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

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAPP2310935343
District RP	
Facility ID	
Application ID	

I Release Notification

Responsible Party

Responsible Party Hilcorp Energy	OGRID 372171
Contact Name: Kate Kaufman	Contact Telephone: 346-237-2275
Contact email: kkaufman@hilcorp.com	Incident # *(assigned by OCD)* nAPP2310935343
Contact mailing address: 1111 Travis St. Houston, TX 77471	

Location of Release Source

Latitude 36.637216 Longitude -107.895431
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Federal Gas Com #1	Site Type: Well Site
Date Release Discovered: 4/18/2023	API# *(if applicable)* 30-045-07196

Unit Letter	Section	Township	Range	County
A	28	028N	010W	San Juan

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☒ Other (describe) Historic Hydrocarbon	Volume/Weight Released (provide units) Estimated 29 bbls	Volume/Weight Recovered (provide units)

Cause of Release

Historic contamination was discovered during P&A and site reclamation operations. Delineation

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2310935343
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Estimated release volume is greater than 25 barrels.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

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.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☐ All free liquids and recoverable materials have been removed and managed appropriately.

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 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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.

Printed Name: __Kate Kaufman_____ Title: __Environmental Specialist_____

Signature: Kathy Kaufman _____ Date: __4/19/2023_____

email: __kkaufman@hilcorp.com_____ Telephone: _____346-237-2275_____

OCD Only

Received by: Jocelyn Harimon Date: 04/19/2023

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

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

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 208979
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	4/19/2023

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2310935343
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☒ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2310935343
District RP	
Facility ID	
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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.

Printed Name: Kathryn Kaufman Title: Env. Specialist

Signature: Kathryn Kaufman Date: 7/12/23

email: kkaufman@hilcorp.com Telephone: 346-237-2275

OCD Only

Received by: Shelly Wells Date: 7/17/2023

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2310935343
District RP	
Facility ID	
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Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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.

Printed Name: Kathryn Kaufman Title: Env. Specialist

Signature: Kathryn Kaufman Date: 7/12/23

email: kkaufman@hilcorp.com Telephone: 346-237-2275

OCD Only

Received by: Shelly Wells Date: 7/17/2023

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Nelson Velez Date: 10/06/2023

Remediation plan is approved under the following conditions;

1. Variance to collect 5 composite samples not to exceed 400 square feet is approved.
2. Hilcorp must provide supporting documentation toward the site assessment/characterization report and submit within its final closure report.
3. Remediation Due date updated to April 3, 2024 (6 months) and to submit its appropriate or final closure report.

ENSOLUM

July 17, 2023

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

Re: Site Investigation Report and Remediation Work Plan
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 *Site Investigation Report and Remediation Work Plan* 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 hydrologic properties of the Nacimiento Formation display variable hydrologic 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

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. Currently, the excavation footprint measures approximately 6,600 square feet in areal extent to a maximum depth of 5 feet bgs (Figure 2). In total, approximately 1,500 cubic yards of soil have been excavated and transported to the Envirotech, Inc. Landfarm, located in San Juan County, New Mexico.

Because of the size of the excavation, Hilcorp conducted delineation activities on December 8, 2022, using a trackhoe to assess the lateral and vertical extent of impacts at the Site. Specifically, potholes E1, E2, NE1, NE2, NW1, NW2, W1, W2, S1, SE1, and SE2 were advanced in the locations shown on Figure 2. Based on the analytical results gathered during the December 2022 delineation activities, TPH and BTEX concentrations exceeded the Closure Criteria in several samples, as presented in Table 1 and on Figure 2. Chloride was not detected above the Closure Criteria in any of the analyzed soil samples. Analytical results from the December 2022 delineation event indicated areas to the east, south, and west had not been fully delineated.

Based on delineation data collected by Hilcorp, additional delineation activities were performed by Ensolum on April 3, 2023, to further delineate soil impacts at the Site. Potholes PH01 through PH07 were advanced in all directions around the current excavation extent using a trackhoe to depths up to 7 feet bgs. Ensolum personnel field screened soil for volatile organic compounds (VOCs) using a calibrated photoionization detector (PID). In general, soil samples were collected at depth intervals indicating the greatest impacts based on field screening and PID measurements. Soil samples collected during the delineation activities were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 6 degrees Celsius (°C) under strict chain-of-custody procedures to Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico. All samples were submitted for analyses of BTEX following United

States Environmental Protection Agency (EPA) Method 8021B; TPH following EPA Method 8015M/D; and chloride following EPA Method 300.0. Based on the analytical results gathered during the April 2023 delineation event, all samples collected from PH01 through PH07 were compliant with the applicable Closure Criteria (Table 1) and indicate that the extent of petroleum impacted soil has been delineated at the Site (Figure 2).

Based on the extent of soil impacts at the Site and the area of soil already removed from the excavation, the areal extent of remaining soil impacts measures approximately 10,900 square feet in size, with impacts present to depths up to approximately 6 feet bgs. Analytical results gathered during delineation activities are summarized in Table 1 and depicted on Figure 2, with complete laboratory reports attached as Appendix B. It is estimated that 1,820 cubic yards of impacted soil remains at the Site. The approximate areal extent of remaining impacts are presented on Figure 3. Photographs taken by Hilcorp during the field work are included in Appendix C.

REMEDIATION WORK PLAN

Based on the large volume of impacted soil, large areal extent of impacts, and generally shallow depths of impacts, Hilcorp proposes to apply Micro-Blaze Emergency Liquid Spill Control (Micro-Blaze™) amendment (Appendix D) to remediate TPH 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™ will need to be diluted to a 3 to 10 percent (%) solution and applied to the impacted soil per the manufacturer's recommendations.

In order to apply the solution, Hilcorp will remove the impacted soil from the area shown on Figure 3 and create small stockpiles within the current excavation footprint, each measuring approximately 100 cubic yards. As soil is removed, the excavation sidewalls and floors will be field screened using a PID. Once field screening indicates impacted soil has been removed, 5-point composite samples will be collected from the sidewalls and floor of the excavation at a frequency of one sample per 400 square feet, which Hilcorp is requesting this variance to the confirmation sampling requirements. The 5-point composite samples will be collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Samples will be collected and submitted to Hall using the techniques described above and will be analyzed for TPH and BTEX constituents.

Once all impacted soil has been stockpiled, the Micro-Blaze™ solution will be sprayed onto the individual stockpiles and mixed into the soil by turning with the trackhoe. Turning the soil will have the added benefit of promoting volatilization of contaminants and thereby reducing overall TPH concentrations, as well as introducing oxygen to the soil that will increase the microbial activity and efficacy of the Micro-Blaze™ amendment. After allowing the Micro-Blaze™ to degrade the residual TPH concentrations in the soil, Hilcorp will field screen the stockpiles two months after the amendment application. Specifically, field screening will be achieved by using a hand auger to collect a 5-point composite sample from each stockpile that is representative of the entire 100 cubic yards of soil. If field screening indicates elevated TPH concentrations remain in the soil, the stockpiles will again be turned using the trackhoe to reintroduce oxygen and promote volatilization of contaminants.

The process described above will be repeated every two months for up to six months. If at any time field screening indicates TPH and BTEX concentrations have been reduced to below NMOCD Closure Criteria, the NMOCD will be notified two days in advance of sampling and 5-point composite samples will be collected for analysis of TPH and BTEX from each 100 cubic yard stockpile. Following remediation, the excavation will be backfilled and 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

Stuart Hyde, LG
Senior Geologist
(970) 903-1607
shyde@ensolum.com

Daniel R. Moir, PG
Senior Managing Geologist
(303) 887-2946
dmoir@ensolum.com

Attachments:

Figure 1: Site Receptor Map
Figure 2: Delineation Soil Sample Results
Figure 3: Extent of Remaining Impacted Soil

Table 1: Soil Sample Analytical Results

Appendix A: NMOSE Well Summary
Appendix B: Laboratory Analytical Reports
Appendix C: Photographic Log
Appendix D: Micro-Blaze™ Brochure

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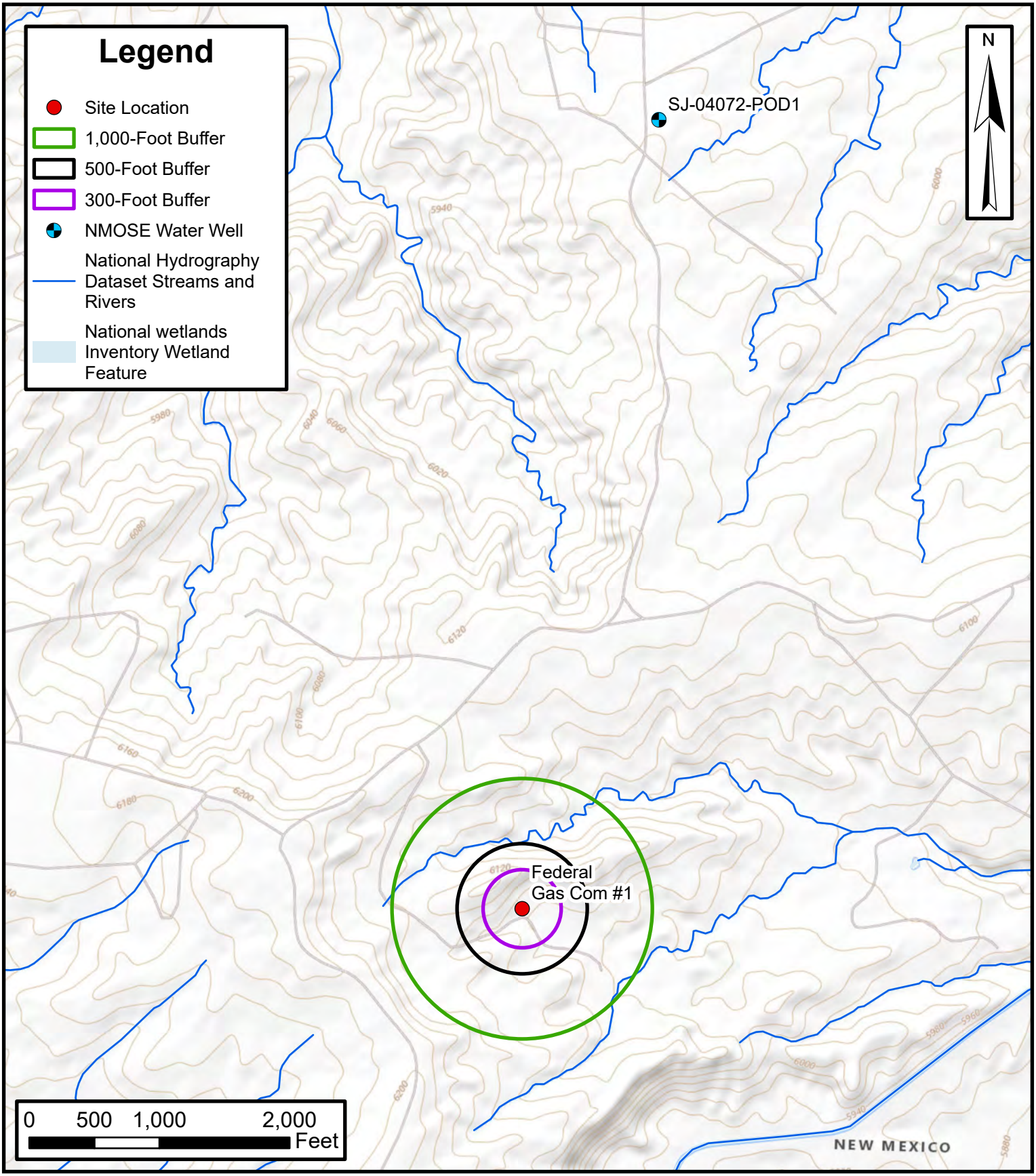
FIGURES



