ENSOLUM

April 22, 2024

**New Mexico Oil Conservation Division**
New Mexico Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: **Remediation Report and Closure Request**
Hamner 7
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident Number: NAPP2402418125

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Remediation Report and Closure Request* associated with a historical release discovered at the former Hamner 7 natural gas production well site (Site). The Site is located on private land in Unit D, Section 29, Township 29 North, Range 9 West in San Juan County, New Mexico (Figure 1).

## SITE BACKGROUND

While conducting activities to plug and abandon the Hamner 7 natural gas production well, remove associated equipment, and reclaim the well pad, Hilcorp personnel discovered visibly impacted soil around the former drip line, most likely resulting from corrosion of the pipe. Hilcorp notified the New Mexico Oil Conservation Division (NMOCD) and submitted an initial Form C-141 Notification of Release on January 24, 2024. NMOCD assigned the release incident number NAPP2402418125.

## SITE CHARACTERIZATION AND CLOSURE CRITERIA

As part of the Site investigation, local geology/hydrogeology and nearby sensitive receptors were assessed in accordance with Title 19, Chapter 15, Part 29, Sections 11 and 12 (19.15.29.11 and 12) of the New Mexico Administrative Code (NMAC).

The Site is located within the Nacimiento Geologic Formation. In the report titled "*Hydrogeology and Water Resources of San Juan Basin, New Mexico*" (Stone, et. al., 1983), the Nacimiento Formation is characterized by interbedded black carbonaceous mudstones and white, coarse-grained sandstones, which ranges in thickness from 418 feet to 2,232 feet. The hydrogeologic properties of the Nacimiento Formation display variable properties dependent on location. Where sufficient yield is present, the primary use of water from this formation is for domestic and/or livestock supply. The Nacimiento Formation is underlain by the Ojo Alamo sandstone (Stone et. al, 1983).

The closest significant watercourse is an unnamed dry wash located approximately 442 feet south of the Site. There are no known springs or fresh-water wells located within 500 feet of the Site. The nearest groundwater well (SJ-03864-POD3) is located approximately 5,500 feet north of the Site. Depth to water information from this well indicates groundwater is approximately 7 feet below ground surface (bgs) at

the location of the water well. Well SJ-03864-POD3 (well log attached as Appendix A) is located directly adjacent to Largo Canyon at an elevation of approximately 5,559 feet above mean sea level (AMSL), which is approximately 148 feet lower in elevation than the Site (Site elevation 5,707 AMSL). Based on the elevation difference between the Site and depth to water in well SJ-03864-POD3, depth to water at the Site is assumed to be greater than 100 feet bgs. The Site is greater than 200 feet from any lakebed, sinkhole, or playa lake, and greater than 300 feet from any wetland. Surface land use surrounding the Site consists primarily of oil and gas development and livestock grazing. The Site is not within a 100-year floodplain, overlying a subsurface mine, or located within an area underlain by unstable geology (area designated as low potential karst by the BLM). Schools, hospitals, institutions, churches, and/or other occupied permanent residence or structures are not located within 300 feet of the Site. Sensitive receptors near the Site are depicted on Figure 1.

## SITE CLOSURE CRITERIA

Based on the information presented above and in accordance with the *Table I, Closure Criteria for Soils Impacted by a Release* (19.15.29.12 NMAC), the following Closure Criteria for constituents of concern (COCs) should be applied to the Site:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH) as a combination of gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO): 2,500 mg/kg
- GRO+DRO: 1,000 mg/kg
- Chloride: 20,000 mg/kg

Additionally, because the Site is being reclaimed, a reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of soil that was impacted by the release per 19.15.29.13.D (1) NMAC.

## EXCAVATION SOIL SAMPLING ACTIVITIES

Based on the presence of potentially impacted soil and the unknown origin of the release, Hilcorp conducted pothole and field screening delineation activities at the Site in December 2023 to assess the lateral and vertical extents of impacts. A total of 14 potholes (PH01 through PH14) were advanced via backhoe in and around the stained soil. Soil samples from potholes PH01, PH02, PH03, PH07, PH09, PH10, PH11, PH13, and PH14 were collected and submitted to Eurofins Environment Testing (Eurofins) in Albuquerque, New Mexico for laboratory analysis of TPH following Environmental Protection Agency (EPA) Method 8015M/D, BTEX following EPA Method 8021B, and chloride following EPA Method 300.0. Pothole sample locations are presented on Figure 2, with laboratory analytical data summarized in Table 1. Complete laboratory analytical reports are attached as Appendix B.

On March 25 and 26, 2024, Ensolum personnel conducted excavation oversight and sampling activities at the Site. Notification to NMOCD was provided at least two business days prior to conducting remediation and sampling work, with correspondence attached in Appendix C. To direct activities during excavation, Ensolum personnel field screened soil for volatile organic compounds (VOCs) using a calibrated photoionization detector (PID). Once field screening indicated impacted soil had been removed, five-point composite soil samples were collected from the floor (FS01 through FS08) and sidewalls (WS01 through WS07 and WS05A/WS06A) of the excavation at a frequency of one sample per 200 square feet. Sidewall samples WS01 through WS07 were collected from the ground surface to depths up to 5 feet bgs. Sidewall samples WS05A and WS06A were collected in areas of the excavation that extended to depths up to 7 feet bgs and were collected between 4 feet and 7 feet bgs. Confirmation sample locations are presented on Figure 3. The five-point composite samples were collected by placing

five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The soil samples were collected into laboratory provided jars and transported under proper chain of custody procedures to Eurofins and analyzed for TPH, BTEX, and chloride following the methods described above.

## SOIL SAMPLE RESULTS

Analytical results from the excavation indicated concentrations of all COCs were compliant with NMOCD Table I Closure Criteria and the reclamation requirement (where applicable) in all confirmation samples. In total, 858 cubic yards of impacted soil was removed and transported to the Envirotech, Inc. landfarm located in San Juan County, New Mexico. Soil sample results are summarized in Table 1, with complete laboratory analytical reports attached as Appendix B. Photographs taken by Ensolum during the delineation and excavation work are included in Appendix D.

## CLOSURE REQUEST

Site excavation and sampling activities were conducted at the Site to address the historical release discovered during well pad reclamation activities. Laboratory analytical results for the excavation confirmation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and no further remediation is required. Excavation of impacted soil has mitigated impacts at this Site and these remedial actions have been protective of human health, the environment, and groundwater. As such, Hilcorp respectfully requests closure for Incident Number NAPP2402418125.

## REFERENCES

Stone, W.; Lyford, F.; Frenzel, P.; Mizell, N.; and Padgett, E. (1983). *Hydrogeology and Water Resources of San Juan Basin, New Mexico.* Socorro: New Mexico Bureau of Mines and Mineral Resources.

We appreciate the opportunity to provide this document to the NMOCD. If you should have any questions or comments regarding this document, please contact the undersigned.

Sincerely,
**Ensolum, LLC**

Stuart Hyde, PG (licensed in WA & TX)
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Senior Managing Geologist
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**Attachments:**

| | |
|---|---|
| Figure 1: | Site Receptor Map |
| Figure 2: | Delineation Soil Sample Locations |
| Figure 3: | Excavation Soil Sample Locations |
| Table 1: | Soil Sample Analytical Results |
| Appendix A: | NMOSE Well Logs |
| Appendix B: | Laboratory Analytical Reports |
| Appendix C: | Agency Correspondence |
| Appendix D: | Project Photographs |

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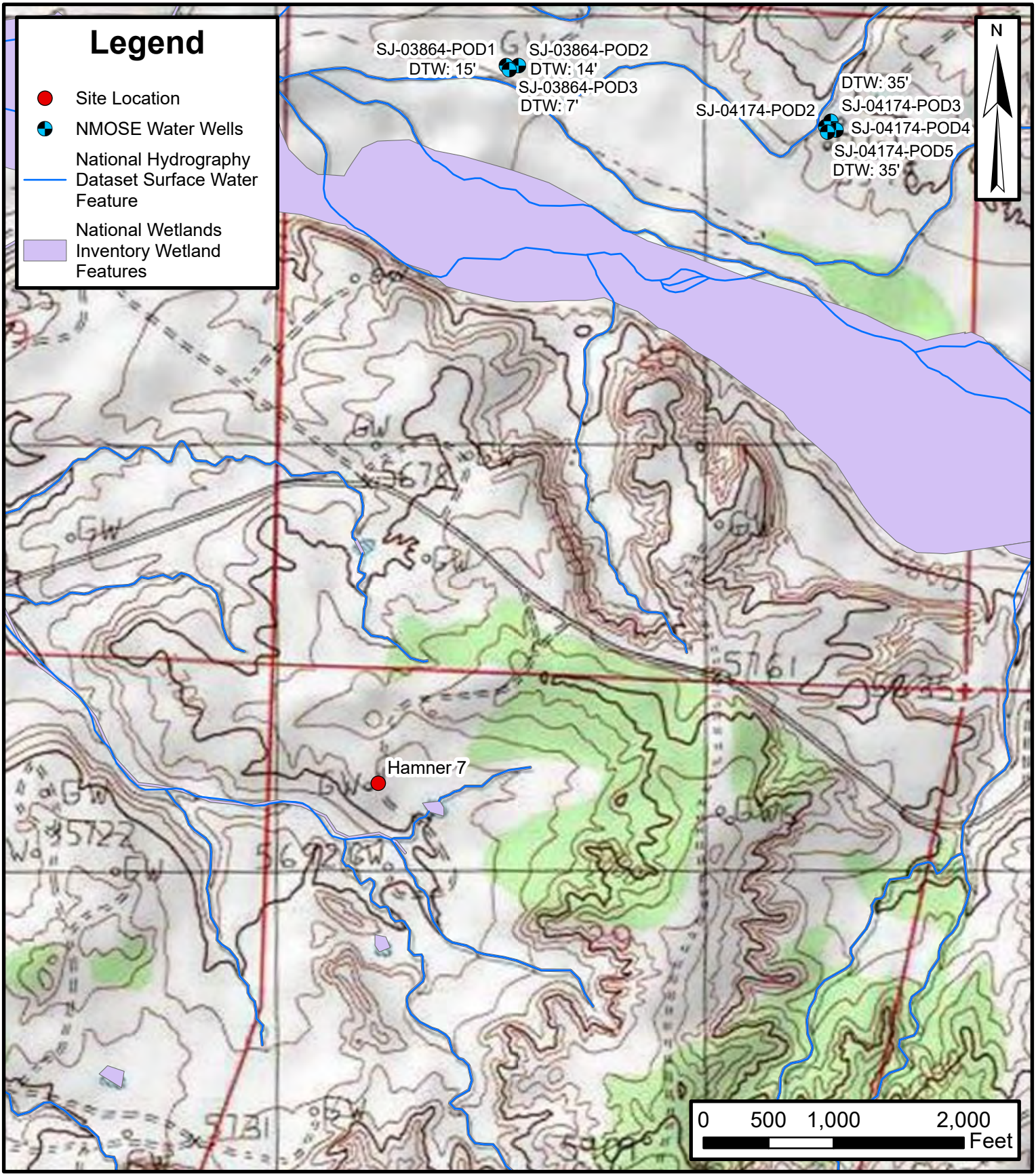
# FIGURES

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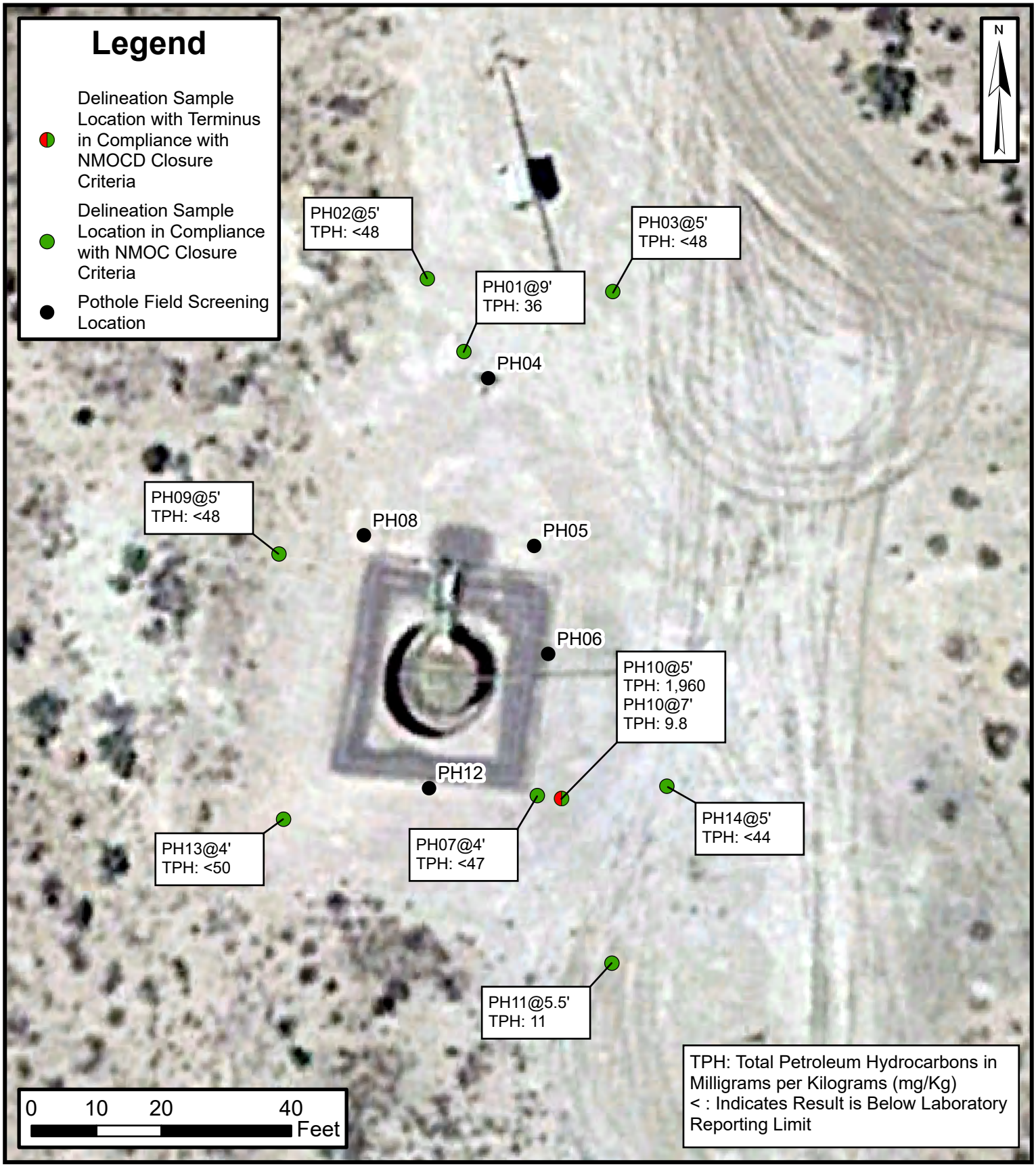
# Site Receptor Map

Hamner 7
Hilcorp Energy Company
36.701182, -107.807684
San Juan County, New Mexico

FIGURE
1

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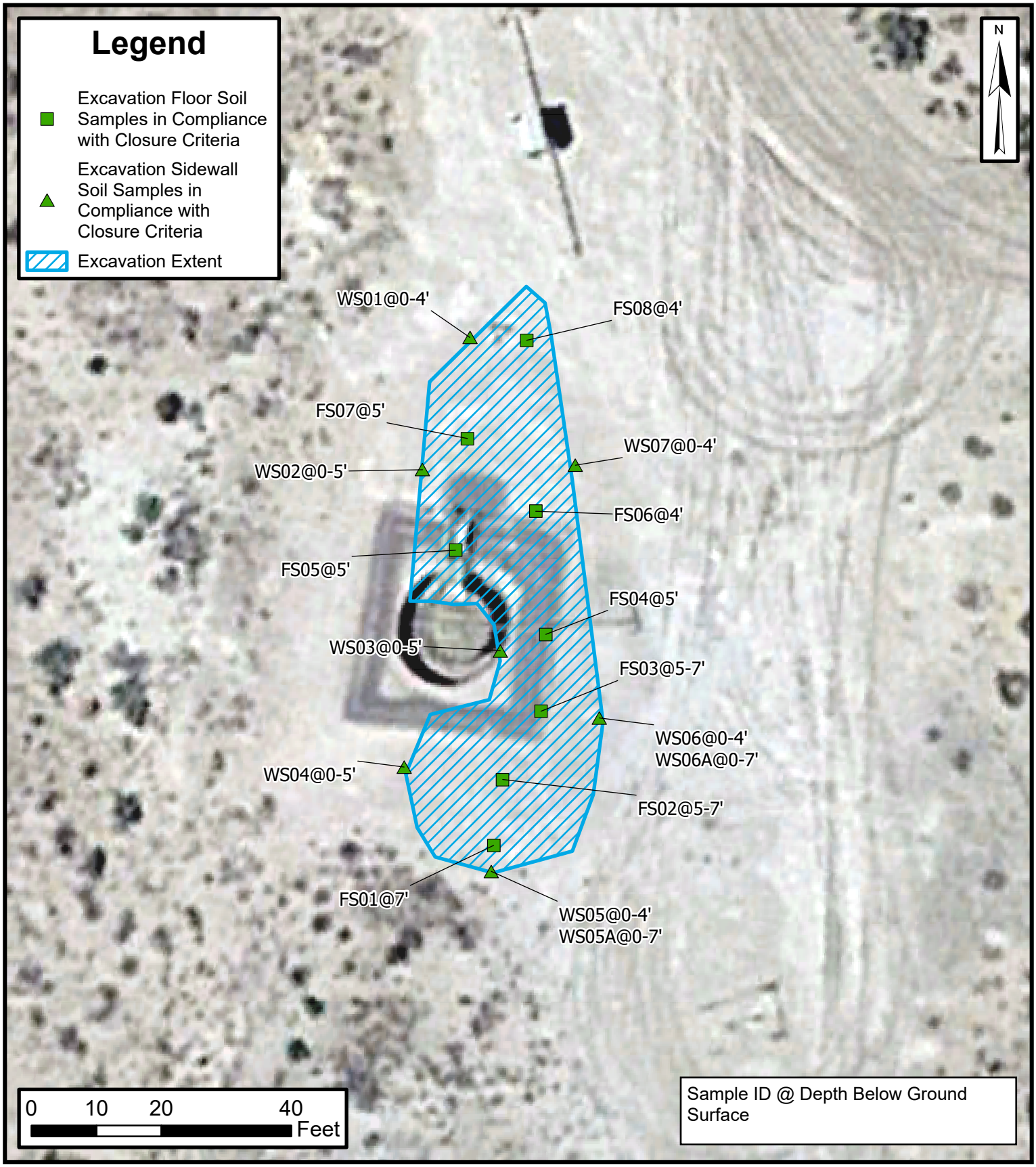
# Delineation Soil Sample Locations

