



September 18, 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

Federal Gas Com #1
San Juan County, New Mexico
Hilcorp Energy Company
NMOCD Incident No: NAPP2310935343

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), presents this *Remediation Report and Closure Request* for a release at the former Federal Gas Com #1 natural gas production well (Site). The Site is located on federal land managed by the Bureau of Land Management (BLM) in Unit A, Section 28, Township 28 North, Range 10 West, in San Juan County, New Mexico (Figure 1).

SITE BACKGROUND

While conducting activities to plug and abandon the Federal Gas Com #1 well, remove associated equipment, and reclaim the well pad, Hilcorp personnel discovered historical contamination at the Site. Obvious stained soil was removed from the Site and disposed at the Envirotech Landfarm located in San Juan County, New Mexico. Based on initial field screening of soil collected from the floor and sidewalls of the excavation, Hilcorp ceased excavating and began delineation activities in order to assess the lateral and vertical extents on soil impacts at the Site. Hilcorp notified the New Mexico Oil Conservation Division (NMOCD) and submitted an initial *Form C-141 Release Notification* on April 19, 2023. NMOCD assigned the release incident number NAPP2310935343.

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 hydrogeologic 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 with a defined bed and bank located 280 feet to the southeast of the Site and is a first-order tributary of a significant watercourse, as defined by a dashed blue line on a United States Geologic Survey (USGS) 7.5 minute quadrangle map. The Site is greater than 200 feet from any lakebed, sinkhole, or playa lake, and greater than 300 feet from any wetland (Figure 1). The nearest fresh-water well is New Mexico Office of the State Engineer (NMOSE) permitted well SJ-04072 (Appendix A), located approximately 1.17 miles north of the Site. The recorded depth to water on the NMOSE database is 242 feet below ground surface (bgs). No wellhead protection areas, springs, or domestic/stock wells are located within a ½-mile from the Site. 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.

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 will be applied to the Site based on the information provided above:

- 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): 100 mg/kg
- Chloride: 600 mg/kg

INITIAL EXCAVATION AND DELINEATION SOIL SAMPLING ACTIVITIES

In response to the discovery of historical impacts, Hilcorp performed initial excavation activities at the end of 2022 and beginning of 2023 to remove soil impacted by hydrocarbons. The initial excavation footprint measured approximately 6,600 square feet in areal extent to a maximum depth of 5 feet bgs. In total, approximately 1,500 cubic yards of soil was excavated and transported to the Envirotech, Inc. Landfarm, located in San Juan County, New Mexico. Because of the size of the excavation, Hilcorp halted excavation activities and conducted delineation activities on December 8, 2022 using an excavator to assess the lateral and vertical extent of impacts at the Site. Based on the analytical results gathered during the December 2022 delineation activities, TPH and BTEX concentrations exceeded the Closure Criteria in several samples. Additional delineation activities were performed by Ensolum on April 3, 2023, to continue delineating soil impacts at the Site. Seven potholes were advanced in all directions around the excavation extent using an excavator to depths up to 7 feet bgs. Based on the analytical results gathered during the April 2023 sampling event, the vertical and lateral extents of impacts were delineated.

Additional details regarding the delineation and sampling activities are presented in the *Site Investigation Report and Remediation Work Plan* prepared by Ensolum and dated July 17, 2023.

EXCAVATION AND CONFIRMATION SOIL SAMPLING ACTIVITIES

Based on the large volume of impacted soil, large areal extent, and generally shallow depths of impacts, Hilcorp applied Micro-Blaze Emergency Liquid Spill Control (Micro-Blaze™) amendment to remediate petroleum hydrocarbon impacted soil through enhanced bioremediation techniques. Micro-Blaze™ is a liquid amendment designed to enhance/supplement the natural biological degradation of residual hydrocarbons in impacted media. Based on the manufacturer's application

guidelines, approximately 1 gallon of concentrated Micro-Blaze™ can treat 5 to 7 cubic yards of TPH impacted soil. Based on this application rate, approximately 300 gallons of Micro-Blaze™ was diluted to a 10 percent (%) solution and applied to the impacted soil per the manufacturer's recommendations.

In order to apply the solution, Hilcorp removed the impacted soil in October 2023 from the area shown on Figure 2 and created small stockpiles within the excavation footprint, each measuring approximately 100 cubic yards. As soil was removed, the excavation sidewalls and floors were field screened using a photoionization detector (PID). Once field screening indicated impacted soil had been removed, 5-point composite samples were collected from the sidewalls and floor of the excavation at a frequency of one sample per 400 square feet, as approved by the NMOCD. The 5-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. Samples were collected and submitted to Eurofins Environment Testing (Eurofins) in Albuquerque, New Mexico for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B and TPH following EPA Method 8015M/D. Notifications were provided to the NMOCD and BLM prior to sampling activities and are attached as Appendix B.

The total excavation (including the original excavation extent) measured approximately 16,600 square feet in areal extent and was advanced to an average depth of 5 feet bgs. In total, 43 floor samples and 9 sidewall samples were collected from the final excavation extent. Analytical results from the excavation indicated concentrations of TPH and BTEX were compliant with NMOCD Table I Closure Criteria in all confirmation samples. Excavation sample locations are indicated on Figure 2. Soil sample results are summarized in Table 1, with complete laboratory analytical reports attached as Appendix C. Photographs taken by Ensolum during the excavation work are included in Appendix D.

TREATED STOCKPILE REMEDIATION AND SOIL SAMPLING ACTIVITIES

In total, approximately 1,900 cubic yards of impacted soil was removed and treated using the Micro-Blaze™ amendment (this volume does not include the 1,500 cubic yards initially excavated and transported to the Envirotech Landfarm). Once confirmation sampling was completed and all impacted soil was removed, the Micro-Blaze™ solution was sprayed onto the 19 stockpiles and mixed into the soil by turning with the excavator. After allowing the Micro-Blaze™ to degrade the residual TPH concentrations in the soil, Hilcorp field screened the soil and collected several samples from stockpiles indicating the highest PID readings. Due to weather conditions, Ensolum was not able to return to the Site to field screen the treated stockpiles until February 26, 2024. Composite samples were collected from several of the stockpiles and six stockpiles were sampled for TPH and BTEX analysis to assess the remediation progress. Several stockpiles contained elevated TPH concentrations above the NMOCD Table I Closure Criteria, with results summarized in Table 2. Based on these results, the stockpiles were turned in April 2024 with an excavator in order to reintroduce oxygen and promote volatilization of contaminants.

Treated stockpiles were again field screened in May 2024 and six composite samples were collected from stockpiles indicating the highest PID readings. During this event, only one stockpile contained TPH concentrations exceeding the applicable Closure Criteria. The stockpiles were once again turned and spread within the excavation area in early June 2024. On June 28, 2024, Ensolum collected final stockpile confirmation samples. Sampling notification was provided to the NMOCD and BLM prior to field work and is included in Appendix B. Samples TSP01 through TSP19 were sampled using a hand auger in order to collect a 5-point composite sample from each stockpile that was representative of the entire 100 cubic yards of soil. The 5-point composite samples were collected into laboratory-provided jars and immediately placed on ice. Samples were submitted to Eurofins for analysis of BTEX and TPH following the methods described above. Analytical results from the treated stockpile sampling indicated concentrations of TPH and BTEX

were compliant with NMOCD Table I Closure Criteria in all confirmation samples. Soil sample results are summarized in Table 2, with complete laboratory analytical reports included in Appendix C. Photographs taken by Ensolum during the excavation work are included in Appendix D.

CLOSURE REQUEST

Corrective actions and soil sampling activities were conducted at the Site to address the historical release discovered in April 2023. Laboratory analytical results for the confirmation soil samples, collected from the final extents of the excavation, indicated all COC concentrations were compliant with the Site Closure Criteria and no further remediation is required. Additionally, all soil samples collected from the treated stockpiles were also compliant with the applicable Site Closure Criteria and reclamation requirement. The corrective action initiated by Hilcorp has mitigated impacts at this Site and these remedial actions have been protective of human health, the environment, and groundwater. As such, Hilcorp respectfully request closure for Incident Number NAPP2310935343.

The excavation will be backfilled using the treated soil as well as clean imported material. Once backfilled, Hilcorp will proceed with implementation of the BLM-approved reclamation plan for the Site.

REFERENCES

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

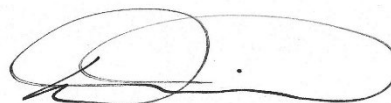
We appreciate the opportunity to provide this report to the NMOCD. If you should have any questions or comments regarding this document, please contact the undersigned.

Sincerely,

Ensolum, LLC



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Attachments:

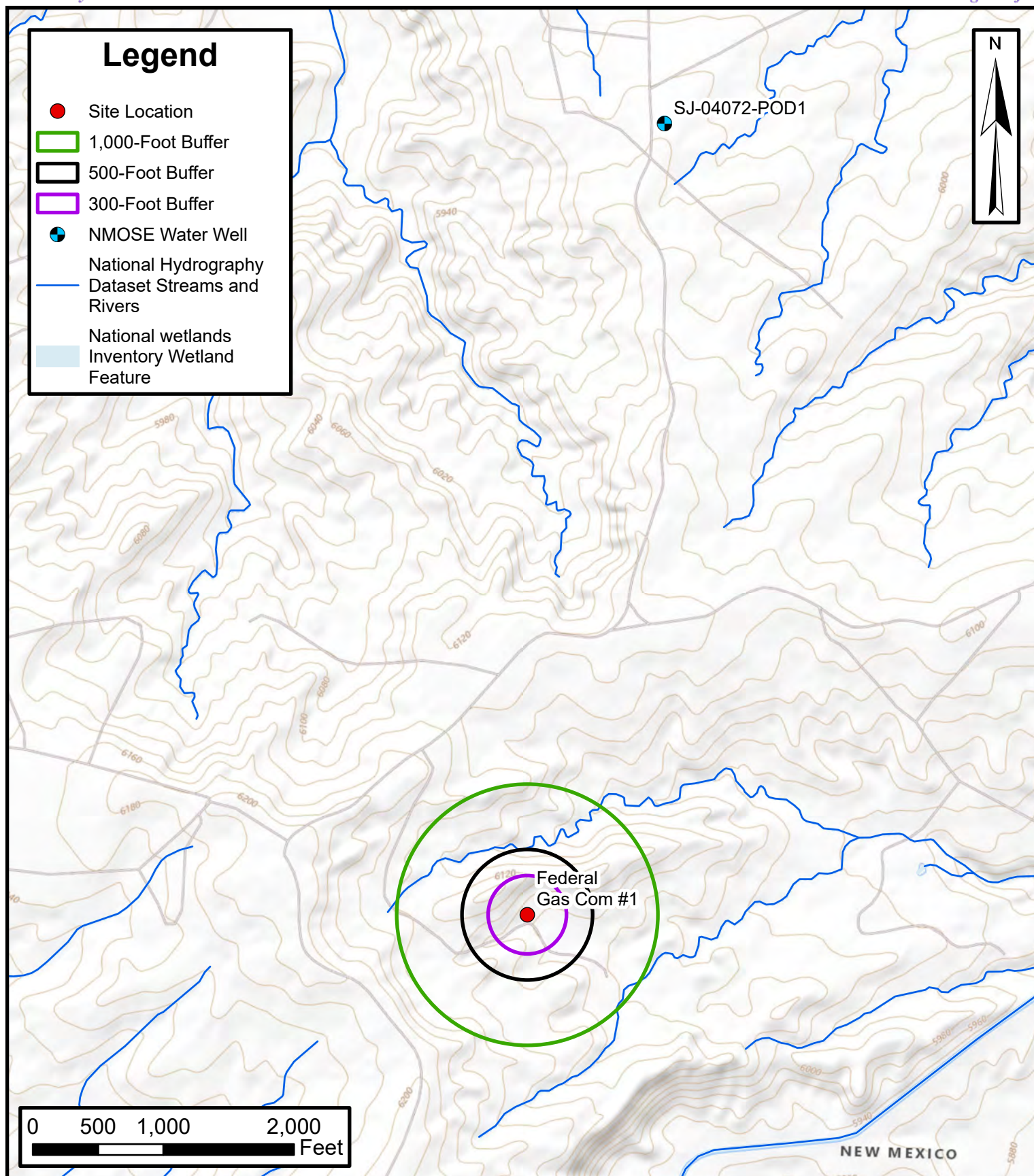
- Figure 1: Site Receptor Map
- Figure 2: Excavation Soil Sample Locations
- Figure 3: Treated Stockpile Soil Sample Locations

- Table 1: Excavation Soil Sample Analytical Results
- Table 2: Treated Stockpile Soil Sample Analytical Results

- Appendix A: NMOSE Well Summary
- Appendix B: Agency Notifications
- Appendix C: Laboratory Analytical Reports
- Appendix D: Photographic Log



FIGURES



Site Receptor Map

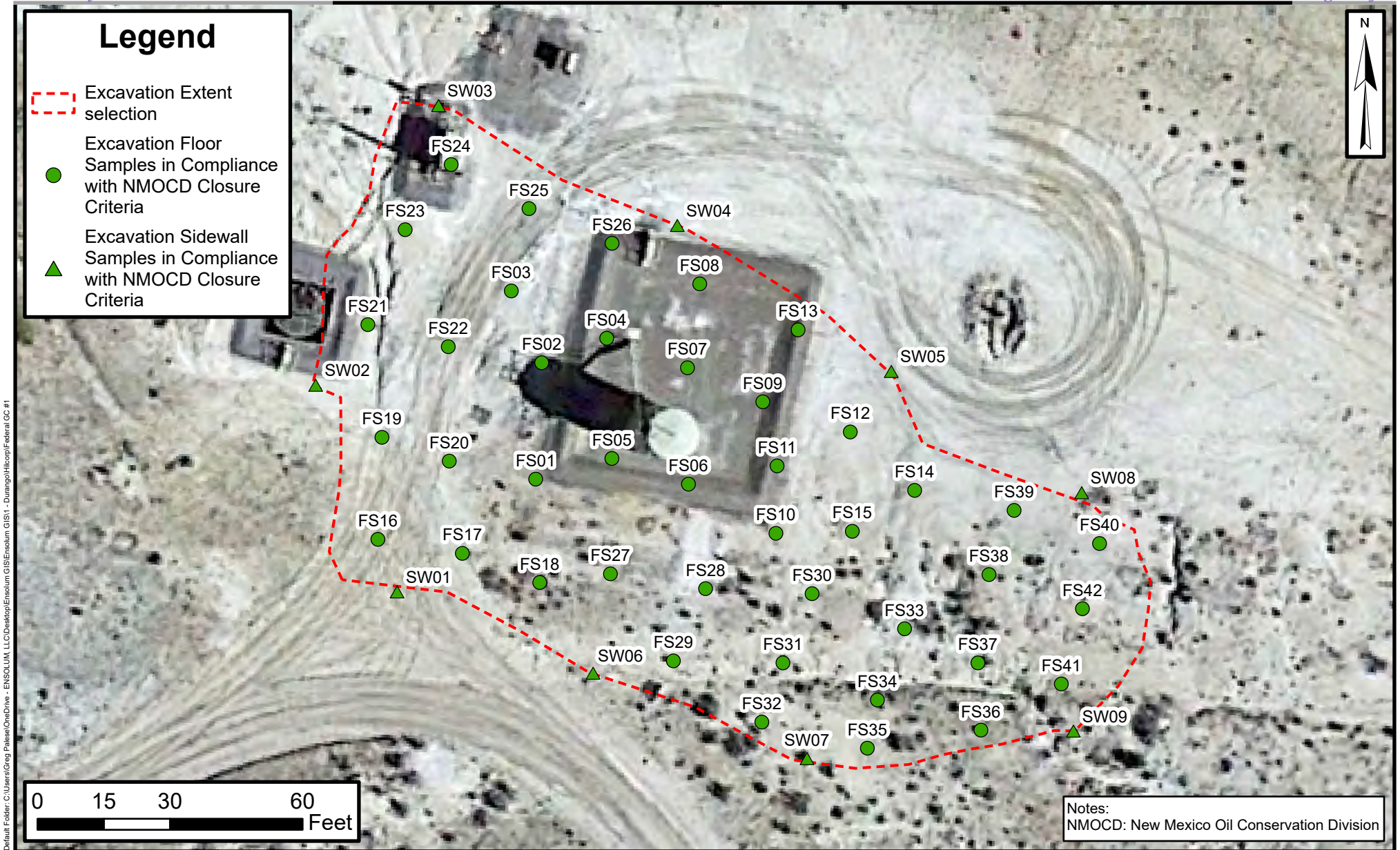
Federal Gas Com #1
Hilcorp Energy Company

36.637216, -107.895431
San Juan County, New Mexico

FIGURE

1





Excavation Soil Sample Locations

Federal Gas Com #1
Hilcorp Energy Company

36.637216, -107.895431
San Juan County, New Mexico

FIGURE
2



Treated Stockpile Sample Locations

Federal Gas Com #1
Hilcorp Energy Company

36.637216, -107.895431
San Juan County, New Mexico

FIGURE
3



TABLES



TABLE 1
EXCAVATION SOIL SAMPLE ANALYTICAL RESULTS
 Federal Gas Com #1
 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)	Total TPH (mg/kg)
NMOCD Closure Criteria for Soils Impacted by a Release (Groundwater <50 feet)			10	NE	NE	NE	50	NE	NE	NE	100
Excavation Sample results											
FS01	10/26/2023	5	<0.023	<0.047	<0.047	<0.093	<0.093	<4.7	<9.5	<47	<47
FS02	10/26/2023	5	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<9.4	<47	<47
FS03	10/26/2023	5	<0.025	<0.050	<0.050	<0.100	<0.100	<5.0	<9.5	<48	<48
FS04	10/26/2023	5	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<9.8	<49	<49
FS05	10/26/2023	5	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.5	<48	<48
FS06	10/26/2023	5	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<9.6	<48	<48
FS07	10/26/2023	5	<0.024	<0.047	<0.047	<0.094	<0.094	<4.7	<8.4	<42	<42
FS08	10/26/2023	5	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<9.0	<45	<45
FS09	10/26/2023	5	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<9.6	<48	<48
FS10	10/26/2023	5	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	73.0	<47	73.0
FS11	10/26/2023	5	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<8.4	<42	<42
FS12	10/26/2023	5	<0.023	<0.046	<0.046	<0.092	<0.092	<4.6	<9.5	<48	<48
FS13	10/26/2023	5	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.1	<45	<45
FS14	10/26/2023	5	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<8.7	<44	<44
FS15	10/26/2023	5	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<8.7	<43	<43
FS16	10/27/2023	5	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	<9.8	<49	<49
FS17	10/27/2023	5	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<9.1	<45	<45
FS18	10/27/2023	5	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	<9.5	<47	<47
FS18*	10/27/2023	3	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<9.4	<47	<47
FS19	10/27/2023	5	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<8.7	<43	<43
FS20	10/27/2023	5	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	10.0	<46	10.0
FS21	10/27/2023	4	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.4	<47	<47
FS22	10/27/2023	3	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<9.6	<48	<48
FS23	10/27/2023	3	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.2	<46	<46
FS24	10/27/2023	3	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	11.0	<50	11.0
FS25	10/27/2023	3	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<9.3	<46	<46
FS26	10/27/2023	3	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<8.7	<43	<43
FS27	10/27/2023	4	<0.024	<0.048	<0.048	<0.095	<0.095	<4.8	10.0	<47	10.0
FS28	10/27/2023	5	<0.023	<0.047	<0.047	<0.094	<0.094	<4.7	12.0	<49	12.0
FS29	10/27/2023	5	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	9.7	<44	9.7
FS30	10/27/2023	5	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	12.0	<49	12.0



TABLE 1
EXCAVATION SOIL SAMPLE ANALYTICAL RESULTS
 Federal Gas Com #1
 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)	Total TPH (mg/kg)
NMOCD Closure Criteria for Soils Impacted by a Release (Groundwater <50 feet)			10	NE	NE	NE	50	NE	NE	NE	100
FS31	10/27/2023	5	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	9.7	<43	9.7
FS32	10/27/2023	5	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	9.7	<43	9.7
FS33	10/27/2023	5	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	43.0	<50	43.0
FS34	10/27/2023	5	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.6	<48	<48
FS35	10/27/2023	5	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<9.2	<46	<46
FS36	10/27/2023	5	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.6	<48	<48
FS37	10/27/2023	5	<0.025	<0.050	<0.050	<0.100	<0.100	<5.0	10.0	<47	10.0
FS38	10/27/2023	5	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.5	<47	<47
FS39	10/27/2023	5	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.9	<49	<49
FS40	10/27/2023	5	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	<9.8	<49	<49
FS41	10/27/2023	6	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	<9.6	<48	<48
FS42	10/30/2023	4	<0.024	<0.049	<0.049	0.14	0.14	17.0	41.0	<49	58.0
SW01	10/27/2023	0-5	<0.024	<0.047	<0.047	<0.094	<0.094	<4.7	<9.1	<45	<45
SW02	10/27/2023	0-5	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.8	<49	<49
SW03	10/27/2023	0-3	<0.024	<0.049	<0.049	<0.098	<0.098	<4.9	<9.6	<48	<48
SW04	10/27/2023	0-3	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	11.0	<46	11.0
SW05	10/27/2023	0-4	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	15.0	<43	15.0
SW06	10/27/2023	0-5	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	17.0	<45	17.0
SW07	10/27/2023	0-5	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	16.0	<48	16.0
SW08	10/27/2023	0-4	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	10.0	<49	10.0
SW09	10/30/2023	0-6	<0.024	<0.048	<0.048	<0.097	<0.096	<4.8	10.0	<48	10.0