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Environmental, Engineering and Hydrogeologic Consultants

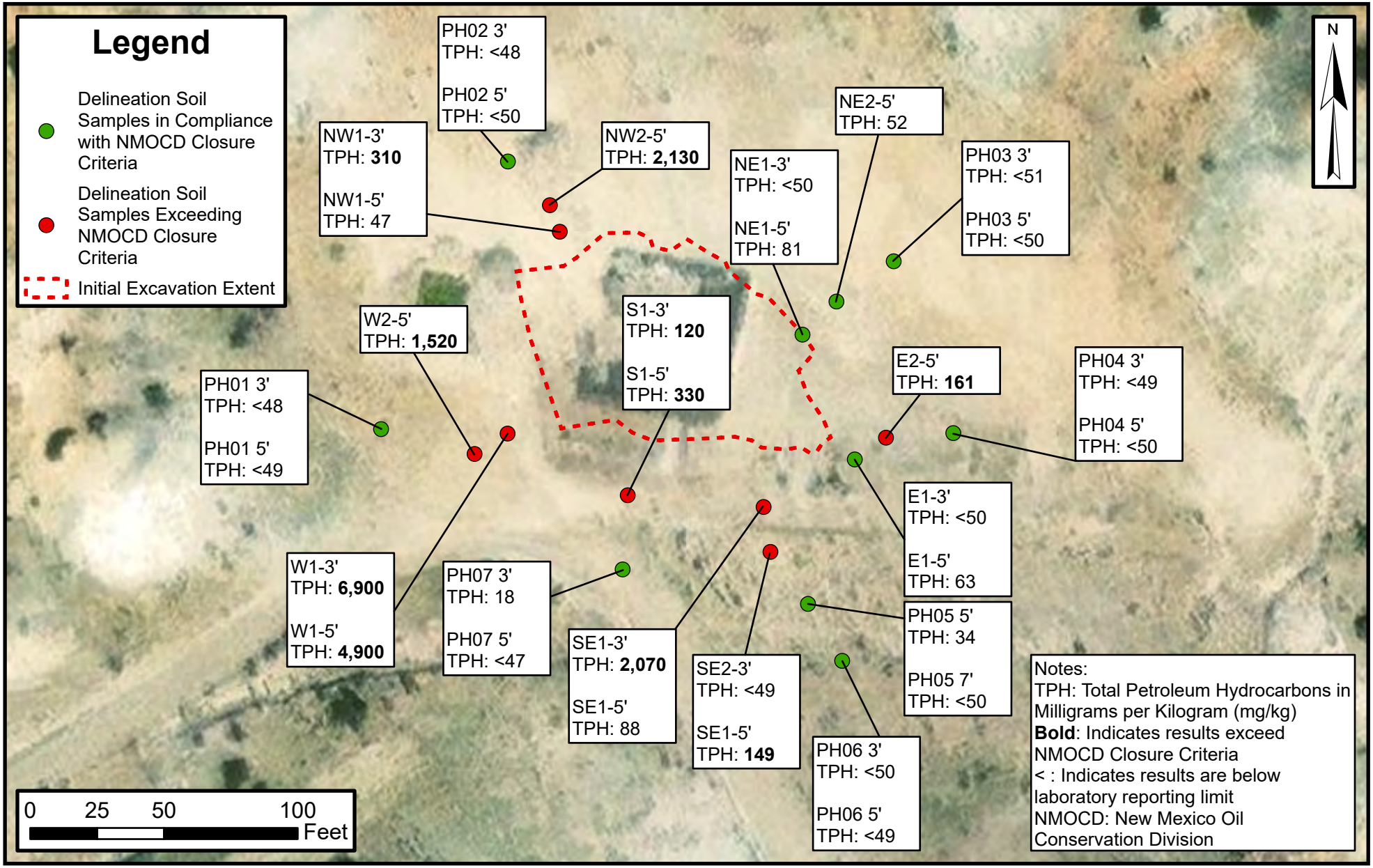
Site Receptor Map

Federal Gas Com #1
Hilcorp Energy Company

36.637216, -107.895431
San Juan County, New Mexico

FIGURE
1

Sources: Environmental Systems Research Institute (ESRI), United States Geologic Survey (USGS), United States Fish and Wildlife Service (USFWS)



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Environmental, Engineering and Hydrogeologic Consultants

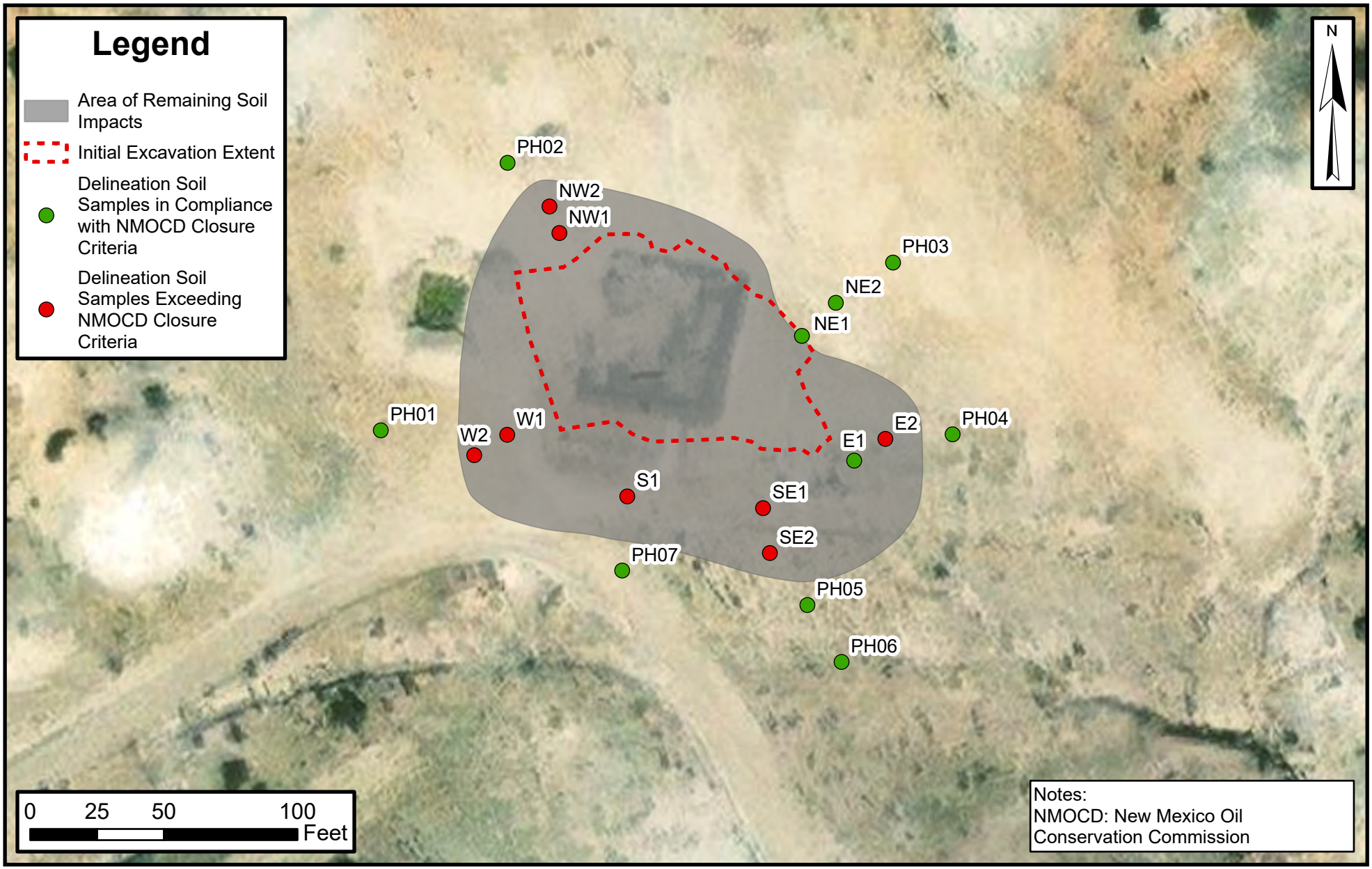
Delineation Soil Sample Results

Federal Gas Com #1
Hilcorp Energy Company

36.637216, -107.895431
San Juan County, New Mexico

FIGURE
2

Sources: Environmental Systems Research Institute (ESRI), Maxar, Microsoft



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Environmental, Engineering and Hydrogeologic Consultants

