 | -28.1 | 15 | 100 | 7.69 | 20 | S |

Sample ID **MB-24706** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **24706** RunNo: **33465**

Prep Date: **4/8/2016** Analysis Date: **4/11/2016** SeqNo: **1029348** 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, Nitrite (As N) | ND | 0.30 | | | | | | | | |
| Nitrogen, Nitrate (As N) | ND | 0.30 | | | | | | | | |
| Phosphorus, Orthophosphate (As P | ND | 1.5 | | | | | | | | |
| Sulfate | ND | 1.5 | | | | | | | | |

Sample ID **LCS-24706** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **24706** RunNo: **33465**

Prep Date: **4/8/2016** Analysis Date: **4/11/2016** SeqNo: **1029349** 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 | 103 | 90 | 110 | | | |
| Chloride | 14 | 1.5 | 15.00 | 0 | 93.2 | 90 | 110 | | | |
| Nitrogen, Nitrite (As N) | 2.8 | 0.30 | 3.000 | 0 | 93.5 | 90 | 110 | | | |
| Nitrogen, Nitrate (As N) | 7.4 | 0.30 | 7.500 | 0 | 98.7 | 90 | 110 | | | |
| Phosphorus, Orthophosphate (As P | 14 | 1.5 | 15.00 | 0 | 92.2 | 90 | 110 | | | |
| Sulfate | 29 | 1.5 | 30.00 | 0 | 96.5 | 90 | 110 | | | |

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1604156**

*12-Apr-16*

**Client:** Western Refining Southwest, Gallup

**Project:** Tank 583 Confirmation

Sample ID **1604156-004BMS** SampType: **MS** TestCode: **EPA Method 300.0: Anions**

Client ID: **T#583 Comf #4** Batch ID: **24706** RunNo: **33468**

Prep Date: **4/8/2016** Analysis Date: **4/12/2016** SeqNo: **1029427** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | 6.5 | 0.30 | 1.500 | 5.942 | 36.9 | 15 | 100 | | | |
| Nitrogen, Nitrite (As N) | 2.8 | 0.30 | 3.000 | 0 | 93.9 | 76.9 | 103 | | | |
| Phosphorus, Orthophosphate (As P | 0.98 | 1.5 | 15.00 | 0 | 6.53 | 16.5 | 79.8 | | | JS |

Sample ID **1604156-004BMSD** SampType: **MSD** TestCode: **EPA Method 300.0: Anions**

Client ID: **T#583 Comf #4** Batch ID: **24706** RunNo: **33468**

Prep Date: **4/8/2016** Analysis Date: **4/12/2016** SeqNo: **1029428** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Fluoride | 6.4 | 0.30 | 1.500 | 5.942 | 31.2 | 15 | 100 | 1.32 | 20 | |
| Nitrogen, Nitrite (As N) | 2.8 | 0.30 | 3.000 | 0 | 91.9 | 76.9 | 103 | 2.17 | 20 | |
| Phosphorus, Orthophosphate (As P | 1.1 | 1.5 | 15.00 | 0 | 7.15 | 16.5 | 79.8 | 8.93 | 20 | JS |

**Qualifiers:**

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

# QC SUMMARY REPORT

## ⁻'all Environmental Analysis Laboratory, Inc.

WO#: **1604156**

*12-Apr-16*

**Client:** Western Refining Southwest, Gallup

**Project:** Tank 583 Confirmation

| | | | |
|---|---|---|---|
| Sample ID **mb-24607** | SampType: **MBLK** | TestCode: **EPA Method 8260B: Volatiles** | |
| Client ID: **PBS** | Batch ID: **24607** | RunNo: **33347** | |
| Prep Date: **4/4/2016** | Analysis Date: **4/6/2016** | SeqNo: **1024787** | Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | 0.025 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Methyl tert-butyl ether (MTBE) | ND | 0.050 | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 0.050 | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 0.050 | | | | | | | | |
| 1,2-Dichloroethane (EDC) | 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 | | | | | | | | |
| ⁻utanone | 0.050 | 0.50 | | | | | | | | J |
| ,bon 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 |
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| | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1604156**