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)



TABLE 2
TREATED STOCKPILE SOIL SAMPLE ANALYTICAL RESULTS
 Federal Gas Com #1
 Hilcorp Energy Company
 San Juan County, New Mexico

Sample ID	Date	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)	Total TPH (mg/kg)
NMOCD Closure Criteria for Soils Impacted by a Release		10	NE	NE	NE	50	NE	NE	NE	100
Preliminary Treated Stockpile Sample Analytical Results										
SS01	2/26/2024	<0.025	<0.049	<0.049	<0.099	<0.099	23	140	<47	163
SS02	2/26/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS03	2/26/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS04	2/26/2024	<0.025	<0.050	<0.050	2.0	2.0	170	400	<46	570
SS05	2/26/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS06	2/26/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS07	2/26/2024	<0.024	<0.049	<0.049	0.098	0.098	<4.9	10	<47	10
SS08	2/26/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS09	2/26/2024	<0.012	<0.25	<0.25	0.98	0.98	97	270	<46	367
SS10	2/26/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS11	2/26/2024	<0.024	<0.049	0.061	<0.097	0.061	35.0	280	<47	315
SS12	2/26/2024	<0.025	<0.049	<0.049	<0.099	<0.099	6.3	28	<46	34.3
SS13	2/26/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS14	2/26/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS01A	5/21/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS02A	5/21/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS03A	5/21/2024	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	<9.3	<47	<47
SS04A	5/21/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS05A	5/21/2024	<0.025	<0.050	<0.050	<0.10	<0.10	18	72	<49	90
SS06A	5/21/2024	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.2	<46	<46
SS07A	5/21/2024	<0.024	<0.048	0.071	0.16	0.23	83	240	<46	323
SS08A	5/21/2024	<0.023	<0.046	<0.046	<0.093	<0.093	9.7	52	<45	61.7
SS09A	5/21/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS10A	5/21/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
SS11A	5/21/2024	<0.023	<0.047	<0.047	<0.093	<0.093	<4.7	10	<48	10
SS12A	5/21/2024	NS	NS	NS	NS	NS	NS	NS	NS	NS
Final Treated Stockpile Sample Analytical Results										
TSP01	6/28/2024	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	<9.5	<47	<47
TSP02	6/28/2024	<0.025	<0.050	<0.050	<0.10	<0.10	<5	<9.7	<49	<49
TSP03	6/28/2024	<0.025	<0.050	<0.050	<0.10	<0.10	<5	<9.8	<49	<49
TSP04	6/28/2024	<0.024	<0.048	<0.048	<0.095	<0.095	5.2	<9.6	<48	<48
TSP05	6/28/2024	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.6	<48	<48
TSP06	6/28/2024	<0.049	<0.098	<0.098	<0.20	<0.20	<9.8	<9.2	<46	<46
TSP07	6/28/2024	<0.025	<0.050	<0.050	<0.10	<0.10	<5	<9.7	<49	<49
TSP08	6/28/2024	<0.025	<0.050	<0.050	<0.10	<0.10	<5	<9.7	<49	<49
TSP09	6/28/2024	<0.049	<0.099	<0.099	<0.20	<0.20	<9.9	<9.9	<49	<49
TSP10	6/28/2024	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<9.3	<46	<46
TSP11	6/28/2024	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.4	<47	<47
TSP12	6/28/2024	<0.023	<0.046	<0.046	<0.093	<0.093	<4.6	<9.0	<45	<45
TSP13	6/28/2024	<0.025	<0.050	<0.050	<0.099	<0.099	<5	<9.3	<47	<47
TSP14	6/28/2024	<0.025	<0.050	<0.050	<0.10	<0.10	<5	<9.8	<49	<49
TSP15	6/28/2024	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<9.9	<49	<49
TSP16	6/28/2024	<0.025	<0.050	<0.050	<0.10	<0.10	<5	<9.9	<50	<50
TSP17	6/28/2024	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.1	<45	<45
TSP18	6/28/2024	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<9.7	<48	<48
TSP19	6/28/2024	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	<9.5	<47	<47

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

PID: Photoionization Detector

ppm: Parts per million

NS: Not sampled

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

MRO: Motor Oil Range Organics

TPH: Total Petroleum Hydrocarbon

': Feet

<: Indicates result less than the stated laboratory reporting limit (RL)

Concentrations in **bold** exceeded the New Mexico Oil Conservation Division Table I Closure Criteria for Soils Impacted by a Release during preliminary soil screening.



APPENDIX A

NMOSE Well Summary



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO

2014 JAN -8 PM 3:36

1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER)				OSE FILE NUMBER(S) SU-4072			
	WELL OWNER NAME(S) Mary Sullivan				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS CR 4990				CITY Bloomfield NM		STATE ZIP 87413	
	WELL LOCATION (FROM GPS)	DEGREES		MINUTES	SECONDS	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84		
		LATITUDE	36 39 14		N			
		LONGITUDE	107 53 37		W			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE								
2. DRILLING & CASING INFORMATION	LICENSE NUMBER WD 717		NAME OF LICENSED DRILLER Terry Hood			NAME OF WELL DRILLING COMPANY		
	DRILLING STARTED 12/26/13		DRILLING ENDED 1/5/14	DEPTH OF COMPLETED WELL (FT) 470		BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT) 242	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) 470		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	479	5	SDR 21 PVC		5		060
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	5	20	9	Concrete	4	Pour		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER 81-4072 PDD 1

POD NUMBER


TRN NUMBER 582092

LOCATION 28N. 10W. 21. 220

PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	10	10	Clay & sand	<input type="checkbox"/> Y <input type="checkbox"/> N	
	10	40	30	Brown Shale	<input type="checkbox"/> Y <input type="checkbox"/> N	
	40	70	30	Sandstone	<input type="checkbox"/> Y <input type="checkbox"/> N	
	70	130	60	Blue Sandstone	<input type="checkbox"/> Y <input type="checkbox"/> N	
	130	145	15	Blu Sandy Shale	<input type="checkbox"/> Y <input type="checkbox"/> N	
	145	175	30	Blue Sandstone	<input type="checkbox"/> Y <input type="checkbox"/> N	
	175	235	60	Blue Sandy Shale	<input type="checkbox"/> Y <input type="checkbox"/> N	
	235	255	20	Blue Sandstone	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	255	295	40	Blu Shale	<input type="checkbox"/> Y <input type="checkbox"/> N	
	295	340	45	Blue Sandy Shale	<input type="checkbox"/> Y <input type="checkbox"/> N	
	340	370	30	Blu SandStone	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	370	410	40	Blue Sandy Shale	<input type="checkbox"/> Y <input type="checkbox"/> N	
	410	455	45	Blusandstone	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	455	470	15	Blue Sandy Shale	<input type="checkbox"/> Y <input type="checkbox"/> N	
					<input type="checkbox"/> Y <input type="checkbox"/> N	
					<input type="checkbox"/> Y <input type="checkbox"/> N	
					<input type="checkbox"/> Y <input type="checkbox"/> N	
					<input type="checkbox"/> Y <input type="checkbox"/> N	
					<input type="checkbox"/> Y <input type="checkbox"/> N	
					<input type="checkbox"/> Y <input type="checkbox"/> N	
					<input type="checkbox"/> Y <input type="checkbox"/> N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP					TOTAL ESTIMATED	
<input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					WELL YIELD (gpm): 1	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:	

6. 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:	
	<div style="display: flex; justify-content: space-between;"> <div>  SIGNATURE OF DRILLER / PRINT SIGNED NAME </div> <div> 1/8/14 DATE </div> </div>	

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	SU-4072 POD1	POD NUMBER	1	TRN NUMBER	582092
LOCATION	28N. 10W. 21. 220.				PAGE 2 OF 2



APPENDIX B

Agency Notifications

From: Velez, Nelson, EMNRD
To: [Stuart Hyde](#)
Cc: [Kate Kaufman](#); [Dale Crawford](#); [Devin Hencmann](#); [Eufracio Trujillo](#); [Chad Perkins](#); [Adeloye, Abiodun A](#)
Subject: Re: [EXTERNAL] nAPP2310935343 - Federal Gas Com #1 Sampling Notification
Date: Tuesday, October 24, 2023 7:51:42 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[Outlook-pne4z1n5.png](#)

[**EXTERNAL EMAIL**]

Good morning Stuart,

Thank you for the notice.

If an OCD representative is not on-site on the date &/or time given, please sample per 19.15.29 NMAC or from an OCD pre-approved sampling plan. For whatever reason, if the sampling timeframe is altered, please notify the OCD as soon as possible so we may adjust our schedule(s). Failure to notify the OCD of this change may result in the closure sample(s) not being accepted.

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

The OCD requires a copy of all correspondence relative to remedial activities be included in all proposals and/or final closure reports. Correspondence required to be included in reports may include, but not limited to, notifications for liner inspections, sample events, spill/release/fire, and request for time extensions or variances.

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: Monday, October 23, 2023 4:41 PM

To: Adeloze, Abiodun A <aadeloze@blm.gov>; Velez, Nelson, EMNRD
<Nelson.Velez@emnrn.nm.gov>

Cc: Kate Kaufman <kkaufman@hilcorp.com>; Dale Crawford <dcrawford@hilcorp.com>; Devin
Hencmann <dhenemann@ensolum.com>; Eufrazio Trujillo <etrujillo@hilcorp.com>; Chad Perkins
<cperkins@hilcorp.com>

Subject: [EXTERNAL] nAPP2310935343 - Federal Gas Com #1 Sampling Notification

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

On behalf of Hilcorp Energy Company, we are submitting this notification for confirmation sampling at the Federal Gas Com #1 on Thursday October 26, 2023 at 8 AM. The site is located in rural San Juan County, NM at coordinates 36.637216, -107.895431. Please reach out with any questions.



Stuart Hyde, LG

Senior Geologist

970-903-1607

Ensolum, LLC

in f 

From: OCDOnline@state.nm.us
To: [Stuart Hyde](#)
Subject: The Oil Conservation Division (OCD) has accepted the application, Application ID: 357519
Date: Tuesday, June 25, 2024 3:41:09 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#) nAPP2310935343.

The sampling event is expected to take place:

When: 06/28/2024 @ 10:00

Where: A-28-28N-10W 1190 FNL 1190 FEL (36.637216,-107.895431)

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

Additional Instructions: Federal Gas Com 1 P&A well pad, Coordinates 36.637279, -107.896270

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



APPENDIX C

Laboratory Analytical Reports



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

November 15, 2023

Stuart Hyde

HILCORP ENERGY

PO Box 4700

Farmington, NM 87499

TEL: (505) 564-0733

FAX:

RE: Fed GC 1

OrderNo.: 2310D78

Dear Stuart Hyde:

Eurofins Environment Testing South Central, LLC received 52 sample(s) on 10/31/2023 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", with a stylized flourish at the end.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS01

Project: Fed GC 1

Collection Date: 10/26/2023 10:20:00 AM

Lab ID: 2310D78-001

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/2/2023 12:03:23 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/2/2023 12:03:23 AM
Surr: DNOP	136	69-147		%Rec	1	11/2/2023 12:03:23 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/3/2023 9:39:54 AM
Surr: BFB	120	15-244		%Rec	1	11/3/2023 9:39:54 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	11/3/2023 9:39:54 AM
Toluene	ND	0.047		mg/Kg	1	11/3/2023 9:39:54 AM
Ethylbenzene	ND	0.047		mg/Kg	1	11/3/2023 9:39:54 AM
Xylenes, Total	ND	0.093		mg/Kg	1	11/3/2023 9:39:54 AM
Surr: 4-Bromofluorobenzene	96.8	39.1-146		%Rec	1	11/3/2023 9:39:54 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS02

Project: Fed GC 1

Collection Date: 10/26/2023 10:24:00 AM

Lab ID: 2310D78-002

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/2/2023 12:14:03 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/2/2023 12:14:03 AM
Surr: DNOP	89.1	69-147		%Rec	1	11/2/2023 12:14:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/3/2023 10:03:31 AM
Surr: BFB	95.3	15-244		%Rec	1	11/3/2023 10:03:31 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	11/3/2023 10:03:31 AM
Toluene	ND	0.048		mg/Kg	1	11/3/2023 10:03:31 AM
Ethylbenzene	ND	0.048		mg/Kg	1	11/3/2023 10:03:31 AM
Xylenes, Total	ND	0.097		mg/Kg	1	11/3/2023 10:03:31 AM
Surr: 4-Bromofluorobenzene	95.7	39.1-146		%Rec	1	11/3/2023 10:03:31 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS03

Project: Fed GC 1

Collection Date: 10/26/2023 10:28:00 AM

Lab ID: 2310D78-003

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/2/2023 12:24:41 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/2/2023 12:24:41 AM
Surr: DNOP	74.6	69-147		%Rec	1	11/2/2023 12:24:41 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/3/2023 1:10:57 PM
Surr: BFB	87.8	15-244		%Rec	1	11/3/2023 1:10:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	11/3/2023 1:10:57 PM
Toluene	ND	0.050		mg/Kg	1	11/3/2023 1:10:57 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/3/2023 1:10:57 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/3/2023 1:10:57 PM
Surr: 4-Bromofluorobenzene	90.0	39.1-146		%Rec	1	11/3/2023 1:10:57 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS04

Project: Fed GC 1

Collection Date: 10/26/2023 10:32:00 AM

Lab ID: 2310D78-004

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/2/2023 12:35:20 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/2/2023 12:35:20 AM
Surr: DNOP	89.0	69-147		%Rec	1	11/2/2023 12:35:20 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/3/2023 1:34:18 PM
Surr: BFB	90.4	15-244		%Rec	1	11/3/2023 1:34:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	11/3/2023 1:34:18 PM
Toluene	ND	0.049		mg/Kg	1	11/3/2023 1:34:18 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/3/2023 1:34:18 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/3/2023 1:34:18 PM
Surr: 4-Bromofluorobenzene	95.0	39.1-146		%Rec	1	11/3/2023 1:34:18 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS05

Project: Fed GC 1

Collection Date: 10/26/2023 10:36:00 AM

Lab ID: 2310D78-005

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/2/2023 1:07:07 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/2/2023 1:07:07 AM
Surr: DNOP	114	69-147		%Rec	1	11/2/2023 1:07:07 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/5/2023 4:33:26 PM
Surr: BFB	94.4	15-244		%Rec	1	11/5/2023 4:33:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	11/5/2023 4:33:26 PM
Toluene	ND	0.050		mg/Kg	1	11/5/2023 4:33:26 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/5/2023 4:33:26 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/5/2023 4:33:26 PM
Surr: 4-Bromofluorobenzene	97.0	39.1-146		%Rec	1	11/5/2023 4:33:26 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS06

Project: Fed GC 1

Collection Date: 10/26/2023 10:40:00 AM

Lab ID: 2310D78-006

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/2/2023 1:17:40 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/2/2023 1:17:40 AM
Surr: DNOP	105	69-147		%Rec	1	11/2/2023 1:17:40 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/5/2023 5:44:04 PM
Surr: BFB	95.6	15-244		%Rec	1	11/5/2023 5:44:04 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	11/5/2023 5:44:04 PM
Toluene	ND	0.047		mg/Kg	1	11/5/2023 5:44:04 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/5/2023 5:44:04 PM
Xylenes, Total	ND	0.094		mg/Kg	1	11/5/2023 5:44:04 PM
Surr: 4-Bromofluorobenzene	97.9	39.1-146		%Rec	1	11/5/2023 5:44:04 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS07

Project: Fed GC 1

Collection Date: 10/26/2023 10:44:00 AM

Lab ID: 2310D78-007

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	11/2/2023 1:28:13 AM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	11/2/2023 1:28:13 AM
Surr: DNOP	79.3	69-147		%Rec	1	11/2/2023 1:28:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/5/2023 6:54:14 PM
Surr: BFB	97.8	15-244		%Rec	1	11/5/2023 6:54:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	11/5/2023 6:54:14 PM
Toluene	ND	0.047		mg/Kg	1	11/5/2023 6:54:14 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/5/2023 6:54:14 PM
Xylenes, Total	ND	0.094		mg/Kg	1	11/5/2023 6:54:14 PM
Surr: 4-Bromofluorobenzene	99.3	39.1-146		%Rec	1	11/5/2023 6:54:14 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS08

Project: Fed GC 1

Collection Date: 10/26/2023 10:48:00 AM

Lab ID: 2310D78-008

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	11/2/2023 1:38:45 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/2/2023 1:38:45 AM
Surr: DNOP	117	69-147		%Rec	1	11/2/2023 1:38:45 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/5/2023 7:17:29 PM
Surr: BFB	96.0	15-244		%Rec	1	11/5/2023 7:17:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	11/5/2023 7:17:29 PM
Toluene	ND	0.048		mg/Kg	1	11/5/2023 7:17:29 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/5/2023 7:17:29 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/5/2023 7:17:29 PM
Surr: 4-Bromofluorobenzene	99.0	39.1-146		%Rec	1	11/5/2023 7:17:29 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS09

Project: Fed GC 1

Collection Date: 10/26/2023 10:52:00 AM

Lab ID: 2310D78-009

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/2/2023 1:49:16 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/2/2023 1:49:16 AM
Surr: DNOP	103	69-147		%Rec	1	11/2/2023 1:49:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/5/2023 7:40:50 PM
Surr: BFB	94.8	15-244		%Rec	1	11/5/2023 7:40:50 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	11/5/2023 7:40:50 PM
Toluene	ND	0.049		mg/Kg	1	11/5/2023 7:40:50 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/5/2023 7:40:50 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/5/2023 7:40:50 PM
Surr: 4-Bromofluorobenzene	97.2	39.1-146		%Rec	1	11/5/2023 7:40:50 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS10

Project: Fed GC 1

Collection Date: 10/26/2023 10:56:00 AM

Lab ID: 2310D78-010

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	73	9.5		mg/Kg	1	11/2/2023 1:59:46 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/2/2023 1:59:46 AM
Surr: DNOP	113	69-147		%Rec	1	11/2/2023 1:59:46 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/5/2023 8:04:19 PM
Surr: BFB	95.1	15-244		%Rec	1	11/5/2023 8:04:19 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	11/5/2023 8:04:19 PM
Toluene	ND	0.048		mg/Kg	1	11/5/2023 8:04:19 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/5/2023 8:04:19 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/5/2023 8:04:19 PM
Surr: 4-Bromofluorobenzene	96.2	39.1-146		%Rec	1	11/5/2023 8:04:19 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS11

Project: Fed GC 1

Collection Date: 10/26/2023 11:00:00 AM

Lab ID: 2310D78-011

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	11/2/2023 2:10:15 AM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	11/2/2023 2:10:15 AM
Surr: DNOP	117	69-147		%Rec	1	11/2/2023 2:10:15 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/5/2023 8:27:46 PM
Surr: BFB	93.3	15-244		%Rec	1	11/5/2023 8:27:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	11/5/2023 8:27:46 PM
Toluene	ND	0.047		mg/Kg	1	11/5/2023 8:27:46 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/5/2023 8:27:46 PM
Xylenes, Total	ND	0.094		mg/Kg	1	11/5/2023 8:27:46 PM
Surr: 4-Bromofluorobenzene	95.9	39.1-146		%Rec	1	11/5/2023 8:27:46 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS12

Project: Fed GC 1

Collection Date: 10/26/2023 11:04:00 AM

Lab ID: 2310D78-012

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/2/2023 2:31:03 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/2/2023 2:31:03 AM
Surr: DNOP	127	69-147		%Rec	1	11/2/2023 2:31:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/5/2023 8:51:13 PM
Surr: BFB	93.5	15-244		%Rec	1	11/5/2023 8:51:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	11/5/2023 8:51:13 PM
Toluene	ND	0.046		mg/Kg	1	11/5/2023 8:51:13 PM
Ethylbenzene	ND	0.046		mg/Kg	1	11/5/2023 8:51:13 PM
Xylenes, Total	ND	0.092		mg/Kg	1	11/5/2023 8:51:13 PM
Surr: 4-Bromofluorobenzene	96.3	39.1-146		%Rec	1	11/5/2023 8:51:13 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS13