Extent of Remaining Impacted Soil

Federal Gas Com #1
Hilcorp Energy Company

36.637216, -107.895431
San Juan County, New Mexico

FIGURE
3

Sources: Environmental Systems Research Institute (ESRI), Maxar, Microsoft

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TABLES

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TABLE 1
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)	Chloride (mg/kg)
NMOCD Closure Criteria for Soils Impacted by a Release (Groundwater <50 feet)			**10**	NE	NE	NE	**50**	NE	NE	NE	**100**	**600**
E1-3'	12/8/2022	3	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<50	<50	<50	180
E1-5'	12/8/2022	5	<0.12	<0.25	0.28	0.66	0.94	32	31	<49	63	120
E2-5'	12/8/2022	5	<0.12	<0.24	0.27	0.82	1.1	61	100	<50	**161**	73
NE1-3'	12/8/2022	3	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<15	<50	<50	69
NE1-5'	12/8/2022	5	0.12	<0.25	0.36	2.8	3.3	39	42	<48	81	<60
NE2-5'	12/8/2022	5	<0.12	<0.25	<0.25	<0.50	<0.50	<25	52	<48	52	67
NW1-3'	12/8/2022	3	0.098	<0.24	0.98	8.3	9.4	130	180	<48	**310**	<60
NW1-5'	12/8/2022	5	<0.025	<0.049	<0.049	0.26	0.26	11	36	<47	47	<60
NW2-5'	12/8/2022	5	0.31	<0.25	11	54	**65**	1,300	830	<50	**2,130**	<60
W1-3'	12/8/2022	3	0.69	19	11	300	**331**	4,400	2,500	<460	**6,900**	<59
W1-5'	12/8/2022	5	0.93	21	14	220	**256**	3,400	1,500	<430	**4,900**	70
W2-5'	12/8/2022	5	0.17	11	4.3	52	**67**	950	570	<47	**1,520**	<60
S1-3'	12/8/2022	3	<0.025	<0.049	<0.049	<0.098	<0.098	<4.9	54	66	**120**	<60
S1-5'	12/8/2022	5	<0.12	0.27	0.70	10	11	210	120	<49	**330**	<60
SE1-3'	12/8/2022	3	0.32	0.65	3.9	71	**76**	1,500	570	<46	**2,070**	<60
SE1-5'	12/8/2022	5	<0.12	<0.24	0.33	3.3	3.6	46	42	<50	88	<59
SE2-3'	12/8/2022	3	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<15	<49	<49	93
SE2-5'	12/8/2022	5	<0.12	<0.24	0.28	3.0	3.3	75	74	<47	**149**	<60
PH01 3'	4/3/2023	3	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.6	<48	<48	<60
PH01 5'	4/3/2023	5	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.9	<49	<49	<60
PH02 3'	4/3/2023	3	<0.025	<0.050	<0.050	<0.10	<0.10	<5.0	<9.7	<48	<48	<60
PH02 5'	4/3/2023	5	<0.024	<0.048	<0.048	<0.096	<0.096	<4.8	<10	<50	<50	<60
PH03 3'	4/3/2023	3	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<10	<51	<51	210
PH03 5'	4/3/2023	5	<0.024	<0.049	<0.049	<0.097	<0.097	<4.9	<10	<50	<50	160
PH04 3'	4/3/2023	3	<0.024	<0.047	<0.047	<0.095	<0.095	<4.7	<9.8	<49	<49	96
PH04 5'	4/3/2023	5	<0.025	<0.050	<0.050	<0.099	<0.099	<5.0	<9.9	<50	<50	110
PH05 5'	4/3/2023	5	<0.12	<0.25	<0.25	<0.50	<0.50	<25	34	<49	34	<60
PH05 7'	4/3/2023	7	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<10	<50	<50	<60
PH06 3'	4/3/2023	3	<0.024	<0.047	<0.047	<0.094	<0.094	<4.7	<10	<50	<50	77
PH06 5'	4/3/2023	5	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	<9.9	<49	<49	<60
PH07 3'	4/3/2023	3	<0.024	<0.047	<0.047	<0.094	<0.094	<4.7	18	<49	18	89
PH07 5'	4/3/2023	5	<0.024	<0.048	<0.048	<0.097	<0.097	<4.8	<9.4	<47	<47	<60

Notes:

bgs: below ground surface
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
mg/kg: milligrams per kilogram
NA: Not Analyzed
NE: Not Established
NMOCD: New Mexico Oil Conservation Division
': feet

GRO: Gasoline Range Organics
DRO: Diesel Range Organics
MRO: Motor Oil/Lube Oil Range Organics
TPH: Total Petroleum Hydrocarbon
<: indicates result less than the stated laboratory reporting limit (RL)
*Concentrations in **bold** and shaded exceed the New Mexico Oil Conservation Division Table I Closure Criteria for Soils Impacted by a Release*

ENSOLUM

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)
	SJ-4072
WELL OWNER NAME(S): Mary Sullivan	PHONE (OPTIONAL)
WELL OWNER MAILING ADDRESS: CR 4990	CITY: Bloomfield STATE: NM ZIP: 87413

WELL LOCATION (FROM GPS): DEGREES MINUTES SECONDS

LATITUDE: 36 39 14 N

LONGITUDE: 107 53 37 W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

2. DRILLING & CASING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD 717	Terry Hood	

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
12/26/13	1/5/14	470		242

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

STATIC WATER LEVEL IN COMPLETED WELL (FT): 470

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

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	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)
0	479	5	SDR 21 PVC		5		060

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
5	20	9	Concrete	4	Pour

FOR OSE INTERNAL USE

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

FILE NUMBER	SJ-4072 POD1	POD NUMBER	1	TRN NUMBER	582092
LOCATION	28N.10W.21.220				PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	TO	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)
0	10	10	Clay & sand	☐Y ☐N	
10	40	30	Brown Shale	☐Y ☐N	
40	70	30	Sandstone	☐Y ☐N	
70	130	60	Blue Sandstone	☐Y ☐N	
130	145	15	Blu Sandy Shale	☐Y ☐N	
145	175	30	Blue Sandstone	☐Y ☐N	
175	235	60	Blue Sandy Shale	☐Y ☐N	
235	255	20	Blue Sandstone	☐Y ☐N	
255	295	40	Blu Shale	☐Y ☐N	
295	340	45	Blue Sandy Shale	☐Y ☐N	
340	370	30	Blu SandStone	☐Y ☐N	
370	410	40	Blue Sandy Shale	☐Y ☐N	
410	455	45	Blusandstone	☐Y ☐N	
455	470	15	Blue Sandy Shale	☐Y ☐N	
				☐Y ☐N	
				☐Y ☐N	
				☐Y ☐N	
				☐Y ☐N	
				☐Y ☐N	
				☐Y ☐N	
				☐Y ☐N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: ☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED 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:

2014 JAN 8 PM 3:36 STATE ENGINEER OFFICE AZTEC, NEW MEXICO

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:

SIGNATURE OF DRILLER / PRINT SIGNEE NAME

1/8/14
DATE

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

ENSOLUM

APPENDIX B

Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

December 21, 2022

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

RE: Federal Gas Com 1 OrderNo.: 2212579

Dear Fasho Trujillo:

Hall Environmental Analysis Laboratory received 18 sample(s) on 12/9/2022 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 don't hesitate to contact HEAL for any additional information or clarifications.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: E1-5'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 11:00:00 AM
Lab ID: 2212579-001 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	31	15		mg/Kg	1	12/13/2022 11:40:07 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/13/2022 11:40:07 AM
Surr: DNOP	108	21-129		%Rec	1	12/13/2022 11:40:07 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	32	25		mg/Kg	5	12/13/2022 4:29:00 AM
Surr: BFB	155	37.7-212		%Rec	5	12/13/2022 4:29:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.12		mg/Kg	5	12/13/2022 4:29:00 AM
Toluene	ND	0.25		mg/Kg	5	12/13/2022 4:29:00 AM
Ethylbenzene	0.28	0.25		mg/Kg	5	12/13/2022 4:29:00 AM
Xylenes, Total	0.66	0.50		mg/Kg	5	12/13/2022 4:29:00 AM
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	5	12/13/2022 4:29:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	120	60		mg/Kg	20	12/15/2022 8:03:24 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: E2-5'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 11:07:00 AM
Lab ID: 2212579-002 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	100	15		mg/Kg	1	12/13/2022 11:50:45 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/13/2022 11:50:45 AM
Surr: DNOP	111	21-129		%Rec	1	12/13/2022 11:50:45 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	61	24		mg/Kg	5	12/13/2022 4:48:00 AM
Surr: BFB	194	37.7-212		%Rec	5	12/13/2022 4:48:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.12		mg/Kg	5	12/13/2022 4:48:00 AM
Toluene	ND	0.24		mg/Kg	5	12/13/2022 4:48:00 AM
Ethylbenzene	0.27	0.24		mg/Kg	5	12/13/2022 4:48:00 AM
Xylenes, Total	0.82	0.49		mg/Kg	5	12/13/2022 4:48:00 AM
Surr: 4-Bromofluorobenzene	130	70-130	S	%Rec	5	12/13/2022 4:48:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	73	60		mg/Kg	20	12/15/2022 8:15:48 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** E1-3'
Project: Federal Gas Com 1 **Collection Date:** 12/8/2022 11:15:00 AM
Lab ID: 2212579-003 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/13/2022 12:01:19 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/13/2022 12:01:19 PM
Surr: DNOP	115	21-129		%Rec	1	12/13/2022 12:01:19 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/13/2022 5:08:00 AM
Surr: BFB	97.3	37.7-212		%Rec	1	12/13/2022 5:08:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	12/13/2022 5:08:00 AM
Toluene	ND	0.050		mg/Kg	1	12/13/2022 5:08:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/13/2022 5:08:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/13/2022 5:08:00 AM
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	12/13/2022 5:08:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	180	61		mg/Kg	20	12/15/2022 8:53:03 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** NE1-3'
Project: Federal Gas Com 1 **Collection Date:** 12/8/2022 11:22:00 AM
Lab ID: 2212579-004 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/13/2022 12:11:56 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/13/2022 12:11:56 PM
Surr: DNOP	111	21-129		%Rec	1	12/13/2022 12:11:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/13/2022 5:27:00 AM
Surr: BFB	97.3	37.7-212		%Rec	1	12/13/2022 5:27:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	12/13/2022 5:27:00 AM
Toluene	ND	0.050		mg/Kg	1	12/13/2022 5:27:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/13/2022 5:27:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/13/2022 5:27:00 AM
Surr: 4-Bromofluorobenzene	99.6	70-130		%Rec	1	12/13/2022 5:27:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	69	61		mg/Kg	20	12/15/2022 9:05:28 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: NE1-5'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 11:30:00 AM
Lab ID: 2212579-005 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	42	14		mg/Kg	1	12/13/2022 12:22:32 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/13/2022 12:22:32 PM
Surr: DNOP	113	21-129		%Rec	1	12/13/2022 12:22:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	39	25		mg/Kg	5	12/13/2022 5:47:00 AM
Surr: BFB	148	37.7-212		%Rec	5	12/13/2022 5:47:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	0.12	0.099		mg/Kg	5	12/13/2022 5:47:00 AM
Toluene	ND	0.25		mg/Kg	5	12/13/2022 5:47:00 AM
Ethylbenzene	0.36	0.25		mg/Kg	5	12/13/2022 5:47:00 AM
Xylenes, Total	2.8	0.49		mg/Kg	5	12/13/2022 5:47:00 AM
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	5	12/13/2022 5:47:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	12/15/2022 9:17:53 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: NE2-5'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 11:40:00 AM
Lab ID: 2212579-006 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	52	15		mg/Kg	1	12/16/2022 1:22:40 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/16/2022 1:22:40 AM
Surr: DNOP	124	21-129		%Rec	1	12/16/2022 1:22:40 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	25		mg/Kg	5	12/13/2022 6:06:00 AM
Surr: BFB	151	37.7-212		%Rec	5	12/13/2022 6:06:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.12		mg/Kg	5	12/13/2022 6:06:00 AM
Toluene	ND	0.25		mg/Kg	5	12/13/2022 6:06:00 AM
Ethylbenzene	ND	0.25		mg/Kg	5	12/13/2022 6:06:00 AM
Xylenes, Total	ND	0.50		mg/Kg	5	12/13/2022 6:06:00 AM
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	5	12/13/2022 6:06:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	67	60		mg/Kg	20	12/15/2022 9:30:17 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: NW1-3'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 11:45:00 AM
Lab ID: 2212579-007 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	180	15		mg/Kg	1	12/16/2022 1:33:19 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/16/2022 1:33:19 AM
Surr: DNOP	128	21-129		%Rec	1	12/16/2022 1:33:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	130	24		mg/Kg	5	12/13/2022 6:26:00 AM
Surr: BFB	371	37.7-212	S	%Rec	5	12/13/2022 6:26:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	0.098	0.097		mg/Kg	5	12/13/2022 6:26:00 AM
Toluene	ND	0.24		mg/Kg	5	12/13/2022 6:26:00 AM
Ethylbenzene	0.98	0.24		mg/Kg	5	12/13/2022 6:26:00 AM
Xylenes, Total	8.3	0.48		mg/Kg	5	12/13/2022 6:26:00 AM
Surr: 4-Bromofluorobenzene	168	70-130	S	%Rec	5	12/13/2022 6:26:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	12/15/2022 9:42:41 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** NW1-5'
Project: Federal Gas Com 1 **Collection Date:** 12/8/2022 11:53:00 AM
Lab ID: 2212579-008 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	36	14		mg/Kg	1	12/19/2022 5:56:56 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/19/2022 5:56:56 PM
Surr: DNOP	92.5	21-129		%Rec	1	12/19/2022 5:56:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	11	4.9		mg/Kg	1	12/14/2022 1:42:23 PM
Surr: BFB	162	37.7-212		%Rec	1	12/14/2022 1:42:23 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	12/14/2022 1:42:23 PM
Toluene	ND	0.049		mg/Kg	1	12/14/2022 1:42:23 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/14/2022 1:42:23 PM
Xylenes, Total	0.26	0.099		mg/Kg	1	12/14/2022 1:42:23 PM
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	12/14/2022 1:42:23 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	12/15/2022 10:19:57 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: NW2-5'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 12:01:00 PM
Lab ID: 2212579-009 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	830	15		mg/Kg	1	12/16/2022 5:24:47 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/16/2022 5:24:47 AM
Surr: DNOP	119	21-129		%Rec	1	12/16/2022 5:24:47 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	1300	25		mg/Kg	5	12/14/2022 4:03:42 PM
Surr: BFB	1750	37.7-212	S	%Rec	5	12/14/2022 4:03:42 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	0.31	0.12		mg/Kg	5	12/14/2022 4:03:42 PM
Toluene	ND	0.25		mg/Kg	5	12/14/2022 4:03:42 PM
Ethylbenzene	11	0.25		mg/Kg	5	12/14/2022 4:03:42 PM
Xylenes, Total	54	4.9		mg/Kg	50	12/15/2022 8:33:09 PM
Surr: 4-Bromofluorobenzene	202	70-130	S	%Rec	5	12/14/2022 4:03:42 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	12/15/2022 11:22:00 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: W1-3'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 12:20:00 PM
Lab ID: 2212579-010 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	2500	140		mg/Kg	10	12/17/2022 1:12:43 AM
Motor Oil Range Organics (MRO)	ND	460	D	mg/Kg	10	12/17/2022 1:12:43 AM
Surr: DNOP	0	21-129	S	%Rec	10	12/17/2022 1:12:43 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	4400	490		mg/Kg	100	12/15/2022 8:56:33 PM
Surr: BFB	324	37.7-212	S	%Rec	100	12/15/2022 8:56:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	0.69	0.12		mg/Kg	5	12/14/2022 4:27:03 PM
Toluene	19	0.24		mg/Kg	5	12/14/2022 4:27:03 PM
Ethylbenzene	11	0.24		mg/Kg	5	12/14/2022 4:27:03 PM
Xylenes, Total	300	9.7		mg/Kg	100	12/15/2022 8:56:33 PM
Surr: 4-Bromofluorobenzene	353	70-130	S	%Rec	5	12/14/2022 4:27:03 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	59		mg/Kg	20	12/15/2022 11:34:24 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: W1-5'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 12:29:00 PM
Lab ID: 2212579-011 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	1500	130		mg/Kg	10	12/17/2022 1:23:05 AM
Motor Oil Range Organics (MRO)	ND	430	D	mg/Kg	10	12/17/2022 1:23:05 AM
Surr: DNOP	0	21-129	S	%Rec	10	12/17/2022 1:23:05 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	3400	490		mg/Kg	100	12/15/2022 9:19:55 PM
Surr: BFB	263	37.7-212	S	%Rec	100	12/15/2022 9:19:55 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	0.93	0.12		mg/Kg	5	12/14/2022 4:50:40 PM
Toluene	21	0.24		mg/Kg	5	12/14/2022 4:50:40 PM
Ethylbenzene	14	0.24		mg/Kg	5	12/14/2022 4:50:40 PM
Xylenes, Total	220	9.7		mg/Kg	100	12/15/2022 9:19:55 PM
Surr: 4-Bromofluorobenzene	271	70-130	S	%Rec	5	12/14/2022 4:50:40 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	70	60		mg/Kg	20	12/15/2022 11:46:49 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: W2-5'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 12:35:00 PM
Lab ID: 2212579-012 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	570	14		mg/Kg	1	12/16/2022 5:56:55 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/16/2022 5:56:55 AM
Surr: DNOP	122	21-129		%Rec	1	12/16/2022 5:56:55 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	950	25		mg/Kg	5	12/14/2022 5:14:08 PM
Surr: BFB	978	37.7-212	S	%Rec	5	12/14/2022 5:14:08 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	0.17	0.12		mg/Kg	5	12/14/2022 5:14:08 PM
Toluene	11	0.25		mg/Kg	5	12/14/2022 5:14:08 PM
Ethylbenzene	4.3	0.25		mg/Kg	5	12/14/2022 5:14:08 PM
Xylenes, Total	52	4.9		mg/Kg	50	12/15/2022 9:43:19 PM
Surr: 4-Bromofluorobenzene	119	70-130		%Rec	5	12/14/2022 5:14:08 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	12/15/2022 11:59:14 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: S1-3'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 12:38:00 PM
Lab ID: 2212579-013 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	54	15		mg/Kg	1	12/16/2022 6:07:37 AM
Motor Oil Range Organics (MRO)	66	49		mg/Kg	1	12/16/2022 6:07:37 AM
Surr: DNOP	120	21-129		%Rec	1	12/16/2022 6:07:37 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/15/2022 10:06:43 PM
Surr: BFB	91.4	37.7-212		%Rec	1	12/15/2022 10:06:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	12/15/2022 10:06:43 PM
Toluene	ND	0.049		mg/Kg	1	12/15/2022 10:06:43 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/15/2022 10:06:43 PM
Xylenes, Total	ND	0.098		mg/Kg	1	12/15/2022 10:06:43 PM
Surr: 4-Bromofluorobenzene	80.8	70-130		%Rec	1	12/15/2022 10:06:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	12/16/2022 12:11:39 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: S1-5'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 12:40:00 PM
Lab ID: 2212579-014 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	120	15		mg/Kg	1	12/19/2022 9:05:54 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/19/2022 9:05:54 PM
Surr: DNOP	111	21-129		%Rec	1	12/19/2022 9:05:54 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	210	24		mg/Kg	5	12/14/2022 6:01:15 PM
Surr: BFB	338	37.7-212	S	%Rec	5	12/14/2022 6:01:15 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.12		mg/Kg	5	12/14/2022 6:01:15 PM
Toluene	0.27	0.24		mg/Kg	5	12/14/2022 6:01:15 PM
Ethylbenzene	0.70	0.24		mg/Kg	5	12/14/2022 6:01:15 PM
Xylenes, Total	10	0.49		mg/Kg	5	12/14/2022 6:01:15 PM
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	5	12/14/2022 6:01:15 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	12/16/2022 12:24:03 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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: SE1-3'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 12:52:00 PM
Lab ID: 2212579-015 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	570	14		mg/Kg	1	12/16/2022 6:28:56 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	12/16/2022 6:28:56 AM
Surr: DNOP	128	21-129		%Rec	1	12/16/2022 6:28:56 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	1500	25		mg/Kg	5	12/14/2022 6:24:43 PM
Surr: BFB	1300	37.7-212	S	%Rec	5	12/14/2022 6:24:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	0.32	0.12		mg/Kg	5	12/14/2022 6:24:43 PM
Toluene	0.65	0.25		mg/Kg	5	12/14/2022 6:24:43 PM
Ethylbenzene	3.9	0.25		mg/Kg	5	12/14/2022 6:24:43 PM
Xylenes, Total	71	5.0		mg/Kg	50	12/15/2022 11:39:54 PM
Surr: 4-Bromofluorobenzene	149	70-130	S	%Rec	5	12/14/2022 6:24:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	12/16/2022 12:36:28 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** SE2-3'
Project: Federal Gas Com 1 **Collection Date:** 12/8/2022 12:55:00 PM
Lab ID: 2212579-016 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	15		mg/Kg	1	12/16/2022 6:39:35 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/16/2022 6:39:35 AM
Surr: DNOP	127	21-129		%Rec	1	12/16/2022 6:39:35 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/14/2022 6:48:18 PM
Surr: BFB	105	37.7-212		%Rec	1	12/14/2022 6:48:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	12/14/2022 6:48:18 PM
Toluene	ND	0.049		mg/Kg	1	12/14/2022 6:48:18 PM
Ethylbenzene	ND	0.049		mg/Kg	1	12/14/2022 6:48:18 PM
Xylenes, Total	ND	0.099		mg/Kg	1	12/14/2022 6:48:18 PM
Surr: 4-Bromofluorobenzene	86.8	70-130		%Rec	1	12/14/2022 6:48:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	93	60		mg/Kg	20	12/16/2022 12:48:53 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: SE1-5'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 12:58:00 PM
Lab ID: 2212579-017 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	42	15		mg/Kg	1	12/16/2022 6:50:13 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/16/2022 6:50:13 AM
Surr: DNOP	120	21-129		%Rec	1	12/16/2022 6:50:13 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	46	24		mg/Kg	5	12/14/2022 7:11:49 PM
Surr: BFB	142	37.7-212		%Rec	5	12/14/2022 7:11:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.12		mg/Kg	5	12/14/2022 7:11:49 PM
Toluene	ND	0.24		mg/Kg	5	12/14/2022 7:11:49 PM
Ethylbenzene	0.33	0.24		mg/Kg	5	12/14/2022 7:11:49 PM
Xylenes, Total	3.3	0.49		mg/Kg	5	12/14/2022 7:11:49 PM
Surr: 4-Bromofluorobenzene	87.7	70-130		%Rec	5	12/14/2022 7:11:49 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	59		mg/Kg	20	12/16/2022 1:01:18 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2212579**
Date Reported: **12/21/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: SE2-5'
Project: Federal Gas Com 1
Collection Date: 12/8/2022 1:06:00 PM
Lab ID: 2212579-018 **Matrix:** SOIL **Received Date:** 12/9/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	74	14		mg/Kg	1	12/16/2022 7:11:19 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/16/2022 7:11:19 AM
Surr: DNOP	116	21-129		%Rec	1	12/16/2022 7:11:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	75	24		mg/Kg	5	12/14/2022 7:35:18 PM
Surr: BFB	179	37.7-212		%Rec	5	12/14/2022 7:35:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.12		mg/Kg	5	12/14/2022 7:35:18 PM
Toluene	ND	0.24		mg/Kg	5	12/14/2022 7:35:18 PM
Ethylbenzene	0.28	0.24		mg/Kg	5	12/14/2022 7:35:18 PM
Xylenes, Total	3.0	0.49		mg/Kg	5	12/14/2022 7:35:18 PM
Surr: 4-Bromofluorobenzene	90.3	70-130		%Rec	5	12/14/2022 7:35:18 PM
EPA METHOD 300.0: ANIONS						Analyst: **NAI**
Chloride	ND	60		mg/Kg	20	12/16/2022 1:13:42 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2212579**