Hamner 7
Hilcorp Energy Company
36.701182, -107.807684
San Juan County, New Mexico

FIGURE
2



Sources: Environmental Systems Research Institute (ESRI), Google Earth

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# Excavation Soil Sample Locations

Hamner 7
Hilcorp Energy Company
36.701182, -107.807684
San Juan County, New Mexico

FIGURE
3



Sources: Environmental Systems Research Institute (ESRI), Google Earth

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# TABLES

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# TABLE 1
## SOIL SAMPLE ANALYTICAL RESULTS
## Hamner 7
## Hilcorp Energy Company
## San Juan County, New Mexico

| Sample ID | Date | Depth (feet bgs) | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Xylenes (mg/kg) | Total BTEX (mg/kg) | TPH GRO (mg/kg) | TPH DRO (mg/kg) | TPH MRO (mg/kg) | GRO+DRO (mg/kg) | Total TPH (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NMOCD Closure Criteria for Soils Impacted by a Release** | | | **10** | NE | NE | NE | **50** | NE | NE | NE | **1,000** | **2,500** | **20,000** |
| **DELINEATION SOIL SAMPLES** | | | | | | | | | | | | | |
| PH01@9 | 12/13/2023 | 9 | <0.024 | <0.048 | 0.050 | <0.096 | 0.050 | 17 | 19 | <48 | 36 | 36 | 66 |
| PH02@5 | 12/13/2023 | 5 | <0.024 | <0.049 | <0.049 | <0.097 | <0.097 | <4.9 | <9.6 | <48 | <9.6 | <48 | 83 |
| PH03@5 | 12/13/2023 | 5 | <0.023 | <0.047 | <0.047 | <0.094 | <0.094 | <4.7 | <9.6 | <48 | <9.6 | <48 | <60 |
| PH07@4 | 12/13/2023 | 4 | <0.024 | <0.048 | <0.048 | <0.097 | <0.097 | <4.8 | <9.5 | <47 | <9.5 | <47 | <60 |
| PH09@5 | 12/28/2023 | 5 | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | <9.5 | <48 | <9.5 | <48 | <61 |
| PH10@5 | 12/28/2023 | 5 | 0.22 | 0.56 | 2.8 | 7.7 | 11 | 1,400 | 560 | <48 | **1,960** | 1,960 | <60 |
| PH10@7 | 12/28/2023 | 7 | <0.024 | <0.048 | <0.048 | <0.096 | <0.096 | <4.8 | 9.8 | <49 | 9.8 | 9.8 | <60 |
| PH11@5.5 | 12/28/2023 | 5.5 | <0.024 | <0.047 | <0.047 | <0.095 | <0.095 | <4.7 | 11 | <46 | 11 | 11 | <60 |
| PH13@4 | 12/28/2023 | 4 | <0.024 | <0.048 | <0.048 | <0.095 | <0.095 | <4.8 | <10 | <50 | <10 | <50 | <60 |
| PH14@5 | 12/28/2023 | 5 | <0.023 | <0.046 | <0.046 | <0.092 | <0.092 | <4.6 | <8.8 | <44 | <8.8 | <44 | <60 |
| **EXCAVATION FLOOR SAMPLES** | | | | | | | | | | | | | |
| FS01 | 3/26/2024 | 7 | <0.024 | <0.048 | 0.36 | 0.44 | 0.80 | 110 | 34 | <45 | 144 | 144 | 66 |
| FS02 | 3/26/2024 | 5-7 | <0.025 | <0.49 | 0.19 | 0.18 | 0.37 | 56 | 28 | <44 | 84 | 84 | 56 |
| FS03 | 3/26/2024 | 5-7 | <0.024 | <0.047 | <0.047 | <0.095 | <0.095 | <4.7 | <9.0 | <45 | <9.0 | <45 | <60 |
| FS04 | 3/26/2024 | 5 | <0.025 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | 11 | <44 | 11 | 11 | <60 |
| FS05 | 3/26/2024 | 5 | <0.024 | <0.048 | <0.048 | <0.097 | <0.097 | <4.8 | <9.4 | <47 | <9.4 | <47 | <60 |
| FS06 | 3/26/2024 | 4 | <0.025 | <0.049 | <0.049 | <0.098 | <0.098 | 11 | <9.9 | <49 | 11 | 11 | <60 |
| FS07 | 3/26/2024 | 5 | <0.023 | <0.046 | <0.046 | <0.093 | <0.093 | 5.3 | <9.0 | <45 | 5.3 | 5.3 | <60 |
| FS08 | 3/26/2024 | 4 | <0.024 | <0.048 | <0.048 | <0.096 | <0.096 | <4.8 | <9.6 | <48 | <9.6 | <48 | <60 |
| **EXCAVATION SIDEWALL SAMPLES** | | | | | | | | | | | | | |
| WS01 | 3/26/2024 | 0-4 | <0.024 | <0.049 | <0.049 | <0.097 | <0.097 | <4.9 | <9.1 | <45 | <9.1 | <45 | <60 |
| WS02 | 3/26/2024 | 0-5 | <0.025 | <0.050 | <0.050 | <0.099 | <0.099 | <5.0 | <9.8 | <49 | <9.8 | <49 | <60 |
| WS03 | 3/26/2024 | 0-5 | <0.025 | <0.049 | <0.049 | <0.099 | <0.099 | <4.9 | <9.2 | <46 | <9.2 | <46 | <60 |
| WS04 | 3/26/2024 | 0-5 | <0.024 | <0.047 | <0.047 | <0.095 | <0.095 | <4.7 | <9.3 | <47 | <9.3 | <47 | <60 |
| WS05 | 3/26/2024 | 0-4 | <0.025 | <0.050 | <0.050 | <0.099 | <0.099 | <5.0 | <9.6 | <48 | <9.6 | <48 | <60 |
| WS05A | 3/26/2024 | 4-7 | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | 18 | 38 | <49 | 56 | 56 | 72 |
| WS06 | 3/26/2024 | 0-4 | <0.023 | <0.047 | <0.047 | <0.094 | <0.094 | <4.7 | <9.5 | <48 | <9.5 | <48 | <60 |
| WS06A | 3/26/2024 | 4-7 | <0.024 | <0.048 | <0.048 | <0.097 | <0.097 | 17 | 27 | <46 | 44 | 44 | 82 |
| WS07 | 3/26/2024 | 0-4 | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | <4.9 | <9.3 | <46 | <9.3 | <46 | <60 |

***Notes:***

*bgs: below ground surface*
*BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes*
*mg/kg: milligrams per kilogram*
*NE: Not Established*
*NMOCD: New Mexico Oil Conservation Division*
*': feet*
*GRO: Gasoline Range Organics*
*DRO: Diesel Range Organics*
*MRO: Motor Oil/Lube Oil Range Organics*
*TPH: Total Petroleum Hydrocarbon*
*<: indicates result less than the stated laboratory reporting limit (RL)*
*Concentrations in **bold** and shaded exceed the New Mexico Oil Conservation Division Table I Closure Criteria for Soils Impacted by a Release*

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# APPENDIX A

# NMOSE Well Logs

# WELL RECORD & LOG

## OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO

2009 MAR 25 PM 4:16

### 1. GENERAL AND WELL LOCATION

| POD NUMBER (WELL NUMBER) | OSE FILE NUMBER(S) |
|---|---|
| Pod 3, MW 4, El paso 1-A site | SJ 3864 Explor Pod 3 |
| **WELL OWNER NAME(S)** | **PHONE (OPTIONAL)** |
| Conoco Phillips | 505-326-9700 |
| **WELL OWNER MAILING ADDRESS** | **CITY / STATE / ZIP** |
| 3401 E 30th | Farmington / NM / 87401 |

| WELL LOCATION (FROM GPS) | DEGREES | MINUTES | SECONDS | |
|---|---|---|---|---|
| LATITUDE | 36 | 42 | 58.82 | N |
| LONGITUDE | 107 | 48 | 19.94 | W |

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS: SW corner of Largo canyon rd and hwy 64

### 2. OPTIONAL

| (2.5 ACRE) | (10 ACRE) | (40 ACRE) | (160 ACRE) | SECTION | TOWNSHIP | RANGE |
|---|---|---|---|---|---|---|
| NW ¼ | NE ¼ | NW ¼ | ¼ | 20 | 29 ☑ NORTH ☐ SOUTH | 09 ☐ EAST ☑ WEST |

| SUBDIVISION NAME | LOT NUMBER | BLOCK NUMBER | UNIT/TRACT |
|---|---|---|---|
| | | | |

| HYDROGRAPHIC SURVEY | MAP NUMBER | TRACT NUMBER |
|---|---|---|
| | | |

### 3. DRILLING INFORMATION

| LICENSE NUMBER | NAME OF LICENSED DRILLER | NAME OF WELL DRILLING COMPANY |
|---|---|---|
| WD1210 | Matthew Cain | WDC Exploration & Wells |

| DRILLING STARTED | DRILLING ENDED | DEPTH OF COMPLETED WELL (FT) | BORE HOLE DEPTH (FT) | DEPTH WATER FIRST ENCOUNTERED (FT) |
|---|---|---|---|---|
| 03/03/2009 | 03/03/2009 | 18.0 | 18.5 | Water not shown in samples |

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): 7.0

DRILLING FLUID: ☐ AIR ☐ MUD ☐ ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: HSA

| DEPTH (FT) FROM | DEPTH (FT) TO | BORE HOLE DIA. (IN) | CASING MATERIAL | CONNECTION TYPE (CASING) | INSIDE DIA. CASING (IN) | CASING WALL THICKNESS (IN) | SLOT SIZE (IN) |
|---|---|---|---|---|---|---|---|
| 3.0 | 18.0 | 8" | PVC | Threaded | 2" | sch40 | 0.010 |
| 0 | 3.0 | " | PVC Riser | " | " | " | |
| | | | | | | | |
| | | | | | | | |

### 4. WATER BEARING STRATA

| DEPTH (FT) FROM | DEPTH (FT) TO | THICKNESS (FT) | FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES) | YIELD (GPM) |
|---|---|---|---|---|
| 7.0 | 9.0 | 2.0 | Silty zone atop of the shale layer | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA | TOTAL ESTIMATED WELL YIELD (GPM) |
|---|---|
| | |

FOR OSE INTERNAL USE — WELL RECORD & LOG (Version 6/9/08)

| FILE NUMBER | SJ-3864 | POD NUMBER | 3 | TRN NUMBER | 427832 |
|---|---|---|---|---|---|
| LOCATION | 29N.09W.20.121 | | 1729999 | | PAGE 1 OF 2 |

**5. SEAL AND PUMP**

TYPE OF PUMP: ☐ SUBMERSIBLE ☐ JET ☑ NO PUMP – WELL NOT EQUIPPED
☐ TURBINE ☐ CYLINDER ☐ OTHER – SPECIFY:

| ANNULAR SEAL AND GRAVEL PACK | DEPTH (FT) FROM | DEPTH (FT) TO | BORE HOLE DIA. (IN) | MATERIAL TYPE AND SIZE | AMOUNT (CUBIC FT) | METHOD OF PLACEMENT |
|---|---|---|---|---|---|---|
| | 3.0 | 18.0 | 8" | 10/20 sand | | Tremie |
| | 0 | 3.0 | " | 3/8 benntonite chips | | Tremie |
| | | | | | | |

**6. GEOLOGIC LOG OF WELL**

| DEPTH (FT) FROM | DEPTH (FT) TO | THICKNESS (FT) | COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES) | WATER BEARING? |
|---|---|---|---|---|
| 0 | 5 | 5 | Silty sands | ☐ YES ☑ NO |
| 5 | 10 | 5 | Sandy | ☐ YES ☑ NO |
| 10 | 15 | 5 | Dark blusish shale sandy hard | ☑ YES ☐ NO |
| 15 | 18.5 | 3.5 | Hard Shale | ☐ YES ☑ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |
| | | | | ☐ YES ☐ NO |

ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL

**7. TEST & ADDITIONAL INFO**

WELL TEST — METHOD: ☑ BAILER ☐ PUMP ☐ AIR LIFT ☐ OTHER – SPECIFY:

TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

ADDITIONAL STATEMENTS OR EXPLANATIONS:

All wells set with 3x3' pad and 4" above ground locking well monument

2009 MAR 25 PM 4:16 STATE ENGINEER OFFICE AZTEC, NEW MEXICO

**8. SIGNATURE**

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

SIGNATURE OF DRILLER — DATE: 3/23/09

FOR OSE INTERNAL USE — WELL RECORD & LOG (Version 6/9/08)

| FILE NUMBER | SJ-3864 | POD NUMBER | 3 | TRN NUMBER | |
|---|---|---|---|---|---|
| LOCATION | 29N.09W.20.121 | | | | PAGE 2 OF 2 |

# Lithology Record

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO
2009 MAR 25 PM 4:16

**Project/Client:** El Paso 1-A, CoP
**Borehole:** MW-4 **Method:** HSA
**Geologist:** G. Rosselle, A. Moreno
**Date:** 3/3/09
**Driller:** Mark Cain, WDC

Page 1 of 1

| Interval (ft.) | Group Name and Description | USCS Class | Color | Moisture Content | Consistency of Cohesive Soils (Clay) | Density of Non-Cohesive Soils (Sand) | Angularity/Shape of Particles | Cementation & Type | Structure | Dry Strength | Plasticity | Additional Information | % Rec. (ft/ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0-5.25' | Silty sand [Daylight] | | Brown | dry, damp, moist, wet, sat. | v. soft, soft, firm (stiff), hard, v. hard | v. loose, loose, m. dense, dense, v. dense | angular, subangular, subrounded, rounded, flat, elongated | none, weak, moderate, strong, CHOOSE: Calcareous OR Siliceous | stratified, laminated, fissured, slickensided, blocky, lensed, homogenous, interbedded | none, low, medium, high, v. high | nonplastic, low, medium, high | No odor | NA |
| Blow Ct. 7,17,24,41 Sample: Y (N) Analytes: 312 Time: 1210 PID: NA | | | | | | | | | | | | | |
| 9.33 - 9'10" | V. Fine grained silty sand 9'4" to 9'6" 9'10" (9.33) | | Green | dry, damp, moist, wet, sat. | v. soft, soft, firm (stiff), hard, v. hard | v. loose, loose, m. dense, dense, v. dense | angular, subangular, subrounded, rounded, flat, elongated | none, weak, moderate, strong, CHOOSE: Calcareous OR Siliceous | stratified, laminated, fissured, slickensided, blocky, lensed, homogenous, interbedded | none, low, medium, high, v. high | nonplastic, low, medium, high | Blow count in each 6" unless noted otw. NO odor | 33% 6"/18" |
| Blow Ct. 50/4" Sample: Y (N) Analytes: Time: 0807 PID: 16.8 ppm | | | | | | | | | | | | | |
| 13.5' - 14' | Shale lens | | Gray | dry, damp, moist, wet, sat. | v. soft, soft, firm (stiff), hard, v. hard | v. loose, loose, m. dense, dense, v. dense | angular, subangular, subrounded, rounded, flat, elongated | none, weak, moderate, strong, CHOOSE: Calcareous OR Siliceous | stratified, laminated, fissured, slickensided, blocky, lensed, homogenous, interbedded | none, low, medium, high, v. high | nonplastic, low, medium, high | Very hard shale lens. NO odor | 33% |
| Blow Ct. 50/3" Sample: Y (N) Analytes: Time: 0834 PID: Not taken | | | | | | | | | | | | | |
| 18.5-19 | As above | | | dry, damp, moist, wet, sat. | v. soft, soft, firm (stiff), hard, v. hard | v. loose, loose, m. dense, dense, v. dense | angular, subangular, subrounded, rounded, flat, elongated | none, weak, moderate, strong, CHOOSE: Calcareous OR Siliceous | stratified, laminated, fissured, slickensided, blocky, lensed, homogenous, interbedded | none, low, medium, high, v. high | nonplastic, low, medium, high | NO odor. TD @ 18, Sample driven to 19 w/ hammer. | 33% |
| Blow Ct. 50/5" Sample: Y (N) Analytes: Time: 0845 PID: 6.0 ppm | | | | | | | | | | | | | |

ENSOLUM

# APPENDIX B

# Laboratory Analytical Reports

eurofins | Environment Testing

*Eurofins Environment Testing South Central, LLC*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

January 03, 2024

Mitch Killough
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hamner 7 OrderNo.: 2312910

Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 4 sample(s) on 12/15/2023 for the analyses presented in the following report.