Project: Fed GC 1

Collection Date: 10/26/2023 11:08:00 AM

Lab ID: 2310D78-013

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	11/2/2023 2:41:30 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/2/2023 2:41:30 AM
Surr: DNOP	119	69-147		%Rec	1	11/2/2023 2:41:30 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/5/2023 9:14:33 PM
Surr: BFB	95.5	15-244		%Rec	1	11/5/2023 9:14:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	11/5/2023 9:14:33 PM
Toluene	ND	0.050		mg/Kg	1	11/5/2023 9:14:33 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/5/2023 9:14:33 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/5/2023 9:14:33 PM
Surr: 4-Bromofluorobenzene	97.8	39.1-146		%Rec	1	11/5/2023 9:14:33 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS14

Project: Fed GC 1

Collection Date: 10/26/2023 11:12:00 AM

Lab ID: 2310D78-014

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	11/2/2023 2:51:55 AM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	11/2/2023 2:51:55 AM
Surr: DNOP	117	69-147		%Rec	1	11/2/2023 2:51:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/5/2023 9:37:53 PM
Surr: BFB	95.9	15-244		%Rec	1	11/5/2023 9:37:53 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	11/5/2023 9:37:53 PM
Toluene	ND	0.048		mg/Kg	1	11/5/2023 9:37:53 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/5/2023 9:37:53 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/5/2023 9:37:53 PM
Surr: 4-Bromofluorobenzene	98.6	39.1-146		%Rec	1	11/5/2023 9:37:53 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS15

Project: Fed GC 1

Collection Date: 10/26/2023 11:16:00 AM

Lab ID: 2310D78-015

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	11/2/2023 3:02:20 AM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	11/2/2023 3:02:20 AM
Surr: DNOP	115	69-147		%Rec	1	11/2/2023 3:02:20 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/5/2023 10:25:01 PM
Surr: BFB	95.1	15-244		%Rec	1	11/5/2023 10:25:01 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	11/5/2023 10:25:01 PM
Toluene	ND	0.049		mg/Kg	1	11/5/2023 10:25:01 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/5/2023 10:25:01 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/5/2023 10:25:01 PM
Surr: 4-Bromofluorobenzene	97.0	39.1-146		%Rec	1	11/5/2023 10:25:01 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: SW01

Project: Fed GC 1

Collection Date: 10/27/2023 9:30:00 AM

Lab ID: 2310D78-016

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	11/2/2023 3:12:43 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/2/2023 3:12:43 AM
Surr: DNOP	116	69-147		%Rec	1	11/2/2023 3:12:43 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/5/2023 10:48:26 PM
Surr: BFB	95.5	15-244		%Rec	1	11/5/2023 10:48:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	11/5/2023 10:48:26 PM
Toluene	ND	0.047		mg/Kg	1	11/5/2023 10:48:26 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/5/2023 10:48:26 PM
Xylenes, Total	ND	0.094		mg/Kg	1	11/5/2023 10:48:26 PM
Surr: 4-Bromofluorobenzene	98.0	39.1-146		%Rec	1	11/5/2023 10:48:26 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: SW02

Project: Fed GC 1

Collection Date: 10/27/2023 9:32:00 AM

Lab ID: 2310D78-017

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/2/2023 3:23:06 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/2/2023 3:23:06 AM
Surr: DNOP	100	69-147		%Rec	1	11/2/2023 3:23:06 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/5/2023 11:11:45 PM
Surr: BFB	94.8	15-244		%Rec	1	11/5/2023 11:11:45 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	11/5/2023 11:11:45 PM
Toluene	ND	0.048		mg/Kg	1	11/5/2023 11:11:45 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/5/2023 11:11:45 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/5/2023 11:11:45 PM
Surr: 4-Bromofluorobenzene	97.5	39.1-146		%Rec	1	11/5/2023 11:11:45 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: SW03

Project: Fed GC 1

Collection Date: 10/27/2023 9:34:00 AM

Lab ID: 2310D78-018

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/2/2023 3:33:28 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/2/2023 3:33:28 AM
Surr: DNOP	104	69-147		%Rec	1	11/2/2023 3:33:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/5/2023 11:35:12 PM
Surr: BFB	92.3	15-244		%Rec	1	11/5/2023 11:35:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	11/5/2023 11:35:12 PM
Toluene	ND	0.049		mg/Kg	1	11/5/2023 11:35:12 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/5/2023 11:35:12 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/5/2023 11:35:12 PM
Surr: 4-Bromofluorobenzene	94.6	39.1-146		%Rec	1	11/5/2023 11:35:12 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: SW04

Project: Fed GC 1

Collection Date: 10/27/2023 9:36:00 AM

Lab ID: 2310D78-019

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	11	9.3		mg/Kg	1	11/2/2023 3:43:49 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/2/2023 3:43:49 AM
Surr: DNOP	109	69-147		%Rec	1	11/2/2023 3:43:49 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/5/2023 11:58:44 PM
Surr: BFB	94.8	15-244		%Rec	1	11/5/2023 11:58:44 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	11/5/2023 11:58:44 PM
Toluene	ND	0.046		mg/Kg	1	11/5/2023 11:58:44 PM
Ethylbenzene	ND	0.046		mg/Kg	1	11/5/2023 11:58:44 PM
Xylenes, Total	ND	0.093		mg/Kg	1	11/5/2023 11:58:44 PM
Surr: 4-Bromofluorobenzene	96.6	39.1-146		%Rec	1	11/5/2023 11:58:44 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS16

Project: Fed GC 1

Collection Date: 10/27/2023 9:38:00 AM

Lab ID: 2310D78-020

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/2/2023 3:54:13 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/2/2023 3:54:13 AM
Surr: DNOP	75.8	69-147		%Rec	1	11/2/2023 3:54:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/6/2023 12:22:17 AM
Surr: BFB	93.5	15-244		%Rec	1	11/6/2023 12:22:17 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	11/6/2023 12:22:17 AM
Toluene	ND	0.047		mg/Kg	1	11/6/2023 12:22:17 AM
Ethylbenzene	ND	0.047		mg/Kg	1	11/6/2023 12:22:17 AM
Xylenes, Total	ND	0.094		mg/Kg	1	11/6/2023 12:22:17 AM
Surr: 4-Bromofluorobenzene	96.1	39.1-146		%Rec	1	11/6/2023 12:22:17 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS17

Project: Fed GC 1

Collection Date: 10/27/2023 9:40:00 AM

Lab ID: 2310D78-021

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	11/2/2023 4:04:35 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/2/2023 4:04:35 AM
Surr: DNOP	98.9	69-147		%Rec	1	11/2/2023 4:04:35 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/6/2023 12:45:47 AM
Surr: BFB	96.3	15-244		%Rec	1	11/6/2023 12:45:47 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	11/6/2023 12:45:47 AM
Toluene	ND	0.049		mg/Kg	1	11/6/2023 12:45:47 AM
Ethylbenzene	ND	0.049		mg/Kg	1	11/6/2023 12:45:47 AM
Xylenes, Total	ND	0.098		mg/Kg	1	11/6/2023 12:45:47 AM
Surr: 4-Bromofluorobenzene	99.0	39.1-146		%Rec	1	11/6/2023 12:45:47 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS18

Project: Fed GC 1

Collection Date: 10/27/2023 9:42:00 AM

Lab ID: 2310D78-022

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/2/2023 4:14:56 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/2/2023 4:14:56 AM
Surr: DNOP	104	69-147		%Rec	1	11/2/2023 4:14:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/6/2023 1:09:19 AM
Surr: BFB	94.6	15-244		%Rec	1	11/6/2023 1:09:19 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.023		mg/Kg	1	11/6/2023 1:09:19 AM
Toluene	ND	0.046		mg/Kg	1	11/6/2023 1:09:19 AM
Ethylbenzene	ND	0.046		mg/Kg	1	11/6/2023 1:09:19 AM
Xylenes, Total	ND	0.093		mg/Kg	1	11/6/2023 1:09:19 AM
Surr: 4-Bromofluorobenzene	96.5	39.1-146		%Rec	1	11/6/2023 1:09:19 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS19

Project: Fed GC 1

Collection Date: 10/27/2023 9:44:00 AM

Lab ID: 2310D78-023

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	11/2/2023 4:25:17 AM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	11/2/2023 4:25:17 AM
Surr: DNOP	78.0	69-147		%Rec	1	11/2/2023 4:25:17 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/6/2023 1:32:44 AM
Surr: BFB	95.3	15-244		%Rec	1	11/6/2023 1:32:44 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	11/6/2023 1:32:44 AM
Toluene	ND	0.049		mg/Kg	1	11/6/2023 1:32:44 AM
Ethylbenzene	ND	0.049		mg/Kg	1	11/6/2023 1:32:44 AM
Xylenes, Total	ND	0.098		mg/Kg	1	11/6/2023 1:32:44 AM
Surr: 4-Bromofluorobenzene	97.2	39.1-146		%Rec	1	11/6/2023 1:32:44 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS20

Project: Fed GC 1

Collection Date: 10/27/2023 9:46:00 AM

Lab ID: 2310D78-024

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	10	9.2		mg/Kg	1	11/2/2023 4:35:38 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/2/2023 4:35:38 AM
Surr: DNOP	107	69-147		%Rec	1	11/2/2023 4:35:38 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/6/2023 1:56:18 AM
Surr: BFB	95.3	15-244		%Rec	1	11/6/2023 1:56:18 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	11/6/2023 1:56:18 AM
Toluene	ND	0.048		mg/Kg	1	11/6/2023 1:56:18 AM
Ethylbenzene	ND	0.048		mg/Kg	1	11/6/2023 1:56:18 AM
Xylenes, Total	ND	0.097		mg/Kg	1	11/6/2023 1:56:18 AM
Surr: 4-Bromofluorobenzene	98.4	39.1-146		%Rec	1	11/6/2023 1:56:18 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS21

Project: Fed GC 1

Collection Date: 10/27/2023 10:10:00 AM

Lab ID: 2310D78-025

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/2/2023 4:25:57 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/2/2023 4:25:57 PM
Surr: DNOP	100	69-147		%Rec	1	11/2/2023 4:25:57 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/8/2023 10:53:00 PM
Surr: BFB	99.3	15-244		%Rec	1	11/8/2023 10:53:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/8/2023 10:53:00 PM
Toluene	ND	0.048		mg/Kg	1	11/8/2023 10:53:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/8/2023 10:53:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/8/2023 10:53:00 PM
Surr: 4-Bromofluorobenzene	83.0	39.1-146		%Rec	1	11/8/2023 10:53:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS23

Project: Fed GC 1

Collection Date: 10/27/2023 10:20:00 AM

Lab ID: 2310D78-027

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	11/2/2023 4:47:47 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/2/2023 4:47:47 PM
Surr: DNOP	103	69-147		%Rec	1	11/2/2023 4:47:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/9/2023 1:03:00 AM
Surr: BFB	103	15-244		%Rec	1	11/9/2023 1:03:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	11/9/2023 1:03:00 AM
Toluene	ND	0.050		mg/Kg	1	11/9/2023 1:03:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	11/9/2023 1:03:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	11/9/2023 1:03:00 AM
Surr: 4-Bromofluorobenzene	86.1	39.1-146		%Rec	1	11/9/2023 1:03:00 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS24

Project: Fed GC 1

Collection Date: 10/27/2023 10:25:00 AM

Lab ID: 2310D78-028

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	11	9.9		mg/Kg	1	11/2/2023 4:58:39 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/2/2023 4:58:39 PM
Surr: DNOP	119	69-147		%Rec	1	11/2/2023 4:58:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 1:25:00 AM
Surr: BFB	105	15-244		%Rec	1	11/9/2023 1:25:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	11/9/2023 1:25:00 AM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 1:25:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 1:25:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	11/9/2023 1:25:00 AM
Surr: 4-Bromofluorobenzene	87.1	39.1-146		%Rec	1	11/9/2023 1:25:00 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS25

Project: Fed GC 1

Collection Date: 10/27/2023 10:30:00 AM

Lab ID: 2310D78-029

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	11/2/2023 5:09:34 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/2/2023 5:09:34 PM
Surr: DNOP	105	69-147		%Rec	1	11/2/2023 5:09:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 1:47:00 AM
Surr: BFB	104	15-244		%Rec	1	11/9/2023 1:47:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/9/2023 1:47:00 AM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 1:47:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 1:47:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	11/9/2023 1:47:00 AM
Surr: 4-Bromofluorobenzene	86.9	39.1-146		%Rec	1	11/9/2023 1:47:00 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS26

Project: Fed GC 1

Collection Date: 10/27/2023 10:35:00 AM

Lab ID: 2310D78-030

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	11/2/2023 5:20:27 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	11/2/2023 5:20:27 PM
Surr: DNOP	92.8	69-147		%Rec	1	11/2/2023 5:20:27 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 2:08:00 AM
Surr: BFB	104	15-244		%Rec	1	11/9/2023 2:08:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/9/2023 2:08:00 AM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 2:08:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 2:08:00 AM
Xylenes, Total	ND	0.098		mg/Kg	1	11/9/2023 2:08:00 AM
Surr: 4-Bromofluorobenzene	85.3	39.1-146		%Rec	1	11/9/2023 2:08:00 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: SW05

Project: Fed GC 1

Collection Date: 10/27/2023 2:30:00 PM

Lab ID: 2310D78-031

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	15	8.6		mg/Kg	1	11/2/2023 5:31:19 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	11/2/2023 5:31:19 PM
Surr: DNOP	117	69-147		%Rec	1	11/2/2023 5:31:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 2:30:00 AM
Surr: BFB	111	15-244		%Rec	1	11/9/2023 2:30:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	11/9/2023 2:30:00 AM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 2:30:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 2:30:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	11/9/2023 2:30:00 AM
Surr: 4-Bromofluorobenzene	88.7	39.1-146		%Rec	1	11/9/2023 2:30:00 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: SW06

Project: Fed GC 1

Collection Date: 10/27/2023 2:32:00 PM

Lab ID: 2310D78-032

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	17	9.1		mg/Kg	1	11/2/2023 5:42:11 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	11/2/2023 5:42:11 PM
Surr: DNOP	98.4	69-147		%Rec	1	11/2/2023 5:42:11 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 2:52:00 AM
Surr: BFB	99.8	15-244		%Rec	1	11/9/2023 2:52:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	11/9/2023 2:52:00 AM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 2:52:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 2:52:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	11/9/2023 2:52:00 AM
Surr: 4-Bromofluorobenzene	84.4	39.1-146		%Rec	1	11/9/2023 2:52:00 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: SW07

Project: Fed GC 1

Collection Date: 10/27/2023 2:36:00 PM

Lab ID: 2310D78-033

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	16	9.5		mg/Kg	1	11/2/2023 5:53:05 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/2/2023 5:53:05 PM
Surr: DNOP	103	69-147		%Rec	1	11/2/2023 5:53:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 3:14:00 AM
Surr: BFB	99.3	15-244		%Rec	1	11/9/2023 3:14:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	11/9/2023 3:14:00 AM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 3:14:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 3:14:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	11/9/2023 3:14:00 AM
Surr: 4-Bromofluorobenzene	86.1	39.1-146		%Rec	1	11/9/2023 3:14:00 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: SW08

Project: Fed GC 1

Collection Date: 10/27/2023 2:38:00 PM

Lab ID: 2310D78-034

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	10	9.8		mg/Kg	1	11/2/2023 6:03:59 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/2/2023 6:03:59 PM
Surr: DNOP	112	69-147		%Rec	1	11/2/2023 6:03:59 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/9/2023 3:35:00 AM
Surr: BFB	101	15-244		%Rec	1	11/9/2023 3:35:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	11/9/2023 3:35:00 AM
Toluene	ND	0.050		mg/Kg	1	11/9/2023 3:35:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	11/9/2023 3:35:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	11/9/2023 3:35:00 AM
Surr: 4-Bromofluorobenzene	86.2	39.1-146		%Rec	1	11/9/2023 3:35:00 AM

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS18

Project: Fed GC 1

Collection Date: 10/27/2023 2:40:00 PM

Lab ID: 2310D78-035

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/2/2023 6:25:37 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/2/2023 6:25:37 PM
Surr: DNOP	99.4	69-147		%Rec	1	11/2/2023 6:25:37 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 4:19:00 AM
Surr: BFB	101	15-244		%Rec	1	11/9/2023 4:19:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	11/9/2023 6:44:00 PM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 6:44:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 6:44:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/9/2023 6:44:00 PM
Surr: 4-Bromofluorobenzene	86.5	39.1-146		%Rec	1	11/9/2023 6:44:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS27

Project: Fed GC 1

Collection Date: 10/27/2023 2:42:00 PM

Lab ID: 2310D78-036

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	10	9.4		mg/Kg	1	11/2/2023 6:36:28 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/2/2023 6:36:28 PM
Surr: DNOP	113	69-147		%Rec	1	11/2/2023 6:36:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/9/2023 4:41:00 AM
Surr: BFB	99.7	15-244		%Rec	1	11/9/2023 4:41:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/9/2023 7:05:00 PM
Toluene	ND	0.048		mg/Kg	1	11/9/2023 7:05:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/9/2023 7:05:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	11/9/2023 7:05:00 PM
Surr: 4-Bromofluorobenzene	83.8	39.1-146		%Rec	1	11/9/2023 7:05:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS28

Project: Fed GC 1

Collection Date: 10/27/2023 2:44:00 PM

Lab ID: 2310D78-037

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	12	9.7		mg/Kg	1	11/2/2023 6:47:16 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/2/2023 6:47:16 PM
Surr: DNOP	130	69-147		%Rec	1	11/2/2023 6:47:16 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/9/2023 5:03:00 AM
Surr: BFB	97.4	15-244		%Rec	1	11/9/2023 5:03:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.023		mg/Kg	1	11/9/2023 7:27:00 PM
Toluene	ND	0.047		mg/Kg	1	11/9/2023 7:27:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/9/2023 7:27:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	11/9/2023 7:27:00 PM
Surr: 4-Bromofluorobenzene	86.7	39.1-146		%Rec	1	11/9/2023 7:27:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS29

Project: Fed GC 1

Collection Date: 10/27/2023 2:46:00 PM

Lab ID: 2310D78-038

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	9.7	8.9		mg/Kg	1	11/2/2023 6:58:02 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	11/2/2023 6:58:02 PM
Surr: DNOP	109	69-147		%Rec	1	11/2/2023 6:58:02 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 5:24:00 AM
Surr: BFB	105	15-244		%Rec	1	11/9/2023 5:24:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/9/2023 7:49:00 PM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 7:49:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 7:49:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/9/2023 7:49:00 PM
Surr: 4-Bromofluorobenzene	86.7	39.1-146		%Rec	1	11/9/2023 7:49:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS30

Project: Fed GC 1

Collection Date: 10/27/2023 2:48:00 PM

Lab ID: 2310D78-039

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	12	9.9		mg/Kg	1	11/2/2023 7:08:52 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/2/2023 7:08:52 PM
Surr: DNOP	115	69-147		%Rec	1	11/2/2023 7:08:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 5:46:00 AM
Surr: BFB	100	15-244		%Rec	1	11/9/2023 5:46:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	11/9/2023 8:11:00 PM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 8:11:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 8:11:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/9/2023 8:11:00 PM
Surr: 4-Bromofluorobenzene	87.3	39.1-146		%Rec	1	11/9/2023 8:11:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS31

Project: Fed GC 1

Collection Date: 10/27/2023 2:50:00 PM

Lab ID: 2310D78-040

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	9.7	8.6		mg/Kg	1	11/2/2023 7:19:40 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	11/2/2023 7:19:40 PM
Surr: DNOP	109	69-147		%Rec	1	11/2/2023 7:19:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 6:08:00 AM
Surr: BFB	103	15-244		%Rec	1	11/9/2023 6:08:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/9/2023 8:32:00 PM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 8:32:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 8:32:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/9/2023 8:32:00 PM
Surr: 4-Bromofluorobenzene	84.1	39.1-146		%Rec	1	11/9/2023 8:32:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS32

Project: Fed GC 1

Collection Date: 10/27/2023 2:52:00 PM

Lab ID: 2310D78-041

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	9.7	8.5		mg/Kg	1	11/2/2023 7:30:26 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	11/2/2023 7:30:26 PM
Surr: DNOP	98.4	69-147		%Rec	1	11/2/2023 7:30:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 6:30:00 AM
Surr: BFB	102	15-244		%Rec	1	11/9/2023 6:30:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	11/9/2023 8:54:00 PM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 8:54:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 8:54:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/9/2023 8:54:00 PM
Surr: 4-Bromofluorobenzene	87.1	39.1-146		%Rec	1	11/9/2023 8:54:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS33