21-Dec-22

Client: HILCORP ENERGY

Project: Federal Gas Com 1

Sample ID: **MB-72117**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **72117**	RunNo: **93343**							
Prep Date: **12/15/2022**	Analysis Date: **12/15/2022**	SeqNo: **3365240**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-72117**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **72117**	RunNo: **93343**							
Prep Date: **12/15/2022**	Analysis Date: **12/15/2022**	SeqNo: **3365241**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.6	90	110			

Sample ID: **MB-72119**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **72119**	RunNo: **93343**							
Prep Date: **12/15/2022**	Analysis Date: **12/15/2022**	SeqNo: **3365242**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-72119**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **72119**	RunNo: **93343**							
Prep Date: **12/15/2022**	Analysis Date: **12/15/2022**	SeqNo: **3365243**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2212579**

21-Dec-22

Client: HILCORP ENERGY

Project: Federal Gas Com 1

Sample ID: **LCS-72024** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **72024** RunNo: **93232**

Prep Date: **12/12/2022** Analysis Date: **12/13/2022** SeqNo: **3360354** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	15	50.00	0	99.0	64.4	127			
Surr: DNOP	6.8		5.000		136	21	129			S

Sample ID: **MB-72024** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **72024** RunNo: **93232**

Prep Date: **12/12/2022** Analysis Date: **12/13/2022** SeqNo: **3360355** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	12		10.00		122	21	129			

Sample ID: **LCS-72046** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **72046** RunNo: **93357**

Prep Date: **12/13/2022** Analysis Date: **12/16/2022** SeqNo: **3366576** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	15	50.00	0	90.3	64.4	127			
Surr: DNOP	5.9		5.000		119	21	129			

Sample ID: **MB-72046** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **72046** RunNo: **93357**

Prep Date: **12/13/2022** Analysis Date: **12/16/2022** SeqNo: **3366579** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	15								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	13		10.00		129	21	129			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2212579**

21-Dec-22

Client: HILCORP ENERGY

Project: Federal Gas Com 1

Sample ID: **lcs-71991**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **71991**	RunNo: **93214**							
Prep Date: **12/9/2022**	Analysis Date: **12/12/2022**	SeqNo: **3359252**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2200		1000		218	37.7	212			S

Sample ID: **mb-71991**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **71991**	RunNo: **93214**							
Prep Date: **12/9/2022**	Analysis Date: **12/12/2022**	SeqNo: **3359253**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	970		1000		97.2	37.7	212			

Sample ID: **lcs-71997**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **71997**	RunNo: **93214**							
Prep Date: **12/9/2022**	Analysis Date: **12/12/2022**	SeqNo: **3359276**	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	72.3	137			
Surr: BFB	2100		1000		210	37.7	212			

Sample ID: **mb-71997**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **71997**	RunNo: **93214**							
Prep Date: **12/9/2022**	Analysis Date: **12/12/2022**	SeqNo: **3359277**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		94.1	37.7	212			

Sample ID: **LCS-72007**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **72007**	RunNo: **93289**							
Prep Date: **12/9/2022**	Analysis Date: **12/14/2022**	SeqNo: **3362708**	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	96.6	72.3	137			
Surr: BFB	1800		1000		176	37.7	212			

Sample ID: **mb-72007**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **72007**	RunNo: **93289**							
Prep Date: **12/9/2022**	Analysis Date: **12/14/2022**	SeqNo: **3362710**	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	840		1000		84.3	37.7	212			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2212579**

21-Dec-22

Client: HILCORP ENERGY

Project: Federal Gas Com 1

Sample ID: **lcs-72034**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **72034**	RunNo: **93307**							
Prep Date: **12/12/2022**	Analysis Date: **12/15/2022**	SeqNo: **3363273**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1800		1000		182	37.7	212			

Sample ID: **mb-72034**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **72034**	RunNo: **93307**							
Prep Date: **12/12/2022**	Analysis Date: **12/15/2022**	SeqNo: **3363274**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	890		1000		89.0	37.7	212			

Sample ID: **lcs-72038**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **72038**	RunNo: **93307**							
Prep Date: **12/13/2022**	Analysis Date: **12/16/2022**	SeqNo: **3365337**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1800		1000		181	37.7	212			

Sample ID: **mb-72038**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **72038**	RunNo: **93307**							
Prep Date: **12/13/2022**	Analysis Date: **12/16/2022**	SeqNo: **3365338**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	830		1000		82.6	37.7	212			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2212579**

21-Dec-22

Client: HILCORP ENERGY

Project: Federal Gas Com 1

Sample ID: **lcs-71991**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **71991**	RunNo: **93214**
Prep Date: **12/9/2022**	Analysis Date: **12/12/2022**	SeqNo: **3359305** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		101	70	130			

Sample ID: **mb-71991**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **71991**	RunNo: **93214**
Prep Date: **12/9/2022**	Analysis Date: **12/12/2022**	SeqNo: **3359306** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		102	70	130			

Sample ID: **lcs-71997**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **71997**	RunNo: **93214**
Prep Date: **12/9/2022**	Analysis Date: **12/12/2022**	SeqNo: **3359329** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.1	80	120			
Surr: 4-Bromofluorobenzene	0.98		1.000		98.5	70	130			

Sample ID: **mb-71997**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **71997**	RunNo: **93214**
Prep Date: **12/9/2022**	Analysis Date: **12/12/2022**	SeqNo: **3359330** 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	70	130			

Sample ID: **lcs-72007**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **72007**	RunNo: **93289**
Prep Date: **12/9/2022**	Analysis Date: **12/14/2022**	SeqNo: **3362761** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.4	80	120			
Toluene	0.97	0.050	1.000	0	97.3	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.4	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.7	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2212579**

21-Dec-22

Client: HILCORP ENERGY

Project: Federal Gas Com 1

Sample ID: **lcs-72007**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **72007**	RunNo: **93289**							
Prep Date: **12/9/2022**	Analysis Date: **12/14/2022**	SeqNo: **3362761**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.89		1.000		88.7	70	130			

Sample ID: **mb-72007**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **72007**	RunNo: **93289**							
Prep Date: **12/9/2022**	Analysis Date: **12/14/2022**	SeqNo: **3362763**	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	0.85		1.000		85.2	70	130			

Sample ID: **LCS-72034**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **72034**	RunNo: **93307**							
Prep Date: **12/12/2022**	Analysis Date: **12/15/2022**	SeqNo: **3363278**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.89		1.000		88.6	70	130			

Sample ID: **mb-72034**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **72034**	RunNo: **93307**							
Prep Date: **12/12/2022**	Analysis Date: **12/15/2022**	SeqNo: **3363279**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.89		1.000		89.3	70	130			

Sample ID: **LCS-72038**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **72038**	RunNo: **93307**							
Prep Date: **12/13/2022**	Analysis Date: **12/16/2022**	SeqNo: **3365373**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.87		1.000		86.8	70	130			

Sample ID: **mb-72038**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **72038**	RunNo: **93307**							
Prep Date: **12/13/2022**	Analysis Date: **12/16/2022**	SeqNo: **3365375**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.82		1.000		81.5	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2212579 RcptNo: 1