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

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

**Analytical Report**
Lab Order **2312910**
Date Reported: **1/3/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH01@9
**Project:** Hamner 7
**Collection Date:** 12/13/2023 3:35:00 PM
**Lab ID:** 2312910-001 **Matrix:** SOIL **Received Date:** 12/15/2023 6:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | 19 | 9.6 | | mg/Kg | 1 | 12/28/2023 12:19:01 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 12/28/2023 12:19:01 PM |
| Surr: DNOP | 99.3 | 69-147 | | %Rec | 1 | 12/28/2023 12:19:01 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | 17 | 4.8 | | mg/Kg | 1 | 12/27/2023 11:19:04 AM |
| Surr: BFB | 232 | 15-244 | | %Rec | 1 | 12/27/2023 11:19:04 AM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 12/27/2023 11:19:04 AM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 12/27/2023 11:19:04 AM |
| Ethylbenzene | 0.050 | 0.048 | | mg/Kg | 1 | 12/27/2023 11:19:04 AM |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 12/27/2023 11:19:04 AM |
| Surr: 4-Bromofluorobenzene | 101 | 39.1-146 | | %Rec | 1 | 12/27/2023 11:19:04 AM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **RBC** |
| Chloride | 66 | 60 | | mg/Kg | 20 | 12/28/2023 6:45:46 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit | RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. | | |

**Analytical Report**
Lab Order **2312910**
Date Reported: **1/3/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH02@5
**Project:** Hamner 7
**Collection Date:** 12/13/2023 3:40:00 PM
**Lab ID:** 2312910-002 **Matrix:** SOIL **Received Date:** 12/15/2023 6:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 12/28/2023 12:43:24 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 12/28/2023 12:43:24 PM |
| Surr: DNOP | 99.6 | 69-147 | | %Rec | 1 | 12/28/2023 12:43:24 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 12/22/2023 3:52:30 PM |
| Surr: BFB | 98.5 | 15-244 | | %Rec | 1 | 12/22/2023 3:52:30 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 12/22/2023 3:52:30 PM |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 12/22/2023 3:52:30 PM |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 12/22/2023 3:52:30 PM |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 12/22/2023 3:52:30 PM |
| Surr: 4-Bromofluorobenzene | 96.6 | 39.1-146 | | %Rec | 1 | 12/22/2023 3:52:30 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **RBC** |
| Chloride | 83 | 60 | | mg/Kg | 20 | 12/28/2023 7:00:56 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312910**
Date Reported: **1/3/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH03@5
**Project:** Hamner 7
**Collection Date:** 12/13/2023 3:43:00 PM
**Lab ID:** 2312910-003 **Matrix:** SOIL **Received Date:** 12/15/2023 6:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 12/28/2023 12:24:08 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 12/28/2023 12:24:08 PM |
| Surr: DNOP | 113 | 69-147 | | %Rec | 1 | 12/28/2023 12:24:08 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 12/22/2023 4:16:21 PM |
| Surr: BFB | 97.7 | 15-244 | | %Rec | 1 | 12/22/2023 4:16:21 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 12/22/2023 4:16:21 PM |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 12/22/2023 4:16:21 PM |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 12/22/2023 4:16:21 PM |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 12/22/2023 4:16:21 PM |
| Surr: 4-Bromofluorobenzene | 96.1 | 39.1-146 | | %Rec | 1 | 12/22/2023 4:16:21 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **RBC** |
| Chloride | ND | 60 | | mg/Kg | 20 | 12/28/2023 7:16:05 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit | RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. | | |

**Analytical Report**
Lab Order **2312910**
Date Reported: **1/3/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY **Client Sample ID:** PH07@4
**Project:** Hamner 7 **Collection Date:** 12/13/2023 4:06:00 PM
**Lab ID:** 2312910-004 **Matrix:** SOIL **Received Date:** 12/15/2023 6:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 9.5 | | mg/Kg | 1 | 12/28/2023 12:47:56 PM |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 12/28/2023 12:47:56 PM |
| Surr: DNOP | 118 | 69-147 | | %Rec | 1 | 12/28/2023 12:47:56 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 12/22/2023 4:40:09 PM |
| Surr: BFB | 105 | 15-244 | | %Rec | 1 | 12/22/2023 4:40:09 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 12/22/2023 4:40:09 PM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 12/22/2023 4:40:09 PM |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 12/22/2023 4:40:09 PM |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 12/22/2023 4:40:09 PM |
| Surr: 4-Bromofluorobenzene | 98.4 | 39.1-146 | | %Rec | 1 | 12/22/2023 4:40:09 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **RBC** |
| Chloride | ND | 60 | | mg/Kg | 20 | 12/28/2023 7:31:15 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312910**

***03-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **MB-79657** | SampType: **MBLK** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79657** | RunNo: **102121** |
| Prep Date: **12/28/2023** | Analysis Date: **12/28/2023** | SeqNo: **3771779** Units: **mg/Kg** |

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

| Sample ID: **LCS-79657** | SampType: **LCS** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79657** | RunNo: **102121** |
| Prep Date: **12/28/2023** | Analysis Date: **12/28/2023** | SeqNo: **3771780** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14 | 1.5 | 15.00 | 0 | 94.8 | 90 | 110 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312910**

***03-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **MB-79621** | SampType: **MBLK** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79621** | RunNo: **102130** |
| Prep Date: **12/27/2023** | Analysis Date: **12/28/2023** | SeqNo: **3769479** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 10 | | 10.00 | | 100 | 69 | 147 | | | |

| Sample ID: **LCS-79621** | SampType: **LCS** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79621** | RunNo: **102130** |
| Prep Date: **12/27/2023** | Analysis Date: **12/28/2023** | SeqNo: **3769480** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | 47 | 10 | 50.00 | 0 | 93.4 | 61.9 | 130 | | | |
| Surr: DNOP | 4.3 | | 5.000 | | 86.9 | 69 | 147 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312910**

***03-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **lcs-79535** | SampType: **LCS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79535** | RunNo: **102078** |
| Prep Date: **12/20/2023** | Analysis Date: **12/22/2023** | SeqNo: **3767109** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 26 | 5.0 | 25.00 | 0 | 104 | 70 | 130 | | | |
| Surr: BFB | 2100 | | 1000 | | 210 | 15 | 244 | | | |

| Sample ID: **mb-79535** | SampType: **MBLK** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79535** | RunNo: **102078** |
| Prep Date: **12/20/2023** | Analysis Date: **12/22/2023** | SeqNo: **3767112** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 980 | | 1000 | | 97.7 | 15 | 244 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312910**

***03-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **LCS-79535** | SampType: **LCS** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79535** | RunNo: **102078** |
| Prep Date: **12/20/2023** | Analysis Date: **12/22/2023** | SeqNo: **3767216** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.84 | 0.025 | 1.000 | 0 | 84.0 | 70 | 130 | | | |
| Toluene | 0.86 | 0.050 | 1.000 | 0 | 85.7 | 70 | 130 | | | |
| Ethylbenzene | 0.87 | 0.050 | 1.000 | 0 | 87.0 | 70 | 130 | | | |
| Xylenes, Total | 2.6 | 0.10 | 3.000 | 0 | 87.5 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 1.0 | | 1.000 | | 99.6 | 39.1 | 146 | | | |

| Sample ID: **mb-79535** | SampType: **MBLK** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79535** | RunNo: **102078** |
| Prep Date: **12/20/2023** | Analysis Date: **12/22/2023** | SeqNo: **3767219** 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 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 0.97 | | 1.000 | | 97.5 | 39.1 | 146 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

eurofins | Environment Testing

*Eurofins Environment Testing South Central, LLC*
*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: HILCORP ENERGY Work Order Number: 2312910 RcptNo: 1

Received By: Tracy Casarrubias 12/15/2023 6:50:00 AM

Completed By: Tracy Casarrubias 12/15/2023 9:12:58 AM

Reviewed By: 12/15/23

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Is Chain of Custody complete? | Yes ☐ | No ☑ | Not Present ☐ |
| 2. How was the sample delivered? | Courier | | |

## Log In

| | | | |
|---|---|---|---|
| 3. Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 4. Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 5. Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 6. Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 7. Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 8. Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 9. Received at least 1 vial with headspace <1/4" for AQ VOA? | Yes ☐ | No ☐ | NA ☑ |
| 10. Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 12. Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 13. Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 14. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

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

Adjusted? _____

Checked by: TMC 12/15/23

## Special Handling (if applicable)

15. 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: Mailing address and phone number are missing on COC- TMC 12/15/23

16. Additional remarks:

17. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 3.3 | Good | Yes | Morty | | |

# Chain-of-Custody Record

Client: Hilcorp

Attn: Mitch Kellough

Mailing Address:

Phone #:

email or Fax#: mkellough@hilcorp.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush 5-day

Project Name: Hamner 7

Project #:

Project Manager: Stuart Hyde

Sampler: Reece Hanson

On Ice: ☒ Yes ☐ No monty

# of Coolers: 1

Cooler Temp(Including CF): 3.3 ± 0 = 3.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

| Date | Time | Matrix | Sample Name | Container Type and # | Preservative Type | HEAL No. 2312910 | BTEX / ~~MTBE~~ / ~~TMB's~~ (8021) | TPH:8015D(GRO / DRO / MRO) | 8081 Pesticides/8082 PCB's | EDB (Method 504.1) | PAHs by 8310 or 8270SIMS | RCRA 8 Metals | Cl, F, Br, $NO_3$, $NO_2$, $PO_4$, $SO_4$ | 8260 (VOA) | 8270 (Semi-VOA) | Total Coliform (Present/Absent) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/13/23 | 1535 | Soil | Pitot @ 9 | 1,4oz | Cool | 001 | X | X | | | | | X | | | |
| | 1540 | | Pitot @ 5 | | | 002 | X | X | | | | | X | | | |
| | 1543 | | Pitot3 @ 5 | | | 003 | X | X | | | | | X | | | |
| | 1606 | | Pitot7 @ 4 | | | 004 | X | X | | | | | X | | | |

| Date | Time | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 12/14/23 | 1012 | | | | 12/14/23 | 1012 |
| 12/14/23 | 1750 | | | courier | 12/15/23 | 6:50 |

Remarks:

cc: rhanson@ensolum.com
shyde@ensolum.com

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.

eurofins | Environment Testing

*Eurofins Environment Testing South Central, LLC*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

January 15, 2024

Mitch Killough
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hamner 7 OrderNo.: 2312F11

Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 6 sample(s) on 12/29/2023 for the analyses presented in the following report.

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

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH09@5
**Project:** Hamner 7
**Collection Date:** 12/28/2023 11:30:00 AM
**Lab ID:** 2312F11-001 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 9.5 | | mg/Kg | 1 | 1/3/2024 8:26:02 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 1/3/2024 8:26:02 PM |
| Surr: DNOP | 121 | 69-147 | | %Rec | 1 | 1/3/2024 8:26:02 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 1/2/2024 5:50:39 PM |
| Surr: BFB | 111 | 15-244 | | %Rec | 1 | 1/2/2024 5:50:39 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2024 5:50:39 PM |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 1/2/2024 5:50:39 PM |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 1/2/2024 5:50:39 PM |
| Xylenes, Total | ND | 0.098 | | mg/Kg | 1 | 1/2/2024 5:50:39 PM |
| Surr: 4-Bromofluorobenzene | 93.9 | 39.1-146 | | %Rec | 1 | 1/2/2024 5:50:39 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **KCB** |
| Chloride | ND | 61 | | mg/Kg | 20 | 1/8/2024 4:58:32 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH10@5
**Project:** Hamner 7
**Collection Date:** 12/28/2023 11:50:00 AM
**Lab ID:** 2312F11-002 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | 560 | 9.7 | | mg/Kg | 1 | 1/3/2024 8:36:30 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 1/3/2024 8:36:30 PM |
| Surr: DNOP | 99.2 | 69-147 | | %Rec | 1 | 1/3/2024 8:36:30 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | 1400 | 24 | | mg/Kg | 5 | 1/2/2024 6:14:43 PM |
| Surr: BFB | 2380 | 15-244 | S | %Rec | 5 | 1/2/2024 6:14:43 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | 0.22 | 0.12 | | mg/Kg | 5 | 1/2/2024 6:14:43 PM |
| Toluene | 0.56 | 0.24 | | mg/Kg | 5 | 1/2/2024 6:14:43 PM |
| Ethylbenzene | 2.8 | 0.24 | | mg/Kg | 5 | 1/2/2024 6:14:43 PM |
| Xylenes, Total | 7.7 | 0.47 | | mg/Kg | 5 | 1/2/2024 6:14:43 PM |
| Surr: 4-Bromofluorobenzene | 357 | 39.1-146 | S | %Rec | 5 | 1/2/2024 6:14:43 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **KCB** |
| Chloride | ND | 60 | | mg/Kg | 20 | 1/8/2024 5:10:57 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit | RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. | | |

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH11@5.5
**Project:** Hamner 7
**Collection Date:** 12/28/2023 11:34:00 AM
**Lab ID:** 2312F11-003 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | 11 | 9.2 | | mg/Kg | 1 | 1/3/2024 8:46:58 PM |
| Motor Oil Range Organics (MRO) | ND | 46 | | mg/Kg | 1 | 1/3/2024 8:46:58 PM |
| Surr: DNOP | 130 | 69-147 | | %Rec | 1 | 1/3/2024 8:46:58 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 1/3/2024 11:51:16 AM |
| Surr: BFB | 101 | 15-244 | | %Rec | 1 | 1/3/2024 11:51:16 AM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2024 6:38:21 PM |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 1/2/2024 6:38:21 PM |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 1/2/2024 6:38:21 PM |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 1/2/2024 6:38:21 PM |
| Surr: 4-Bromofluorobenzene | 92.8 | 39.1-146 | | %Rec | 1 | 1/2/2024 6:38:21 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **KCB** |
| Chloride | ND | 60 | | mg/Kg | 20 | 1/8/2024 5:23:22 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY **Client Sample ID:** PH13@4
**Project:** Hamner 7 **Collection Date:** 12/28/2023 11:37:00 AM
**Lab ID:** 2312F11-004 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 10 | | mg/Kg | 1 | 1/3/2024 8:57:25 PM |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 1/3/2024 8:57:25 PM |
| Surr: DNOP | 115 | 69-147 | | %Rec | 1 | 1/3/2024 8:57:25 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2024 7:02:29 PM |
| Surr: BFB | 110 | 15-244 | | %Rec | 1 | 1/2/2024 7:02:29 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2024 7:02:29 PM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2024 7:02:29 PM |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2024 7:02:29 PM |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 1/2/2024 7:02:29 PM |
| Surr: 4-Bromofluorobenzene | 91.6 | 39.1-146 | | %Rec | 1 | 1/2/2024 7:02:29 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **KCB** |
| Chloride | ND | 60 | | mg/Kg | 20 | 1/8/2024 5:35:47 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH14@5
**Project:** Hamner 7
**Collection Date:** 12/28/2023 11:40:00 AM
**Lab ID:** 2312F11-005 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 8.8 | | mg/Kg | 1 | 1/3/2024 9:07:51 PM |
| Motor Oil Range Organics (MRO) | ND | 44 | | mg/Kg | 1 | 1/3/2024 9:07:51 PM |
| Surr: DNOP | 115 | 69-147 | | %Rec | 1 | 1/3/2024 9:07:51 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 1/2/2024 7:26:03 PM |
| Surr: BFB | 121 | 15-244 | | %Rec | 1 | 1/2/2024 7:26:03 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 1/2/2024 7:26:03 PM |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 1/2/2024 7:26:03 PM |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 1/2/2024 7:26:03 PM |
| Xylenes, Total | ND | 0.092 | | mg/Kg | 1 | 1/2/2024 7:26:03 PM |
| Surr: 4-Bromofluorobenzene | 90.6 | 39.1-146 | | %Rec | 1 | 1/2/2024 7:26:03 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **KCB** |
| Chloride | ND | 60 | | mg/Kg | 20 | 1/8/2024 5:48:11 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH10@7
**Project:** Hamner 7
**Collection Date:** 12/28/2023 11:45:00 AM
**Lab ID:** 2312F11-006 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | 9.8 | 9.8 | | mg/Kg | 1 | 1/3/2024 9:18:16 PM |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/3/2024 9:18:16 PM |
| Surr: DNOP | 106 | 69-147 | | %Rec | 1 | 1/3/2024 9:18:16 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2024 7:50:09 PM |
| Surr: BFB | 107 | 15-244 | | %Rec | 1 | 1/2/2024 7:50:09 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2024 7:50:09 PM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2024 7:50:09 PM |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2024 7:50:09 PM |
| Xylenes, Total | 0.16 | 0.096 | | mg/Kg | 1 | 1/2/2024 7:50:09 PM |
| Surr: 4-Bromofluorobenzene | 93.6 | 39.1-146 | | %Rec | 1 | 1/2/2024 7:50:09 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **SNS** |
| Chloride | ND | 60 | | mg/Kg | 20 | 1/10/2024 2:35:33 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit | RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312F11**