Project: Fed GC 1

Collection Date: 10/27/2023 2:54:00 PM

Lab ID: 2310D78-042

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	43	9.9		mg/Kg	1	11/2/2023 7:41:10 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/2/2023 7:41:10 PM
Surr: DNOP	109	69-147		%Rec	1	11/2/2023 7:41:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 6:51:00 AM
Surr: BFB	107	15-244		%Rec	1	11/9/2023 6:51:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/9/2023 9:16:00 PM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 9:16:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 9:16:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/9/2023 9:16:00 PM
Surr: 4-Bromofluorobenzene	89.1	39.1-146		%Rec	1	11/9/2023 9:16:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS34

Project: Fed GC 1

Collection Date: 10/27/2023 2:56:00 PM

Lab ID: 2310D78-043

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/2/2023 7:51:54 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/2/2023 7:51:54 PM
Surr: DNOP	129	69-147		%Rec	1	11/2/2023 7:51:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/9/2023 7:13:00 AM
Surr: BFB	103	15-244		%Rec	1	11/9/2023 7:13:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/9/2023 9:37:00 PM
Toluene	ND	0.048		mg/Kg	1	11/9/2023 9:37:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/9/2023 9:37:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/9/2023 9:37:00 PM
Surr: 4-Bromofluorobenzene	84.9	39.1-146		%Rec	1	11/9/2023 9:37:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS35

Project: Fed GC 1

Collection Date: 10/27/2023 2:58:00 PM

Lab ID: 2310D78-044

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	11/2/2023 8:02:36 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/2/2023 8:02:36 PM
Surr: DNOP	104	69-147		%Rec	1	11/2/2023 8:02:36 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/9/2023 7:35:00 AM
Surr: BFB	106	15-244		%Rec	1	11/9/2023 7:35:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	11/9/2023 9:59:00 PM
Toluene	ND	0.049		mg/Kg	1	11/9/2023 9:59:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/9/2023 9:59:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	11/9/2023 9:59:00 PM
Surr: 4-Bromofluorobenzene	87.9	39.1-146		%Rec	1	11/9/2023 9:59:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS36

Project: Fed GC 1

Collection Date: 10/27/2023 3:00:00 PM

Lab ID: 2310D78-045

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/2/2023 10:55:46 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/2/2023 10:55:46 AM
Surr: DNOP	103	69-147		%Rec	1	11/2/2023 10:55:46 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/3/2023 2:02:00 PM
Surr: BFB	103	15-244		%Rec	1	11/3/2023 2:02:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/3/2023 2:02:00 PM
Toluene	ND	0.048		mg/Kg	1	11/3/2023 2:02:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/3/2023 2:02:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/3/2023 2:02:00 PM
Surr: 4-Bromofluorobenzene	86.5	39.1-146		%Rec	1	11/3/2023 2:02:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS37

Project: Fed GC 1

Collection Date: 10/27/2023 3:02:00 PM

Lab ID: 2310D78-046

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	10	9.4		mg/Kg	1	11/2/2023 11:06:16 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/2/2023 11:06:16 AM
Surr: DNOP	94.0	69-147		%Rec	1	11/2/2023 11:06:16 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/3/2023 3:07:00 PM
Surr: BFB	104	15-244		%Rec	1	11/3/2023 3:07:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.025		mg/Kg	1	11/3/2023 3:07:00 PM
Toluene	ND	0.050		mg/Kg	1	11/3/2023 3:07:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/3/2023 3:07:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	11/3/2023 3:07:00 PM
Surr: 4-Bromofluorobenzene	88.8	39.1-146		%Rec	1	11/3/2023 3:07:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS38

Project: Fed GC 1

Collection Date: 10/27/2023 3:04:00 PM

Lab ID: 2310D78-047

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/3/2023 9:55:31 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/3/2023 9:55:31 AM
Surr: DNOP	104	69-147		%Rec	1	11/3/2023 9:55:31 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/3/2023 4:19:00 PM
Surr: BFB	103	15-244		%Rec	1	11/3/2023 4:19:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/3/2023 4:19:00 PM
Toluene	ND	0.048		mg/Kg	1	11/3/2023 4:19:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/3/2023 4:19:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/3/2023 4:19:00 PM
Surr: 4-Bromofluorobenzene	88.4	39.1-146		%Rec	1	11/3/2023 4:19:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS39

Project: Fed GC 1

Collection Date: 10/27/2023 3:06:00 PM

Lab ID: 2310D78-048

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/2/2023 11:37:51 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/2/2023 11:37:51 AM
Surr: DNOP	100	69-147		%Rec	1	11/2/2023 11:37:51 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/3/2023 4:40:00 PM
Surr: BFB	104	15-244		%Rec	1	11/3/2023 4:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/3/2023 4:40:00 PM
Toluene	ND	0.048		mg/Kg	1	11/3/2023 4:40:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/3/2023 4:40:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/3/2023 4:40:00 PM
Surr: 4-Bromofluorobenzene	86.9	39.1-146		%Rec	1	11/3/2023 4:40:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS40

Project: Fed GC 1

Collection Date: 10/27/2023 3:08:00 PM

Lab ID: 2310D78-049

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/2/2023 11:48:27 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/2/2023 11:48:27 AM
Surr: DNOP	107	69-147		%Rec	1	11/2/2023 11:48:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/3/2023 5:02:00 PM
Surr: BFB	96.7	15-244		%Rec	1	11/3/2023 5:02:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.023		mg/Kg	1	11/3/2023 5:02:00 PM
Toluene	ND	0.046		mg/Kg	1	11/3/2023 5:02:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	11/3/2023 5:02:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	11/3/2023 5:02:00 PM
Surr: 4-Bromofluorobenzene	82.7	39.1-146		%Rec	1	11/3/2023 5:02:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS41

Project: Fed GC 1

Collection Date: 10/27/2023 4:30:00 PM

Lab ID: 2310D78-050

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/2/2023 11:59:03 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/2/2023 11:59:03 AM
Surr: DNOP	97.4	69-147		%Rec	1	11/2/2023 11:59:03 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/3/2023 5:24:00 PM
Surr: BFB	111	15-244		%Rec	1	11/3/2023 5:24:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/3/2023 5:24:00 PM
Toluene	ND	0.047		mg/Kg	1	11/3/2023 5:24:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/3/2023 5:24:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	11/3/2023 5:24:00 PM
Surr: 4-Bromofluorobenzene	88.5	39.1-146		%Rec	1	11/3/2023 5:24:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: SW09

Project: Fed GC 1

Collection Date: 10/30/2023 9:30:00 AM

Lab ID: 2310D78-051

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	10	9.6		mg/Kg	1	11/2/2023 12:09:40 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/2/2023 12:09:40 PM
Surr: DNOP	101	69-147		%Rec	1	11/2/2023 12:09:40 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/3/2023 5:45:00 PM
Surr: BFB	109	15-244		%Rec	1	11/3/2023 5:45:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/3/2023 5:45:00 PM
Toluene	ND	0.048		mg/Kg	1	11/3/2023 5:45:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/3/2023 5:45:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	11/3/2023 5:45:00 PM
Surr: 4-Bromofluorobenzene	86.1	39.1-146		%Rec	1	11/3/2023 5:45:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report

Lab Order 2310D78

Date Reported: 11/15/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: FS42

Project: Fed GC 1

Collection Date: 10/30/2023 10:00:00 AM

Lab ID: 2310D78-052

Matrix: SOIL

Received Date: 10/31/2023 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	41	9.7		mg/Kg	1	11/2/2023 12:20:19 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/2/2023 12:20:19 PM
Surr: DNOP	94.9	69-147		%Rec	1	11/2/2023 12:20:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: KMN
Gasoline Range Organics (GRO)	17	4.9		mg/Kg	1	11/3/2023 6:07:00 PM
Surr: BFB	287	15-244	S	%Rec	1	11/3/2023 6:07:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: KMN
Benzene	ND	0.024		mg/Kg	1	11/3/2023 6:07:00 PM
Toluene	ND	0.049		mg/Kg	1	11/3/2023 6:07:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/3/2023 6:07:00 PM
Xylenes, Total	0.14	0.097		mg/Kg	1	11/3/2023 6:07:00 PM
Surr: 4-Bromofluorobenzene	124	39.1-146		%Rec	1	11/3/2023 6:07:00 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 Quantitative 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#: 2310D78

15-Nov-23

Client: HILCORP ENERGY

Project: Fed GC 1

Sample ID: 2310D78-024AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: FS20	Batch ID: 78484	RunNo: 100868
Prep Date: 10/31/2023	Analysis Date: 11/2/2023	SeqNo: 3701931 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	58	9.8 49.12 10.38 97.7 54.2 135
Surr: DNOP	7.0	4.912 143 69 147

Sample ID: 2310D78-024AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: FS20	Batch ID: 78484	RunNo: 100868
Prep Date: 10/31/2023	Analysis Date: 11/2/2023	SeqNo: 3701932 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	53	9.2 46.08 10.38 93.1 54.2 135 9.15 29.2
Surr: DNOP	6.2	4.608 135 69 147 0 0

Sample ID: LCS-78476	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 78476	RunNo: 100868
Prep Date: 10/31/2023	Analysis Date: 11/1/2023	SeqNo: 3701935 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	48	10 50.00 0 96.8 61.9 130
Surr: DNOP	6.0	5.000 120 69 147

Sample ID: LCS-78484	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 78484	RunNo: 100868
Prep Date: 10/31/2023	Analysis Date: 11/2/2023	SeqNo: 3701936 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	48	10 50.00 0 95.4 61.9 130
Surr: DNOP	6.1	5.000 123 69 147

Sample ID: MB-78476	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 78476	RunNo: 100868
Prep Date: 10/31/2023	Analysis Date: 11/1/2023	SeqNo: 3701938 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	10.00 119 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 Quantitative 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#: 2310D78

15-Nov-23

Client: HILCORP ENERGY

Project: Fed GC 1

Sample ID: MB-78484	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 78484	RunNo: 100868								
Prep Date: 10/31/2023	Analysis Date: 11/2/2023	SeqNo: 3701939			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		96.5	69	147			

Sample ID: 2310D78-044AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: FS35	Batch ID: 78505	RunNo: 100922								
Prep Date: 11/1/2023	Analysis Date: 11/2/2023	SeqNo: 3703608			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	9.1	45.75	0	108	54.2	135			
Surr: DNOP	5.8		4.575		126	69	147			

Sample ID: 2310D78-044AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: FS35	Batch ID: 78505	RunNo: 100922								
Prep Date: 11/1/2023	Analysis Date: 11/2/2023	SeqNo: 3703609			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	9.5	47.57	0	109	54.2	135	5.32	29.2	
Surr: DNOP	6.0		4.757		127	69	147	0	0	

Sample ID: LCS-78505	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 78505	RunNo: 100922								
Prep Date: 11/1/2023	Analysis Date: 11/2/2023	SeqNo: 3703675			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.4	61.9	130			
Surr: DNOP	6.1		5.000		123	69	147			

Sample ID: LCS-78507	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 78507	RunNo: 100922								
Prep Date: 11/1/2023	Analysis Date: 11/2/2023	SeqNo: 3703676			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	61.9	130			
Surr: DNOP	6.3		5.000		126	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 Quantitative 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#: 2310D78

15-Nov-23

Client: HILCORP ENERGY

Project: Fed GC 1

Sample ID: MB-78505	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 78505	RunNo: 100922								
Prep Date: 11/1/2023	Analysis Date: 11/2/2023	SeqNo: 3703679 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		92.9	69	147			

Sample ID: MB-78507	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 78507	RunNo: 100922								
Prep Date: 11/1/2023	Analysis Date: 11/2/2023	SeqNo: 3703680 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		92.8	69	147			

Sample ID: LCS-78534	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 78534	RunNo: 100940								
Prep Date: 11/2/2023	Analysis Date: 11/3/2023	SeqNo: 3704561 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.5		5.000		111	69	147			

Sample ID: MB-78534	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 78534	RunNo: 100940								
Prep Date: 11/2/2023	Analysis Date: 11/3/2023	SeqNo: 3704563 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.0		10.00		90.0	69	147			

Sample ID: LCS-78541	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 78541	RunNo: 100940								
Prep Date: 11/2/2023	Analysis Date: 11/3/2023	SeqNo: 3705011 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.7		5.000		174	69	147			S

Sample ID: LCS-78561	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 78561	RunNo: 100940								
Prep Date: 11/3/2023	Analysis Date: 11/4/2023	SeqNo: 3705013 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.5		5.000		111	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 Quantitative 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#: 2310D78

15-Nov-23

Client: HILCORP ENERGY
Project: Fed GC 1

Sample ID: MB-78541	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 78541	RunNo: 100940								
Prep Date: 11/2/2023	Analysis Date: 11/3/2023	SeqNo: 3705015	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	14		10.00		140	69	147			

Sample ID: MB-78561	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 78561	RunNo: 100940								
Prep Date: 11/3/2023	Analysis Date: 11/4/2023	SeqNo: 3705017	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.1		10.00		91.2	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 Quantitative 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#: 2310D78

15-Nov-23

Client: HILCORP ENERGY

Project: Fed GC 1

Sample ID: ics-78470	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 78470			RunNo: 100917						
Prep Date: 10/31/2023	Analysis Date: 11/2/2023			SeqNo: 3703685		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.6	70	130			
Surr: BFB	1900		1000		195	15	244			

Sample ID: mb-78470	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 78470			RunNo: 100917						
Prep Date: 10/31/2023	Analysis Date: 11/2/2023			SeqNo: 3703686		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	920		1000		91.8	15	244			

Sample ID: ics-78501	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 78501			RunNo: 100941						
Prep Date: 11/1/2023	Analysis Date: 11/3/2023			SeqNo: 3705069		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.0	70	130			
Surr: BFB	2300		1000		231	15	244			

Sample ID: mb-78501	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 78501			RunNo: 100941						
Prep Date: 11/1/2023	Analysis Date: 11/3/2023			SeqNo: 3705070		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	1000		1000		102	15	244			

Sample ID: 2310D78-045ams	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: FS36	Batch ID: 78501			RunNo: 100941						
Prep Date: 11/1/2023	Analysis Date: 11/3/2023			SeqNo: 3705072		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.81	0	93.4	70	130			
Surr: BFB	2100		952.4		225	15	244			

Sample ID: 2310D78-045amsd	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: FS36	Batch ID: 78501			RunNo: 100941						
Prep Date: 11/1/2023	Analysis Date: 11/3/2023			SeqNo: 3705073		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.81	0	93.4	70	130			
Surr: BFB	2100		952.4		225	15	244			

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 Quantitative 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#: 2310D78

15-Nov-23

Client: HILCORP ENERGY

Project: Fed GC 1

Sample ID: 2310D78-045amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: FS36	Batch ID: 78501	RunNo: 100941
Prep Date: 11/1/2023	Analysis Date: 11/3/2023	SeqNo: 3705073 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	22	4.8 23.76 0 94.6 70 130 1.09 20
Surr: BFB	2100	950.6 225 15 244 0 0

Sample ID: lcs-78477	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 78477	RunNo: 100955
Prep Date: 10/31/2023	Analysis Date: 11/5/2023	SeqNo: 3705315 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	25	5.0 25.00 0 99.5 70 130
Surr: BFB	2000	1000 205 15 244

Sample ID: mb-78477	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 78477	RunNo: 100955
Prep Date: 10/31/2023	Analysis Date: 11/5/2023	SeqNo: 3705316 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	ND	5.0
Surr: BFB	930	1000 93.5 15 244

Sample ID: 2310d78-005ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: FS05	Batch ID: 78477	RunNo: 100955
Prep Date: 10/31/2023	Analysis Date: 11/5/2023	SeqNo: 3705318 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	24	5.0 25.00 0 97.2 70 130
Surr: BFB	2100	1000 205 15 244

Sample ID: 2310d78-005amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range
Client ID: FS05	Batch ID: 78477	RunNo: 100955
Prep Date: 10/31/2023	Analysis Date: 11/5/2023	SeqNo: 3705319 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	22	5.0 24.78 0 90.2 70 130 8.37 20
Surr: BFB	2000	991.1 205 15 244 0 0

Sample ID: lcs-78482	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 78482	RunNo: 101035
Prep Date: 10/31/2023	Analysis Date: 11/8/2023	SeqNo: 3710556 Units: mg/Kg
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 Quantitative 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#: 2310D78

15-Nov-23

Client: HILCORP ENERGY

Project: Fed GC 1

Sample ID: ics-78482	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 78482	RunNo: 101035								
Prep Date: 10/31/2023	Analysis Date: 11/8/2023	SeqNo: 3710556		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	84.4	70	130			
Surr: BFB	2100		1000		210	15	244			

Sample ID: mb-78482	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 78482	RunNo: 101035								
Prep Date: 10/31/2023	Analysis Date: 11/8/2023	SeqNo: 3710557		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	1000		1000		102	15	244			

Sample ID: 2310D78-025ams	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: FS21	Batch ID: 78482	RunNo: 101035								
Prep Date: 10/31/2023	Analysis Date: 11/8/2023	SeqNo: 3710558		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.8	24.06	0	82.8	70	130			
Surr: BFB	2200		962.5		226	15	244			

Sample ID: 2310D78-025amsd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: FS21	Batch ID: 78482	RunNo: 101035								
Prep Date: 10/31/2023	Analysis Date: 11/8/2023	SeqNo: 3710559		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.8	24.11	0	80.6	70	130	2.40	20	
Surr: BFB	2100		964.3		219	15	244	0	0	

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 Quantitative 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#: 2310D78

15-Nov-23

Client: HILCORP ENERGY

Project: Fed GC 1

Sample ID: LCS-78470	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 78470		RunNo: 100917							
Prep Date: 10/31/2023	Analysis Date: 11/2/2023		SeqNo: 3703716		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	83.7	70	130			
Toluene	0.88	0.050	1.000	0	87.8	70	130			
Ethylbenzene	0.89	0.050	1.000	0	88.7	70	130			
Xylenes, Total	2.7	0.10	3.000	0	89.6	70	130			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	39.1	146			

Sample ID: mb-78470	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 78470		RunNo: 100917							
Prep Date: 10/31/2023	Analysis Date: 11/2/2023		SeqNo: 3703717		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		97.3	39.1	146			

Sample ID: lcs-78501	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 78501		RunNo: 100941							
Prep Date: 11/1/2023	Analysis Date: 11/3/2023		SeqNo: 3705026		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.71	0.025	1.000	0	70.6	70	130			
Toluene	0.73	0.050	1.000	0	73.5	70	130			
Ethylbenzene	0.77	0.050	1.000	0	76.9	70	130			
Xylenes, Total	2.3	0.10	3.000	0	76.5	70	130			
Surr: 4-Bromofluorobenzene	0.87		1.000		87.5	39.1	146			

Sample ID: mb-78501	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 78501		RunNo: 100941							
Prep Date: 11/1/2023	Analysis Date: 11/3/2023		SeqNo: 3705027		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	0.86		1.000		85.5	39.1	146			

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 Quantitative 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#: 2310D78

15-Nov-23

Client: HILCORP ENERGY

Project: Fed GC 1

Sample ID: 2310D78-046ams		SampType: MS		TestCode: EPA Method 8021B: Volatiles						
Client ID: FS37		Batch ID: 78501			RunNo: 100941					
Prep Date: 11/1/2023		Analysis Date: 11/3/2023			SeqNo: 3705030		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.72	0.025	0.9950	0	72.7	70	130			
Toluene	0.76	0.050	0.9950	0	76.2	70	130			
Ethylbenzene	0.78	0.050	0.9950	0	78.4	70	130			
Xylenes, Total	2.3	0.10	2.985	0	78.3	70	130			
Surr: 4-Bromofluorobenzene	0.88		0.9950		88.2	39.1	146			

Sample ID: 2310D78-046amsd		SampType: MSD		TestCode: EPA Method 8021B: Volatiles						
Client ID: FS37		Batch ID: 78501		RunNo: 100941						
Prep Date: 11/1/2023		Analysis Date: 11/3/2023		SeqNo: 3705031			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.78	0.025	0.9960	0	78.0	70	130	7.20	20	
Toluene	0.83	0.050	0.9960	0	83.0	70	130	8.67	20	
Ethylbenzene	0.86	0.050	0.9960	0	86.2	70	130	9.60	20	
Xylenes, Total	2.6	0.10	2.988	0	85.8	70	130	9.19	20	
Surr: 4-Bromofluorobenzene	0.93		0.9960		92.9	39.1	146	0	0	

Sample ID: LCS-78477		SampType: LCS		TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS		Batch ID: 78477		RunNo: 100955						
Prep Date: 10/31/2023		Analysis Date: 11/5/2023		SeqNo: 3705342		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.76	0.025	1.000	0	75.9	70	130			
Toluene	0.80	0.050	1.000	0	79.8	70	130			
Ethylbenzene	0.81	0.050	1.000	0	81.4	70	130			
Xylenes, Total	2.5	0.10	3.000	0	81.7	70	130			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.1	39.1	146			