*12-Apr-16*

**Client:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation

Sample ID **mb-24607** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS** Batch ID: **24607** RunNo: **33347**
Prep Date: **4/4/2016** Analysis Date: **4/6/2016** SeqNo: **1024787** 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 | 0.032 | 0.15 | | | | | | | | J |
| 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 | | | | | | | | |
| ns-1,3-Dichloropropene | ND | 0.050 | | | | | | | | |
| ,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 | 0.50 | | 0.5000 | | 99.4 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 0.49 | | 0.5000 | | 97.1 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.49 | | 0.5000 | | 98.0 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.52 | | 0.5000 | | 104 | 70 | 130 | | | |

Sample ID **lcs-24607** SampType: **LCS** TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS** Batch ID: **24607** RunNo: **33347**
Prep Date: **4/4/2016** Analysis Date: **4/6/2016** SeqNo: **1024794** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 1.1 | 0.025 | 1.000 | 0 | 110 | 70 | 130 | | | |
| Toluene | 0.99 | 0.050 | 1.000 | 0 | 99.0 | 70 | 130 | | | |
| Chlorobenzene | 0.96 | 0.050 | 1.000 | 0 | 95.5 | 70 | 130 | | | |

**Qualifiers:**

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

# QC SUMMARY REPORT

## "all Environmental Analysis Laboratory, Inc.

WO#: **1604156**

*12-Apr-16*

**Client:** Western Refining Southwest, Gallup

**Project:** Tank 583 Confirmation

| | | | |
|---|---|---|---|
| Sample ID **lcs-24607** | SampType: **LCS** | TestCode: **EPA Method 8260B: Volatiles** | |
| Client ID: **LCSS** | Batch ID: **24607** | RunNo: **33347** | |
| Prep Date: **4/4/2016** | Analysis Date: **4/6/2016** | SeqNo: **1024794** | 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 | 111 | 70 | 130 | | | |
| Trichloroethene (TCE) | 1.1 | 0.050 | 1.000 | 0 | 108 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.52 | | 0.5000 | | 103 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 0.50 | | 0.5000 | | 100 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.47 | | 0.5000 | | 93.2 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.53 | | 0.5000 | | 105 | 70 | 130 | | | |

**Qualifiers:**

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

# QC SUMMARY REPORT

WO#: **1604156**

## "Hall Environmental Analysis Laboratory, Inc.

*12-Apr-16*

**Client:** Western Refining Southwest, Gallup
**Project:** Tank 583 Confirmation

Sample ID **MB-24648** SampType: **MBLK** TestCode: **EPA Method 7471: Mercury**
Client ID: **PBS** Batch ID: **24648** RunNo: **33381**
Prep Date: **4/6/2016** Analysis Date: **4/7/2016** SeqNo: **1026294** Units: **mg/Kg**

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

Sample ID **LCS-24648** SampType: **LCS** TestCode: **EPA Method 7471: Mercury**
Client ID: **LCSS** Batch ID: **24648** RunNo: **33381**
Prep Date: **4/6/2016** Analysis Date: **4/7/2016** SeqNo: **1026295** Units: **mg/Kg**

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

Sample ID **1604156-001BMS** SampType: **MS** TestCode: **EPA Method 7471: Mercury**
Client ID: **T#583 Comf #1** Batch ID: **24648** RunNo: **33381**
Prep Date: **4/6/2016** Analysis Date: **4/7/2016** SeqNo: **1026297** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.21 | 0.033 | 0.1656 | 0.02319 | 111 | 75 | 125 | | | |

Sample ID **1604156-001BMSD** SampType: **MSD** TestCode: **EPA Method 7471: Mercury**
ient ID: **T#583 Comf #1** Batch ID: **24648** RunNo: **33381**
Prep Date: **4/6/2016** Analysis Date: **4/7/2016** SeqNo: **1026298** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.22 | 0.033 | 0.1662 | 0.02319 | 117 | 75 | 125 | 5.03 | 20 | |

**Qualifiers:**

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

# QC SUMMARY REPORT

## "all Environmental Analysis Laboratory, Inc.

WO#: **1604156**

*12-Apr-16*

**Client:** Western Refining Southwest, Gallup

**Project:** Tank 583 Confirmation

Sample ID **MB-24647** SampType: **MBLK** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **PBS** Batch ID: **24647** RunNo: **33359**