***15-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: | **MB-79773** | SampType: | **mblk** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **79773** | RunNo: | **102317** | | | | | |
| Prep Date: | **1/8/2024** | Analysis Date: | **1/8/2024** | SeqNo: | **3778296** | Units: | **mg/Kg** | | | |

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

| Sample ID: | **LCS-79773** | SampType: | **lcs** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **79773** | RunNo: | **102317** | | | | | |
| Prep Date: | **1/8/2024** | Analysis Date: | **1/8/2024** | SeqNo: | **3778297** | Units: | **mg/Kg** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14 | 1.5 | 15.00 | 0 | 93.0 | 90 | 110 | | | |

| Sample ID: | **MB-79832** | SampType: | **MBLK** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **79832** | RunNo: | **102351** | | | | | |
| Prep Date: | **1/10/2024** | Analysis Date: | **1/10/2024** | SeqNo: | **3780548** | Units: | **mg/Kg** | | | |

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

| Sample ID: | **LCS-79832** | SampType: | **LCS** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **79832** | RunNo: | **102351** | | | | | |
| Prep Date: | **1/10/2024** | Analysis Date: | **1/10/2024** | SeqNo: | **3780549** | Units: | **mg/Kg** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14 | 1.5 | 15.00 | 0 | 93.8 | 90 | 110 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312F11**

***15-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **LCS-79674** | SampType: **LCS** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79674** | RunNo: **102212** |
| Prep Date: **1/2/2024** | Analysis Date: **1/3/2024** | SeqNo: **3773288** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | 58 | 10 | 50.00 | 0 | 117 | 61.9 | 130 | | | |
| Surr: DNOP | 6.5 | | 5.000 | | 130 | 69 | 147 | | | |

| Sample ID: **MB-79674** | SampType: **MBLK** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79674** | RunNo: **102212** |
| Prep Date: **1/2/2024** | Analysis Date: **1/3/2024** | SeqNo: **3773291** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 12 | | 10.00 | | 116 | 69 | 147 | | | |

| Sample ID: **LCS-79746** | SampType: **LCS** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79746** | RunNo: **102294** |
| Prep Date: **1/4/2024** | Analysis Date: **1/5/2024** | SeqNo: **3777200** Units: **%Rec** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: DNOP | 5.6 | | 5.000 | | 113 | 69 | 147 | | | |

| Sample ID: **MB-79746** | SampType: **MBLK** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79746** | RunNo: **102294** |
| Prep Date: **1/4/2024** | Analysis Date: **1/5/2024** | SeqNo: **3777201** Units: **%Rec** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: DNOP | 15 | | 10.00 | | 153 | 69 | 147 | | | S |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312F11**

***15-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **lcs-79669** | SampType: **LCS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79669** | RunNo: **102187** |
| Prep Date: **12/29/2023** | Analysis Date: **1/2/2024** | SeqNo: **3772357** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 23 | 5.0 | 25.00 | 0 | 93.4 | 70 | 130 | | | |
| Surr: BFB | 2000 | | 1000 | | 202 | 15 | 244 | | | |

| Sample ID: **mb-79669** | SampType: **MBLK** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79669** | RunNo: **102187** |
| Prep Date: **12/29/2023** | Analysis Date: **1/2/2024** | SeqNo: **3772358** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 990 | | 1000 | | 99.2 | 15 | 244 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312F11**

***15-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **LCS-79669** | SampType: **LCS** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79669** | RunNo: **102187** |
| Prep Date: **12/29/2023** | Analysis Date: **1/2/2024** | SeqNo: **3772369** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.91 | 0.025 | 1.000 | 0 | 90.8 | 70 | 130 | | | |
| Toluene | 0.92 | 0.050 | 1.000 | 0 | 92.2 | 70 | 130 | | | |
| Ethylbenzene | 0.93 | 0.050 | 1.000 | 0 | 92.6 | 70 | 130 | | | |
| Xylenes, Total | 2.8 | 0.10 | 3.000 | 0 | 93.2 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.95 | | 1.000 | | 95.2 | 39.1 | 146 | | | |

| Sample ID: **mb-79669** | SampType: **MBLK** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79669** | RunNo: **102187** |
| Prep Date: **12/29/2023** | Analysis Date: **1/2/2024** | SeqNo: **3772370** 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 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 0.95 | | 1.000 | | 94.8 | 39.1 | 146 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

eurofins | Environment Testing

*Eurofins Environment Testing South Central, LLC*
*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: **Hilcorp Energy** Work Order Number: **2312F11** RcptNo: **1**

Received By: **Tracy Casarrubias** **12/29/2023 7:00:00 AM**

Completed By: **Tracy Casarrubias** **12/29/2023 9:36:37 AM**

Reviewed By: 12-29-23

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Is Chain of Custody complete? | Yes ☐ | No ☑ | Not Present ☐ |
| 2. How was the sample delivered? | Courier | | |

## Log In

| | | | |
|---|---|---|---|
| 3. Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 4. Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 5. Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 6. Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 7. Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 8. Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 9. Received at least 1 vial with headspace <1/4" for AQ VOA? | Yes ☐ | No ☐ | NA ☑ |
| 10. Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 12. Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 13. Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 14. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

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

Adjusted? _____

Checked by: TMC 12/29/23

## Special Handling (if applicable)

15. 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: Mailing address and phone number are missing on COC - TMC 12/29/23

16. Additional remarks:

17. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 1.1 | Good | Yes | Morty | | |

# Chain-of-Custody Record

Client: Hilcorp

Attn: Mitch Killough

Mailing Address:

Phone #:

email or Fax#: mkillough@hilcorp.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard 5day ☐ Rush

Project Name: Hamner 7

Project #:

Project Manager: Stuart Hyde

Sampler: Reece Henson

On Ice: ☒ Yes ☐ No Morty

# of Coolers: 1

Cooler Temp(Including CF): 1.1+0=1.1 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

| Date | Time | Matrix | Sample Name | Container Type and # | Preservative Type | HEAL No. 2312F11 | BTEX / MTBE / TMB's (8021) | TPH:8015D(GRO / DRO / MRO) | 8081 Pesticides/8082 PCB's | EDB (Method 504.1) | PAHs by 8310 or 8270SIMS | RCRA 8 Metals | Cl, F, Br, $NO_3$, $NO_2$, $PO_4$, $SO_4$ | 8260 (VOA) | 8270 (Semi-VOA) | Total Coliform (Present/Absent) | HOLD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/28/23 | 11:30 | Soil | PH09@5 | 1,4oz | Cool | 001 | X | X | | | | | X | | | | |
| | 11:50 | | PH10@5 | | | 002 | | | | | | | | | | | |
| | 11:34 | | PH11@5.5 | | | 003 | | | | | | | | | | | |
| | 11:37 | | PH13@4 | | | 004 | | | | | | | | | | | |
| | 11:40 | | PH14@5 | | | 005 | | | | | | | | | | | |
| | 11:45 | | * PH10@7 | | | 006 | | | | | | | | | | | X |

| Date: | Time: | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 12/28/23 | 1640 | | Chris Ward | | 12/28/23 | 1640 |
| 12/28/23 | 1746 | Chris Ward | | courier | 12/29/23 | 7:00 |

Remarks: * Hold PH10@7

cc: shyde@hilcorp.com, rhenson@hilcorp.com, pandersen@hilcorp.com

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.

eurofins | Environment Testing

*Eurofins Environment Testing South Central, LLC*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

January 03, 2024

Mitch Killough
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hamner 7 OrderNo.: 2312910

Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 4 sample(s) on 12/15/2023 for the analyses presented in the following report.

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

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

**Analytical Report**
Lab Order **2312910**
Date Reported: **1/3/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH01@9
**Project:** Hamner 7
**Collection Date:** 12/13/2023 3:35:00 PM
**Lab ID:** 2312910-001 **Matrix:** SOIL **Received Date:** 12/15/2023 6:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | 19 | 9.6 | | mg/Kg | 1 | 12/28/2023 12:19:01 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 12/28/2023 12:19:01 PM |
| Surr: DNOP | 99.3 | 69-147 | | %Rec | 1 | 12/28/2023 12:19:01 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | 17 | 4.8 | | mg/Kg | 1 | 12/27/2023 11:19:04 AM |
| Surr: BFB | 232 | 15-244 | | %Rec | 1 | 12/27/2023 11:19:04 AM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 12/27/2023 11:19:04 AM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 12/27/2023 11:19:04 AM |
| Ethylbenzene | 0.050 | 0.048 | | mg/Kg | 1 | 12/27/2023 11:19:04 AM |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 12/27/2023 11:19:04 AM |
| Surr: 4-Bromofluorobenzene | 101 | 39.1-146 | | %Rec | 1 | 12/27/2023 11:19:04 AM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **RBC** |
| Chloride | 66 | 60 | | mg/Kg | 20 | 12/28/2023 6:45:46 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312910**
Date Reported: **1/3/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH02@5
**Project:** Hamner 7
**Collection Date:** 12/13/2023 3:40:00 PM
**Lab ID:** 2312910-002 **Matrix:** SOIL **Received Date:** 12/15/2023 6:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 12/28/2023 12:43:24 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 12/28/2023 12:43:24 PM |
| Surr: DNOP | 99.6 | 69-147 | | %Rec | 1 | 12/28/2023 12:43:24 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 12/22/2023 3:52:30 PM |
| Surr: BFB | 98.5 | 15-244 | | %Rec | 1 | 12/22/2023 3:52:30 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 12/22/2023 3:52:30 PM |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 12/22/2023 3:52:30 PM |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 12/22/2023 3:52:30 PM |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 12/22/2023 3:52:30 PM |
| Surr: 4-Bromofluorobenzene | 96.6 | 39.1-146 | | %Rec | 1 | 12/22/2023 3:52:30 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **RBC** |
| Chloride | 83 | 60 | | mg/Kg | 20 | 12/28/2023 7:00:56 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit | RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. | | |

**Analytical Report**
Lab Order **2312910**
Date Reported: **1/3/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH03@5
**Project:** Hamner 7
**Collection Date:** 12/13/2023 3:43:00 PM
**Lab ID:** 2312910-003 **Matrix:** SOIL **Received Date:** 12/15/2023 6:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 9.6 | | mg/Kg | 1 | 12/28/2023 12:24:08 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 12/28/2023 12:24:08 PM |
| Surr: DNOP | 113 | 69-147 | | %Rec | 1 | 12/28/2023 12:24:08 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 12/22/2023 4:16:21 PM |
| Surr: BFB | 97.7 | 15-244 | | %Rec | 1 | 12/22/2023 4:16:21 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 12/22/2023 4:16:21 PM |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 12/22/2023 4:16:21 PM |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 12/22/2023 4:16:21 PM |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 12/22/2023 4:16:21 PM |
| Surr: 4-Bromofluorobenzene | 96.1 | 39.1-146 | | %Rec | 1 | 12/22/2023 4:16:21 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **RBC** |
| Chloride | ND | 60 | | mg/Kg | 20 | 12/28/2023 7:16:05 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit | RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. | | |

**Analytical Report**
Lab Order **2312910**
Date Reported: **1/3/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY **Client Sample ID:** PH07@4
**Project:** Hamner 7 **Collection Date:** 12/13/2023 4:06:00 PM
**Lab ID:** 2312910-004 **Matrix:** SOIL **Received Date:** 12/15/2023 6:50:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 9.5 | | mg/Kg | 1 | 12/28/2023 12:47:56 PM |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 12/28/2023 12:47:56 PM |
| Surr: DNOP | 118 | 69-147 | | %Rec | 1 | 12/28/2023 12:47:56 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 12/22/2023 4:40:09 PM |
| Surr: BFB | 105 | 15-244 | | %Rec | 1 | 12/22/2023 4:40:09 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 12/22/2023 4:40:09 PM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 12/22/2023 4:40:09 PM |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 12/22/2023 4:40:09 PM |
| Xylenes, Total | ND | 0.097 | | mg/Kg | 1 | 12/22/2023 4:40:09 PM |
| Surr: 4-Bromofluorobenzene | 98.4 | 39.1-146 | | %Rec | 1 | 12/22/2023 4:40:09 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **RBC** |
| Chloride | ND | 60 | | mg/Kg | 20 | 12/28/2023 7:31:15 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312910**

***03-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **MB-79657** | SampType: **MBLK** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79657** | RunNo: **102121** |
| Prep Date: **12/28/2023** | Analysis Date: **12/28/2023** | SeqNo: **3771779** Units: **mg/Kg** |

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

| Sample ID: **LCS-79657** | SampType: **LCS** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79657** | RunNo: **102121** |
| Prep Date: **12/28/2023** | Analysis Date: **12/28/2023** | SeqNo: **3771780** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14 | 1.5 | 15.00 | 0 | 94.8 | 90 | 110 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312910**

***03-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **MB-79621** | SampType: **MBLK** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79621** | RunNo: **102130** |
| Prep Date: **12/27/2023** | Analysis Date: **12/28/2023** | SeqNo: **3769479** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 10 | | 10.00 | | 100 | 69 | 147 | | | |

| Sample ID: **LCS-79621** | SampType: **LCS** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79621** | RunNo: **102130** |
| Prep Date: **12/27/2023** | Analysis Date: **12/28/2023** | SeqNo: **3769480** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | 47 | 10 | 50.00 | 0 | 93.4 | 61.9 | 130 | | | |
| Surr: DNOP | 4.3 | | 5.000 | | 86.9 | 69 | 147 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit | RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312910**

***03-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **lcs-79535** | SampType: **LCS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79535** | RunNo: **102078** |
| Prep Date: **12/20/2023** | Analysis Date: **12/22/2023** | SeqNo: **3767109** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 26 | 5.0 | 25.00 | 0 | 104 | 70 | 130 | | | |
| Surr: BFB | 2100 | | 1000 | | 210 | 15 | 244 | | | |

| Sample ID: **mb-79535** | SampType: **MBLK** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79535** | RunNo: **102078** |
| Prep Date: **12/20/2023** | Analysis Date: **12/22/2023** | SeqNo: **3767112** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 980 | | 1000 | | 97.7 | 15 | 244 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312910**

***03-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **LCS-79535** | SampType: **LCS** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79535** | RunNo: **102078** |
| Prep Date: **12/20/2023** | Analysis Date: **12/22/2023** | SeqNo: **3767216** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.84 | 0.025 | 1.000 | 0 | 84.0 | 70 | 130 | | | |
| Toluene | 0.86 | 0.050 | 1.000 | 0 | 85.7 | 70 | 130 | | | |
| Ethylbenzene | 0.87 | 0.050 | 1.000 | 0 | 87.0 | 70 | 130 | | | |
| Xylenes, Total | 2.6 | 0.10 | 3.000 | 0 | 87.5 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 1.0 | | 1.000 | | 99.6 | 39.1 | 146 | | | |

| Sample ID: **mb-79535** | SampType: **MBLK** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79535** | RunNo: **102078** |
| Prep Date: **12/20/2023** | Analysis Date: **12/22/2023** | SeqNo: **3767219** 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 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 0.97 | | 1.000 | | 97.5 | 39.1 | 146 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

eurofins | Environment Testing

*Eurofins Environment Testing South Central, LLC*
*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: HILCORP ENERGY Work Order Number: 2312910 RcptNo: 1

Received By: Tracy Casarrubias 12/15/2023 6:50:00 AM

Completed By: Tracy Casarrubias 12/15/2023 9:12:58 AM

Reviewed By: 12/15/23

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Is Chain of Custody complete? | Yes ☐ | No ☑ | Not Present ☐ |
| 2. How was the sample delivered? | Courier | | |

## Log In

| | | | |
|---|---|---|---|
| 3. Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 4. Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 5. Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 6. Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 7. Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 8. Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 9. Received at least 1 vial with headspace <1/4" for AQ VOA? | Yes ☐ | No ☐ | NA ☑ |
| 10. Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 12. Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 13. Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 14. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

# of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: TMC 12/15/23

## Special Handling (if applicable)

15. 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: Mailing address and phone number are missing on COC- TMC 12/15/23

16. Additional remarks:

17. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 3.3 | Good | Yes | Morty | | |

# Chain-of-Custody Record

Client: Hilcorp

Attn: Mitch Killough

Mailing Address:

Phone #:

email or Fax#: mkillough@hilcorp.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush 5-day

Project Name: Hamner 7

Project #:

Project Manager: Stuart Hyde

Sampler: Reece Hanson

On Ice: ☒ Yes ☐ No monty

# of Coolers: 1

Cooler Temp(Including CF): 3.3 ± 0 = 3.3 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

| Date | Time | Matrix | Sample Name | Container Type and # | Preservative Type | HEAL No. 2312910 | BTEX / ~~MTBE~~ / ~~TMB's~~ (8021) | TPH:8015D(GRO / DRO / MRO) | 8081 Pesticides/8082 PCB's | EDB (Method 504.1) | PAHs by 8310 or 8270SIMS | RCRA 8 Metals | Cl, F, Br, $NO_3$, $NO_2$, $PO_4$, $SO_4$ | 8260 (VOA) | 8270 (Semi-VOA) | Total Coliform (Present/Absent) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/13/23 | 1535 | Soil | Pitot @ 9 | 1,4oz | Cool | 001 | X | X | | | | | X | | | |
| | 1540 | | Pitot @ 5 | | | 002 | X | X | | | | | X | | | |
| | 1543 | | Pitot3 @ 5 | | | 003 | X | X | | | | | X | | | |
| | 1606 | | Pitot7 @ 4 | | | 004 | X | X | | | | | X | | | |

| Date | Time | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 12/14/23 | 1012 | | | | 12/14/23 | 1012 |
| 12/14/23 | 1750 | | | courier | 12/15/23 | 6:50 |

Remarks:

cc: rhanson shyde @ ensolum.com

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.

eurofins | Environment Testing

*Eurofins Environment Testing South Central, LLC*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

January 15, 2024

Mitch Killough
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hamner 7 OrderNo.: 2312F11

Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 6 sample(s) on 12/29/2023 for the analyses presented in the following report.