Sample ID: mb-78477		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS		Batch ID: 78477		RunNo: 100955						
Prep Date: 10/31/2023		Analysis Date: 11/5/2023		SeqNo: 3705343		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		97.1	39.1	146			

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 Quantitative 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#: 2310D78

15-Nov-23

Client: HILCORP ENERGY

Project: Fed GC 1

Sample ID: 2310d78-006ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: FS06	Batch ID: 78477	RunNo: 100955								
Prep Date: 10/31/2023	Analysis Date: 11/5/2023	SeqNo: 3705346			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.023	0.9372	0	87.9	70	130			
Toluene	0.87	0.047	0.9372	0	92.4	70	130			
Ethylbenzene	0.88	0.047	0.9372	0.01030	93.2	70	130			
Xylenes, Total	2.7	0.094	2.812	0.01901	94.2	70	130			
Surr: 4-Bromofluorobenzene	0.92		0.9372		98.2	39.1	146			

Sample ID: 2310d78-006amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: FS06	Batch ID: 78477	RunNo: 100955								
Prep Date: 10/31/2023	Analysis Date: 11/5/2023	SeqNo: 3705347			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.023	0.9390	0	84.7	70	130	3.50	20	
Toluene	0.85	0.047	0.9390	0	90.9	70	130	1.48	20	
Ethylbenzene	0.88	0.047	0.9390	0.01030	92.7	70	130	0.355	20	
Xylenes, Total	2.6	0.094	2.817	0.01901	92.8	70	130	1.35	20	
Surr: 4-Bromofluorobenzene	0.93		0.9390		98.6	39.1	146	0	0	

Sample ID: mb-78482	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: 78482	RunNo: 101035								
Prep Date: 10/31/2023	Analysis Date: 11/8/2023	SeqNo: 3710549			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	0.88		1.000		87.8	39.1	146			

Sample ID: 2310D78-026ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: FS22	Batch ID: 78482	RunNo: 101035								
Prep Date: 10/31/2023	Analysis Date: 11/9/2023	SeqNo: 3711631			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.64	0.025	0.9823	0	64.7	70	130			S
Toluene	0.71	0.049	0.9823	0	71.8	70	130			
Ethylbenzene	0.74	0.049	0.9823	0	75.6	70	130			
Xylenes, Total	2.2	0.098	2.947	0	75.3	70	130			
Surr: 4-Bromofluorobenzene	0.85		0.9823		86.1	39.1	146			

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 Quantitative 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#: 2310D78

15-Nov-23

Client: HILCORP ENERGY

Project: Fed GC 1

Sample ID: 2310D78-026amsd		SampType: MSD			TestCode: EPA Method 8021B: Volatiles					
Client ID: FS22		Batch ID: 78482			RunNo: 101035					
Prep Date: 10/31/2023		Analysis Date: 11/9/2023			SeqNo: 3711632		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.67	0.025	0.9843	0	67.6	70	130	4.50	20	S
Toluene	0.74	0.049	0.9843	0	75.1	70	130	4.70	20	
Ethylbenzene	0.78	0.049	0.9843	0	79.2	70	130	4.83	20	
Xylenes, Total	2.3	0.098	2.953	0	78.5	70	130	4.38	20	
Surr: 4-Bromofluorobenzene	0.86		0.9843		87.4	39.1	146	0	0	

Sample ID: lcs-78482		SampType: LCS		TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS		Batch ID: 78482		RunNo: 101076						
Prep Date: 10/31/2023		Analysis Date: 11/9/2023		SeqNo: 3711641			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.71	0.025	1.000	0	70.9	70	130			
Toluene	0.73	0.050	1.000	0	73.4	70	130			
Ethylbenzene	0.76	0.050	1.000	0	76.1	70	130			
Xylenes, Total	2.3	0.10	3.000	0	75.5	70	130			
Surr: 4-Bromofluorobenzene	0.89		1.000		88.8	39.1	146			

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 Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		



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

Sample Log-In Check List

Client Name: HILCORP ENERGY

Work Order Number: 2310D78

RcptNo: 1

Received By: Tracy Casarrubias 10/31/2023 7:30:00 AM

Completed By: Tracy Casarrubias 10/31/2023 7:56:28 AM

Reviewed By: SCM 10/31/23

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 $>0^{\circ}\text{C}$ 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: TM 10/31/23

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 10/31/23

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.7	Good	Yes	Morty		

Chain-of-Custody Record

Client: Hilcorp

Mailing Address: Kate Kaufman

Phone #: _____

email or Fax#: Kkaufman@hilcorp.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

Fed GC #1

Project #:

Project Manager:

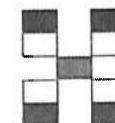
Stuart Hyde - ENSOLUMSampler: E. CarrollOn Ice: ☒ Yes ☐ No morty# of Coolers: 1Cooler Temp (Including CF): 2.7 - 0 = 2.7 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
10-27	1010	Soil	FS21	1422	COOL	025
	1015		FS22			026
	1030		FS23			027
	1025		FS24			028
	1030		FS25			029
	1035		FS26			030
	1040		SW05			031
	1432		SW06			032
	1430		SW07			033
	1438		SW08			034
	1440		FS18			035
	1442		FS27			036

Received by: _____ Via: _____ Date _____ Time _____

Christ Walker 10/30/23 1212

Received by: _____ Via: _____ Date _____ Time _____

Christ Walker 10/30/23 1750

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTX/TMBE/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)										
X	X																		

Remarks:

cc: ecarroll@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.



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

March 11, 2024

Mitch Killough

HILCORP ENERGY

PO Box 4700

Farmington, NM 87499

TEL: (505) 564-0733

FAX

RE: Federal GC 1

OrderNo.: 2402C73

Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 6 sample(s) on 2/27/2024 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", with a stylized flourish at the end.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **2402C73**

Date Reported: **3/11/2024**

CLIENT: HILCORP ENERGY

Client Sample ID: SS01

Project: Federal GC 1

Collection Date: 2/26/2024 11:00:00 AM

Lab ID: 2402C73-001

Matrix: SOIL

Received Date: 2/27/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JKU
Diesel Range Organics (DRO)	140	9.4		mg/Kg	1	3/1/2024 1:26:20 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/1/2024 1:26:20 PM
Surr: DNOP	93.8	61.2-134		%Rec	1	3/1/2024 1:26:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	23	4.9		mg/Kg	1	3/4/2024 7:11:46 PM
Surr: BFB	366	15-244	S	%Rec	1	3/4/2024 7:11:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	3/4/2024 7:11:46 PM
Toluene	ND	0.049		mg/Kg	1	3/4/2024 7:11:46 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/4/2024 7:11:46 PM
Xylenes, Total	ND	0.099		mg/Kg	1	3/4/2024 7:11:46 PM
Surr: 4-Bromofluorobenzene	108	39.1-146		%Rec	1	3/4/2024 7:11:46 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **2402C73**

Date Reported: **3/11/2024**

CLIENT: HILCORP ENERGY

Client Sample ID: SS04

Project: Federal GC 1

Collection Date: 2/26/2024 11:30:00 AM

Lab ID: 2402C73-002

Matrix: SOIL

Received Date: 2/27/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JKU
Diesel Range Organics (DRO)	400	9.2		mg/Kg	1	3/1/2024 2:38:31 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/1/2024 2:38:31 PM
Surr: DNOP	94.0	61.2-134		%Rec	1	3/1/2024 2:38:31 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	170	5.0		mg/Kg	1	3/4/2024 7:35:32 PM
Surr: BFB	1900	15-244	S	%Rec	1	3/4/2024 7:35:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.025		mg/Kg	1	3/4/2024 7:35:32 PM
Toluene	ND	0.050		mg/Kg	1	3/4/2024 7:35:32 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/4/2024 7:35:32 PM
Xylenes, Total	2.0	0.099		mg/Kg	1	3/4/2024 7:35:32 PM
Surr: 4-Bromofluorobenzene	217	39.1-146	S	%Rec	1	3/4/2024 7:35:32 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **2402C73**

Date Reported: **3/11/2024**

CLIENT: HILCORP ENERGY

Client Sample ID: SS07

Project: Federal GC 1

Collection Date: 2/26/2024 12:00:00 PM

Lab ID: 2402C73-003

Matrix: SOIL

Received Date: 2/27/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JKU
Diesel Range Organics (DRO)	10	9.4		mg/Kg	1	3/1/2024 3:02:34 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/1/2024 3:02:34 PM
Surr: DNOP	95.5	61.2-134		%Rec	1	3/1/2024 3:02:34 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/4/2024 10:21:57 PM
Surr: BFB	118	15-244		%Rec	1	3/4/2024 10:21:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	3/4/2024 10:21:57 PM
Toluene	ND	0.049		mg/Kg	1	3/4/2024 10:21:57 PM
Ethylbenzene	ND	0.049		mg/Kg	1	3/4/2024 10:21:57 PM
Xylenes, Total	0.098	0.098		mg/Kg	1	3/4/2024 10:21:57 PM
Surr: 4-Bromofluorobenzene	103	39.1-146		%Rec	1	3/4/2024 10:21:57 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **2402C73**

Date Reported: **3/11/2024**

CLIENT: HILCORP ENERGY

Client Sample ID: SS09

Project: Federal GC 1

Collection Date: 2/26/2024 12:20:00 PM

Lab ID: 2402C73-004

Matrix: SOIL

Received Date: 2/27/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JKU
Diesel Range Organics (DRO)	270	9.3		mg/Kg	1	3/1/2024 3:26:42 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/1/2024 3:26:42 PM
Surr: DNOP	96.6	61.2-134		%Rec	1	3/1/2024 3:26:42 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	97	25		mg/Kg	5	3/4/2024 10:45:41 PM
Surr: BFB	281	15-244	S	%Rec	5	3/4/2024 10:45:41 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.12		mg/Kg	5	3/4/2024 10:45:41 PM
Toluene	ND	0.25		mg/Kg	5	3/4/2024 10:45:41 PM
Ethylbenzene	ND	0.25		mg/Kg	5	3/4/2024 10:45:41 PM
Xylenes, Total	0.98	0.50		mg/Kg	5	3/4/2024 10:45:41 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	5	3/4/2024 10:45:41 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **2402C73**

Date Reported: **3/11/2024**

CLIENT: HILCORP ENERGY

Client Sample ID: SS11

Project: Federal GC 1

Collection Date: 2/26/2024 1:30:00 PM

Lab ID: 2402C73-005

Matrix: SOIL

Received Date: 2/27/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JKU
Diesel Range Organics (DRO)	280	9.3		mg/Kg	1	3/1/2024 3:50:48 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/1/2024 3:50:48 PM
Surr: DNOP	101	61.2-134		%Rec	1	3/1/2024 3:50:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	35	4.9		mg/Kg	1	3/5/2024 3:47:33 PM
Surr: BFB	448	15-244	S	%Rec	1	3/5/2024 3:47:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.024		mg/Kg	1	3/5/2024 3:47:33 PM
Toluene	ND	0.049		mg/Kg	1	3/5/2024 3:47:33 PM
Ethylbenzene	0.061	0.049		mg/Kg	1	3/5/2024 3:47:33 PM
Xylenes, Total	ND	0.097		mg/Kg	1	3/5/2024 3:47:33 PM
Surr: 4-Bromofluorobenzene	101	39.1-146		%Rec	1	3/5/2024 3:47:33 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **2402C73**

Date Reported: **3/11/2024**

CLIENT: HILCORP ENERGY

Client Sample ID: SS12

Project: Federal GC 1

Collection Date: 2/26/2024 2:00:00 PM

Lab ID: 2402C73-006

Matrix: SOIL

Received Date: 2/27/2024 6:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: JKU
Diesel Range Organics (DRO)	28	9.1		mg/Kg	1	2/28/2024 8:54:06 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	2/28/2024 8:54:06 PM
Surr: DNOP	91.7	61.2-134		%Rec	1	2/28/2024 8:54:06 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: imr
Gasoline Range Organics (GRO)	6.3	4.9		mg/Kg	1	2/29/2024 10:40:00 PM
Surr: BFB	135	15-244		%Rec	1	2/29/2024 10:40:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: imr
Benzene	ND	0.025		mg/Kg	1	2/29/2024 10:40:00 PM
Toluene	ND	0.049		mg/Kg	1	2/29/2024 10:40:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	2/29/2024 10:40:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	2/29/2024 10:40:00 PM
Surr: 4-Bromofluorobenzene	104	39.1-146		%Rec	1	2/29/2024 10:40:00 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 Quantitative 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#: 2402C73

11-Mar-24

Client: HILCORP ENERGY

Project: Federal GC 1

Sample ID: MB-80669	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 80669	RunNo: 103382								
Prep Date: 2/27/2024	Analysis Date: 2/28/2024	SeqNo: 3824791		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		94.3	61.2	134			

Sample ID: LCS-80669	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 80669	RunNo: 103382								
Prep Date: 2/27/2024	Analysis Date: 2/28/2024	SeqNo: 3824792		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	83.5	59.7	135			
Surr: DNOP	4.8		5.000		96.8	61.2	134			

Sample ID: 2402C73-006AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS12	Batch ID: 80669	RunNo: 103382								
Prep Date: 2/27/2024	Analysis Date: 2/28/2024	SeqNo: 3824814		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	66	9.3	46.25	27.67	83.4	43.7	136			
Surr: DNOP	4.3		4.625		92.4	61.2	134			

Sample ID: 2402C73-006AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: SS12	Batch ID: 80669	RunNo: 103382								
Prep Date: 2/27/2024	Analysis Date: 2/28/2024	SeqNo: 3824815		Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	73	9.0	44.80	27.67	102	43.7	136	10.4	31.3	
Surr: DNOP	4.2		4.480		94.7	61.2	134	0	0	

Sample ID: MB-80688	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 80688	RunNo: 103382								
Prep Date: 2/28/2024	Analysis Date: 2/28/2024	SeqNo: 3824817		Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.5		10.00		95.2	61.2	134			

Sample ID: LCS-80688	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 80688	RunNo: 103382								
Prep Date: 2/28/2024	Analysis Date: 2/28/2024	SeqNo: 3824818		Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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 Quantitative 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#: 2402C73

11-Mar-24

Client: HILCORP ENERGY

Project: Federal GC 1

Sample ID: LCS-80688	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 80688		RunNo: 103382							
Prep Date: 2/28/2024	Analysis Date: 2/28/2024		SeqNo: 3824818		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.2	61.2	134			

Sample ID: MB-80723	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 80723		RunNo: 103440							
Prep Date: 2/29/2024	Analysis Date: 3/1/2024		SeqNo: 3827432		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		96.9	61.2	134			

Sample ID: LCS-80723	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 80723		RunNo: 103440							
Prep Date: 2/29/2024	Analysis Date: 3/1/2024		SeqNo: 3827433		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	103	59.7	135			
Surr: DNOP	4.8		5.000		96.1	61.2	134			

Sample ID: 2402C73-001AMS	SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: SS01	Batch ID: 80723		RunNo: 103440							
Prep Date: 2/29/2024	Analysis Date: 3/1/2024		SeqNo: 3829436		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	210	9.2	45.83	144.4	139	43.7	136			S
Surr: DNOP	4.4		4.583		96.1	61.2	134			

Sample ID: 2402C73-001AMSD	SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: SS01	Batch ID: 80723		RunNo: 103440							
Prep Date: 2/29/2024	Analysis Date: 3/1/2024		SeqNo: 3829437		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	210	9.4	46.86	144.4	133	43.7	136	0.535	31.3	
Surr: DNOP	4.5		4.686		96.3	61.2	134	0	0	

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 Quantitative 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#: 2402C73

11-Mar-24

Client: HILCORP ENERGY

Project: Federal GC 1

Sample ID: lcs-80651	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 80651			RunNo: 103441						
Prep Date: 2/27/2024	Analysis Date: 2/29/2024			SeqNo: 3827447		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.9	70	130			
Surr: BFB	2100		1000		213	15	244			

Sample ID: mb-80651	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 80651			RunNo: 103441						
Prep Date: 2/27/2024	Analysis Date: 2/29/2024			SeqNo: 3827493		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		99.0	15	244			

Sample ID: 2.5ug gro lcs	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: GS103486			RunNo: 103486						
Prep Date:	Analysis Date: 3/4/2024			SeqNo: 3829762		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2300		1000		225	15	244			

Sample ID: mb	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: GS103486			RunNo: 103486						
Prep Date:	Analysis Date: 3/4/2024			SeqNo: 3829763		Units: %Rec				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		107	15	244			

Sample ID: lcs-80659	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 80659			RunNo: 103486						
Prep Date: 2/27/2024	Analysis Date: 3/4/2024			SeqNo: 3830177		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	2300		1000		226	15	244			

Sample ID: mb-80659	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 80659			RunNo: 103486						
Prep Date: 2/27/2024	Analysis Date: 3/4/2024			SeqNo: 3830178		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		110	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 Quantitative 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#: 2402C73

11-Mar-24

Client: HILCORP ENERGY

Project: Federal GC 1

Sample ID: 2402c73-001ams	SampType: MS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SS01	Batch ID: 80659			RunNo: 103486						
Prep Date: 2/27/2024	Analysis Date: 3/5/2024			SeqNo: 3830465	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	42	5.0	24.95	22.64	78.7	70	130			
Surr: BFB	4200		998.0		416	15	244			S

Sample ID: lcs-80774	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 80774			RunNo: 103517						
Prep Date: 3/4/2024	Analysis Date: 3/5/2024			SeqNo: 3831419	Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2200		1000		217	15	244			

Sample ID: mb-80774	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 80774			RunNo: 103517						
Prep Date: 3/4/2024	Analysis Date: 3/5/2024			SeqNo: 3831421	Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	15	244			

Sample ID: 2402c73-001amsd	SampType: MSD			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SS01	Batch ID: 80659			RunNo: 103517						
Prep Date: 2/27/2024	Analysis Date: 3/5/2024			SeqNo: 3831427	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	44	4.9	24.53	22.64	87.2	70	130	4.12	20	
Surr: BFB	4500		981.4		454	15	244	0	0	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 Quantitative 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#: 2402C73

11-Mar-24

Client: HILCORP ENERGY

Project: Federal GC 1

Sample ID: lcs-80651	SampType: LCS			TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 80651			RunNo: 103441							
Prep Date: 2/27/2024	Analysis Date: 2/29/2024			SeqNo: 3827446				Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.89	0.025	1.000	0	88.7	70	130				
Toluene	0.90	0.050	1.000	0	89.5	70	130				
Ethylbenzene	0.92	0.050	1.000	0	91.6	70	130				
Xylenes, Total	2.8	0.10	3.000	0	92.3	70	130				
Surr: 4-Bromofluorobenzene	0.99		1.000		98.7	39.1	146				

Sample ID: mb-80651	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 80651			RunNo: 103441							
Prep Date: 2/27/2024	Analysis Date: 2/29/2024			SeqNo: 3827492				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	0.96		1.000		95.6	39.1	146				

Sample ID: LCS-80659	SampType: LCS			TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 80659			RunNo: 103486							
Prep Date: 2/27/2024	Analysis Date: 3/4/2024			SeqNo: 3830473				Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.88	0.025	1.000	0	88.2	70	130				
Toluene	0.90	0.050	1.000	0	90.0	70	130				
Ethylbenzene	0.93	0.050	1.000	0	92.8	70	130				
Xylenes, Total	2.8	0.10	3.000	0	93.2	70	130				
Surr: 4-Bromofluorobenzene	1.1		1.000		106	39.1	146				

Sample ID: mb-80659	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 80659			RunNo: 103486							
Prep Date: 2/27/2024	Analysis Date: 3/4/2024			SeqNo: 3830474				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	1.0		1.000		105	39.1	146				

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 Quantitative 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#: 2402C73

11-Mar-24

Client: HILCORP ENERGY

Project: Federal GC 1

Sample ID: 2402c73-002ams		SampType: MS		TestCode: EPA Method 8021B: Volatiles						
Client ID: SS04		Batch ID: 80659		RunNo: 103486						
Prep Date: 2/27/2024		Analysis Date: 3/5/2024		SeqNo: 3830487			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.025	0.9814	0	82.3	70	130			
Toluene	0.83	0.049	0.9814	0.07267	77.1	70	130			
Ethylbenzene	0.94	0.049	0.9814	0	95.8	70	130			
Xylenes, Total	4.2	0.098	2.944	1.956	77.3	70	130			
Surr: 4-Bromofluorobenzene	1.9		0.9814		189	39.1	146			S

Sample ID: LCS-80774		SampType: LCS		TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS		Batch ID: 80774		RunNo: 103517						
Prep Date: 3/4/2024		Analysis Date: 3/5/2024		SeqNo: 3831458			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.97		1.000		97.0	39.1	146			

Sample ID: mb-80774		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS		Batch ID: 80774		RunNo: 103517						
Prep Date: 3/4/2024		Analysis Date: 3/5/2024		SeqNo: 3831460			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.98		1.000		98.1	39.1	146			

Sample ID: 2402c73-002amsd		SampType: MSD		TestCode: EPA Method 8021B: Volatiles						
Client ID: SS04		Batch ID: 80659		RunNo: 103517						
Prep Date: 2/27/2024		Analysis Date: 3/5/2024		SeqNo: 3831494		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.025	0.9804	0	83.1	70	130	0.966	20	
Toluene	0.85	0.049	0.9804	0	86.8	70	130	2.61	20	
Ethylbenzene	0.98	0.049	0.9804	0	99.5	70	130	3.73	20	
Xylenes, Total	4.1	0.098	2.941	1.956	74.5	70	130	2.00	20	
Surr: 4-Bromofluorobenzene	2.0		0.9804		199	39.1	146	0	0	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 Quantitative 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



Environment Testin

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: 2402C73

RcptNo: 1

Received By: Tracy Casarrubias

2/27/2024 6:35:00 AM

Completed By: Tracy Casarrubias

2/27/2024 8:08:32 AM

Reviewed By:

2/27/24

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 $>0^{\circ}\text{C}$ 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:

2/27/24

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 is missing on COC- TMC 2/27/24

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.3	Good	Yes	Morty		



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

Federal GC #1

JOB NUMBER

885-4922-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

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



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Authorized for release by
Andy Freeman, Business Unit Manager
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(505)345-3975

Client: Hilcorp Energy
Project/Site: Federal GC #1

Laboratory Job ID: 885-4922-1

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Definitions/Glossary

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

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.
α	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: Federal GC #1

Job ID: 885-4922-1

Job ID: 885-4922-1**Eurofins Albuquerque****Job Narrative
885-4922-1**

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 5/22/2024 6:45 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 4.4°C.