Prep Date: **4/6/2016** Analysis Date: **4/7/2016** SeqNo: **1025091** 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 | | | | | | | | |
| Lead | ND | 0.25 | | | | | | | | |
| Selenium | ND | 2.5 | | | | | | | | |
| Silver | 0.043 | 0.25 | | | | | | | | J |

Sample ID **LCS-24647** SampType: **LCS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **LCSS** Batch ID: **24647** RunNo: **33359**

Prep Date: **4/6/2016** Analysis Date: **4/7/2016** SeqNo: **1025092** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 27 | 2.5 | 25.00 | 0 | 107 | 80 | 120 | | | |
| Barium | 25 | 0.10 | 25.00 | 0 | 101 | 80 | 120 | | | |
| Cadmium | 25 | 0.10 | 25.00 | 0 | 102 | 80 | 120 | | | |
| Chromium | 25 | 0.30 | 25.00 | 0 | 100 | 80 | 120 | | | |
| d | 25 | 0.25 | 25.00 | 0 | 98.1 | 80 | 120 | | | |
| Selenium | 26 | 2.5 | 25.00 | 0 | 105 | 80 | 120 | | | |
| Silver | 5.1 | 0.25 | 5.000 | 0 | 101 | 80 | 120 | | | |

Sample ID **1604156-001BMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **T#583 Comf #1** Batch ID: **24647** RunNo: **33359**

Prep Date: **4/6/2016** Analysis Date: **4/7/2016** SeqNo: **1025733** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium | 25 | 0.30 | 24.77 | 5.659 | 78.5 | 75 | 125 | | | |

Sample ID **1604156-001BMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **T#583 Comf #1** Batch ID: **24647** RunNo: **33359**

Prep Date: **4/6/2016** Analysis Date: **4/7/2016** SeqNo: **1025734** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chromium | 26 | 0.30 | 25.19 | 5.659 | 79.7 | 75 | 125 | 2.48 | 20 | |

Sample ID **1604156-001BMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **T#583 Comf #1** Batch ID: **24647** RunNo: **33359**

Prep Date: **4/6/2016** Analysis Date: **4/7/2016** SeqNo: **1025935** Units: **mg/Kg**

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

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1604156**

*12-Apr-16*

**Client:** Western Refining Southwest, Gallup

**Project:** Tank 583 Confirmation

Sample ID **1604156-001BMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **T#583 Comf #1** Batch ID: **24647** RunNo: **33359**

Prep Date: **4/6/2016** Analysis Date: **4/7/2016** SeqNo: **1025935** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 18 | 2.5 | 24.77 | 1.060 | 68.4 | 75 | 125 | | | S |
| Cadmium | 17 | 0.099 | 24.77 | 0 | 68.6 | 75 | 125 | | | S |
| Selenium | 13 | 2.5 | 24.77 | 0 | 52.5 | 75 | 125 | | | S |
| Silver | 3.5 | 0.25 | 4.955 | 0 | 70.3 | 75 | 125 | | | S |

Sample ID **1604156-001BMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **T#583 Comf #1** Batch ID: **24647** RunNo: **33359**

Prep Date: **4/6/2016** Analysis Date: **4/7/2016** SeqNo: **1025936** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 20 | 2.5 | 25.19 | 1.060 | 74.9 | 75 | 125 | 10.1 | 20 | S |
| Cadmium | 19 | 0.10 | 25.19 | 0 | 73.6 | 75 | 125 | 8.73 | 20 | S |
| Selenium | 14 | 2.5 | 25.19 | 0 | 56.0 | 75 | 125 | 8.07 | 20 | S |
| Silver | 3.7 | 0.25 | 5.038 | 0 | 74.0 | 75 | 125 | 6.81 | 20 | S |

Sample ID **1604156-001BPS** SampType: **PS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **T#583 Comf #1** Batch ID: **24647** RunNo: **33359**

Prep Date: Analysis Date: **4/7/2016** SeqNo: **1025937** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic | 20 | 2.5 | 24.80 | 1.060 | 75.2 | 80 | 120 | | | S |
| Cadmium | 18 | 0.099 | 24.80 | 0 | 72.8 | 80 | 120 | | | S |
| Selenium | 17 | 2.5 | 24.80 | 0 | 67.3 | 80 | 120 | | | S |
| Silver | 3.6 | 0.25 | 4.959 | 0 | 72.3 | 80 | 120 | | | S |