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

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH09@5
**Project:** Hamner 7
**Collection Date:** 12/28/2023 11:30:00 AM
**Lab ID:** 2312F11-001 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 9.5 | | mg/Kg | 1 | 1/3/2024 8:26:02 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 1/3/2024 8:26:02 PM |
| Surr: DNOP | 121 | 69-147 | | %Rec | 1 | 1/3/2024 8:26:02 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 1/2/2024 5:50:39 PM |
| Surr: BFB | 111 | 15-244 | | %Rec | 1 | 1/2/2024 5:50:39 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2024 5:50:39 PM |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 1/2/2024 5:50:39 PM |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 1/2/2024 5:50:39 PM |
| Xylenes, Total | ND | 0.098 | | mg/Kg | 1 | 1/2/2024 5:50:39 PM |
| Surr: 4-Bromofluorobenzene | 93.9 | 39.1-146 | | %Rec | 1 | 1/2/2024 5:50:39 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **KCB** |
| Chloride | ND | 61 | | mg/Kg | 20 | 1/8/2024 4:58:32 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH10@5
**Project:** Hamner 7
**Collection Date:** 12/28/2023 11:50:00 AM
**Lab ID:** 2312F11-002 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | 560 | 9.7 | | mg/Kg | 1 | 1/3/2024 8:36:30 PM |
| Motor Oil Range Organics (MRO) | ND | 48 | | mg/Kg | 1 | 1/3/2024 8:36:30 PM |
| Surr: DNOP | 99.2 | 69-147 | | %Rec | 1 | 1/3/2024 8:36:30 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | 1400 | 24 | | mg/Kg | 5 | 1/2/2024 6:14:43 PM |
| Surr: BFB | 2380 | 15-244 | S | %Rec | 5 | 1/2/2024 6:14:43 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | 0.22 | 0.12 | | mg/Kg | 5 | 1/2/2024 6:14:43 PM |
| Toluene | 0.56 | 0.24 | | mg/Kg | 5 | 1/2/2024 6:14:43 PM |
| Ethylbenzene | 2.8 | 0.24 | | mg/Kg | 5 | 1/2/2024 6:14:43 PM |
| Xylenes, Total | 7.7 | 0.47 | | mg/Kg | 5 | 1/2/2024 6:14:43 PM |
| Surr: 4-Bromofluorobenzene | 357 | 39.1-146 | S | %Rec | 5 | 1/2/2024 6:14:43 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **KCB** |
| Chloride | ND | 60 | | mg/Kg | 20 | 1/8/2024 5:10:57 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH11@5.5
**Project:** Hamner 7
**Collection Date:** 12/28/2023 11:34:00 AM
**Lab ID:** 2312F11-003 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | 11 | 9.2 | | mg/Kg | 1 | 1/3/2024 8:46:58 PM |
| Motor Oil Range Organics (MRO) | ND | 46 | | mg/Kg | 1 | 1/3/2024 8:46:58 PM |
| Surr: DNOP | 130 | 69-147 | | %Rec | 1 | 1/3/2024 8:46:58 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.7 | | mg/Kg | 1 | 1/3/2024 11:51:16 AM |
| Surr: BFB | 101 | 15-244 | | %Rec | 1 | 1/3/2024 11:51:16 AM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2024 6:38:21 PM |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 1/2/2024 6:38:21 PM |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 1/2/2024 6:38:21 PM |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 1/2/2024 6:38:21 PM |
| Surr: 4-Bromofluorobenzene | 92.8 | 39.1-146 | | %Rec | 1 | 1/2/2024 6:38:21 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **KCB** |
| Chloride | ND | 60 | | mg/Kg | 20 | 1/8/2024 5:23:22 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH13@4
**Project:** Hamner 7
**Collection Date:** 12/28/2023 11:37:00 AM
**Lab ID:** 2312F11-004 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 10 | | mg/Kg | 1 | 1/3/2024 8:57:25 PM |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 1/3/2024 8:57:25 PM |
| Surr: DNOP | 115 | 69-147 | | %Rec | 1 | 1/3/2024 8:57:25 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2024 7:02:29 PM |
| Surr: BFB | 110 | 15-244 | | %Rec | 1 | 1/2/2024 7:02:29 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2024 7:02:29 PM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2024 7:02:29 PM |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2024 7:02:29 PM |
| Xylenes, Total | ND | 0.095 | | mg/Kg | 1 | 1/2/2024 7:02:29 PM |
| Surr: 4-Bromofluorobenzene | 91.6 | 39.1-146 | | %Rec | 1 | 1/2/2024 7:02:29 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **KCB** |
| Chloride | ND | 60 | | mg/Kg | 20 | 1/8/2024 5:35:47 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH14@5
**Project:** Hamner 7
**Collection Date:** 12/28/2023 11:40:00 AM
**Lab ID:** 2312F11-005 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | ND | 8.8 | | mg/Kg | 1 | 1/3/2024 9:07:51 PM |
| Motor Oil Range Organics (MRO) | ND | 44 | | mg/Kg | 1 | 1/3/2024 9:07:51 PM |
| Surr: DNOP | 115 | 69-147 | | %Rec | 1 | 1/3/2024 9:07:51 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 1/2/2024 7:26:03 PM |
| Surr: BFB | 121 | 15-244 | | %Rec | 1 | 1/2/2024 7:26:03 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 1/2/2024 7:26:03 PM |
| Toluene | ND | 0.046 | | mg/Kg | 1 | 1/2/2024 7:26:03 PM |
| Ethylbenzene | ND | 0.046 | | mg/Kg | 1 | 1/2/2024 7:26:03 PM |
| Xylenes, Total | ND | 0.092 | | mg/Kg | 1 | 1/2/2024 7:26:03 PM |
| Surr: 4-Bromofluorobenzene | 90.6 | 39.1-146 | | %Rec | 1 | 1/2/2024 7:26:03 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **KCB** |
| Chloride | ND | 60 | | mg/Kg | 20 | 1/8/2024 5:48:11 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit |
| RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312F11**
Date Reported: **1/15/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY
**Client Sample ID:** PH10@7
**Project:** Hamner 7
**Collection Date:** 12/28/2023 11:45:00 AM
**Lab ID:** 2312F11-006 **Matrix:** SOIL **Received Date:** 12/29/2023 7:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **DGH** |
| Diesel Range Organics (DRO) | 9.8 | 9.8 | | mg/Kg | 1 | 1/3/2024 9:18:16 PM |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 1/3/2024 9:18:16 PM |
| Surr: DNOP | 106 | 69-147 | | %Rec | 1 | 1/3/2024 9:18:16 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** |
| Gasoline Range Organics (GRO) | ND | 4.8 | | mg/Kg | 1 | 1/2/2024 7:50:09 PM |
| Surr: BFB | 107 | 15-244 | | %Rec | 1 | 1/2/2024 7:50:09 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **JJP** |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 1/2/2024 7:50:09 PM |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 1/2/2024 7:50:09 PM |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 1/2/2024 7:50:09 PM |
| Xylenes, Total | 0.16 | 0.096 | | mg/Kg | 1 | 1/2/2024 7:50:09 PM |
| Surr: 4-Bromofluorobenzene | 93.6 | 39.1-146 | | %Rec | 1 | 1/2/2024 7:50:09 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **SNS** |
| Chloride | ND | 60 | | mg/Kg | 20 | 1/10/2024 2:35:33 PM |

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 | Above Quantitation Range/Estimated Value |
| 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 |
| PQL | Practical Quanitative Limit | RL | Reporting Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312F11**

***15-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **MB-79773** | SampType: **mblk** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79773** | RunNo: **102317** |
| Prep Date: **1/8/2024** | Analysis Date: **1/8/2024** | SeqNo: **3778296** Units: **mg/Kg** |

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

| Sample ID: **LCS-79773** | SampType: **lcs** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79773** | RunNo: **102317** |
| Prep Date: **1/8/2024** | Analysis Date: **1/8/2024** | SeqNo: **3778297** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14 | 1.5 | 15.00 | 0 | 93.0 | 90 | 110 | | | |

| Sample ID: **MB-79832** | SampType: **MBLK** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79832** | RunNo: **102351** |
| Prep Date: **1/10/2024** | Analysis Date: **1/10/2024** | SeqNo: **3780548** Units: **mg/Kg** |

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

| Sample ID: **LCS-79832** | SampType: **LCS** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79832** | RunNo: **102351** |
| Prep Date: **1/10/2024** | Analysis Date: **1/10/2024** | SeqNo: **3780549** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14 | 1.5 | 15.00 | 0 | 93.8 | 90 | 110 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312F11**

***15-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **LCS-79674** | SampType: **LCS** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79674** | RunNo: **102212** |
| Prep Date: **1/2/2024** | Analysis Date: **1/3/2024** | SeqNo: **3773288** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | 58 | 10 | 50.00 | 0 | 117 | 61.9 | 130 | | | |
| Surr: DNOP | 6.5 | | 5.000 | | 130 | 69 | 147 | | | |

| Sample ID: **MB-79674** | SampType: **MBLK** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79674** | RunNo: **102212** |
| Prep Date: **1/2/2024** | Analysis Date: **1/3/2024** | SeqNo: **3773291** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 12 | | 10.00 | | 116 | 69 | 147 | | | |

| Sample ID: **LCS-79746** | SampType: **LCS** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79746** | RunNo: **102294** |
| Prep Date: **1/4/2024** | Analysis Date: **1/5/2024** | SeqNo: **3777200** Units: **%Rec** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: DNOP | 5.6 | | 5.000 | | 113 | 69 | 147 | | | |

| Sample ID: **MB-79746** | SampType: **MBLK** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79746** | RunNo: **102294** |
| Prep Date: **1/4/2024** | Analysis Date: **1/5/2024** | SeqNo: **3777201** Units: **%Rec** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Surr: DNOP | 15 | | 10.00 | | 153 | 69 | 147 | | | S |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312F11**

***15-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **lcs-79669** | SampType: **LCS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79669** | RunNo: **102187** |
| Prep Date: **12/29/2023** | Analysis Date: **1/2/2024** | SeqNo: **3772357** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 23 | 5.0 | 25.00 | 0 | 93.4 | 70 | 130 | | | |
| Surr: BFB | 2000 | | 1000 | | 202 | 15 | 244 | | | |

| Sample ID: **mb-79669** | SampType: **MBLK** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79669** | RunNo: **102187** |
| Prep Date: **12/29/2023** | Analysis Date: **1/2/2024** | SeqNo: **3772358** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 990 | | 1000 | | 99.2 | 15 | 244 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312F11**

***15-Jan-24***

**Client:** HILCORP ENERGY

**Project:** Hamner 7

| Sample ID: **LCS-79669** | SampType: **LCS** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **79669** | RunNo: **102187** |
| Prep Date: **12/29/2023** | Analysis Date: **1/2/2024** | SeqNo: **3772369** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.91 | 0.025 | 1.000 | 0 | 90.8 | 70 | 130 | | | |
| Toluene | 0.92 | 0.050 | 1.000 | 0 | 92.2 | 70 | 130 | | | |
| Ethylbenzene | 0.93 | 0.050 | 1.000 | 0 | 92.6 | 70 | 130 | | | |
| Xylenes, Total | 2.8 | 0.10 | 3.000 | 0 | 93.2 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.95 | | 1.000 | | 95.2 | 39.1 | 146 | | | |

| Sample ID: **mb-79669** | SampType: **MBLK** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **79669** | RunNo: **102187** |
| Prep Date: **12/29/2023** | Analysis Date: **1/2/2024** | SeqNo: **3772370** 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 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 0.95 | | 1.000 | | 94.8 | 39.1 | 146 | | | |

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| D | Sample Diluted Due to Matrix |
| H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit |
| PQL | Practical Quanitative Limit |
| S | % Recovery outside of standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

eurofins | Environment Testing

*Eurofins Environment Testing South Central, LLC*
*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: **Hilcorp Energy** Work Order Number: **2312F11** RcptNo: **1**

Received By: **Tracy Casarrubias** **12/29/2023 7:00:00 AM**

Completed By: **Tracy Casarrubias** **12/29/2023 9:36:37 AM**

Reviewed By: 12-29-23

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Is Chain of Custody complete? | Yes ☐ | No ☑ | Not Present ☐ |
| 2. How was the sample delivered? | Courier | | |

## Log In

| | | | |
|---|---|---|---|
| 3. Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 4. Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 5. Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 6. Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 7. Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 8. Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 9. Received at least 1 vial with headspace <1/4" for AQ VOA? | Yes ☐ | No ☐ | NA ☑ |
| 10. Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 12. Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 13. Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 14. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

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

Adjusted? _____

Checked by: TMC 12/29/23

## Special Handling (if applicable)

15. 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: Mailing address and phone number are missing on COC - TMC 12/29/23

16. Additional remarks:

17. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 1.1 | Good | Yes | Morty | | |

# Chain-of-Custody Record

Client: Hilcorp

Attn: Mitch Killough

Mailing Address:

Phone #:

email or Fax#: mkillough@hilcorp.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard (5day) ☐ Rush

Project Name: Hamner 7

Project #:

Project Manager: Stuart Hyde

Sampler: Reece Henson

On Ice: ☒ Yes ☐ No Morty

# of Coolers: 1

Cooler Temp(Including CF): 1.1+0=1.1 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

| Date | Time | Matrix | Sample Name | Container Type and # | Preservative Type | HEAL No. 2312F11 | BTEX / MTBE / TMB's (8021) | TPH:8015D(GRO / DRO / MRO) | 8081 Pesticides/8082 PCB's | EDB (Method 504.1) | PAHs by 8310 or 8270SIMS | RCRA 8 Metals | Cl, F, Br, $NO_3$, $NO_2$, $PO_4$, $SO_4$ | 8260 (VOA) | 8270 (Semi-VOA) | Total Coliform (Present/Absent) | HOLD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/28/23 | 11:30 | Soil | PH09@5 | 1,4oz | Cool | 001 | X | X | | | | | X | | | | |
| | 11:50 | | PH10@5 | | | 002 | | | | | | | | | | | |
| | 11:34 | | PH11@5.5 | | | 003 | | | | | | | | | | | |
| | 11:37 | | PH13@4 | | | 004 | | | | | | | | | | | |
| | 11:40 | | PH14@5 | | | 005 | | | | | | | | | | | |
| | 11:45 | | * PH10@7 | | | 006 | | | | | | | | | | | X |

| Date: | Time: | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 12/28/23 | 1640 | | Chris Ward | | 12/28/23 | 1640 |
| 12/28/23 | 1746 | Chris Ward | | courier | 12/29/23 | 7:00 |

Remarks: * Hold PH10@7

cc: shyde@hilcorp.com, rhenson@hilcorp.com, pandersen@hilcorp.com

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.