Gasoline Range Organics

Method 8015D_GRO: Internal standard responses were outside of acceptance limits for the following sample: SS07A (885-4922-4). The sample(s) shows evidence of matrix interference.

Method 8015D_GRO: Internal standard responses were outside of acceptance limits for the following sample: SS08A (885-4922-5). The sample(s) shows evidence of matrix interference.

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

Method 8015D_DRO: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 885-5576 and analytical batch 885-5629 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

Eurofins Albuquerque

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

Client Sample ID: SS03A

Lab Sample ID: 885-4922-1

Date Collected: 05/21/24 13:50

Matrix: Solid

Date Received: 05/22/24 06:45

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		05/22/24 08:45	05/28/24 23:45	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	118		35 - 166			05/22/24 08:45	05/28/24 23:45	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		05/22/24 08:45	05/28/24 23:45	1	
Ethylbenzene	ND		0.047	mg/Kg		05/22/24 08:45	05/28/24 23:45	1	
Toluene	ND		0.047	mg/Kg		05/22/24 08:45	05/28/24 23:45	1	
Xylenes, Total	ND		0.095	mg/Kg		05/22/24 08:45	05/28/24 23:45	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		48 - 145			05/22/24 08:45	05/28/24 23:45	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		05/23/24 14:41	05/24/24 13:23	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		05/23/24 14:41	05/24/24 13:23	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	100		62 - 134			05/23/24 14:41	05/24/24 13:23	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

Client Sample ID: SS05A
Date Collected: 05/21/24 13:52
Date Received: 05/22/24 06:45

Lab Sample ID: 885-4922-2
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]	18		5.0	mg/Kg		05/22/24 08:45	05/29/24 00:09	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	319	S1+	35 - 166			05/22/24 08:45	05/29/24 00:09	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		05/22/24 08:45	05/29/24 00:09	1	
Ethylbenzene	ND		0.050	mg/Kg		05/22/24 08:45	05/29/24 00:09	1	
Toluene	ND		0.050	mg/Kg		05/22/24 08:45	05/29/24 00:09	1	
Xylenes, Total	ND		0.10	mg/Kg		05/22/24 08:45	05/29/24 00:09	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	96		48 - 145			05/22/24 08:45	05/29/24 00:09	1	

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	72		9.8	mg/Kg		05/23/24 14:41	05/24/24 13:34	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		05/23/24 14:41	05/24/24 13:34	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	92		62 - 134			05/23/24 14:41	05/24/24 13:34	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

Client Sample ID: SS06A
Date Collected: 05/21/24 13:54
Date Received: 05/22/24 06:45

Lab Sample ID: 885-4922-3
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		4.8	mg/Kg		05/22/24 08:45	05/29/24 00:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	106		35 - 166			05/22/24 08:45	05/29/24 00:32	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		05/22/24 08:45	05/29/24 00:32	1	
Ethylbenzene	ND		0.048	mg/Kg		05/22/24 08:45	05/29/24 00:32	1	
Toluene	ND		0.048	mg/Kg		05/22/24 08:45	05/29/24 00:32	1	
Xylenes, Total	ND		0.096	mg/Kg		05/22/24 08:45	05/29/24 00:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	91		48 - 145			05/22/24 08:45	05/29/24 00:32	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		05/23/24 14:41	05/24/24 13:44	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		05/23/24 14:41	05/24/24 13:44	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	93		62 - 134			05/23/24 14:41	05/24/24 13:44	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

Client Sample ID: SS07A
Date Collected: 05/21/24 13:56
Date Received: 05/22/24 06:45

Lab Sample ID: 885-4922-4
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]	83		4.8	mg/Kg		05/22/24 08:45	05/29/24 00:56	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	959	S1+	35 - 166			05/22/24 08:45	05/29/24 00:56	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		05/22/24 08:45	05/29/24 00:56	1	
Ethylbenzene	0.071		0.048	mg/Kg		05/22/24 08:45	05/29/24 00:56	1	
Toluene	ND		0.048	mg/Kg		05/22/24 08:45	05/29/24 00:56	1	
Xylenes, Total	0.16		0.095	mg/Kg		05/22/24 08:45	05/29/24 00:56	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	106		48 - 145			05/22/24 08:45	05/29/24 00:56	1	

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	240		9.3	mg/Kg		05/23/24 14:41	05/24/24 13:55	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		05/23/24 14:41	05/24/24 13:55	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	112		62 - 134			05/23/24 14:41	05/24/24 13:55	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

Client Sample ID: SS08A
Date Collected: 05/21/24 13:58
Date Received: 05/22/24 06:45

Lab Sample ID: 885-4922-5
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]	9.7		4.6	mg/Kg		05/22/24 08:45	05/29/24 13:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	216	S1+	35 - 166			05/22/24 08:45	05/29/24 13:32	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.023	mg/Kg		05/22/24 08:45	05/29/24 01:19	1	
Ethylbenzene	ND		0.046	mg/Kg		05/22/24 08:45	05/29/24 01:19	1	
Toluene	ND		0.046	mg/Kg		05/22/24 08:45	05/29/24 01:19	1	
Xylenes, Total	ND		0.093	mg/Kg		05/22/24 08:45	05/29/24 01:19	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	92		48 - 145			05/22/24 08:45	05/29/24 01:19	1	

Method: SW846 8015D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	52		8.9	mg/Kg		05/23/24 14:41	05/24/24 14:06	1	
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		05/23/24 14:41	05/24/24 14:06	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	94		62 - 134			05/23/24 14:41	05/24/24 14:06	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

Client Sample ID: SS11A

Lab Sample ID: 885-4922-6

Date Collected: 05/21/24 14:00

Matrix: Solid

Date Received: 05/22/24 06:45

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		05/22/24 08:45	05/29/24 01:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		35 - 166			05/22/24 08:45	05/29/24 01:42	1
Method: SW846 8021B - Volatile Organic Compounds (GC)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023	mg/Kg		05/22/24 08:45	05/29/24 01:42	1
Ethylbenzene	ND		0.047	mg/Kg		05/22/24 08:45	05/29/24 01:42	1
Toluene	ND		0.047	mg/Kg		05/22/24 08:45	05/29/24 01:42	1
Xylenes, Total	ND		0.093	mg/Kg		05/22/24 08:45	05/29/24 01:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		48 - 145			05/22/24 08:45	05/29/24 01:42	1
Method: SW846 8015D - Diesel Range Organics (DRO) (GC)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	9.9		9.5	mg/Kg		05/23/24 14:41	05/24/24 14:17	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		05/23/24 14:41	05/24/24 14:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	95		62 - 134			05/23/24 14:41	05/24/24 14:17	1

QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

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

Lab Sample ID: MB 885-5422/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5727						Prep Batch: 5422			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		05/22/24 08:45	05/28/24 18:18	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			05/22/24 08:45	05/28/24 18:18	1	

Lab Sample ID: LCS 885-5422/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5727						Prep Batch: 5422			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]			25.0	25.2		mg/Kg		101	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	206	S1+	35 - 166						

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-5422/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5728						Prep Batch: 5422			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		05/22/24 08:45	05/28/24 18:18	1	
Ethylbenzene	ND		0.050	mg/Kg		05/22/24 08:45	05/28/24 18:18	1	
Toluene	ND		0.050	mg/Kg		05/22/24 08:45	05/28/24 18:18	1	
Xylenes, Total	ND		0.10	mg/Kg		05/22/24 08:45	05/28/24 18:18	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	88		48 - 145			05/22/24 08:45	05/28/24 18:18	1	

Lab Sample ID: LCS 885-5422/3-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5728						Prep Batch: 5422			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene			1.00	0.888		mg/Kg		89	70 - 130
Ethylbenzene			1.00	0.844		mg/Kg		84	70 - 130
m&p-Xylene			2.00	1.71		mg/Kg		86	70 - 130
o-Xylene			1.00	0.830		mg/Kg		83	70 - 130
Toluene			1.00	0.844		mg/Kg		84	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	92		48 - 145						

QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

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

Lab Sample ID: MB 885-5576/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5629						Prep Batch: 5576			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		05/23/24 14:41	05/24/24 11:05	1	
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		05/23/24 14:41	05/24/24 11:05	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	102		62 - 134			05/23/24 14:41	05/24/24 11:05	1	

Lab Sample ID: LCS 885-5576/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 5629						Prep Batch: 5576			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]			50.0	56.1		mg/Kg		112	60 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	109		62 - 134						

QC Association Summary

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

GC VOA

Prep Batch: 5422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4922-1	SS03A	Total/NA	Solid	5030C	
885-4922-2	SS05A	Total/NA	Solid	5030C	
885-4922-3	SS06A	Total/NA	Solid	5030C	
885-4922-4	SS07A	Total/NA	Solid	5030C	
885-4922-5	SS08A	Total/NA	Solid	5030C	
885-4922-6	SS11A	Total/NA	Solid	5030C	
MB 885-5422/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-5422/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-5422/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 5727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4922-1	SS03A	Total/NA	Solid	8015D	5422
885-4922-2	SS05A	Total/NA	Solid	8015D	5422
885-4922-3	SS06A	Total/NA	Solid	8015D	5422
885-4922-4	SS07A	Total/NA	Solid	8015D	5422
885-4922-6	SS11A	Total/NA	Solid	8015D	5422
MB 885-5422/1-A	Method Blank	Total/NA	Solid	8015D	5422
LCS 885-5422/2-A	Lab Control Sample	Total/NA	Solid	8015D	5422

Analysis Batch: 5728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4922-1	SS03A	Total/NA	Solid	8021B	5422
885-4922-2	SS05A	Total/NA	Solid	8021B	5422
885-4922-3	SS06A	Total/NA	Solid	8021B	5422
885-4922-4	SS07A	Total/NA	Solid	8021B	5422
885-4922-5	SS08A	Total/NA	Solid	8021B	5422
885-4922-6	SS11A	Total/NA	Solid	8021B	5422
MB 885-5422/1-A	Method Blank	Total/NA	Solid	8021B	5422
LCS 885-5422/3-A	Lab Control Sample	Total/NA	Solid	8021B	5422

Analysis Batch: 5860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4922-5	SS08A	Total/NA	Solid	8015D	5422

GC Semi VOA

Prep Batch: 5576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4922-1	SS03A	Total/NA	Solid	SHAKE	
885-4922-2	SS05A	Total/NA	Solid	SHAKE	
885-4922-3	SS06A	Total/NA	Solid	SHAKE	
885-4922-4	SS07A	Total/NA	Solid	SHAKE	
885-4922-5	SS08A	Total/NA	Solid	SHAKE	
885-4922-6	SS11A	Total/NA	Solid	SHAKE	
MB 885-5576/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-5576/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 5629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4922-1	SS03A	Total/NA	Solid	8015D	5576

Eurofins Albuquerque

QC Association Summary

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

GC Semi VOA (Continued)

Analysis Batch: 5629 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-4922-2	SS05A	Total/NA	Solid	8015D	5576
885-4922-3	SS06A	Total/NA	Solid	8015D	5576
885-4922-4	SS07A	Total/NA	Solid	8015D	5576
885-4922-5	SS08A	Total/NA	Solid	8015D	5576
885-4922-6	SS11A	Total/NA	Solid	8015D	5576
MB 885-5576/1-A	Method Blank	Total/NA	Solid	8015D	5576
LCS 885-5576/2-A	Lab Control Sample	Total/NA	Solid	8015D	5576

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

Client Sample ID: SS03A

Date Collected: 05/21/24 13:50

Date Received: 05/22/24 06:45

Lab Sample ID: 885-4922-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8015D		1	5727	JP	EET ALB	05/28/24 23:45
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8021B		1	5728	JP	EET ALB	05/28/24 23:45
Total/NA	Prep	SHAKE			5576	DH	EET ALB	05/23/24 14:41
Total/NA	Analysis	8015D		1	5629	JU	EET ALB	05/24/24 13:23

Client Sample ID: SS05A

Date Collected: 05/21/24 13:52

Date Received: 05/22/24 06:45

Lab Sample ID: 885-4922-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8015D		1	5727	JP	EET ALB	05/29/24 00:09
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8021B		1	5728	JP	EET ALB	05/29/24 00:09
Total/NA	Prep	SHAKE			5576	DH	EET ALB	05/23/24 14:41
Total/NA	Analysis	8015D		1	5629	JU	EET ALB	05/24/24 13:34

Client Sample ID: SS06A

Date Collected: 05/21/24 13:54

Date Received: 05/22/24 06:45

Lab Sample ID: 885-4922-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8015D		1	5727	JP	EET ALB	05/29/24 00:32
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8021B		1	5728	JP	EET ALB	05/29/24 00:32
Total/NA	Prep	SHAKE			5576	DH	EET ALB	05/23/24 14:41
Total/NA	Analysis	8015D		1	5629	JU	EET ALB	05/24/24 13:44

Client Sample ID: SS07A

Date Collected: 05/21/24 13:56

Date Received: 05/22/24 06:45

Lab Sample ID: 885-4922-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8015D		1	5727	JP	EET ALB	05/29/24 00:56
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8021B		1	5728	JP	EET ALB	05/29/24 00:56
Total/NA	Prep	SHAKE			5576	DH	EET ALB	05/23/24 14:41
Total/NA	Analysis	8015D		1	5629	JU	EET ALB	05/24/24 13:55

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Lab Chronicle

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

Client Sample ID: SS08A
Date Collected: 05/21/24 13:58
Date Received: 05/22/24 06:45

Lab Sample ID: 885-4922-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8015D		1	5860	JP	EET ALB	05/29/24 13:32
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8021B		1	5728	JP	EET ALB	05/29/24 01:19
Total/NA	Prep	SHAKE			5576	DH	EET ALB	05/23/24 14:41
Total/NA	Analysis	8015D		1	5629	JU	EET ALB	05/24/24 14:06

Client Sample ID: SS11A
Date Collected: 05/21/24 14:00
Date Received: 05/22/24 06:45

Lab Sample ID: 885-4922-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8015D		1	5727	JP	EET ALB	05/29/24 01:42
Total/NA	Prep	5030C			5422	AT	EET ALB	05/22/24 08:45
Total/NA	Analysis	8021B		1	5728	JP	EET ALB	05/29/24 01:42
Total/NA	Prep	SHAKE			5576	DH	EET ALB	05/23/24 14:41
Total/NA	Analysis	8015D		1	5629	JU	EET ALB	05/24/24 14:17

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

Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: Federal GC #1

Job ID: 885-4922-1

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
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

Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-4922-1

Login Number: 4922

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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

Federal GC1

JOB NUMBER

885-7154-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

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



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Authorized for release by
Michelle Garcia, Project Manager
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(505)345-3975

Client: Hilcorp Energy
Project/Site: Federal GC1

Laboratory Job ID: 885-7154-1

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Definitions/Glossary

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

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.
α	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: Federal GC1

Job ID: 885-7154-1

Job ID: 885-7154-1Eurofins Albuquerque

Job Narrative
885-7154-1

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 6/29/2024 6:15 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 3.8°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.

Eurofins Albuquerque

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP01

Lab Sample ID: 885-7154-1

Date Collected: 06/28/24 12:00

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 10:15	07/02/24 18:05		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	111		35 - 166			07/01/24 10:15	07/02/24 18:05		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 18:05		1
Ethylbenzene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 18:05		1
Toluene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 18:05		1
Xylenes, Total	ND		0.098	mg/Kg		07/01/24 10:15	07/02/24 18:05		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	96		48 - 145			07/01/24 10:15	07/02/24 18:05		1
Method: SW846 8015M/D - 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		07/01/24 14:34	07/01/24 20:39		1
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		07/01/24 14:34	07/01/24 20:39		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	110		62 - 134			07/01/24 14:34	07/01/24 20:39		1

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP02

Lab Sample ID: 885-7154-2

Date Collected: 06/28/24 12:05

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 10:15	07/02/24 18:27		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	118		35 - 166			07/01/24 10:15	07/02/24 18:27		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 18:27		1
Ethylbenzene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 18:27		1
Toluene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 18:27		1
Xylenes, Total	ND		0.10	mg/Kg		07/01/24 10:15	07/02/24 18:27		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	97		48 - 145			07/01/24 10:15	07/02/24 18:27		1
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		07/01/24 14:34	07/01/24 20:52		1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		07/01/24 14:34	07/01/24 20:52		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	96		62 - 134			07/01/24 14:34	07/01/24 20:52		1

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP03
Date Collected: 06/28/24 12:10
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-3
Matrix: Solid

Method: SW846 8015M/D - 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		07/01/24 10:15	07/02/24 19:11	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	138		35 - 166			07/01/24 10:15	07/02/24 19:11	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 19:11	1	
Ethylbenzene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 19:11	1	
Toluene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 19:11	1	
Xylenes, Total	ND		0.10	mg/Kg		07/01/24 10:15	07/02/24 19:11	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	98		48 - 145			07/01/24 10:15	07/02/24 19:11	1	
Method: SW846 8015M/D - 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		07/01/24 14:34	07/01/24 21:19	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		07/01/24 14:34	07/01/24 21:19	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	93		62 - 134			07/01/24 14:34	07/01/24 21:19	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP04

Lab Sample ID: 885-7154-4

Date Collected: 06/28/24 12:15

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	5.2		4.8	mg/Kg		07/01/24 10:15	07/02/24 19:33	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	142		35 - 166			07/01/24 10:15	07/02/24 19:33	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		07/01/24 10:15	07/02/24 19:33	1	
Ethylbenzene	ND		0.048	mg/Kg		07/01/24 10:15	07/02/24 19:33	1	
Toluene	ND		0.048	mg/Kg		07/01/24 10:15	07/02/24 19:33	1	
Xylenes, Total	ND		0.095	mg/Kg		07/01/24 10:15	07/02/24 19:33	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		48 - 145			07/01/24 10:15	07/02/24 19:33	1	

Method: SW846 8015M/D - 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		07/01/24 14:34	07/01/24 21:32	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		07/01/24 14:34	07/01/24 21:32	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	102		62 - 134			07/01/24 14:34	07/01/24 21:32	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP05

Lab Sample ID: 885-7154-5

Date Collected: 06/28/24 12:20

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 10:15	07/02/24 19:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		35 - 166			07/01/24 10:15	07/02/24 19:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg		07/01/24 10:15	07/02/24 19:55	1
Ethylbenzene	ND		0.048	mg/Kg		07/01/24 10:15	07/02/24 19:55	1
Toluene	ND		0.048	mg/Kg		07/01/24 10:15	07/02/24 19:55	1
Xylenes, Total	ND		0.096	mg/Kg		07/01/24 10:15	07/02/24 19:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		48 - 145			07/01/24 10:15	07/02/24 19:55	1

Method: SW846 8015M/D - 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		07/01/24 14:34	07/01/24 21:45	1
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		07/01/24 14:34	07/01/24 21:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	99		62 - 134			07/01/24 14:34	07/01/24 21:45	1