Received By: Juan Rojas 12/9/2022 7:35:00 AM

Completed By: Tracy Casarrubias 12/9/2022 8:53:53 AM

Reviewed By: JR 12-9-22

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: JR 12/9/22

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: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp Energy

Mailing Address: 382 CR 3100
Aztec NM 87410

Phone #: 505.599.3400

email or Fax#: kkaufman@hilcorp.com

QA/QC Package: etrujillo@hilcorp.com

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time: 5 days

☒ Standard ☐ Rush_____

Project Name: Federal Gas Com 1

Project #:

Project Manager: Fasho Trujillo

Sampler: F Trujillo

On Ice: ☐ Yes ☐ No

# of Coolers:

Cooler Temp(Including CF): 1.6+0.2=1.8

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2212579	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/8/22	11:00A	Soil	E 1-5'	4oz glass/1	cold	001	■	■					■			
	11:07A		E 2-5'			002										
	11:15A		E 1-3'			003										
	11:22A		NE 1-3'			004										
	11:30A		NE 1-5'			005										
	11:40A		NE 2-5'			006										
	11:45A		NW 1-3'			007										
	11:53A		NW 1-5'			008										
	12:01P		NW 2-5'			009										
	12:20P		W 1-3'			010										
	12:29P		W 1-5'			011										
	12:35P		W 2-5'			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/8/22	1540				12/8/22	1540
12/8/22	1819			courier	12/9/22	7:35

Remarks:

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

Chain-of-Custody Record

Client: Hilcorp Energy

Mailing Address: 382 CR 3100
Aztec NM 87410

Phone #: 505.599.3400

email or Fax#: kkaufman@hilcorp.com

QA/QC Package: etrujillo@hilcorp.com

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day
☒ Standard ☐ Rush

Project Name: Federal Gas Com 1

Project #:

Project Manager: Fasho Trujillo

Sampler: F Trujillo

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.6+0.2=1.8

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2212579	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
12/8/22	1238P	Soil	S1-3'	4oz glass/1	cold	013	■	■					■			
	1240P		S1-5'			014										
	1252P		SE 1-3'			015										
	1255P		SE 2-3'			016										
	1258P		SE 1-5'			017										
	106P		SE 2-5'			018										

Date	Time	Relinquished by	Received by	Via	Date	Time
12/8/22	1540				12/8/22	1540
12/8/22	1819			Courier	12/9/22	7:35

Remarks:

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 12, 2023

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

RE: Federal GC 1 OrderNo.: 2304255

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 14 sample(s) on 4/6/2023 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 don't hesitate to contact HEAL for any additional information or clarifications.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH01 3'
Project: Federal GC 1
Collection Date: 4/3/2023 8:15:00 AM
Lab ID: 2304255-001 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/10/2023 8:11:38 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2023 8:11:38 PM
Surr: DNOP	99.8	69-147		%Rec	1	4/10/2023 8:11:38 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/8/2023 6:31:00 AM
Surr: BFB	89.9	37.7-212		%Rec	1	4/8/2023 6:31:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	4/8/2023 6:31:00 AM
Toluene	ND	0.050		mg/Kg	1	4/8/2023 6:31:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/8/2023 6:31:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/8/2023 6:31:00 AM
Surr: 4-Bromofluorobenzene	90.5	70-130		%Rec	1	4/8/2023 6:31:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/11/2023 4:18:08 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH01 5'
Project: Federal GC 1
Collection Date: 4/3/2023 8:20:00 AM
Lab ID: 2304255-002 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2023 8:22:30 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2023 8:22:30 PM
Surr: DNOP	97.5	69-147		%Rec	1	4/10/2023 8:22:30 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/8/2023 6:52:00 AM
Surr: BFB	89.7	37.7-212		%Rec	1	4/8/2023 6:52:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	4/8/2023 6:52:00 AM
Toluene	ND	0.050		mg/Kg	1	4/8/2023 6:52:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/8/2023 6:52:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/8/2023 6:52:00 AM
Surr: 4-Bromofluorobenzene	88.9	70-130		%Rec	1	4/8/2023 6:52:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/11/2023 4:30:33 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH02 3'
Project: Federal GC 1
Collection Date: 4/3/2023 8:25:00 AM
Lab ID: 2304255-003 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/10/2023 8:33:22 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/10/2023 8:33:22 PM
Surr: DNOP	99.1	69-147		%Rec	1	4/10/2023 8:33:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/8/2023 7:14:00 AM
Surr: BFB	89.9	37.7-212		%Rec	1	4/8/2023 7:14:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	4/8/2023 7:14:00 AM
Toluene	ND	0.050		mg/Kg	1	4/8/2023 7:14:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/8/2023 7:14:00 AM
Xylenes, Total	ND	0.10		mg/Kg	1	4/8/2023 7:14:00 AM
Surr: 4-Bromofluorobenzene	90.0	70-130		%Rec	1	4/8/2023 7:14:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/11/2023 4:42:57 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH02 5'
Project: Federal GC 1
Collection Date: 4/3/2023 8:30:00 AM
Lab ID: 2304255-004 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/10/2023 8:44:14 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2023 8:44:14 PM
Surr: DNOP	96.9	69-147		%Rec	1	4/10/2023 8:44:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/8/2023 7:36:00 AM
Surr: BFB	93.0	37.7-212		%Rec	1	4/8/2023 7:36:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/8/2023 7:36:00 AM
Toluene	ND	0.048		mg/Kg	1	4/8/2023 7:36:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	4/8/2023 7:36:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	4/8/2023 7:36:00 AM
Surr: 4-Bromofluorobenzene	89.9	70-130		%Rec	1	4/8/2023 7:36:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/11/2023 5:20:11 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH03 3'
Project: Federal GC 1
Collection Date: 4/3/2023 8:35:00 AM
Lab ID: 2304255-005 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/10/2023 8:55:04 PM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	4/10/2023 8:55:04 PM
Surr: DNOP	94.3	69-147		%Rec	1	4/10/2023 8:55:04 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2023 7:57:00 AM
Surr: BFB	97.7	37.7-212		%Rec	1	4/8/2023 7:57:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/8/2023 7:57:00 AM
Toluene	ND	0.049		mg/Kg	1	4/8/2023 7:57:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2023 7:57:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/8/2023 7:57:00 AM
Surr: 4-Bromofluorobenzene	91.4	70-130		%Rec	1	4/8/2023 7:57:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	210	60		mg/Kg	20	4/11/2023 5:32:36 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH03 5'
Project: Federal GC 1
Collection Date: 4/3/2023 8:40:00 AM
Lab ID: 2304255-006 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/10/2023 9:05:55 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2023 9:05:55 PM
Surr: DNOP	91.3	69-147		%Rec	1	4/10/2023 9:05:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/8/2023 8:19:00 AM
Surr: BFB	94.6	37.7-212		%Rec	1	4/8/2023 8:19:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/8/2023 8:19:00 AM
Toluene	ND	0.049		mg/Kg	1	4/8/2023 8:19:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	4/8/2023 8:19:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	4/8/2023 8:19:00 AM
Surr: 4-Bromofluorobenzene	88.5	70-130		%Rec	1	4/8/2023 8:19:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	160	60		mg/Kg	20	4/11/2023 5:45:01 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH04 3'
Project: Federal GC 1
Collection Date: 4/3/2023 8:45:00 AM
Lab ID: 2304255-007 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/10/2023 9:16:42 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2023 9:16:42 PM
Surr: DNOP	94.9	69-147		%Rec	1	4/10/2023 9:16:42 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/8/2023 8:40:00 AM
Surr: BFB	94.7	37.7-212		%Rec	1	4/8/2023 8:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/8/2023 8:40:00 AM
Toluene	ND	0.047		mg/Kg	1	4/8/2023 8:40:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	4/8/2023 8:40:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	4/8/2023 8:40:00 AM
Surr: 4-Bromofluorobenzene	91.5	70-130		%Rec	1	4/8/2023 8:40:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	96	60		mg/Kg	20	4/11/2023 5:57:26 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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH04 5'
Project: Federal GC 1
Collection Date: 4/3/2023 8:50:00 AM
Lab ID: 2304255-008 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2023 9:27:30 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2023 9:27:30 PM
Surr: DNOP	91.9	69-147		%Rec	1	4/10/2023 9:27:30 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/8/2023 9:02:00 AM
Surr: BFB	94.1	37.7-212		%Rec	1	4/8/2023 9:02:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	4/8/2023 9:02:00 AM
Toluene	ND	0.050		mg/Kg	1	4/8/2023 9:02:00 AM
Ethylbenzene	ND	0.050		mg/Kg	1	4/8/2023 9:02:00 AM
Xylenes, Total	ND	0.099		mg/Kg	1	4/8/2023 9:02:00 AM
Surr: 4-Bromofluorobenzene	91.7	70-130		%Rec	1	4/8/2023 9:02:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	110	60		mg/Kg	20	4/11/2023 8:26:22 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH05 5'
Project: Federal GC 1
Collection Date: 4/3/2023 8:55:00 AM
Lab ID: 2304255-009 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	34	9.8		mg/Kg	1	4/10/2023 9:38:17 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2023 9:38:17 PM
Surr: DNOP	94.3	69-147		%Rec	1	4/10/2023 9:38:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	25		mg/Kg	5	4/8/2023 9:23:00 AM
Surr: BFB	120	37.7-212		%Rec	5	4/8/2023 9:23:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.12		mg/Kg	5	4/8/2023 9:23:00 AM
Toluene	ND	0.25		mg/Kg	5	4/8/2023 9:23:00 AM
Ethylbenzene	ND	0.25		mg/Kg	5	4/8/2023 9:23:00 AM
Xylenes, Total	ND	0.50		mg/Kg	5	4/8/2023 9:23:00 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	5	4/8/2023 9:23:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/11/2023 8:38:47 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH05 7'
Project: Federal GC 1
Collection Date: 4/3/2023 9:00:00 AM
Lab ID: 2304255-010 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/10/2023 9:49:03 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2023 9:49:03 PM
Surr: DNOP	95.1	69-147		%Rec	1	4/10/2023 9:49:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/10/2023 9:22:00 PM
Surr: BFB	90.5	37.7-212		%Rec	1	4/10/2023 9:22:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/10/2023 9:22:00 PM
Toluene	ND	0.048		mg/Kg	1	4/10/2023 9:22:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/10/2023 9:22:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/10/2023 9:22:00 PM
Surr: 4-Bromofluorobenzene	87.9	70-130		%Rec	1	4/10/2023 9:22:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/11/2023 8:51:11 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH06 3'
Project: Federal GC 1
Collection Date: 4/3/2023 9:05:00 AM
Lab ID: 2304255-011 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/10/2023 9:59:48 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/10/2023 9:59:48 PM
Surr: DNOP	105	69-147		%Rec	1	4/10/2023 9:59:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2023 9:44:00 PM
Surr: BFB	91.0	37.7-212		%Rec	1	4/10/2023 9:44:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/10/2023 9:44:00 PM
Toluene	ND	0.047		mg/Kg	1	4/10/2023 9:44:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2023 9:44:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	4/10/2023 9:44:00 PM
Surr: 4-Bromofluorobenzene	87.0	70-130		%Rec	1	4/10/2023 9:44:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	77	60		mg/Kg	20	4/11/2023 9:03:35 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH06 5'
Project: Federal GC 1
Collection Date: 4/3/2023 9:10:00 AM
Lab ID: 2304255-012 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/10/2023 10:10:32 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2023 10:10:32 PM
Surr: DNOP	95.6	69-147		%Rec	1	4/10/2023 10:10:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/10/2023 10:05:00 PM
Surr: BFB	88.7	37.7-212		%Rec	1	4/10/2023 10:05:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	4/10/2023 10:05:00 PM
Toluene	ND	0.049		mg/Kg	1	4/10/2023 10:05:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	4/10/2023 10:05:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	4/10/2023 10:05:00 PM
Surr: 4-Bromofluorobenzene	87.7	70-130		%Rec	1	4/10/2023 10:05:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/11/2023 9:15:59 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH07 3'
Project: Federal GC 1
Collection Date: 4/3/2023 9:15:00 AM
Lab ID: 2304255-013 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	18	9.7		mg/Kg	1	4/10/2023 10:31:55 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/10/2023 10:31:55 PM
Surr: DNOP	89.1	69-147		%Rec	1	4/10/2023 10:31:55 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2023 10:27:00 PM
Surr: BFB	87.6	37.7-212		%Rec	1	4/10/2023 10:27:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/10/2023 10:27:00 PM
Toluene	ND	0.047		mg/Kg	1	4/10/2023 10:27:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2023 10:27:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	4/10/2023 10:27:00 PM
Surr: 4-Bromofluorobenzene	86.4	70-130		%Rec	1	4/10/2023 10:27:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	89	60		mg/Kg	20	4/11/2023 9:28:24 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2304255**
Date Reported: **4/12/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: PH07 5'
Project: Federal GC 1
Collection Date: 4/3/2023 9:20:00 AM
Lab ID: 2304255-014 **Matrix:** SOIL **Received Date:** 4/6/2023 6:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **DGH**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/10/2023 10:42:41 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/10/2023 10:42:41 PM
Surr: DNOP	98.8	69-147		%Rec	1	4/10/2023 10:42:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/10/2023 10:48:00 PM
Surr: BFB	88.9	37.7-212		%Rec	1	4/10/2023 10:48:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	4/10/2023 10:48:00 PM
Toluene	ND	0.048		mg/Kg	1	4/10/2023 10:48:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	4/10/2023 10:48:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	4/10/2023 10:48:00 PM
Surr: 4-Bromofluorobenzene	89.3	70-130		%Rec	1	4/10/2023 10:48:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **SNS**
Chloride	ND	60		mg/Kg	20	4/11/2023 9:40:49 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2304255**