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Mitch Killough
Hilcorp Energy
PO BOX 4700
Farmington, New Mexico 87499

Generated 4/4/2024 4:18:54 PM

## JOB DESCRIPTION

Hamner 7

## JOB NUMBER

885-2004-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

# Eurofins Albuquerque

## Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

## Authorization

Generated
4/4/2024 4:18:54 PM

Authorized for release by
Andy Freeman, Business Unit Manager
andy.freeman@et.eurofinsus.com
(505)345-3975

Client: Hilcorp Energy
Project/Site: Hamner 7

Laboratory Job ID: 885-2004-1

# Table of Contents

# Definitions/Glossary

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Qualifiers

### GC VOA

| Qualifier | Qualifier Description |
|---|---|
| S1+ | Surrogate recovery exceeds control limits, high biased. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

# Case Narrative

Client: Hilcorp Energy
Project: Hamner 7

Job ID: 885-2004-1

## Job ID: 885-2004-1 Eurofins Albuquerque

**Job Narrative**
**885-2004-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

**Receipt**
The samples were received on 3/29/2024 7:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.0°C.

**Gasoline Range Organics**
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**GC VOA**
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**Diesel Range Organics**
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**HPLC/IC**
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS01

**Date Collected: 03/26/24 15:00**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-1

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 4.9 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 00:13 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 00:13* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.024 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 00:13 | 1 |
| Ethylbenzene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 00:13 | 1 |
| Toluene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 00:13 | 1 |
| Xylenes, Total | ND | | 0.097 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 00:13 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 00:13* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.1 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 05:04 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 45 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 05:04 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *103* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 05:04* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 17:28 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS02

**Date Collected: 03/26/24 15:03**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-2

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 5.0 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 01:18 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *111* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 01:18* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.025 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 01:18 | 1 |
| Ethylbenzene | ND | | 0.050 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 01:18 | 1 |
| Toluene | ND | | 0.050 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 01:18 | 1 |
| Xylenes, Total | ND | | 0.099 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 01:18 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *99* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 01:18* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.8 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 05:28 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 49 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 05:28 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *104* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 05:28* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 17:41 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS03

**Date Collected: 03/26/24 15:06**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-3

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 4.9 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 02:24 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 02:24* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.025 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 02:24 | 1 |
| Ethylbenzene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 02:24 | 1 |
| Toluene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 02:24 | 1 |
| Xylenes, Total | ND | | 0.099 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 02:24 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *95* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 02:24* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.2 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 05:51 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 46 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 05:51 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *106* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 05:51* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 18:18 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS04

**Date Collected: 03/26/24 15:12**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-4

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 4.7 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 02:45 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *108* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 02:45* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.024 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 02:45 | 1 |
| Ethylbenzene | ND | | 0.047 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 02:45 | 1 |
| Toluene | ND | | 0.047 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 02:45 | 1 |
| Xylenes, Total | ND | | 0.095 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 02:45 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 02:45* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.3 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 06:14 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 47 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 06:14 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *96* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 06:14* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 18:55 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS05

**Date Collected: 03/26/24 15:15**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-5

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 5.0 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:07 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *108* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 03:07* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.025 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:07 | 1 |
| Ethylbenzene | ND | | 0.050 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:07 | 1 |
| Toluene | ND | | 0.050 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:07 | 1 |
| Xylenes, Total | ND | | 0.099 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:07 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *96* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 03:07* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.6 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 06:38 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 48 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 06:38 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *96* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 06:38* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 19:32 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS06

**Date Collected: 03/26/24 15:18**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-6

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 4.7 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:29 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 03:29* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.023 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:29 | 1 |
| Ethylbenzene | ND | | 0.047 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:29 | 1 |
| Toluene | ND | | 0.047 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:29 | 1 |
| Xylenes, Total | ND | | 0.094 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:29 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *95* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 03:29* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.5 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 07:01 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 48 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 07:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *95* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 07:01* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 19:44 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS06A

**Date Collected: 03/26/24 15:24**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-7

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | 17 | | 4.8 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:51 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *343* | *S1+* | *15 - 244* | *03/29/24 15:54* | *04/03/24 03:51* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.024 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:51 | 1 |
| Ethylbenzene | ND | | 0.048 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:51 | 1 |
| Toluene | ND | | 0.048 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:51 | 1 |
| Xylenes, Total | ND | | 0.097 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 03:51 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *134* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 03:51* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | 27 | | 9.2 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 07:25 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 46 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 07:25 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *96* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 07:25* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 82 | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 19:56 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS07

**Date Collected: 03/26/24 15:09**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-8

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 4.9 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:12 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *114* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 04:12* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.024 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:12 | 1 |
| Ethylbenzene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:12 | 1 |
| Toluene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:12 | 1 |
| Xylenes, Total | ND | | 0.098 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:12 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 04:12* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.3 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 07:48 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 46 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 07:48 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *95* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 07:48* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 20:09 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS05A

**Date Collected: 03/26/24 15:21**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-9

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | 18 | | 4.9 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *369* | *S1+* | *15 - 244* | *03/29/24 15:54* | *04/03/24 04:34* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.024 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:34 | 1 |
| Ethylbenzene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:34 | 1 |
| Toluene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:34 | 1 |
| Xylenes, Total | ND | | 0.098 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *140* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 04:34* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | 38 | | 9.7 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 08:12 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 49 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 08:12 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *97* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 08:12* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 72 | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 20:46 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: FS01

**Date Collected: 03/26/24 15:27**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-10

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Gasoline Range Organics [C6 - C10]** | **110** | | 4.8 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:56 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *414* | *S1+* | *15 - 244* | *03/29/24 15:54* | *04/03/24 04:56* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.024 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:56 | 1 |
| **Ethylbenzene** | **0.36** | | 0.048 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:56 | 1 |
| Toluene | ND | | 0.048 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:56 | 1 |
| **Xylenes, Total** | **0.44** | | 0.097 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 04:56 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *142* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 04:56* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Diesel Range Organics [C10-C28]** | **34** | | 9.0 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 08:59 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 45 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 08:59 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *98* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 08:59* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **66** | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 20:58 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: FS02

**Date Collected: 03/26/24 15:30**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-11

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Gasoline Range Organics [C6 - C10]** | **56** | | 4.9 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 05:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *372* | *S1+* | *15 - 244* | *03/29/24 15:54* | *04/03/24 05:39* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.025 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 05:39 | 1 |
| **Ethylbenzene** | **0.19** | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 05:39 | 1 |
| Toluene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 05:39 | 1 |
| **Xylenes, Total** | **0.18** | | 0.099 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 05:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *138* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 05:39* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Diesel Range Organics [C10-C28]** | **28** | | 8.8 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 09:23 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 44 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 09:23 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *97* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 09:23* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 21:10 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: FS03

**Date Collected: 03/26/24 15:33**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-12

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 4.7 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *122* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 06:01* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.024 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:01 | 1 |
| Ethylbenzene | ND | | 0.047 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:01 | 1 |
| Toluene | ND | | 0.047 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:01 | 1 |
| Xylenes, Total | ND | | 0.095 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 06:01* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.0 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 09:46 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 45 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 09:46 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *96* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 09:46* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 21:23 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: FS04

**Date Collected: 03/26/24 15:36**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-13

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 4.9 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:23 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *122* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 06:23* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.025 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:23 | 1 |
| Ethylbenzene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:23 | 1 |
| Toluene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:23 | 1 |
| Xylenes, Total | ND | | 0.098 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:23 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 06:23* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Diesel Range Organics [C10-C28]** | **11** | | 8.7 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 10:10 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 44 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 10:10 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *98* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 10:10* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 21:35 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: FS05

**Date Collected: 03/26/24 15:39**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-14

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 4.8 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:45 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *113* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 06:45* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.024 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:45 | 1 |
| Ethylbenzene | ND | | 0.048 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:45 | 1 |
| Toluene | ND | | 0.048 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:45 | 1 |
| Xylenes, Total | ND | | 0.097 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 06:45 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 06:45* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.4 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 10:34 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 47 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 10:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *100* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 10:34* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 21:47 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: FS06

**Date Collected: 03/26/24 15:42**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-15

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | 11 | | 4.9 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:06 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *190* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 07:06* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.025 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:06 | 1 |
| Ethylbenzene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:06 | 1 |
| Toluene | ND | | 0.049 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:06 | 1 |
| Xylenes, Total | ND | | 0.098 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:06 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *112* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 07:06* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.9 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 10:57 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 49 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 10:57 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *100* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 10:57* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 22:00 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: FS07

**Date Collected: 03/26/24 15:45**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-16

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | 5.3 | | 4.6 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:28 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *140* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 07:28* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.023 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:28 | 1 |
| Ethylbenzene | ND | | 0.046 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:28 | 1 |
| Toluene | ND | | 0.046 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:28 | 1 |
| Xylenes, Total | ND | | 0.093 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:28 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 07:28* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.0 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 11:21 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 45 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 11:21 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *104* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 11:21* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 22:12 | 20 |

# Client Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: FS08

**Date Collected: 03/26/24 15:48**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-17

**Matrix: Solid**

### Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 4.8 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:50 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *121* | | *15 - 244* | *03/29/24 15:54* | *04/03/24 07:50* | *1* |

### Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.024 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:50 | 1 |
| Ethylbenzene | ND | | 0.048 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:50 | 1 |
| Toluene | ND | | 0.048 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:50 | 1 |
| Xylenes, Total | ND | | 0.096 | | mg/Kg | | 03/29/24 15:54 | 04/03/24 07:50 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *99* | | *39 - 146* | *03/29/24 15:54* | *04/03/24 07:50* | *1* |

### Method: SW846 8015D - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 9.6 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 11:45 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 48 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 11:45 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *103* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 11:45* | *1* |

### Method: EPA 300.0 - Anions, Ion Chromatography

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 60 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 22:25 | 20 |

# QC Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Method: 8015D - Gasoline Range Organics (GRO) (GC)

**Lab Sample ID: MB 885-2523/1-A**
**Matrix: Solid**
**Analysis Batch: 2726**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 2523**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 5.0 | | mg/Kg | | 03/29/24 15:54 | 04/02/24 23:51 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *110* | | *15 - 244* | *03/29/24 15:54* | *04/02/24 23:51* | *1* |

**Lab Sample ID: LCS 885-2523/2-A**
**Matrix: Solid**
**Analysis Batch: 2726**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 2523**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | | | 25.0 | 24.6 | | mg/Kg | | 99 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *221* | | *15 - 244* |

**Lab Sample ID: 885-2004-1 MS**
**Matrix: Solid**
**Analysis Batch: 2726**

**Client Sample ID: WS01**
**Prep Type: Total/NA**
**Prep Batch: 2523**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 24.5 | 22.1 | | mg/Kg | | 90 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *216* | | *15 - 244* |

**Lab Sample ID: 885-2004-1 MSD**
**Matrix: Solid**
**Analysis Batch: 2726**

**Client Sample ID: WS01**
**Prep Type: Total/NA**
**Prep Batch: 2523**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics [C6 - C10] | ND | | 24.6 | 23.0 | | mg/Kg | | 93 | 70 - 130 | 4 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *223* | | *15 - 244* |

## Method: 8021B - Volatile Organic Compounds (GC)

**Lab Sample ID: MB 885-2518/1-A**
**Matrix: Solid**
**Analysis Batch: 2731**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 2518**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.025 | | mg/Kg | | 03/29/24 14:08 | 04/02/24 12:57 | 1 |
| Ethylbenzene | ND | | 0.050 | | mg/Kg | | 03/29/24 14:08 | 04/02/24 12:57 | 1 |
| Toluene | ND | | 0.050 | | mg/Kg | | 03/29/24 14:08 | 04/02/24 12:57 | 1 |

# QC Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Method: 8021B - Volatile Organic Compounds (GC) (Continued)

**Lab Sample ID: MB 885-2518/1-A**
**Matrix: Solid**
**Analysis Batch: 2731**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 2518**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Xylenes, Total | ND | | 0.10 | | mg/Kg | | 03/29/24 14:08 | 04/02/24 12:57 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *93* | | *39 - 146* | *03/29/24 14:08* | *04/02/24 12:57* | *1* |

**Lab Sample ID: MB 885-2523/1-A**
**Matrix: Solid**
**Analysis Batch: 2731**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 2523**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.025 | | mg/Kg | | 03/29/24 15:54 | 04/02/24 23:51 | 1 |
| Ethylbenzene | ND | | 0.050 | | mg/Kg | | 03/29/24 15:54 | 04/02/24 23:51 | 1 |
| Toluene | ND | | 0.050 | | mg/Kg | | 03/29/24 15:54 | 04/02/24 23:51 | 1 |
| Xylenes, Total | ND | | 0.10 | | mg/Kg | | 03/29/24 15:54 | 04/02/24 23:51 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *39 - 146* | *03/29/24 15:54* | *04/02/24 23:51* | *1* |

**Lab Sample ID: LCS 885-2523/3-A**
**Matrix: Solid**
**Analysis Batch: 2731**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 2523**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 1.00 | 0.932 | | mg/Kg | | 93 | 70 - 130 | | |
| Ethylbenzene | | | 1.00 | 0.935 | | mg/Kg | | 93 | 70 - 130 | | |
| Toluene | | | 1.00 | 0.968 | | mg/Kg | | 97 | 70 - 130 | | |
| Xylenes, Total | | | 3.00 | 2.83 | | mg/Kg | | 94 | 70 - 130 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *99* | | *39 - 146* |

**Lab Sample ID: 885-2004-2 MS**
**Matrix: Solid**
**Analysis Batch: 2731**

**Client Sample ID: WS02**
**Prep Type: Total/NA**
**Prep Batch: 2523**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.997 | 0.902 | | mg/Kg | | 90 | 70 - 130 | | |
| Ethylbenzene | ND | | 0.997 | 0.919 | | mg/Kg | | 92 | 70 - 130 | | |
| Toluene | ND | | 0.997 | 0.907 | | mg/Kg | | 91 | 70 - 130 | | |
| Xylenes, Total | ND | | 2.99 | 2.76 | | mg/Kg | | 92 | 70 - 130 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *99* | | *39 - 146* |

# QC Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Method: 8021B - Volatile Organic Compounds (GC) (Continued)

**Lab Sample ID: 885-2004-2 MSD**
**Matrix: Solid**
**Analysis Batch: 2731**

**Client Sample ID: WS02**
**Prep Type: Total/NA**
**Prep Batch: 2523**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 0.987 | 0.887 | | mg/Kg | | 90 | 70 - 130 | 2 | 20 |
| Ethylbenzene | ND | | 0.987 | 0.908 | | mg/Kg | | 92 | 70 - 130 | 1 | 20 |
| Toluene | ND | | 0.987 | 0.892 | | mg/Kg | | 90 | 70 - 130 | 2 | 20 |
| Xylenes, Total | ND | | 2.96 | 2.73 | | mg/Kg | | 92 | 70 - 130 | 1 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *98* | | *39 - 146* |

## Method: 8015D - Diesel Range Organics (DRO) (GC)

**Lab Sample ID: MB 885-2643/1-A**
**Matrix: Solid**
**Analysis Batch: 2747**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 2643**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 10 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 04:17 | 1 |
| Motor Oil Range Organics [C28-C40] | ND | | 50 | | mg/Kg | | 04/02/24 11:44 | 04/03/24 04:17 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *101* | | *62 - 134* | *04/02/24 11:44* | *04/03/24 04:17* | *1* |

**Lab Sample ID: LCS 885-2643/2-A**
**Matrix: Solid**
**Analysis Batch: 2747**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 2643**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | | | 50.0 | 46.9 | | mg/Kg | | 94 | 60 - 135 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *95* | | *62 - 134* |

**Lab Sample ID: 885-2004-17 MS**
**Matrix: Solid**
**Analysis Batch: 2747**

**Client Sample ID: FS08**
**Prep Type: Total/NA**
**Prep Batch: 2643**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 47.5 | 46.5 | | mg/Kg | | 98 | 44 - 136 | | |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *95* | | *62 - 134* |

# QC Sample Results

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Method: 8015D - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: 885-2004-17 MSD** — **Client Sample ID: FS08**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 2747** — **Prep Batch: 2643**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics [C10-C28] | ND | | 46.9 | 47.3 | | mg/Kg | | 101 | 44 - 136 | 2 | 32 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *Di-n-octyl phthalate (Surr)* | *98* | | *62 - 134* |

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 885-2669/1-A** — **Client Sample ID: Method Blank**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 2687** — **Prep Batch: 2669**

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 1.5 | | mg/Kg | | 04/02/24 15:46 | 04/02/24 17:04 | 1 |

**Lab Sample ID: LCS 885-2669/2-A** — **Client Sample ID: Lab Control Sample**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 2687** — **Prep Batch: 2669**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | | | 15.0 | 13.8 | | mg/Kg | | 92 | 90 - 110 | | |

**Lab Sample ID: 885-2004-3 MS** — **Client Sample ID: WS03**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 2687** — **Prep Batch: 2669**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 30.1 | 73.7 | | mg/Kg | | NC | 50 - 150 | | |

**Lab Sample ID: 885-2004-3 MSD** — **Client Sample ID: WS03**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 2687** — **Prep Batch: 2669**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 29.9 | 74.4 | | mg/Kg | | NC | 50 - 150 | 1 | 20 |

**Lab Sample ID: 885-2004-4 MS** — **Client Sample ID: WS04**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 2687** — **Prep Batch: 2669**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 30.0 | 65.2 | | mg/Kg | | NC | 50 - 150 | | |

**Lab Sample ID: 885-2004-4 MSD** — **Client Sample ID: WS04**
**Matrix: Solid** — **Prep Type: Total/NA**
**Analysis Batch: 2687** — **Prep Batch: 2669**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 30.0 | 65.4 | | mg/Kg | | NC | 50 - 150 | 0 | 20 |

# QC Association Summary

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## GC VOA

### Prep Batch: 2518

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| MB 885-2518/1-A | Method Blank | Total/NA | Solid | 5030C | |