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP06

Lab Sample ID: 885-7154-6

Date Collected: 06/28/24 12:25

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		9.8	mg/Kg		07/01/24 10:15	07/02/24 20:17		2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	102		35 - 166			07/01/24 10:15	07/02/24 20:17		2
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 20:17		2
Ethylbenzene	ND		0.098	mg/Kg		07/01/24 10:15	07/02/24 20:17		2
Toluene	ND		0.098	mg/Kg		07/01/24 10:15	07/02/24 20:17		2
Xylenes, Total	ND		0.20	mg/Kg		07/01/24 10:15	07/02/24 20:17		2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		48 - 145			07/01/24 10:15	07/02/24 20:17		2
Method: SW846 8015M/D - 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		07/01/24 14:34	07/01/24 21:59		1
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		07/01/24 14:34	07/01/24 21:59		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	100		62 - 134			07/01/24 14:34	07/01/24 21:59		1

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP07

Lab Sample ID: 885-7154-7

Date Collected: 06/28/24 12:30

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 10:15	07/02/24 20:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		35 - 166			07/01/24 10:15	07/02/24 20:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 20:38	1
Ethylbenzene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 20:38	1
Toluene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 20:38	1
Xylenes, Total	ND		0.10	mg/Kg		07/01/24 10:15	07/02/24 20:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		48 - 145			07/01/24 10:15	07/02/24 20:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		07/01/24 14:34	07/01/24 22:12	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		07/01/24 14:34	07/01/24 22:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	99		62 - 134			07/01/24 14:34	07/01/24 22:12	1

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP08

Lab Sample ID: 885-7154-8

Date Collected: 06/28/24 12:35

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 10:15	07/02/24 21:00	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		35 - 166			07/01/24 10:15	07/02/24 21:00	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 21:00	1	
Ethylbenzene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 21:00	1	
Toluene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 21:00	1	
Xylenes, Total	ND		0.10	mg/Kg		07/01/24 10:15	07/02/24 21:00	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	91		48 - 145			07/01/24 10:15	07/02/24 21:00	1	

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		07/01/24 14:34	07/01/24 22:25	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		07/01/24 14:34	07/01/24 22:25	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	101		62 - 134			07/01/24 14:34	07/01/24 22:25	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP09

Lab Sample ID: 885-7154-9

Date Collected: 06/28/24 12:40

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		9.9	mg/Kg		07/01/24 10:15	07/02/24 21:22	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	100		35 - 166			07/01/24 10:15	07/02/24 21:22	2	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 21:22	2	
Ethylbenzene	ND		0.099	mg/Kg		07/01/24 10:15	07/02/24 21:22	2	
Toluene	ND		0.099	mg/Kg		07/01/24 10:15	07/02/24 21:22	2	
Xylenes, Total	ND		0.20	mg/Kg		07/01/24 10:15	07/02/24 21:22	2	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		48 - 145			07/01/24 10:15	07/02/24 21:22	2	
Method: SW846 8015M/D - 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		07/01/24 14:34	07/01/24 22:39	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		07/01/24 14:34	07/01/24 22:39	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	95		62 - 134			07/01/24 14:34	07/01/24 22:39	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP10

Lab Sample ID: 885-7154-10

Date Collected: 06/28/24 12:45

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 10:15	07/02/24 21:44	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	128		35 - 166			07/01/24 10:15	07/02/24 21:44	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 21:44	1	
Ethylbenzene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 21:44	1	
Toluene	ND		0.049	mg/Kg		07/01/24 10:15	07/02/24 21:44	1	
Xylenes, Total	ND		0.099	mg/Kg		07/01/24 10:15	07/02/24 21:44	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	98		48 - 145			07/01/24 10:15	07/02/24 21:44	1	
Method: SW846 8015M/D - 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		07/01/24 14:34	07/01/24 22:52	1	
Motor Oil Range Organics [C28-C40]	ND		46	mg/Kg		07/01/24 14:34	07/01/24 22:52	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	99		62 - 134			07/01/24 14:34	07/01/24 22:52	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP11

Lab Sample ID: 885-7154-11

Date Collected: 06/28/24 12:50

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 10:15	07/02/24 22:06	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	109		35 - 166			07/01/24 10:15	07/02/24 22:06	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		07/01/24 10:15	07/02/24 22:06	1	
Ethylbenzene	ND		0.048	mg/Kg		07/01/24 10:15	07/02/24 22:06	1	
Toluene	ND		0.048	mg/Kg		07/01/24 10:15	07/02/24 22:06	1	
Xylenes, Total	ND		0.096	mg/Kg		07/01/24 10:15	07/02/24 22:06	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		48 - 145			07/01/24 10:15	07/02/24 22:06	1	
Method: SW846 8015M/D - 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		07/01/24 14:34	07/01/24 23:05	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		07/01/24 14:34	07/01/24 23:05	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	100		62 - 134			07/01/24 14:34	07/01/24 23:05	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP12

Lab Sample ID: 885-7154-12

Date Collected: 06/28/24 12:55

Matrix: Solid

Date Received: 06/29/24 06:15

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics [C6 - C10]	ND		4.6	mg/Kg		07/01/24 10:15	07/02/24 22:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		35 - 166			07/01/24 10:15	07/02/24 22:28	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.023	mg/Kg		07/01/24 10:15	07/02/24 22:28	1
Ethylbenzene	ND		0.046	mg/Kg		07/01/24 10:15	07/02/24 22:28	1
Toluene	ND		0.046	mg/Kg		07/01/24 10:15	07/02/24 22:28	1
Xylenes, Total	ND		0.093	mg/Kg		07/01/24 10:15	07/02/24 22:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		48 - 145			07/01/24 10:15	07/02/24 22:28	1

Method: SW846 8015M/D - 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		07/01/24 14:34	07/01/24 23:19	1
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		07/01/24 14:34	07/01/24 23:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	101		62 - 134			07/01/24 14:34	07/01/24 23:19	1

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP13

Lab Sample ID: 885-7154-13

Date Collected: 06/28/24 13:00

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 14:00	07/02/24 22:25	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	99		35 - 166			07/01/24 14:00	07/02/24 22:25	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		07/01/24 14:00	07/02/24 22:25	1	
Ethylbenzene	ND		0.050	mg/Kg		07/01/24 14:00	07/02/24 22:25	1	
Toluene	ND		0.050	mg/Kg		07/01/24 14:00	07/02/24 22:25	1	
Xylenes, Total	ND		0.099	mg/Kg		07/01/24 14:00	07/02/24 22:25	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	85		48 - 145			07/01/24 14:00	07/02/24 22:25	1	
Method: SW846 8015M/D - 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		07/02/24 08:13	07/02/24 11:59	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		07/02/24 08:13	07/02/24 11:59	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	89		62 - 134			07/02/24 08:13	07/02/24 11:59	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP14

Lab Sample ID: 885-7154-14

Date Collected: 06/28/24 13:05

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 14:00	07/02/24 23:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		35 - 166			07/01/24 14:00	07/02/24 23:36	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		07/01/24 14:00	07/02/24 23:36	1
Ethylbenzene	ND		0.050	mg/Kg		07/01/24 14:00	07/02/24 23:36	1
Toluene	ND		0.050	mg/Kg		07/01/24 14:00	07/02/24 23:36	1
Xylenes, Total	ND		0.10	mg/Kg		07/01/24 14:00	07/02/24 23:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		48 - 145			07/01/24 14:00	07/02/24 23:36	1

Method: SW846 8015M/D - 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		07/02/24 08:13	07/02/24 12:09	1
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		07/02/24 08:13	07/02/24 12:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	88		62 - 134			07/02/24 08:13	07/02/24 12:09	1

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP15

Lab Sample ID: 885-7154-15

Date Collected: 06/28/24 13:10

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 14:00	07/03/24 00:46	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	112		35 - 166			07/01/24 14:00	07/03/24 00:46	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		07/01/24 14:00	07/03/24 00:46	1	
Ethylbenzene	ND		0.049	mg/Kg		07/01/24 14:00	07/03/24 00:46	1	
Toluene	ND		0.049	mg/Kg		07/01/24 14:00	07/03/24 00:46	1	
Xylenes, Total	ND		0.097	mg/Kg		07/01/24 14:00	07/03/24 00:46	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	90		48 - 145			07/01/24 14:00	07/03/24 00:46	1	

Method: SW846 8015M/D - 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		07/02/24 08:13	07/02/24 12:20	1	
Motor Oil Range Organics [C28-C40]	ND		49	mg/Kg		07/02/24 08:13	07/02/24 12:20	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	88		62 - 134			07/02/24 08:13	07/02/24 12:20	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP16

Lab Sample ID: 885-7154-16

Date Collected: 06/28/24 13:15

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 14:00	07/03/24 01:09		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	122		35 - 166			07/01/24 14:00	07/03/24 01:09		1
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.025	mg/Kg		07/01/24 14:00	07/03/24 01:09		1
Ethylbenzene	ND		0.050	mg/Kg		07/01/24 14:00	07/03/24 01:09		1
Toluene	ND		0.050	mg/Kg		07/01/24 14:00	07/03/24 01:09		1
Xylenes, Total	ND		0.10	mg/Kg		07/01/24 14:00	07/03/24 01:09		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	87		48 - 145			07/01/24 14:00	07/03/24 01:09		1
Method: SW846 8015M/D - 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		07/02/24 08:13	07/02/24 12:31		1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/02/24 08:13	07/02/24 12:31		1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	89		62 - 134			07/02/24 08:13	07/02/24 12:31		1

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP17

Lab Sample ID: 885-7154-17

Date Collected: 06/28/24 13:20

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 14:00	07/03/24 01:33	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	93		35 - 166			07/01/24 14:00	07/03/24 01:33	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		07/01/24 14:00	07/03/24 01:33	1	
Ethylbenzene	ND		0.048	mg/Kg		07/01/24 14:00	07/03/24 01:33	1	
Toluene	ND		0.048	mg/Kg		07/01/24 14:00	07/03/24 01:33	1	
Xylenes, Total	ND		0.096	mg/Kg		07/01/24 14:00	07/03/24 01:33	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	84		48 - 145			07/01/24 14:00	07/03/24 01:33	1	

Method: SW846 8015M/D - 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		07/02/24 08:13	07/02/24 12:41	1	
Motor Oil Range Organics [C28-C40]	ND		45	mg/Kg		07/02/24 08:13	07/02/24 12:41	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	81		62 - 134			07/02/24 08:13	07/02/24 12:41	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP18

Lab Sample ID: 885-7154-18

Date Collected: 06/28/24 13:25

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 14:00	07/03/24 01:56	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	105		35 - 166			07/01/24 14:00	07/03/24 01:56	1	
Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		07/01/24 14:00	07/03/24 01:56	1	
Ethylbenzene	ND		0.048	mg/Kg		07/01/24 14:00	07/03/24 01:56	1	
Toluene	ND		0.048	mg/Kg		07/01/24 14:00	07/03/24 01:56	1	
Xylenes, Total	ND		0.096	mg/Kg		07/01/24 14:00	07/03/24 01:56	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	86		48 - 145			07/01/24 14:00	07/03/24 01:56	1	
Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics [C10-C28]	ND		9.7	mg/Kg		07/02/24 08:13	07/02/24 12:52	1	
Motor Oil Range Organics [C28-C40]	ND		48	mg/Kg		07/02/24 08:13	07/02/24 12:52	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	91		62 - 134			07/02/24 08:13	07/02/24 12:52	1	

Client Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP19

Lab Sample ID: 885-7154-19

Date Collected: 06/28/24 13:30

Matrix: Solid

Date Received: 06/29/24 06:15

Method: SW846 8015M/D - 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		07/01/24 14:00	07/03/24 02:20	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	98		35 - 166			07/01/24 14:00	07/03/24 02:20	1	

Method: SW846 8021B - Volatile Organic Compounds (GC)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Benzene	ND		0.024	mg/Kg		07/01/24 14:00	07/03/24 02:20	1	
Ethylbenzene	ND		0.047	mg/Kg		07/01/24 14:00	07/03/24 02:20	1	
Toluene	ND		0.047	mg/Kg		07/01/24 14:00	07/03/24 02:20	1	
Xylenes, Total	ND		0.095	mg/Kg		07/01/24 14:00	07/03/24 02:20	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	86		48 - 145			07/01/24 14:00	07/03/24 02:20	1	

Method: SW846 8015M/D - 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		07/02/24 08:13	07/02/24 13:03	1	
Motor Oil Range Organics [C28-C40]	ND		47	mg/Kg		07/02/24 08:13	07/02/24 13:03	1	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
Di-n-octyl phthalate (Surr)	87		62 - 134			07/02/24 08:13	07/02/24 13:03	1	

QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

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

Lab Sample ID: MB 885-7690/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7845						Prep Batch: 7690			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		07/01/24 10:15	07/02/24 13:19	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	95		35 - 166			07/01/24 10:15	07/02/24 13:19	1	

Lab Sample ID: LCS 885-7690/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7845						Prep Batch: 7690			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]			25.0	25.7		mg/Kg		103	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	204	S1+	35 - 166						

Lab Sample ID: MB 885-7717/1-A						Client Sample ID: Method Blank			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7830						Prep Batch: 7717			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics [C6 - C10]	ND		5.0	mg/Kg		07/01/24 14:00	07/02/24 21:38	1	
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	94		35 - 166			07/01/24 14:00	07/02/24 21:38	1	

Lab Sample ID: LCS 885-7717/2-A						Client Sample ID: Lab Control Sample			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7830						Prep Batch: 7717			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]			25.0	23.7		mg/Kg		95	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	195	S1+	35 - 166						

Lab Sample ID: 885-7154-13 MS						Client Sample ID: TSP13			
Matrix: Solid						Prep Type: Total/NA			
Analysis Batch: 7830						Prep Batch: 7717			
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics [C6 - C10]	ND		24.8	22.7		mg/Kg		91	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	204	S1+	35 - 166						

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QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Method: 8015M/D - Gasoline Range Organics (GRO) (GC) (Continued)

Lab Sample ID: 885-7154-13 MSD										Client Sample ID: TSP13		
Matrix: Solid										Prep Type: Total/NA		
Analysis Batch: 7830										Prep Batch: 7717		
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		24.7	21.9		mg/Kg		89	70 - 130	4	20	
Surrogate	MSD %Recovery	MSD Qualifier	Limits									
4-Bromofluorobenzene (Surr)	200	S1+	35 - 166									

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-7690/1-A										Client Sample ID: Method Blank		
Matrix: Solid										Prep Type: Total/NA		
Analysis Batch: 7849										Prep Batch: 7690		
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac				
Benzene	ND		0.025	mg/Kg		07/01/24 10:15	07/02/24 13:19	1				
Ethylbenzene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 13:19	1				
Toluene	ND		0.050	mg/Kg		07/01/24 10:15	07/02/24 13:19	1				
Xylenes, Total	ND		0.10	mg/Kg		07/01/24 10:15	07/02/24 13:19	1				
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac				
4-Bromofluorobenzene (Surr)	92		48 - 145			07/01/24 10:15	07/02/24 13:19	1				

Lab Sample ID: LCS 885-7690/3-A										Client Sample ID: Lab Control Sample		
Matrix: Solid										Prep Type: Total/NA		
Analysis Batch: 7849										Prep Batch: 7690		
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits			
Benzene			1.00	0.872		mg/Kg		87	70 - 130			
Ethylbenzene			1.00	0.898		mg/Kg		90	70 - 130			
m&p-Xylene			2.00	1.79		mg/Kg		90	70 - 130			
o-Xylene			1.00	0.905		mg/Kg		91	70 - 130			
Toluene			1.00	0.882		mg/Kg		88	70 - 130			
Xylenes, Total			3.00	2.70		mg/Kg		90	70 - 130			
Surrogate	LCS %Recovery	LCS Qualifier	Limits									
4-Bromofluorobenzene (Surr)	95		48 - 145									

Lab Sample ID: MB 885-7717/1-A										Client Sample ID: Method Blank		
Matrix: Solid										Prep Type: Total/NA		
Analysis Batch: 7831										Prep Batch: 7717		
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac				
Benzene	ND		0.025	mg/Kg		07/01/24 14:00	07/02/24 21:38	1				
Ethylbenzene	ND		0.050	mg/Kg		07/01/24 14:00	07/02/24 21:38	1				
Toluene	ND		0.050	mg/Kg		07/01/24 14:00	07/02/24 21:38	1				
Xylenes, Total	ND		0.10	mg/Kg		07/01/24 14:00	07/02/24 21:38	1				
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac				
4-Bromofluorobenzene (Surr)	84		48 - 145			07/01/24 14:00	07/02/24 21:38	1				

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QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: LCS 885-7717/3-A				Client Sample ID: Lab Control Sample			
Matrix: Solid				Prep Type: Total/NA			
Analysis Batch: 7831				Prep Batch: 7717			
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	0.805		mg/Kg		81	70 - 130
Ethylbenzene	1.00	0.789		mg/Kg		79	70 - 130
m&p-Xylene	2.00	1.61		mg/Kg		80	70 - 130
o-Xylene	1.00	0.785		mg/Kg		78	70 - 130
Toluene	1.00	0.776		mg/Kg		78	70 - 130
Xylenes, Total	3.00	2.39		mg/Kg		80	70 - 130
Surrogate	%Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	87		48 - 145				

Lab Sample ID: 885-7154-14 MS				Client Sample ID: TSP14			
Matrix: Solid				Prep Type: Total/NA			
Analysis Batch: 7831				Prep Batch: 7717			
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	%Rec Limits
Benzene	ND		0.997	0.774		mg/Kg	78 70 - 130
Ethylbenzene	ND		0.997	0.752		mg/Kg	75 70 - 130
m&p-Xylene	ND		1.99	1.55		mg/Kg	76 70 - 130
o-Xylene	ND		0.997	0.742		mg/Kg	74 70 - 130
Toluene	ND		0.997	0.744		mg/Kg	73 70 - 130
Xylenes, Total	ND		2.99	2.29		mg/Kg	76 70 - 130
Surrogate	%Recovery	MS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	89		48 - 145				

Lab Sample ID: 885-7154-14 MSD				Client Sample ID: TSP14			
Matrix: Solid				Prep Type: Total/NA			
Analysis Batch: 7831				Prep Batch: 7717			
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	%Rec Limits RPD Limit
Benzene	ND		0.996	0.774		mg/Kg	78 70 - 130 0 20
Ethylbenzene	ND		0.996	0.758		mg/Kg	76 70 - 130 1 20
m&p-Xylene	ND		1.99	1.56		mg/Kg	77 70 - 130 0 20
o-Xylene	ND		0.996	0.739		mg/Kg	74 70 - 130 0 20
Toluene	ND		0.996	0.758		mg/Kg	75 70 - 130 2 20
Xylenes, Total	ND		2.99	2.29		mg/Kg	76 70 - 130 0 20
Surrogate	%Recovery	MSD Qualifier	Limits				
4-Bromofluorobenzene (Surr)	90		48 - 145				

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

Lab Sample ID: MB 885-7719/1-A				Client Sample ID: Method Blank			
Matrix: Solid				Prep Type: Total/NA			
Analysis Batch: 7694				Prep Batch: 7719			
Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		07/01/24 14:34	07/01/24 18:27 1

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QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

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

Lab Sample ID: MB 885-7719/1-A
Matrix: Solid
Analysis Batch: 7694

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7719

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/01/24 14:34	07/01/24 18:27	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	102		62 - 134			07/01/24 14:34	07/01/24 18:27	1

Lab Sample ID: LCS 885-7719/2-A
Matrix: Solid
Analysis Batch: 7694

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7719

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	48.3		mg/Kg		97	60 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Di-n-octyl phthalate (Surr)	106		62 - 134				

Lab Sample ID: 885-7154-12 MS
Matrix: Solid
Analysis Batch: 7694

Client Sample ID: TSP12
Prep Type: Total/NA
Prep Batch: 7719

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	ND		49.8	49.7		mg/Kg		100	44 - 136
Surrogate	MS %Recovery	MS Qualifier	Limits						
Di-n-octyl phthalate (Surr)	116		62 - 134						

Lab Sample ID: 885-7154-12 MSD
Matrix: Solid
Analysis Batch: 7694

Client Sample ID: TSP12
Prep Type: Total/NA
Prep Batch: 7719

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		48.1	53.9		mg/Kg		112	44 - 136	8	32
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Di-n-octyl phthalate (Surr)	122		62 - 134								

Lab Sample ID: MB 885-7742/1-A
Matrix: Solid
Analysis Batch: 7757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7742

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10	mg/Kg		07/02/24 08:13	07/02/24 11:38	1
Motor Oil Range Organics [C28-C40]	ND		50	mg/Kg		07/02/24 08:13	07/02/24 11:38	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate (Surr)	85		62 - 134			07/02/24 08:13	07/02/24 11:38	1