Sample ID **1604156-001BMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **T#583 Comf #1** Batch ID: **24647** RunNo: **33388**

Prep Date: **4/6/2016** Analysis Date: **4/8/2016** SeqNo: **1026736** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 22 | 0.25 | 24.77 | 4.355 | 70.0 | 75 | 125 | | | S |

Sample ID **1604156-001BMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**

Client ID: **T#583 Comf #1** Batch ID: **24647** RunNo: **33388**

Prep Date: **4/6/2016** Analysis Date: **4/8/2016** SeqNo: **1026737** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 23 | 0.25 | 25.19 | 4.355 | 75.5 | 75 | 125 | 7.37 | 20 | |

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1604156**

*12-Apr-16*

**Client:** Western Refining Southwest, Gallup

**Project:** Tank 583 Confirmation

| | | | | | |
|---|---|---|---|---|---|
| Sample ID | **1604156-001BPS** | SampType: **PS** | | TestCode: **EPA Method 6010B: Soil Metals** | |
| Client ID: | **T#583 Comf #1** | Batch ID: **24647** | | RunNo: **33388** | |
| Prep Date: | | Analysis Date: **4/8/2016** | | SeqNo: **1026738** | Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 22 | 0.25 | 24.80 | 4.355 | 72.1 | 80 | 120 | | | S |

**Qualifiers:**

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

*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: 1604156  RcptNo: 1

Received by/date: JA 04/05/16

Logged By: Anne Thorne  4/5/2016 3:12:00 PM  Anne Thorne

Completed By: Anne Thorne  4/6/2016  Anne Thorne

Reviewed By:  04/06/16

## Chain of Custody

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

## Log In

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

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

## Special Handling (if applicable)

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

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks: low level VOAs had too much volume JA 04/06/16

18. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 2 | 3.3 | Good | Yes | | | |

# Chain-of-Custody Record

ent: Western Refining

ailing Address: 32 Giant Crossing Rd.
Gallup NM 87301

hone #: 505 722 3833

ail or Fax#: 505 863 0930

VQC Package:
☑ Standard ☐ Level 4 (Full Validation)

creditation
☑ NELAP ☐ Other _____

EDD (Type) _____

Turn-Around Time:
☐ Standard ☒ Rush _____

Project Name: Tank 583 Confirmation

Project #: T# 583 Diesel Spill

Project Manager: Beck Ingersoll
PO # 20820595

Sampler: CF JG

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.4 3.5 AT 04/05/16

**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 (AT 04/06/16) | Matrix | Sample Request ID | Container Type and # | Preservative Type | HEAL No. (1604156) | 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 (Total) | Anions (F,Cl,NO3,NO2,PO4,SO4) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) (Low level) | 8270 (Semi-VOA) | | | | | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0/16 | 1:30 | #1 | T# 583 Comf. | Kit | SOB. MEOH | -001 | | | | | | | X | X | | X | | | | | | |
| | 1337 | #2 | | | | -002 | | | | | | | | | | | | | | | | |
| | 1345 | #3 | | | | -003 | | | | | | | | | | | | | | | | |
| | 1355 | #4 | | | | -004 | | | | | | | | | | | | | | | | |
| | 1403 | #5 | | | | -005 | | | | | | | | | | | | | | | | |
| | 1412 | #6 | | | | -006 | | | | | | | | | | | | | | | | |
| | 1427 | #7 | | | | -007 | | | | | | | | | | | | | | | | |
| | 1437 | #8 | | | | -008 | | | | | | | | | | | | | | | | |
| | 1444 | #9 | | | | -009 | | | | | | | | | | | | | | | | |
| | 1455 | #10 | | | | -010 | | | | | | | | | | | | | | | | |
| | 1505 | #11 | | | | -011 | | | | | | | | | | | | | | | | |
| | 3:12 | #12 | | | | -012 | | | | | | | | | | | | | | | | |

| Date | Time | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| -16 | 1:05 | [signature] | [signature] | 4-5-16 | 1:05 |
| | 15:12 | [signature] | [signature] | 04/05/16 | 1512 |

Remarks: ~~method 5035~~ method 5035

RCRA 8 + all anions per BL / AT 04/05/16

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.