### Prep Batch: 2523

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 885-2004-1 | WS01 | Total/NA | Solid | 5030C | |
| 885-2004-2 | WS02 | Total/NA | Solid | 5030C | |
| 885-2004-3 | WS03 | Total/NA | Solid | 5030C | |
| 885-2004-4 | WS04 | Total/NA | Solid | 5030C | |
| 885-2004-5 | WS05 | Total/NA | Solid | 5030C | |
| 885-2004-6 | WS06 | Total/NA | Solid | 5030C | |
| 885-2004-7 | WS06A | Total/NA | Solid | 5030C | |
| 885-2004-8 | WS07 | Total/NA | Solid | 5030C | |
| 885-2004-9 | WS05A | Total/NA | Solid | 5030C | |
| 885-2004-10 | FS01 | Total/NA | Solid | 5030C | |
| 885-2004-11 | FS02 | Total/NA | Solid | 5030C | |
| 885-2004-12 | FS03 | Total/NA | Solid | 5030C | |
| 885-2004-13 | FS04 | Total/NA | Solid | 5030C | |
| 885-2004-14 | FS05 | Total/NA | Solid | 5030C | |
| 885-2004-15 | FS06 | Total/NA | Solid | 5030C | |
| 885-2004-16 | FS07 | Total/NA | Solid | 5030C | |
| 885-2004-17 | FS08 | Total/NA | Solid | 5030C | |
| MB 885-2523/1-A | Method Blank | Total/NA | Solid | 5030C | |
| LCS 885-2523/2-A | Lab Control Sample | Total/NA | Solid | 5030C | |
| LCS 885-2523/3-A | Lab Control Sample | Total/NA | Solid | 5030C | |
| 885-2004-1 MS | WS01 | Total/NA | Solid | 5030C | |
| 885-2004-1 MSD | WS01 | Total/NA | Solid | 5030C | |
| 885-2004-2 MS | WS02 | Total/NA | Solid | 5030C | |
| 885-2004-2 MSD | WS02 | Total/NA | Solid | 5030C | |

### Analysis Batch: 2726

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 885-2004-1 | WS01 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-2 | WS02 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-3 | WS03 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-4 | WS04 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-5 | WS05 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-6 | WS06 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-7 | WS06A | Total/NA | Solid | 8015D | 2523 |
| 885-2004-8 | WS07 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-9 | WS05A | Total/NA | Solid | 8015D | 2523 |
| 885-2004-10 | FS01 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-11 | FS02 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-12 | FS03 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-13 | FS04 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-14 | FS05 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-15 | FS06 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-16 | FS07 | Total/NA | Solid | 8015D | 2523 |
| 885-2004-17 | FS08 | Total/NA | Solid | 8015D | 2523 |
| MB 885-2523/1-A | Method Blank | Total/NA | Solid | 8015D | 2523 |
| LCS 885-2523/2-A | Lab Control Sample | Total/NA | Solid | 8015D | 2523 |
| 885-2004-1 MS | WS01 | Total/NA | Solid | 8015D | 2523 |

# QC Association Summary

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## GC VOA (Continued)

### Analysis Batch: 2726 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 885-2004-1 MSD | WS01 | Total/NA | Solid | 8015D | 2523 |

### Analysis Batch: 2731

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 885-2004-1 | WS01 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-2 | WS02 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-3 | WS03 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-4 | WS04 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-5 | WS05 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-6 | WS06 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-7 | WS06A | Total/NA | Solid | 8021B | 2523 |
| 885-2004-8 | WS07 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-9 | WS05A | Total/NA | Solid | 8021B | 2523 |
| 885-2004-10 | FS01 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-11 | FS02 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-12 | FS03 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-13 | FS04 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-14 | FS05 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-15 | FS06 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-16 | FS07 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-17 | FS08 | Total/NA | Solid | 8021B | 2523 |
| MB 885-2518/1-A | Method Blank | Total/NA | Solid | 8021B | 2518 |
| MB 885-2523/1-A | Method Blank | Total/NA | Solid | 8021B | 2523 |
| LCS 885-2523/3-A | Lab Control Sample | Total/NA | Solid | 8021B | 2523 |
| 885-2004-2 MS | WS02 | Total/NA | Solid | 8021B | 2523 |
| 885-2004-2 MSD | WS02 | Total/NA | Solid | 8021B | 2523 |

## GC Semi VOA

### Prep Batch: 2643

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 885-2004-1 | WS01 | Total/NA | Solid | SHAKE | |
| 885-2004-2 | WS02 | Total/NA | Solid | SHAKE | |
| 885-2004-3 | WS03 | Total/NA | Solid | SHAKE | |
| 885-2004-4 | WS04 | Total/NA | Solid | SHAKE | |
| 885-2004-5 | WS05 | Total/NA | Solid | SHAKE | |
| 885-2004-6 | WS06 | Total/NA | Solid | SHAKE | |
| 885-2004-7 | WS06A | Total/NA | Solid | SHAKE | |
| 885-2004-8 | WS07 | Total/NA | Solid | SHAKE | |
| 885-2004-9 | WS05A | Total/NA | Solid | SHAKE | |
| 885-2004-10 | FS01 | Total/NA | Solid | SHAKE | |
| 885-2004-11 | FS02 | Total/NA | Solid | SHAKE | |
| 885-2004-12 | FS03 | Total/NA | Solid | SHAKE | |
| 885-2004-13 | FS04 | Total/NA | Solid | SHAKE | |
| 885-2004-14 | FS05 | Total/NA | Solid | SHAKE | |
| 885-2004-15 | FS06 | Total/NA | Solid | SHAKE | |
| 885-2004-16 | FS07 | Total/NA | Solid | SHAKE | |
| 885-2004-17 | FS08 | Total/NA | Solid | SHAKE | |
| MB 885-2643/1-A | Method Blank | Total/NA | Solid | SHAKE | |
| LCS 885-2643/2-A | Lab Control Sample | Total/NA | Solid | SHAKE | |
| 885-2004-17 MS | FS08 | Total/NA | Solid | SHAKE | |

# QC Association Summary

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## GC Semi VOA (Continued)

### Prep Batch: 2643 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 885-2004-17 MSD | FS08 | Total/NA | Solid | SHAKE | |

### Analysis Batch: 2747

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 885-2004-1 | WS01 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-2 | WS02 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-3 | WS03 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-4 | WS04 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-5 | WS05 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-6 | WS06 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-7 | WS06A | Total/NA | Solid | 8015D | 2643 |
| 885-2004-8 | WS07 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-9 | WS05A | Total/NA | Solid | 8015D | 2643 |
| 885-2004-10 | FS01 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-11 | FS02 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-12 | FS03 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-13 | FS04 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-14 | FS05 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-15 | FS06 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-16 | FS07 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-17 | FS08 | Total/NA | Solid | 8015D | 2643 |
| MB 885-2643/1-A | Method Blank | Total/NA | Solid | 8015D | 2643 |
| LCS 885-2643/2-A | Lab Control Sample | Total/NA | Solid | 8015D | 2643 |
| 885-2004-17 MS | FS08 | Total/NA | Solid | 8015D | 2643 |
| 885-2004-17 MSD | FS08 | Total/NA | Solid | 8015D | 2643 |

## HPLC/IC

### Prep Batch: 2669

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 885-2004-1 | WS01 | Total/NA | Solid | 300_Prep | |
| 885-2004-2 | WS02 | Total/NA | Solid | 300_Prep | |
| 885-2004-3 | WS03 | Total/NA | Solid | 300_Prep | |
| 885-2004-4 | WS04 | Total/NA | Solid | 300_Prep | |
| 885-2004-5 | WS05 | Total/NA | Solid | 300_Prep | |
| 885-2004-6 | WS06 | Total/NA | Solid | 300_Prep | |
| 885-2004-7 | WS06A | Total/NA | Solid | 300_Prep | |
| 885-2004-8 | WS07 | Total/NA | Solid | 300_Prep | |
| 885-2004-9 | WS05A | Total/NA | Solid | 300_Prep | |
| 885-2004-10 | FS01 | Total/NA | Solid | 300_Prep | |
| 885-2004-11 | FS02 | Total/NA | Solid | 300_Prep | |
| 885-2004-12 | FS03 | Total/NA | Solid | 300_Prep | |
| 885-2004-13 | FS04 | Total/NA | Solid | 300_Prep | |
| 885-2004-14 | FS05 | Total/NA | Solid | 300_Prep | |
| 885-2004-15 | FS06 | Total/NA | Solid | 300_Prep | |
| 885-2004-16 | FS07 | Total/NA | Solid | 300_Prep | |
| 885-2004-17 | FS08 | Total/NA | Solid | 300_Prep | |
| MB 885-2669/1-A | Method Blank | Total/NA | Solid | 300_Prep | |
| LCS 885-2669/2-A | Lab Control Sample | Total/NA | Solid | 300_Prep | |
| 885-2004-3 MS | WS03 | Total/NA | Solid | 300_Prep | |
| 885-2004-3 MSD | WS03 | Total/NA | Solid | 300_Prep | |

# QC Association Summary

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## HPLC/IC (Continued)

### Prep Batch: 2669 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 885-2004-4 MS | WS04 | Total/NA | Solid | 300_Prep | |
| 885-2004-4 MSD | WS04 | Total/NA | Solid | 300_Prep | |

### Analysis Batch: 2687

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 885-2004-1 | WS01 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-2 | WS02 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-3 | WS03 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-4 | WS04 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-5 | WS05 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-6 | WS06 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-7 | WS06A | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-8 | WS07 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-9 | WS05A | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-10 | FS01 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-11 | FS02 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-12 | FS03 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-13 | FS04 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-14 | FS05 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-15 | FS06 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-16 | FS07 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-17 | FS08 | Total/NA | Solid | 300.0 | 2669 |
| MB 885-2669/1-A | Method Blank | Total/NA | Solid | 300.0 | 2669 |
| LCS 885-2669/2-A | Lab Control Sample | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-3 MS | WS03 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-3 MSD | WS03 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-4 MS | WS04 | Total/NA | Solid | 300.0 | 2669 |
| 885-2004-4 MSD | WS04 | Total/NA | Solid | 300.0 | 2669 |

# Lab Chronicle

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS01
**Lab Sample ID: 885-2004-1**
**Date Collected: 03/26/24 15:00**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 00:13 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 00:13 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 05:04 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 17:28 |

## Client Sample ID: WS02
**Lab Sample ID: 885-2004-2**
**Date Collected: 03/26/24 15:03**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 01:18 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 01:18 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 05:28 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 17:41 |

## Client Sample ID: WS03
**Lab Sample ID: 885-2004-3**
**Date Collected: 03/26/24 15:06**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 02:24 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 02:24 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 05:51 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 18:18 |

## Client Sample ID: WS04
**Lab Sample ID: 885-2004-4**
**Date Collected: 03/26/24 15:12**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 02:45 |

# Lab Chronicle

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS04

**Lab Sample ID: 885-2004-4**

**Date Collected: 03/26/24 15:12**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 02:45 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 06:14 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 18:55 |

## Client Sample ID: WS05

**Lab Sample ID: 885-2004-5**

**Date Collected: 03/26/24 15:15**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 03:07 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 03:07 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 06:38 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 19:32 |

## Client Sample ID: WS06

**Lab Sample ID: 885-2004-6**

**Date Collected: 03/26/24 15:18**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 03:29 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 03:29 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 07:01 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 19:44 |

## Client Sample ID: WS06A

**Lab Sample ID: 885-2004-7**

**Date Collected: 03/26/24 15:24**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 03:51 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 03:51 |

# Lab Chronicle

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: WS06A
**Lab Sample ID: 885-2004-7**
**Date Collected: 03/26/24 15:24**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 07:25 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 19:56 |

## Client Sample ID: WS07
**Lab Sample ID: 885-2004-8**
**Date Collected: 03/26/24 15:09**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 04:12 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 04:12 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 07:48 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 20:09 |

## Client Sample ID: WS05A
**Lab Sample ID: 885-2004-9**
**Date Collected: 03/26/24 15:21**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 04:34 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 04:34 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 08:12 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 20:46 |

## Client Sample ID: FS01
**Lab Sample ID: 885-2004-10**
**Date Collected: 03/26/24 15:27**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 04:56 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 04:56 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 08:59 |

# Lab Chronicle

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: FS01 — Lab Sample ID: 885-2004-10

**Date Collected: 03/26/24 15:27** — **Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 20:58 |

## Client Sample ID: FS02 — Lab Sample ID: 885-2004-11

**Date Collected: 03/26/24 15:30** — **Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 05:39 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 05:39 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 09:23 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 21:10 |

## Client Sample ID: FS03 — Lab Sample ID: 885-2004-12

**Date Collected: 03/26/24 15:33** — **Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 06:01 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 06:01 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 09:46 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 21:23 |

## Client Sample ID: FS04 — Lab Sample ID: 885-2004-13

**Date Collected: 03/26/24 15:36** — **Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 06:23 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 06:23 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 10:10 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 21:35 |

# Lab Chronicle

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: FS05
**Lab Sample ID: 885-2004-14**
**Date Collected: 03/26/24 15:39**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 06:45 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 06:45 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 10:34 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 21:47 |

## Client Sample ID: FS06
**Lab Sample ID: 885-2004-15**
**Date Collected: 03/26/24 15:42**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 07:06 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 07:06 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 10:57 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 22:00 |

## Client Sample ID: FS07
**Lab Sample ID: 885-2004-16**
**Date Collected: 03/26/24 15:45**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 07:28 |
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 07:28 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 11:21 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 22:12 |

## Client Sample ID: FS08
**Lab Sample ID: 885-2004-17**
**Date Collected: 03/26/24 15:48**
**Matrix: Solid**
**Date Received: 03/29/24 07:55**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8015D | | 1 | 2726 | RA | EET ALB | 04/03/24 07:50 |

# Lab Chronicle

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Client Sample ID: FS08

**Date Collected: 03/26/24 15:48**
**Date Received: 03/29/24 07:55**

## Lab Sample ID: 885-2004-17

**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab | Prepared or Analyzed |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | 5030C | | | 2523 | IMR | EET ALB | 03/29/24 15:54 |
| Total/NA | Analysis | 8021B | | 1 | 2731 | RA | EET ALB | 04/03/24 07:50 |
| Total/NA | Prep | SHAKE | | | 2643 | JU | EET ALB | 04/02/24 11:44 |
| Total/NA | Analysis | 8015D | | 1 | 2747 | JU | EET ALB | 04/03/24 11:45 |
| Total/NA | Prep | 300_Prep | | | 2669 | KB | EET ALB | 04/02/24 15:46 |
| Total/NA | Analysis | 300.0 | | 20 | 2687 | KB | EET ALB | 04/02/24 22:25 |

**Laboratory References:**

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

# Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: Hamner 7

Job ID: 885-2004-1

## Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| New Mexico | State | NM9425, NM0901 | 02-26-25 |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte |
|---|---|---|---|
| 300.0 | 300_Prep | Solid | Chloride |
| 8015D | 5030C | Solid | Gasoline Range Organics [C6 - C10] |
| 8015D | SHAKE | Solid | Diesel Range Organics [C10-C28] |
| 8015D | SHAKE | Solid | Motor Oil Range Organics [C28-C40] |
| 8021B | 5030C | Solid | Benzene |
| 8021B | 5030C | Solid | Ethylbenzene |
| 8021B | 5030C | Solid | Toluene |
| 8021B | 5030C | Solid | Xylenes, Total |

| | | | |
|---|---|---|---|
| Oregon | NELAP | NM100001 | 02-26-25 |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte |
|---|---|---|---|
| 300.0 | 300_Prep | Solid | Chloride |
| 8015D | 5030C | Solid | Gasoline Range Organics [C6 - C10] |
| 8015D | SHAKE | Solid | Diesel Range Organics [C10-C28] |
| 8015D | SHAKE | Solid | Motor Oil Range Organics [C28-C40] |
| 8021B | 5030C | Solid | Benzene |
| 8021B | 5030C | Solid | Ethylbenzene |
| 8021B | 5030C | Solid | Toluene |
| 8021B | 5030C | Solid | Xylenes, Total |

# Chain-of-Custody Record

Client: Hilcorp

Mitch Killough

Mailing Address:

Phone #:

email or Fax#: MKillough@hilcorp.com

QA/QC Package:

☑ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☑ EDD (Type) xCl

Turn-Around Time: 5 day

☒ Standard ☐ Rush

Project Name: Hamner 7

Project #:

Project Manager: Stuart Hyde - Ensolum

Sampler: E. Carroll

On Ice: ☑ Yes ☐ No log

# of Coolers: 1

Cooler Temp(including CF): 0.1 - 0.1 = 0.0 (°C)


HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 8710

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


885-2004 COC

Analysis Request

| Date | Time | Matrix | Sample Name | Container Type and # | Preservative Type | HEAL No. | BTEX / MTBE / TMB's (8021) | TPH:8015D(GRO / DRO / MRO) | 8081 Pesticides/8082 PCB's | EDB (Method 504.1) | PAHs by 8310 or 8270SIMS | RCRA 8 Metals | Cl, F, Br, $NO_3$, $NO_2$, $PO_4$, $SO_4$ | 8260 (VOA) | 8270 (Semi-VOA) | Total Coliform (Present/Absent) | Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/26 | 1500 | Soil | WS01 | 1 4oz | Cool | 1 | X | X | | | | | | | | | X |
| | 1503 | | WS02 | | | 2 | | | | | | | | | | | |
| | 1506 | | WS03 | | | 3 | | | | | | | | | | | |
| | 1512 | | WS04 | | | 4 | | | | | | | | | | | |
| | 1515 | | WS05 | | | 5 | | | | | | | | | | | |
| | 1518 | | WS06 | | | 6 | | | | | | | | | | | |
| | 1524 | | ~~WS07~~ WS06A | | | 7 | | | | | | | | | | | |
| | 1509 | | WS07 | | | 8 | | | | | | | | | | | |
| | 1521 | | WS05A | | | 9 | | | | | | | | | | | |
| | 1527 | | FS01 | | | 10 | | | | | | | | | | | |
| | 1530 | | FS02 | | | 11 | | | | | | | | | | | |
| | 1533 | | FS03 | | | 12 | | | | | | | | | | | |

| Date. | Time: | Relinquished by. | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 3-28 | 1250 | | | | 3/28/24 | 1250 |
| Date: | Time: | Relinquished by | Received by: | Via: | Date | Time |
| 3/28/24 | 1741 | | | | 3/29/24 | 0755 |

Remarks:

CC: Shyde@ensolum.com

Ccarroll@ensolum.com

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.