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QC Sample Results

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

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

Lab Sample ID: LCS 885-7742/2-A				Client Sample ID: Lab Control Sample			
Matrix: Solid				Prep Type: Total/NA			
Analysis Batch: 7757				Prep Batch: 7742			
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics [C10-C28]	50.0	45.2		mg/Kg		90	60 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Di-n-octyl phthalate (Surr)	87		62 - 134				

QC Association Summary

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

GC VOA

Prep Batch: 7690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-1	TSP01	Total/NA	Solid	5030C	
885-7154-2	TSP02	Total/NA	Solid	5030C	
885-7154-3	TSP03	Total/NA	Solid	5030C	
885-7154-4	TSP04	Total/NA	Solid	5030C	
885-7154-5	TSP05	Total/NA	Solid	5030C	
885-7154-6	TSP06	Total/NA	Solid	5030C	
885-7154-7	TSP07	Total/NA	Solid	5030C	
885-7154-8	TSP08	Total/NA	Solid	5030C	
885-7154-9	TSP09	Total/NA	Solid	5030C	
885-7154-10	TSP10	Total/NA	Solid	5030C	
885-7154-11	TSP11	Total/NA	Solid	5030C	
885-7154-12	TSP12	Total/NA	Solid	5030C	
MB 885-7690/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-7690/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-7690/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Prep Batch: 7717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-13	TSP13	Total/NA	Solid	5030C	
885-7154-14	TSP14	Total/NA	Solid	5030C	
885-7154-15	TSP15	Total/NA	Solid	5030C	
885-7154-16	TSP16	Total/NA	Solid	5030C	
885-7154-17	TSP17	Total/NA	Solid	5030C	
885-7154-18	TSP18	Total/NA	Solid	5030C	
885-7154-19	TSP19	Total/NA	Solid	5030C	
MB 885-7717/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-7717/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-7717/3-A	Lab Control Sample	Total/NA	Solid	5030C	
885-7154-13 MS	TSP13	Total/NA	Solid	5030C	
885-7154-13 MSD	TSP13	Total/NA	Solid	5030C	
885-7154-14 MS	TSP14	Total/NA	Solid	5030C	
885-7154-14 MSD	TSP14	Total/NA	Solid	5030C	

Analysis Batch: 7830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-13	TSP13	Total/NA	Solid	8015M/D	7717
885-7154-14	TSP14	Total/NA	Solid	8015M/D	7717
885-7154-15	TSP15	Total/NA	Solid	8015M/D	7717
885-7154-16	TSP16	Total/NA	Solid	8015M/D	7717
885-7154-17	TSP17	Total/NA	Solid	8015M/D	7717
885-7154-18	TSP18	Total/NA	Solid	8015M/D	7717
885-7154-19	TSP19	Total/NA	Solid	8015M/D	7717
MB 885-7717/1-A	Method Blank	Total/NA	Solid	8015M/D	7717
LCS 885-7717/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	7717
885-7154-13 MS	TSP13	Total/NA	Solid	8015M/D	7717
885-7154-13 MSD	TSP13	Total/NA	Solid	8015M/D	7717

Analysis Batch: 7831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-13	TSP13	Total/NA	Solid	8021B	7717
885-7154-14	TSP14	Total/NA	Solid	8021B	7717

Eurofins Albuquerque

QC Association Summary

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

GC VOA (Continued)

Analysis Batch: 7831 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-15	TSP15	Total/NA	Solid	8021B	7717
885-7154-16	TSP16	Total/NA	Solid	8021B	7717
885-7154-17	TSP17	Total/NA	Solid	8021B	7717
885-7154-18	TSP18	Total/NA	Solid	8021B	7717
885-7154-19	TSP19	Total/NA	Solid	8021B	7717
MB 885-7717/1-A	Method Blank	Total/NA	Solid	8021B	7717
LCS 885-7717/3-A	Lab Control Sample	Total/NA	Solid	8021B	7717
885-7154-14 MS	TSP14	Total/NA	Solid	8021B	7717
885-7154-14 MSD	TSP14	Total/NA	Solid	8021B	7717

Analysis Batch: 7845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-1	TSP01	Total/NA	Solid	8015M/D	7690
885-7154-2	TSP02	Total/NA	Solid	8015M/D	7690
885-7154-3	TSP03	Total/NA	Solid	8015M/D	7690
885-7154-4	TSP04	Total/NA	Solid	8015M/D	7690
885-7154-5	TSP05	Total/NA	Solid	8015M/D	7690
885-7154-6	TSP06	Total/NA	Solid	8015M/D	7690
885-7154-7	TSP07	Total/NA	Solid	8015M/D	7690
885-7154-8	TSP08	Total/NA	Solid	8015M/D	7690
885-7154-9	TSP09	Total/NA	Solid	8015M/D	7690
885-7154-10	TSP10	Total/NA	Solid	8015M/D	7690
885-7154-11	TSP11	Total/NA	Solid	8015M/D	7690
885-7154-12	TSP12	Total/NA	Solid	8015M/D	7690
MB 885-7690/1-A	Method Blank	Total/NA	Solid	8015M/D	7690
LCS 885-7690/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	7690

Analysis Batch: 7849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-1	TSP01	Total/NA	Solid	8021B	7690
885-7154-2	TSP02	Total/NA	Solid	8021B	7690
885-7154-3	TSP03	Total/NA	Solid	8021B	7690
885-7154-4	TSP04	Total/NA	Solid	8021B	7690
885-7154-5	TSP05	Total/NA	Solid	8021B	7690
885-7154-6	TSP06	Total/NA	Solid	8021B	7690
885-7154-7	TSP07	Total/NA	Solid	8021B	7690
885-7154-8	TSP08	Total/NA	Solid	8021B	7690
885-7154-9	TSP09	Total/NA	Solid	8021B	7690
885-7154-10	TSP10	Total/NA	Solid	8021B	7690
885-7154-11	TSP11	Total/NA	Solid	8021B	7690
885-7154-12	TSP12	Total/NA	Solid	8021B	7690
MB 885-7690/1-A	Method Blank	Total/NA	Solid	8021B	7690
LCS 885-7690/3-A	Lab Control Sample	Total/NA	Solid	8021B	7690

GC Semi VOA

Analysis Batch: 7694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-1	TSP01	Total/NA	Solid	8015M/D	7719
885-7154-2	TSP02	Total/NA	Solid	8015M/D	7719
885-7154-3	TSP03	Total/NA	Solid	8015M/D	7719

Eurofins Albuquerque

QC Association Summary

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

GC Semi VOA (Continued)

Analysis Batch: 7694 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-4	TSP04	Total/NA	Solid	8015M/D	7719
885-7154-5	TSP05	Total/NA	Solid	8015M/D	7719
885-7154-6	TSP06	Total/NA	Solid	8015M/D	7719
885-7154-7	TSP07	Total/NA	Solid	8015M/D	7719
885-7154-8	TSP08	Total/NA	Solid	8015M/D	7719
885-7154-9	TSP09	Total/NA	Solid	8015M/D	7719
885-7154-10	TSP10	Total/NA	Solid	8015M/D	7719
885-7154-11	TSP11	Total/NA	Solid	8015M/D	7719
885-7154-12	TSP12	Total/NA	Solid	8015M/D	7719
MB 885-7719/1-A	Method Blank	Total/NA	Solid	8015M/D	7719
LCS 885-7719/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	7719
885-7154-12 MS	TSP12	Total/NA	Solid	8015M/D	7719
885-7154-12 MSD	TSP12	Total/NA	Solid	8015M/D	7719

Prep Batch: 7719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-1	TSP01	Total/NA	Solid	SHAKE	
885-7154-2	TSP02	Total/NA	Solid	SHAKE	
885-7154-3	TSP03	Total/NA	Solid	SHAKE	
885-7154-4	TSP04	Total/NA	Solid	SHAKE	
885-7154-5	TSP05	Total/NA	Solid	SHAKE	
885-7154-6	TSP06	Total/NA	Solid	SHAKE	
885-7154-7	TSP07	Total/NA	Solid	SHAKE	
885-7154-8	TSP08	Total/NA	Solid	SHAKE	
885-7154-9	TSP09	Total/NA	Solid	SHAKE	
885-7154-10	TSP10	Total/NA	Solid	SHAKE	
885-7154-11	TSP11	Total/NA	Solid	SHAKE	
885-7154-12	TSP12	Total/NA	Solid	SHAKE	
MB 885-7719/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-7719/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
885-7154-12 MS	TSP12	Total/NA	Solid	SHAKE	
885-7154-12 MSD	TSP12	Total/NA	Solid	SHAKE	

Prep Batch: 7742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-13	TSP13	Total/NA	Solid	SHAKE	
885-7154-14	TSP14	Total/NA	Solid	SHAKE	
885-7154-15	TSP15	Total/NA	Solid	SHAKE	
885-7154-16	TSP16	Total/NA	Solid	SHAKE	
885-7154-17	TSP17	Total/NA	Solid	SHAKE	
885-7154-18	TSP18	Total/NA	Solid	SHAKE	
885-7154-19	TSP19	Total/NA	Solid	SHAKE	
MB 885-7742/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 885-7742/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 7757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-13	TSP13	Total/NA	Solid	8015M/D	7742
885-7154-14	TSP14	Total/NA	Solid	8015M/D	7742
885-7154-15	TSP15	Total/NA	Solid	8015M/D	7742
885-7154-16	TSP16	Total/NA	Solid	8015M/D	7742

Eurofins Albuquerque

QC Association Summary

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

GC Semi VOA (Continued)

Analysis Batch: 7757 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-7154-17	TSP17	Total/NA	Solid	8015M/D	7742
885-7154-18	TSP18	Total/NA	Solid	8015M/D	7742
885-7154-19	TSP19	Total/NA	Solid	8015M/D	7742
MB 885-7742/1-A	Method Blank	Total/NA	Solid	8015M/D	7742
LCS 885-7742/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	7742

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP01
Date Collected: 06/28/24 12:00
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		1	7845	RA	EET ALB	07/02/24 18:05
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 18:05
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 20:39

Client Sample ID: TSP02
Date Collected: 06/28/24 12:05
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		1	7845	RA	EET ALB	07/02/24 18:27
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 18:27
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 20:52

Client Sample ID: TSP03
Date Collected: 06/28/24 12:10
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		1	7845	RA	EET ALB	07/02/24 19:11
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 19:11
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 21:19

Client Sample ID: TSP04
Date Collected: 06/28/24 12:15
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		1	7845	RA	EET ALB	07/02/24 19:33
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 19:33
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 21:32

Eurofins Albuquerque

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP05
Date Collected: 06/28/24 12:20
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		1	7845	RA	EET ALB	07/02/24 19:55
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 19:55
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 21:45

Client Sample ID: TSP06
Date Collected: 06/28/24 12:25
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		2	7845	RA	EET ALB	07/02/24 20:17
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		2	7849	RA	EET ALB	07/02/24 20:17
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 21:59

Client Sample ID: TSP07
Date Collected: 06/28/24 12:30
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		1	7845	RA	EET ALB	07/02/24 20:38
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 20:38
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 22:12

Client Sample ID: TSP08
Date Collected: 06/28/24 12:35
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		1	7845	RA	EET ALB	07/02/24 21:00
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 21:00
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 22:25

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP09
Date Collected: 06/28/24 12:40
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		2	7845	RA	EET ALB	07/02/24 21:22
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		2	7849	RA	EET ALB	07/02/24 21:22
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 22:39

Client Sample ID: TSP10
Date Collected: 06/28/24 12:45
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		1	7845	RA	EET ALB	07/02/24 21:44
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 21:44
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 22:52

Client Sample ID: TSP11
Date Collected: 06/28/24 12:50
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		1	7845	RA	EET ALB	07/02/24 22:06
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 22:06
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 23:05

Client Sample ID: TSP12
Date Collected: 06/28/24 12:55
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8015M/D		1	7845	RA	EET ALB	07/02/24 22:28
Total/NA	Prep	5030C			7690	AT	EET ALB	07/01/24 10:15
Total/NA	Analysis	8021B		1	7849	RA	EET ALB	07/02/24 22:28
Total/NA	Prep	SHAKE			7719	KR	EET ALB	07/01/24 14:34
Total/NA	Analysis	8015M/D		1	7694	DH	EET ALB	07/01/24 23:19

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP13
Date Collected: 06/28/24 13:00
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8015M/D		1	7830	JP	EET ALB	07/02/24 22:25
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8021B		1	7831	JP	EET ALB	07/02/24 22:25
Total/NA	Prep	SHAKE			7742	KR	EET ALB	07/02/24 08:13
Total/NA	Analysis	8015M/D		1	7757	PD	EET ALB	07/02/24 11:59

Client Sample ID: TSP14
Date Collected: 06/28/24 13:05
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8015M/D		1	7830	JP	EET ALB	07/02/24 23:36
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8021B		1	7831	JP	EET ALB	07/02/24 23:36
Total/NA	Prep	SHAKE			7742	KR	EET ALB	07/02/24 08:13
Total/NA	Analysis	8015M/D		1	7757	PD	EET ALB	07/02/24 12:09

Client Sample ID: TSP15
Date Collected: 06/28/24 13:10
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8015M/D		1	7830	JP	EET ALB	07/03/24 00:46
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8021B		1	7831	JP	EET ALB	07/03/24 00:46
Total/NA	Prep	SHAKE			7742	KR	EET ALB	07/02/24 08:13
Total/NA	Analysis	8015M/D		1	7757	PD	EET ALB	07/02/24 12:20

Client Sample ID: TSP16
Date Collected: 06/28/24 13:15
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8015M/D		1	7830	JP	EET ALB	07/03/24 01:09
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8021B		1	7831	JP	EET ALB	07/03/24 01:09
Total/NA	Prep	SHAKE			7742	KR	EET ALB	07/02/24 08:13
Total/NA	Analysis	8015M/D		1	7757	PD	EET ALB	07/02/24 12:31

Lab Chronicle

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

Client Sample ID: TSP17
Date Collected: 06/28/24 13:20
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8015M/D		1	7830	JP	EET ALB	07/03/24 01:33
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8021B		1	7831	JP	EET ALB	07/03/24 01:33
Total/NA	Prep	SHAKE			7742	KR	EET ALB	07/02/24 08:13
Total/NA	Analysis	8015M/D		1	7757	PD	EET ALB	07/02/24 12:41

Client Sample ID: TSP18
Date Collected: 06/28/24 13:25
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8015M/D		1	7830	JP	EET ALB	07/03/24 01:56
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8021B		1	7831	JP	EET ALB	07/03/24 01:56
Total/NA	Prep	SHAKE			7742	KR	EET ALB	07/02/24 08:13
Total/NA	Analysis	8015M/D		1	7757	PD	EET ALB	07/02/24 12:52

Client Sample ID: TSP19
Date Collected: 06/28/24 13:30
Date Received: 06/29/24 06:15

Lab Sample ID: 885-7154-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8015M/D		1	7830	JP	EET ALB	07/03/24 02:20
Total/NA	Prep	5030C			7717	AT	EET ALB	07/01/24 14:00
Total/NA	Analysis	8021B		1	7831	JP	EET ALB	07/03/24 02:20
Total/NA	Prep	SHAKE			7742	KR	EET ALB	07/02/24 08:13
Total/NA	Analysis	8015M/D		1	7757	PD	EET ALB	07/02/24 13:03

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

Accreditation/Certification Summary

Client: Hilcorp Energy
Project/Site: Federal GC1

Job ID: 885-7154-1

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
8015M/D	5030C	Solid	Gasoline Range Organics [C6 - C10]
8015M/D	SHAKE	Solid	Diesel Range Organics [C10-C28]
8015M/D	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

Chain-of-Custody Record

Turn-Around Time:

S-day
☒ Standard ☐ Rush

Project Name:

Federal GC 1

Project #:

Project Manager:

Stuart H

Sampler:

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CF): $3.0 \pm 0 = 3.0^{\circ}$ (°C)Container
Type and #Preservative
Type

HEAL No.

1,402

Cool

1

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, NO₃, NO₂, PO₄, SO₄

8260 (VOA)

8270 (Semi-VOA)

Total Coliform (Present/Absent)

Received by:

Via:

Received by:

Via: carrier

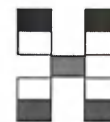
Date Time

4/28/24 1440

Date Time

6/29/24 6:15

Remarks:

CC: shgde@ensolum.com
gpalese@ensolumHALL ENVIRONMENTAL
ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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



885-7154 COC

Analysis Request

Client: Hilcorp
Attn: Mitch Killough
Mailing Address:
Phone #:
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☒ EDD (Type) PPE, Excel

Date	Time	Matrix	Sample Name
6/28	1200	Soil	TSP01
1	1205	1	TSP02
1	1210	1	TSP03
1	1215	1	TSP04
1	1220	1	TSP05
1	1225	1	TSP06
1	1230	1	TSP07
1	1235	1	TSP08
1	1240	1	TSP09
1	1245	1	TSP10
1	1250	1	TSP11
1	1255	1	TSP12

Date: Time: Relinquished by:

6/28 1440 [Signature]

Date: Time: Relinquished by:

6/28 1717 [Signature]

Login Sample Receipt Checklist

Client: Hilcorp Energy

Job Number: 885-7154-1

Login Number: 7154

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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



APPENDIX D

Photographic Log



Photographic Log
Hilcorp Energy Company
Federal Gas Com #1
San Juan County, New Mexico



Photograph: 1 Date: 11/15/2022
Description: Excavation of impacted soil
View: Aerial view looking west



Photograph: 2 Date: 10/26/2024
Description: Removal of impacted soil during final excavation
View: East



Photographic Log
Hilcorp Energy Company
Federal Gas Com #1
San Juan County, New Mexico



Photograph: 3 Date: 11/16/2023
Description: Applying Micro-Blaze amendment to soil removed from the excavation
View: East



Photograph: 4 Date: 2/26/2024
Description: Treated stockpiles during preliminary screening and sampling
View: West



Photographic Log
Hilcorp Energy Company
Federal Gas Com #1
San Juan County, New Mexico



Photograph: 5 Date: 2/26/2024
Description: Sampling stockpiles during preliminary screening
View: North



Photograph: 6 Date: 6/28/2024
Description: Final sampling of treated soil
View: West

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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

Action 384760

QUESTIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 384760
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2310935343
Incident Name	NAPP2310935343 FEDERAL GAS COM #1 @ 30-045-07196
Incident Type	Release Other
Incident Status	Remediation Closure Report Received
Incident Well	[30-045-07196] FEDERAL GAS COM #001

Location of Release Source	
Please answer all the questions in this group.	
Site Name	FEDERAL GAS COM #1
Date Release Discovered	04/18/2023
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Release Other
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	Not answered.
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Cause: Other Unknown Unknown Released: 29 BBL Recovered: 0 BBL Lost: 29 BBL.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Historic contamination was discovered during P&A and site reclamation operations. Cause and nature of release is unknown.

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QUESTIONS, Page 2

Action 384760

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 384760
	Action Type: [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	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
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	False
If all the actions described above have not been undertaken, explain why	This is a historic release and there was no active source at the time of discovery.

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 Title: Senior Geologist Email: shyde@ensolum.com Date: 09/18/2024
--	--

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Santa Fe, NM 87505

QUESTIONS, Page 3

Action 384760

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID:
	372171
	Action Number:
	384760
Action Type:	
[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 200 and 300 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between ½ and 1 (mi.)
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	Greater than 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 1 and 5 (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)	210
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	6900
GRO+DRO (EPA SW-846 Method 8015M)	6900
BTEX (EPA SW-846 Method 8021B or 8260B)	331
Benzene (EPA SW-846 Method 8021B or 8260B)	0.9

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	11/16/2023
On what date will (or did) the final sampling or liner inspection occur	06/28/2024
On what date will (or was) the remediation complete(d)	06/28/2024
What is the estimated surface area (in square feet) that will be reclaimed	0
What is the estimated volume (in cubic yards) that will be reclaimed	0
What is the estimated surface area (in square feet) that will be remediated	16600
What is the estimated volume (in cubic yards) that will be remediated	3400

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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QUESTIONS, Page 4

Action 384760

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 384760
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
<i>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.</i>	
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.)	Yes
(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.
<i>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>	
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 Title: Senior Geologist Email: shyde@ensolum.com Date: 09/18/2024
<i>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.</i>	

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QUESTIONS, Page 5

Action 384760

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 384760
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

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, Page 6

Action 384760

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 384760
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	357519
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	06/28/2024
What was the (estimated) number of samples that were to be gathered	19
What was the sampling surface area in square feet	3800

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	16600
What was the total volume (cubic yards) remediated	3400
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	0
What was the total volume (in cubic yards) reclaimed	0
Summarize any additional remediation activities not included by answers (above)	NA

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 Title: Senior Geologist Email: shyde@ensolum.com Date: 09/18/2024
--	--

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Santa Fe, NM 87505

QUESTIONS, Page 7

Action 384760

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 384760
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

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 384760

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 384760
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
nvez	None	12/6/2024