12-Apr-23

Client: HILCORP ENERGY

Project: Federal GC 1

Sample ID: **MB-74252**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **74252**	RunNo: **95942**
Prep Date: **4/11/2023**	Analysis Date: **4/11/2023**	SeqNo: **3474420** Units: **mg/Kg**

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

Sample ID: **LCS-74252**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **74252**	RunNo: **95942**
Prep Date: **4/11/2023**	Analysis Date: **4/11/2023**	SeqNo: **3474421** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.2	90	110			

Sample ID: **MB-74258**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **74258**	RunNo: **95942**
Prep Date: **4/11/2023**	Analysis Date: **4/11/2023**	SeqNo: **3474458** Units: **mg/Kg**

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

Sample ID: **LCS-74258**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **74258**	RunNo: **95942**
Prep Date: **4/11/2023**	Analysis Date: **4/11/2023**	SeqNo: **3474459** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.9	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2304255**

12-Apr-23

Client: HILCORP ENERGY

Project: Federal GC 1

Sample ID: **LCS-74202**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **74202**	RunNo: **95894**
Prep Date: **4/7/2023**	Analysis Date: **4/10/2023**	SeqNo: **3472132** 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	84.3	61.9	130			
Surr: DNOP	4.5		5.000		90.2	69	147			

Sample ID: **MB-74202**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **74202**	RunNo: **95894**
Prep Date: **4/7/2023**	Analysis Date: **4/10/2023**	SeqNo: **3472133** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		87.2	69	147			

Sample ID: **2304255-010AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PH05 7'**	Batch ID: **74212**	RunNo: **95894**
Prep Date: **4/7/2023**	Analysis Date: **4/11/2023**	SeqNo: **3472613** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.45	0	105	54.2	135			
Surr: DNOP	5.4		5.045		107	69	147			

Sample ID: **2304255-010AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PH05 7'**	Batch ID: **74212**	RunNo: **95894**
Prep Date: **4/7/2023**	Analysis Date: **4/11/2023**	SeqNo: **3472614** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	9.7	48.64	0	109	54.2	135	0.00226	29.2	
Surr: DNOP	5.3		4.864		109	69	147	0	0	

Sample ID: **LCS-74212**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **74212**	RunNo: **95894**
Prep Date: **4/7/2023**	Analysis Date: **4/10/2023**	SeqNo: **3472642** 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	101	61.9	130			
Surr: DNOP	5.6		5.000		113	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2304255**

12-Apr-23

Client: HILCORP ENERGY

Project: Federal GC 1

Sample ID: **MB-74212**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **74212**	RunNo: **95894**
Prep Date: **4/7/2023**	Analysis Date: **4/10/2023**	SeqNo: **3472644** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		102	69	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2304255**

12-Apr-23

Client: HILCORP ENERGY

Project: Federal GC 1

Sample ID: **lcs-74186**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **74186**	RunNo: **95861**
Prep Date: **4/6/2023**	Analysis Date: **4/7/2023**	SeqNo: **3471592** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.0	70	130			
Surr: BFB	2000		1000		200	37.7	212			

Sample ID: **mb-74186**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **74186**	RunNo: **95861**
Prep Date: **4/6/2023**	Analysis Date: **4/8/2023**	SeqNo: **3471593** 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	890		1000		88.8	37.7	212			

Sample ID: **lcs-74206**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **74206**	RunNo: **95904**
Prep Date: **4/7/2023**	Analysis Date: **4/10/2023**	SeqNo: **3472695** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.2	70	130			
Surr: BFB	1900		1000		191	37.7	212			

Sample ID: **mb-74206**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **74206**	RunNo: **95904**
Prep Date: **4/7/2023**	Analysis Date: **4/10/2023**	SeqNo: **3472696** 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	890		1000		88.9	37.7	212			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2304255**

12-Apr-23

Client: HILCORP ENERGY

Project: Federal GC 1

Sample ID: **lcs-74186**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **74186**	RunNo: **95861**
Prep Date: **4/6/2023**	Analysis Date: **4/8/2023**	SeqNo: **3471696** 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	80	120			
Toluene	0.85	0.050	1.000	0	84.8	80	120			
Ethylbenzene	0.83	0.050	1.000	0	83.4	80	120			
Xylenes, Total	2.5	0.10	3.000	0	82.2	80	120			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.0	70	130			

Sample ID: **mb-74186**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **74186**	RunNo: **95861**
Prep Date: **4/6/2023**	Analysis Date: **4/8/2023**	SeqNo: **3471699** 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		88.1	70	130			

Sample ID: **lcs-74206**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **74206**	RunNo: **95904**
Prep Date: **4/7/2023**	Analysis Date: **4/10/2023**	SeqNo: **3472712** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.7	80	120			
Toluene	0.89	0.050	1.000	0	88.7	80	120			
Ethylbenzene	0.86	0.050	1.000	0	86.4	80	120			
Xylenes, Total	2.6	0.10	3.000	0	85.6	80	120			
Surr: 4-Bromofluorobenzene	0.90		1.000		90.1	70	130			

Sample ID: **mb-74206**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **74206**	RunNo: **95904**
Prep Date: **4/7/2023**	Analysis Date: **4/10/2023**	SeqNo: **3472713** 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		88.3	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2304255 RcptNo: 1

Received By: Tracy Casarrubias 4/6/2023 6:15:00 AM

Completed By: Tracy Casarrubias 4/6/2023 6:48:32 AM

Reviewed By: SR 4/6/23

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: TMC 4/6/23

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: Missing Mailing address and phone number on COC. - TMC 4/6/23

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes	Morty		

Chain-of-Custody Record

Client: Hilcorp

Kate Kaufman

Mailing Address:

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:

5day

☒ Standard ☐ Rush

Project Name:

Federal GC #1

Project #:

Project Manager:

Stuart Hyde - Ensolum

Sampler: E. Carroll

On Ice: ☒ Yes ☐ No Morty

# of Coolers: 1

Cooler Temp(Including CF): 2.0 - 0.1 = 1.9 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2304255	BTEX / ~~MTBE~~ / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4-3	8:15	soil	PH01 3'	14oz	Cool	001	X	X					X			
	8:20		PH01 5'			002										
	8:25		PH02 3'			003										
	8:30		PH02 5'			004										
	8:35		PH03 3'			005										
	8:40		PH03 5'			006										
	8:45		PH04 3'			007										
	8:50		PH04 5'			008										
	8:55		PH05 5'			009										
	9:00		PH05 7'			010										
	9:05		PH06 3'			011										
	9:10		PH06 5'			012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
4-5	1415				4/5/23	1415
4/5/23	1806			courier	4/6/23	6:15

Remarks:

cc: Shyde@ensolum.com
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.