# Chain-of-Custody Record

Client: HilCorp

Mitch Killough

Mailing Address:

Phone #:

email or Fax#: mkillough@hilcorp.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☒ EDD (Type) xCl

Turn-Around Time:
5-day
☒ Standard ☐ Rush

Project Name:
Hamner 7

Project #:

Project Manager:
Stuart Hyde - Ensolum

Sampler: E. Carroll
On Ice: ☑ Yes ☐ No Yog:
# of Coolers: 1
Cooler Temp(including CF): 0.1 - 0.1 = 0.0 (°C)

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

| Date | Time | Matrix | Sample Name | Container Type and # | Preservative Type | HEAL No. | BTEX / MTBE / TMB's (8021) | TPH:8015D(GRO / DRO / MRO) | 8081 Pesticides/8082 PCB's | EDB (Method 504.1) | PAHs by 8310 or 8270SIMS | RCRA 8 Metals | Cl, F, Br, $NO_3$, $NO_2$, $PO_4$, $SO_4$ | 8260 (VOA) | 8270 (Semi-VOA) | Total Coliform (Present/Absent) | Chloride |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/26 | 1536 | Soil | FS04 | 1 4oz | Cool | 13 | X | X | | | | | | | | | X |
| | 1539 | | FS05 | | | 14 | | | | | | | | | | | |
| | 1542 | | FS06 | | | 15 | | | | | | | | | | | |
| | 1545 | | FS07 | | | 16 | | | | | | | | | | | |
| | 1548 | | FS08 | | | 17 | | | | | | | | | | | |

| Date | Time | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 3-28 | 1250 | | | | 3/28/24 | 1250 |
| 3/28/24 | 1740 | | | | | |

Remarks:
CC: Shyde@ensolum.com
ccorroll@ensolum.com

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

# Login Sample Receipt Checklist

Client: Hilcorp Energy Job Number: 885-2004-1

**Login Number: 2004** **List Source: Eurofins Albuquerque**
**List Number: 1**
**Creator: Casarrubias, Tracy**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

ENSOLUM

# APPENDIX C

# Agency Correspondence

**From:** OCDOnline@state.nm.us
**To:** Stuart Hyde
**Subject:** The Oil Conservation Division (OCD) has accepted the application, Application ID: 325351
**Date:** Wednesday, March 20, 2024 5:33:40 PM

---

[ **EXTERNAL EMAIL**]

To whom it may concern (c/o Stuart Hyde for HILCORP ENERGY COMPANY),

The OCD has received the submitted *Notification for (Final) Sampling of a Release* (C-141N), for incident ID (n#) nAPP2402418125.

The sampling event is expected to take place:

**When:** 03/26/2024 @ 09:00
**Where:** D-29-29N-09W 940 FNL 890 FWL (36.701233,-107.807559)

**Additional Information:** Contact PM Stuart Hyde, 970-903-1607

**Additional Instructions:** Hamner 7 Well P&A site, coordinates 36.701233, -107.807599

An OCD representative may be available onsite at the date and time reported. In the absence or presence of an OCD representative, sampling pursuant to 19.15.29.12.D NMAC is required. Sampling must be performed following an approved sampling plan or pursuant to 19.15.29.12.D.(1).(c) NMAC. Should there be a change in the scheduled date and time of the sampling event, then another notification should be resubmitted through OCD permitting as soon as possible.

- **Failure to notify the OCD of sampling events including any changes in date/time per the requirements of 19.15.29.12.D.(1).(a) NMAC, may result in the remediation closure samples not being accepted.**

If you have any questions regarding this application, or don't know why you have received this email, please contact us.

**New Mexico Energy, Minerals and Natural Resources Department**
1220 South St. Francis Drive
Santa Fe, NM 87505

**From:** Velez, Nelson, EMNRD
**To:** Stuart Hyde
**Cc:** Mitch Killough
**Subject:** Re: [EXTERNAL] NAPP2402418125 - Hilcorp Hamner 7 Reporting Deadline Extension Request
**Date:** Thursday, April 11, 2024 10:08:53 AM
**Attachments:** image001.png
image002.png
image003.png
image004.png
Outlook-ehzlctnz.png

---

[ **EXTERNAL EMAIL**]
Good morning Stuart,

Your time extension request is approved. Remediation Due date has been updated to May 15, 2024.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

Regards,

**Nelson Velez** ● Environmental Specialist - Adv
Environmental Bureau | EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87410
(505) 469-6146 | nelson.velez@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

---

**From:** Stuart Hyde <shyde@ensolum.com>
**Sent:** Wednesday, April 10, 2024 3:48 PM
**To:** Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
**Cc:** Mitch Killough <mkillough@hilcorp.com>
**Subject:** [EXTERNAL] NAPP2402418125 - Hilcorp Hamner 7 Reporting Deadline Extension Request

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Nelson,

On behalf of Hilcorp Energy Company, we are submitting this request for a 15-day extension to the reporting deadline of April 14, 2024 to submit the final closure report for the Hamner 7 site. As of

today, the excavation has been completed and all confirmation floor and sidewall samples are compliant with the NMOCD Table I Closure Criteria. We are currently compiling information for the report, including disposal documentation, and are requesting an extension in order to finalize the document. If approved, the new reporting deadline would be April 29, 2024.

Please reach out with any questions or comments. Thanks and have a great afternoon.

**Stuart Hyde, PG**
(Licensed in WA/TX)
Senior Managing Geologist
970-903-1607
**Ensolum, LLC**

*"If you want to go fast, go alone. If you want to go far, go together." – African Proverb*

ENSOLUM

# APPENDIX D

# Project Photographs

**PROJECT PHOTOGRAPHS**
Hamner 7
San Juan County, New Mexico
Hilcorp Energy Company

| | |
|---|---|
| **Photograph 1**<br><br>Pothole PH13 advanced during delineation activities on December 28, 2023. |  |
| **Photograph 2**<br><br>View of the final excavation extent taken on March 26, 2024, looking north. |  |

**District I**
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
**District II**
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
**District III**
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

# State of New Mexico
# Energy, Minerals and Natural Resources
# Oil Conservation Division
# 1220 S. St Francis Dr.
# Santa Fe, NM 87505

QUESTIONS

Action 336262

## QUESTIONS

| | |
|---|---|
| Operator:<br>HILCORP ENERGY COMPANY<br>1111 Travis Street<br>Houston, TX 77002 | OGRID:<br>372171 |
| | Action Number:<br>336262 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**QUESTIONS**

| **Prerequisites** | |
|---|---|
| Incident ID (n#) | **nAPP2402418125** |
| Incident Name | **NAPP2402418125 HAMNER 7 @ 30-045-11719** |
| Incident Type | **Oil Release** |
| Incident Status | **Remediation Closure Report Received** |
| Incident Well | **[30-045-11719] HAMNER #007** |

| **Location of Release Source** | |
|---|---|
| *Please answer all the questions in this group.* | |
| Site Name | HAMNER 7 |
| Date Release Discovered | 01/15/2024 |
| Surface Owner | Private |

| **Incident Details** | |
|---|---|
| *Please answer all the questions in this group.* | |
| Incident Type | Oil Release |
| Did this release result in a fire or is the result of a fire | No |
| Did this release result in any injuries | No |
| Has this release reached or does it have a reasonable probability of reaching a watercourse | No |
| Has this release endangered or does it have a reasonable probability of endangering public health | No |
| Has this release substantially damaged or will it substantially damage property or the environment | No |
| Is this release of a volume that is or may with reasonable probability be detrimental to fresh water | No |

| **Nature and Volume of Release** | |
|---|---|
| *Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.* | |
| Crude Oil Released (bbls) Details | *Not answered.* |
| Produced Water Released (bbls) Details | *Not answered.* |
| Is the concentration of chloride in the produced water >10,000 mg/l | No |
| Condensate Released (bbls) Details | Cause: Corrosion \| Other (Specify) \| Condensate \| Released: 10 BBL \| Recovered: 0 BBL \| Lost: 10 BBL. |
| Natural Gas Vented (Mcf) Details | *Not answered.* |
| Natural Gas Flared (Mcf) Details | *Not answered.* |
| Other Released Details | *Not answered.* |
| Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts) | During plugging and abandoning activities at the Hamner 7, visibly-impacted soils were discovered in the area of a former drip line, most likely due to corrosion. |

**District I**
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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**District III**
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

# State of New Mexico
# Energy, Minerals and Natural Resources
# Oil Conservation Division
# 1220 S. St Francis Dr.
# Santa Fe, NM 87505



## QUESTIONS (continued)

| | |
|---|---|
| Operator:<br>HILCORP ENERGY COMPANY<br>1111 Travis Street<br>Houston, TX 77002 | OGRID:<br>372171 |
| | Action Number:<br>336262 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**QUESTIONS**

| **Nature and Volume of Release (continued)** | |
|---|---|
| Is this a gas only submission (i.e. only significant Mcf values reported) | **No, according to supplied volumes this does not appear to be a "gas only" report.** |
| Was this a major release as defined by Subsection A of 19.15.29.7 NMAC | **No** |
| Reasons why this would be considered a submission for a notification of a major release | *Unavailable.* |
| *With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.* | |

| **Initial Response** | |
|---|---|
| *The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.* | |
| The source of the release has been stopped | True |
| The impacted area has been secured to protect human health and the environment | True |
| Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices | True |
| All free liquids and recoverable materials have been removed and managed appropriately | True |
| If all the actions described above have not been undertaken, explain why | *Not answered.* |
| *Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.* | |

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

| | |
|---|---|
| I hereby agree and sign off to the above statement | Name: Stuart Hyde<br>Title: Senior Geologist<br>Email: shyde@ensolum.com<br>Date: 04/22/2024 |

**District I**
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
**District II**
811 S. First St., Artesia, NM 88210
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**District III**
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

# State of New Mexico
# Energy, Minerals and Natural Resources
# Oil Conservation Division
# 1220 S. St Francis Dr.
# Santa Fe, NM 87505



## QUESTIONS (continued)

| | |
|---|---|
| Operator:<br>HILCORP ENERGY COMPANY<br>1111 Travis Street<br>Houston, TX 77002 | OGRID:<br>372171 |
| | Action Number:<br>336262 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**QUESTIONS**

| **Site Characterization** | |
|---|---|
| *Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.* | |
| What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs) | Between 100 and 500 (ft.) |
| What method was used to determine the depth to ground water | NM OSE iWaters Database Search |
| Did this release impact groundwater or surface water | No |
| **What is the minimum distance, between the closest lateral extents of the release and the following surface areas:** | |
| A continuously flowing watercourse or any other significant watercourse | Between 300 and 500 (ft.) |
| Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark) | Between 300 and 500 (ft.) |
| An occupied permanent residence, school, hospital, institution, or church | Between 1 and 5 (mi.) |
| A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes | Between 1 and 5 (mi.) |
| Any other fresh water well or spring | Between 1 and 5 (mi.) |
| Incorporated municipal boundaries or a defined municipal fresh water well field | Between 1 and 5 (mi.) |
| A wetland | Between 300 and 500 (ft.) |
| A subsurface mine | Greater than 5 (mi.) |
| An (non-karst) unstable area | Greater than 5 (mi.) |
| Categorize the risk of this well / site being in a karst geology | None |
| A 100-year floodplain | Between 1000 (ft.) and ½ (mi.) |
| Did the release impact areas not on an exploration, development, production, or storage site | No |

| **Remediation Plan** | |
|---|---|
| *Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.* | |
| Requesting a remediation plan approval with this submission | Yes |
| *Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.* | |
| Have the lateral and vertical extents of contamination been fully delineated | Yes |
| Was this release entirely contained within a lined containment area | No |
| **Soil Contamination Sampling:** (Provide the highest observable value for each, in milligrams per kilograms.) | |
| Chloride (EPA 300.0 or SM4500 Cl B) | 83 |
| TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M) | 1960 |
| GRO+DRO (EPA SW-846 Method 8015M) | 1960 |
| BTEX (EPA SW-846 Method 8021B or 8260B) | 11 |
| Benzene (EPA SW-846 Method 8021B or 8260B) | 0.2 |
| | |
| *Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.* | |
| On what estimated date will the remediation commence | 03/25/2024 |
| On what date will (or did) the final sampling or liner inspection occur | 03/26/2024 |
| On what date will (or was) the remediation complete(d) | 03/26/2024 |
| What is the estimated surface area (in square feet) that will be reclaimed | 1600 |
| What is the estimated volume (in cubic yards) that will be reclaimed | 508 |
| What is the estimated surface area (in square feet) that will be remediated | 1600 |
| What is the estimated volume (in cubic yards) that will be remediated | 350 |
| *These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.* | |
| *The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.* | |

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# State of New Mexico
# Energy, Minerals and Natural Resources
# Oil Conservation Division
# 1220 S. St Francis Dr.
# Santa Fe, NM 87505



## QUESTIONS (continued)

| | |
|---|---|
| Operator:<br>HILCORP ENERGY COMPANY<br>1111 Travis Street<br>Houston, TX 77002 | OGRID:<br>372171 |
| | Action Number:<br>336262 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**QUESTIONS**

| | |
|---|---|
| **Remediation Plan (continued)** | |
| *Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.* | |
| **This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:** | |
| *(Select all answers below that apply.)* | |
| (Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.) | Yes |
| Which OCD approved facility will be used for **off-site** disposal | ENVIROTECH LANDFARM #2 [fEEM0112336756] |
| **OR** which OCD approved well (API) will be used for **off-site** disposal | *Not answered.* |
| **OR** is the **off-site** disposal site, to be used, out-of-state | *Not answered.* |
| **OR** is the **off-site** disposal site, to be used, an NMED facility | *Not answered.* |
| (Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms) | *Not answered.* |
| (In Situ) Soil Vapor Extraction | *Not answered.* |
| (In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.) | *Not answered.* |
| (In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.) | *Not answered.* |
| (In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.) | *Not answered.* |
| Ground Water Abatement pursuant to 19.15.30 NMAC | *Not answered.* |
| OTHER (Non-listed remedial process) | *Not answered.* |
| *Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.* | |
| | |
| I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. | |
| I hereby agree and sign off to the above statement | Name: Stuart Hyde<br>Title: Senior Geologist<br>Email: shyde@ensolum.com<br>Date: 04/22/2024 |
| *The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.* | |

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## QUESTIONS (continued)

| | |
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**QUESTIONS**

| **Deferral Requests Only** | |
|---|---|
| *Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.* | |
| Requesting a deferral of the remediation closure due date with the approval of this submission | No |

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## QUESTIONS (continued)

| | |
|---|---|
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**QUESTIONS**

| **Sampling Event Information** | |
|---|---|
| Last sampling notification (C-141N) recorded | **325354** |
| Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC | **03/27/2024** |
| What was the (estimated) number of samples that were to be gathered | **18** |
| What was the sampling surface area in square feet | **1000** |

| **Remediation Closure Request** | |
|---|---|
| *Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.* | |
| Requesting a remediation closure approval with this submission | Yes |
| Have the lateral and vertical extents of contamination been fully delineated | **Yes** |
| Was this release entirely contained within a lined containment area | **No** |
| All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion | Yes |
| What was the total surface area (in square feet) remediated | 1600 |
| What was the total volume (cubic yards) remediated | 350 |
| All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene | Yes |
| What was the total surface area (in square feet) reclaimed | 1600 |
| What was the total volume (in cubic yards) reclaimed | 508 |
| Summarize any additional remediation activities not included by answers (above) | not applicable |

*The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.*

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

| | |
|---|---|
| I hereby agree and sign off to the above statement | Name: Stuart Hyde<br>Title: Senior Geologist<br>Email: shyde@ensolum.com<br>Date: 04/22/2024 |

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## QUESTIONS (continued)

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|---|---|
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**QUESTIONS**

| **Reclamation Report** | |
|---|---|
| *Only answer the questions in this group if all reclamation steps have been completed.* | |
| Requesting a reclamation approval with this submission | No |

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CONDITIONS

Action 336262

## CONDITIONS

| | |
|---|---|
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| | Action Number:<br>336262 |
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**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| nvelez | None | 5/15/2024 |