Chain-of-Custody Record

Client: Hilcorp

Kate Kaufman

Mailing Address:

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: 5 day

☒ Standard ☐ Rush

Project Name: Federal GC #1

Project #:

Project Manager: Stuart Hyde - Ensolum

Sampler: E. Carroll

On Ice: ☒ Yes ☐ No Marty

# of Coolers: 1

Cooler Temp(including CF): 2.0 - 0.1 = 1.9 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2304255	BTEX / ~~MTBE~~ / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
4-3	9:15	Soil	PH07 3'	(1) 4oz	Cool	013	X	X					X			
4-3	9:20	Soil	PH07 5'	↓	↓	014	X	X					X			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4-5	1415	Eli Carroll	[signature]		4/5/23	1415
4/5/23	1800	[signature]	[signature]	courier	4/6/23	0:15

Remarks: cc: shyde@ensolum.com 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.

ENSOLUM

APPENDIX C

Photographic Log

ENSOLUM

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

Photograph: 1 Date: 11/15/2022
Description: Excavation of historical impacts
View: Southwest

Photograph: 2 Date: 12/2/2022
Description: Excavation extent on December 2, 2022
View: Aerial view looking west

ENSOLUM

APPENDIX D

Micro-Blaze™ Brochure

Micro-Blaze®
MICROBIAL PRODUCTS

Micro-Blaze®

Emergency Liquid Spill Control

PRODUCT INFORMATION

EMERGENCY LIQUID SPILL CONTROL (ELSC)

REMEDIATES (LIST NOT EXHAUSTIVE)

- Acetone
- Acrylonitrite
- AFFF Waste
- Anti-Freeze
- Aviation Fuels
- Benzene & Benzene Compounds
- Crude Oil
- Diesel Fuel
- Dimethylformanide
- Fats
- Gasoline
- Grease
- Glycols
- Hydrocarbon Waste
- Kerosene
- Methanol
- Methyl Tertiary Butyl Ether (MTBE)
- Motor Oil
- Odor
- Organic Chemical Waste
- Organic Waste
- Paint Sludge
- Pipeline Condensation
- Polyurethane Resin Waste
- Sludge
- Toluene

Micro-Blaze®

Emergency Liquid Spill Control

Micro-Blaze® Emergency Liquid Spill Control is a safe, non-toxic, microbial formulation used for the bioremediation of hydrocarbons and other organic compounds. It breaks down, degrades, and digests organic waste while also suppressing vapors and eliminating flammability. The proprietary combination of wetting agents, nutrients, and microbes makes it an ideal formulation for use on many pollutants found in spills and contaminated sites.

Our microbes are naturally occurring, not genetically engineered, and found in soils and waters all over the earth. These microbes have been carefully researched, tested, and chosen for their affinity to degrade hydrocarbons and other organic waste.

USES

- Clean up hydrocarbon spills/leaks
- Soil bioremediation
- Vapor suppression
- Equipment, tank, and pipeline cleaning

BENEFITS

- Safe and cost-effective method for in-situ bioremediation of contaminated soils and water
- Elimination of vapors and LELs, creating a safe working environment
- Residue and runoff can be safely sent to industrial and municipal WWTPs
- 10-year shelf life and easy to use concentrate make it convenient to maintain on hand for future emergencies or everyday usage
- Listed on EPA NCP List as a bioremediation agent for 30 years*

** This listing does not mean the EPA approves, recommends, licenses, certifies or authorizes the use of Micro-Blaze® Emergency Liquid Spill Control or any other product on an oil discharge. This listing only means that data has been submitted to EPA as required by subpart J of the NCP §300.915.*

Product Details

Appearance:
Cream to tan, opaque liquid, perfumed

pH:
7.0 - 8.0

Shelf Life:
10 Years

Storage:
Avoid temperatures over 48°C for long periods of time. Avoid prolonged freezing.

CAUTION: KEEP OUT OF REACH OF CHILDREN. Do not take internally. Avoid contact with eyes. Wash thoroughly after handling. Avoid breathing mist. Contains surfactants (soaps) which may irritate eyes or respiratory system. Use with adequate ventilation.

APPLICATION

Micro-Blaze® is a liquid concentrate and must be diluted before application.

DILUTION
Dilute with water between a 3% solution (3 parts Micro-Blaze®, 97 parts water) and a 10% solution (10 parts Micro-Blaze®, 90 parts water). Shake well before dilution and before application.

APPLICATION
Spray the diluted Micro-Blaze® directly onto the contamination with as much agitation as possible until the area is completely saturated. You can use any delivery system/sprayer, such as hand-held sprayers, fire extinguishers, power washers, CAFS systems, and water trucks.
For soil remediation, tilling the soil after application will help in achieving optimal results, though it is not required where not feasible.

HOW MUCH MICRO-BLAZE® DO I NEED?
1 gallon of Micro-Blaze® concentrate, after diluted, will treat either of the following:

- 10 gallons of spilled contamination
- 500 – 700 square feet of contaminated surface
- 5 – 7 cubic yards of contaminated soil

Contact a Micro-Blaze® sales representative for any additional application questions:
technical@micro-blaze.com

PRODUCT SIZES & SPECS

1 Gallon Pail

SKU	MBELSC-1
Dimensions	8"x8"x12"
Weight	9 lbs

5 Gallon Pail

SKU	MBELSC-5
Dimensions	12"x12"x15"
Weight	47 lbs
	36 pails /pallet

55 Gallon Drum

SKU	MBELSC-55
Dimensions	24"x 24"x35"
Weight	500 lbs
	4 drums/pallet

275 Gallon Tote

SKU	MBELSC-275
Dimensions	40"x48"x45"
Weight	2,500 lbs

330 Gallon Tote

SKU	MBELSC-330
Dimensions	40"x48"x54"
Weight	3,000 lbs

RELATED PRODUCTS:

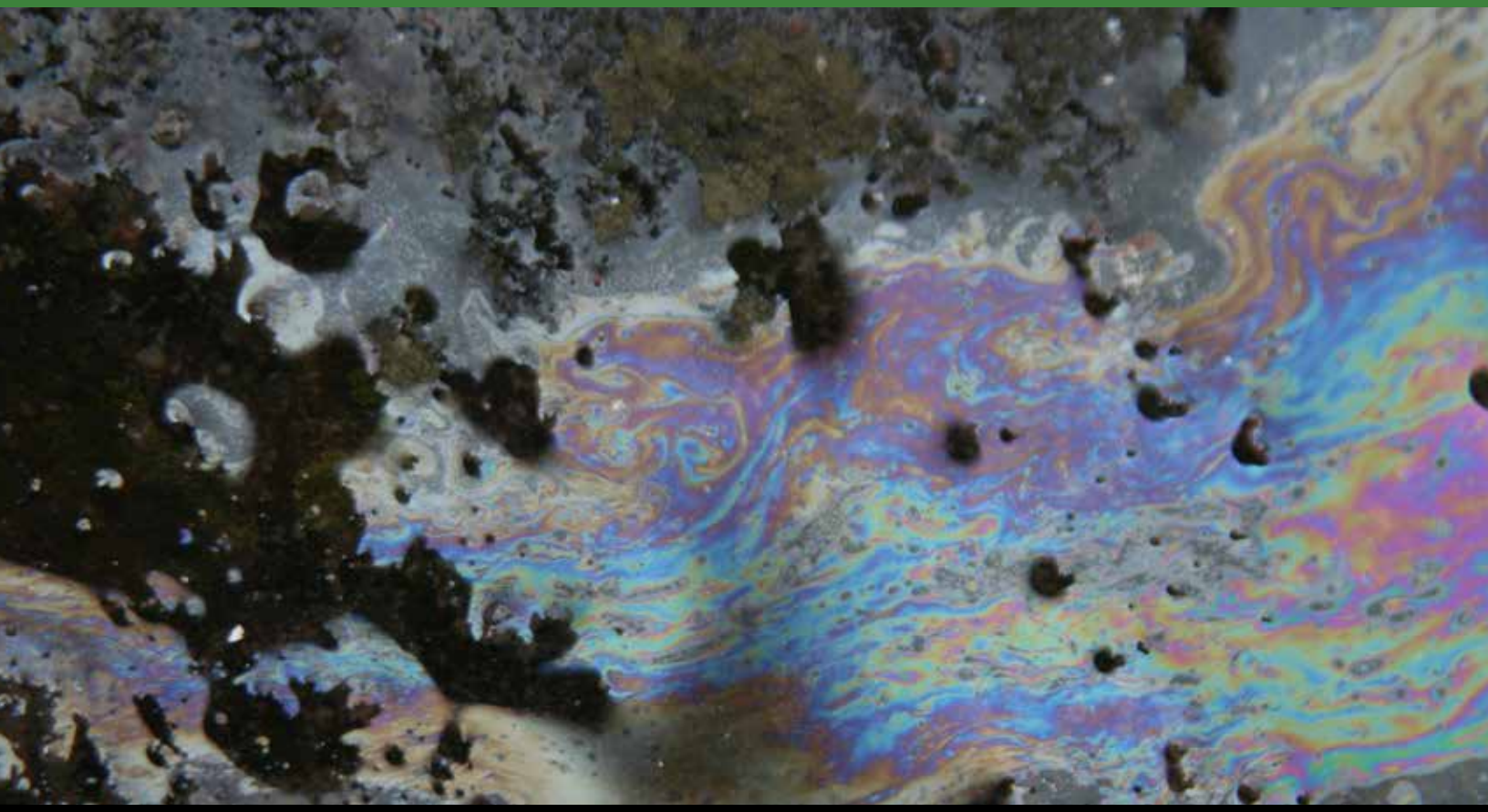
CONCRETE STAIN REMOVER (CSR)

NON-FORMULATED

SCAN FOR MSDS FOR ALL PRODUCTS

PARTNERING WITH NATURE

FOR A CLEANER TOMORROW



Verde Environmental, Inc.
9223 Eastex Freeway
Houston, TX 77093

Office: 713.691.6468
Toll Free: 800.626.6598

www.micro-blaze.com

Version 0522

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

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

CONDITIONS

Action 241080

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 241080
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation plan is approved under the following conditions; 1. Variance to collect 5 composite samples not to exceed 400 square feet is approved. 2. Hilcorp must provide supporting documentation toward the site assessment/characterization report and submit within its final closure report. 3. Remediation Due date updated to April 3, 2024 (6 months) and to submit its appropriate or final closure report.	10/6/2023